POPLAR HARCA

ECOWORLD
LONDON
CREATING TOMORROW & BEYOND

Environmental Statement Volume 3: Technical Appendices

ABERFELDY VILLAGE MASTERPLAN

Table of Contents

Volume 1: Environmental Statement Main Report

Chapter 1: Introduction

Chapter 2: EIA Methodology

Chapter 3: Alternatives and Design Evolution

Chapter 4: The Proposed Development

Chapter 5: Demolition and Construction

Chapter 6: Socio-Economics

Chapter 7: Traffic and Transport

Chapter 8: Air Quality

Chapter 9: Climate Change

Chapter 10: Noise and Vibration

Chapter 11: Archaeology

Chapter 12: Water Resources, Drainage and Flood Risk

Chapter 13: Wind Microclimate

Chapter 14: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Chapter 15: Effect Interactions

Chapter 16: Likely Significant Effects and Conclusions

Chapter 17: Mitigation and Monitoring Schedule

Chapter 18: Glossary and Abbreviations

Volume 2: Townscape, Visual Impact and Heritage Assessment

Part 1: Townscape and Visual Impact Assessment

Part 2: Built Heritage Assessment

Volume 3: Technical Appendices

Appendix: Introduction
- Annex 1: EIA Wayfinding
- Annex 2: Statement of Competence

Appendix: EIA Methodology
- Annex 1: EIA Scoping Report
- Annex 2: EIA Scoping Opinion
- Annex 3: EIA Scoping Opinion Response
- Annex 4: Cumulative Schemes List and Map
- Annex 5: Cumulative Schemes Assessment Matrix
- Annex 6: Phase 1 Ground Conditions Report

Appendix: Demolition and Construction
- Annex 1: Outline Construction Environmental Management Plan (CEMP)

Appendix: Socio Economics
- Annex 1: Socio-Economics Planning Policy Context
- Annex 2: Education and Healthcare Facilities within Local Impact Area

Appendix: Air Quality
- Annex 1: Glossary
- Annex 2: Traffic Data
- Annex 3: Model Verification Study

Appendix: Climate Change
- Annex 1: Trium Climate Change Technical Note

Appendix: Noise and Vibration
- Annex 1: Introduction to Noise
- Annex 2: Glossary of Terms
- Annex 3: Legislation, Policy and Guidance
- Annex 4: Unattended Survey Results – P1
- Annex 5: Unattended Survey Results – P2
- Annex 6: Unattended Survey Results – P3
- Annex 7: Unattended Survey Results – P4
- Annex 8: Statistical Analysis of Background Sound Levels – P1
- Annex 9: Statistical Analysis of Background Sound Levels – P2
- Annex 10: Statistical Analysis of Background Sound Levels – P3
- Annex 11: Statistical Analysis of Background Sound Levels – P4
- Annex 12: Daytime Noise Contour, 1.5m
- Annex 13: Night-time Noise Contour, 1.5m
- Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
- Annex 15: Traffic Data

Appendix: Water Resources, Drainage, Flood Risk
- Annex 1: Flood Risk Assessment
- Annex 2: Drainage Strategy
- Annex 3: Thames Water – Potable Water Supply Correspondence
- Annex 4: Sustainable Urban Drainage System (SuDS) Proforma

Appendix: Archaeology
- Annex 1: Archaeological Desk Based Assessment

Appendix: Wind Microclimate
- Annex 1: Policy and Guidance
- Annex 2: Technical Appendix

Appendix: Daylight, Sunlight, Overshadowing; Light Pollution and Solar Glare
- Annex 1: Planning Policy
- Annex 2: Methodology and Baseline Results
- Annex 3: Scenario Overviews and Window Maps
- Annex 4: Daylight and Sunlight Results
- Annex 5: Overshadowing Results
- Annex 6: Solar Glare Results

Appendix: Built Heritage
- Annex 1: Built Heritage Statement

Appendix: Introduction

Annex 1: EIA Wayfinding
Annex 2: Statement of Competence

Appendix: Introduction

Annex 1: EIA Wayfinding
Annex 2: Statement of Competence

SCHEDULE 4 INFORMATION REQUIREMENTS – LOCATION OF INFORMATION WITHIN THE ES

	Information for Inclusion in Environmental Statements, as Specified in Schedule 4 of the EIA Regulations 2017 (as amended)	How the EIA addresses the Information Specifications
1.	A description of the development, including in particular:	
(a)	a description of the location of the development;	**ES Volume 1:** Chapter 1: Introduction
(b)	a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction
(c)	a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used.	**ES Volume 1:** Chapter 4: The Proposed Development
	…nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction
(d)	an estimate, by type and quantity, of expected residues and emissions (such as water, …	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 12: Water Resources, Drainage and Flood Risk
	…air, …	**ES Volume 1:** Chapter 8: Air Quality **ES Volume 3:** Appendix Air Quality
	…soil and subsoil pollution,	**ES Volume 1:** Chapter 2: EIA Methodology
	…noise, vibration, …	**ES Volume 1:** Chapter 10: Noise and Vibration **ES Volume 3:** Appendix Noise and Vibration
	…light, …	**ES Volume 1:** Chapter 14: Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare **ES Volume 3:** Appendix Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare
	…heat, radiation and …	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 9: Climate Change Chapter 14: Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare **ES Volume 3** Appendix Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare
	…quantities and types of waste produced during the construction and operation phases;	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction
2.	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	**ES Volume 1:** Chapter 3: Alternatives and Design Evolution
3.	A description of the relevant aspects of the current state of the environment (baseline scenario) …	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 3: Alternatives and Design Evolution Technical Chapters 6– 14 **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment
	…and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.	**ES Volume 1:** Chapter 2: EIA Methodology Technical Chapters 6 – 14 **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment
4.	A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, …	**ES Volume 1:** Chapter 6: Socio-economics Chapter 8: Air Quality Chapter 10: Noise and Vibration Chapter 13: Wind Microclimate Chapter 14: Daylight Sunlight and Overshadowing, Light Pollution and Solar Glare **ES Volume 3:** Appendix Socio-economics Appendix Air Quality Appendix Noise and Vibration Appendix Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare
	…biodiversity (for example fauna and flora), …	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 4: The Proposed Development **ES Volume 3** Appendix EIA Methodology, Annex 1
	…land (for example land take), ….	**ES Volume 1:** Chapter 2: EIA Methodology **ES Volume 3** Appendix EIA Methodology, Annex 1
	…soil (for example organic matter, erosion, compaction, sealing), …	**ES Volume 1:** Chapter 2: EIA Methodology **ES Volume 3** Appendix EIA Methodology, Annex 1
	…water (for example hydromorphological changes, quantity, quality), …	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 12: Water Resources, Drainage and Flood Risk **ES Volume 3** Appendix Water, Resources, Drainage and Flood Risk
	…air, …	**ES Volume 1:** Chapter 8: Air Quality **ES Volume 3:**

	Information for Inclusion in Environmental Statements, as Specified in Schedule 4 of the EIA Regulations 2017 (as amended)	How the EIA addresses the Information Specifications
		Appendix Air Quality
	…climate (for example greenhouse gas emissions, impacts relevant to adaptation), …	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 9: Climate Change Technical Chapters 6 – 14
	…material assets, cultural heritage, including architectural and archaeological aspects, and landscape…	**ES Volume 1:** Chapter 11: Archaeology **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment **ES Volume 3:** Appendix Archaeology
5.	A description of the likely significant effects of the development on the environment resulting from, inter alia:	
(a)	the construction and existence of the development, including, where relevant, demolition works.	**ES Volume 1:** Chapter 5: Demolition and Construction
(b)	the use of natural resources, in particular land, soil, …	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction
	…water and …	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 4: The Proposed Development Chapter 12: Water Resources, Drainage and Flood Risk
	…biodiversity, …	**ES Volume 1:** Chapter 2: EIA Methodology **ES Volume 3** Appendix EIA Methodology, Annex 1
	…considering as far as possible the sustainable availability of these resources;	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction Technical Chapters 6 – 14
(c)	the emission of pollutants, …	**ES Volume 1:** Chapter 2 EIA Methodology Chapter 8: Air Quality Chapter 9: Climate Change **ES Volume 3:** Appendix EIA Methodology, Annex 1 Appendix Air Quality
	…noise, vibration, …	**ES Volume 1:** Chapter 10: Noise and Vibration **ES Volume 3:** Appendix Noise and Vibration
	…light, …	**ES Volume 1:** Chapter 14: Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare **ES Volume 3:** Appendix Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare
	…heat and radiation, …	**ES Volume 1:**

	Information for Inclusion in Environmental Statements, as Specified in Schedule 4 of the EIA Regulations 2017 (as amended)	How the EIA addresses the Information Specifications
		Chapter 4: The Proposed Development Chapter 14: Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare **ES Volume 3:** Appendix Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare
	…the creation of nuisances, …	**ES Volume 1:** Chapter 8: Air Quality Chapter 10: Noise and Vibration **ES Volume 3:** Appendix Air Quality Appendix Noise and Vibration
	…and the disposal and recovery of waste;	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 4: The Proposed Development Chapter 5: Demolition and Construction **ES Volume 3** Appendix EIA Methodology, Annex 1
(d)	the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);	**ES Volume 1:** Chapter 2: EIA Methodology Technical Chapters 6 – 14 **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment **ES Volume 3:** Appendix EIA Methodology, Annex 1 Appendix: Water Resources, Drainage and Flood Risk
(e)	the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;	**ES Volume 1:** Technical Chapters 6 – 14 **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment
(f)	the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; and	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 9: Climate Change Technical Chapters 6 – 14
(g)	the technologies and the substances used.	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction Technical Chapters 6 – 14
6.	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	**ES Volume 1:** Chapter 2: EIA Methodology Technical Chapters 6 – 14 **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment
7.	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring	**ES Volume 1:** Chapter 4: The Proposed Development Chapter 5: Demolition and Construction

	Information for Inclusion in Environmental Statements, as Specified in Schedule 4 of the EIA Regulations 2017 (as amended)	How the EIA addresses the Information Specifications
	arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	Technical Chapters 6 – 14 Chapter 17: Monitoring and Mitigation Schedule **ES Volume 2:** Built Heritage Assessment; and Townscape and Visual Impact Assessment
8.	A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU(c) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(d) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	**ES Volume 1:** Chapter 2: EIA Methodology Chapter 13: Wind Microclimate Chapter 14: Daylight, Sunlight and Overshadowing **ES Volume 3:** Appendix EIA Methodology: Annex 1
9.	non-technical summary of the information provided under paragraphs 1 to 8.	ES Non-Technical Summary
10.	A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.	**ES Volume 1:** Chapter 1: Introduction Chapter 2: EIA Methodology Technical Chapters 6 – 14 **ES Volume 2:** Townscape, Visual Impact and Built Heritage Assessment **ES Volume 3:** Technical Appendices

Appendix: Introduction

Annex 1: EIA Wayfinding
Annex 2: Statement of Competence

October 2021

Aberfeldy New Masterplan: Competent Expert and Relevant Experience

Regulation 18(5) of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (referred to as 'the EIA Regulations') require that to ensure the completeness and quality of the ES:

'(a) the developer must ensure that the environmental statement is prepared by competent experts'; and

'(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts'.

As set out in **ES Volume 1, Chapter 1: Introduction**, Trium is an environmental consultancy specialising in urban regeneration and property development projects in the United Kingdom (UK), with a specific focus in London. Trium is therefore considered to be 'competent experts' as referenced in the EIA Regulations. In addition, and for completeness, Table 1 below sets out the company, persons and expertise of all the key technical specialists that have worked on the EIA.

Table 1: Experts Involved in the Production of the ES and their Relevant Experience

Discipline	Company	Person(s)	Expertise
EIA Coordination	Trium	Vanessa Thorpe	Vanessa is a Chartered Environmentalist and Technical Director at Trium, with over 17 years' experience of managing and directing EIA projects, Environmental Appraisals and Constraints Reports, Screening and Scoping requests, and technical environmental reports. Vanessa has directed and managed EIA projects for a range of developments including masterplans, urban regeneration, residential, mixed-use, transportation, rail and industrial developments in various locations throughout the UK and internationally.
		Hamid Atta	Hamid is a Practitioner at the Institute of Environmental Assessors and Senior Consultant at Trium Environmental Consulting with 5 years of experience specialising in EIA coordination, EIA Scoping and the production of high quality EIAs. His experience covers a wide range of large estate regenerations and smaller urban regeneration schemes predominantly in London and the south east of the UK.
Noise and Vibration	Entran	Stuart Berry	Stuart is a Senior Consultant with 9 years' experience in conducting environmental noise and vibration impact assessments for a range of project types. Stuart holds an MSc in Environmental and Architectural Acoustics and is a member of the Institute of Acoustics.
Air Quality	Entran	Nick Davey	A specialist in the field of air quality with a track record of expert witness experience. Nick has over 24 years experience of carrying out air quality impact assessments for a range of developments, particularly in the renewable energy, residential, health care, power generation, utilities, waste, highways, industrial and retail sectors, involving the use of various modelling/ monitoring techniques and appearing as expert witness. Nick has previously lead air quality teams in large multi-discipline consultancies prior to becoming one of the founding Directors of Entran Ltd in 2005. Experience of designing, procuring and operation of air quality monitoring networks for high profile projects such as DEFRA/ EA AURN network. Nick has also completed PhD research relating to air quality impact assessment and associated methodologies. Nick has experience of working on numerous large-scale complex projects both in the UK and the Middle East.
Traffic and Transport	Velocity	Tom Mabelson	Tom is a Director at Velocity Transport Planning with over 13 years of experience providing transport planning, design and assessment to support development projects. Tom has directed and managed projects across a range of development scales and land uses including significant regeneration schemes. Tom is a Member of the Chartered Institute of Highways and Transportation and a Member of the Transport Planning Society.
Socio-economics	Hatch	Zoe Crampton	The socio-economic lead is an Associate Director at Hatch with over fifteen years of experience in undertaking socio-economic development research and in producing Socio-economic ES Chapters. Recent project experience includes: Stag Brewery, LB Richmond: Socio-economic assessment and Health Impact Assessment and preparation of chapter for the ES of a major mixed-use scheme in LB Richmond Bow River, LB Tower Hamlets: Socio-economic assessment and Health Impact Assessment and preparation of chapter for the ES of a residential-led scheme in LB Tower Hamlets Station Hill, Reading: Socio-economic assessment and Health Impact Assessment and preparation of chapter for the ES of a major mixed-use scheme in Reading Purfleet, Thurrock: Socio-economic assessment and preparation of chapter for the ES of a new town centre and residential scheme in Purfleet. Zoe has the following qualifications: BA Geography (Hons) University of Birmingham
Wind Microclimate	RWDI	Aimee Crook	Aimee obtained a Prince2 certificate in Project Management in January 2019. Aimee has been working at RWDI since 2011 and has assisted and managed a wide range of projects since then, dealing with a global client list including the UK, Middle East and Europe. • Palm 360, Dubai • James Street, Liverpool • St John's Manchester • Bestseller Tower. Denmark • Bollo Lane, Acton, London • Southall Sidings, London • Pope's Road, Brixton
Climate Change	Greengage	Manon Dangelser	Manon has over four years' experience in environmental services, and previous experience in the civil engineering field. She has gained a broad knowledge of sustainability, having conducted analyses in energy, circular economy, whole life cycle, flood risk, overheating and daylight, as well as BREEAM and HQM assessments, on numerous residential, commercial, and mixed-use developments. She manages a range of projects in the UK and provide sustainability guidance to design teams from early concept stage.
Daylight, Sunlight and Overshadowing	GIA	Lotte Tobermann	Since graduating with an MSc in Environmental Planning, Lotte joined GIA in 2019, having previously worked in EIA consultancy. Lotte's role entails the coordination and preparation of Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution EIA scoping reports and Environmental Statement chapters.
Archaeology	TVAS	Steve Preston	Over 20 years' experience of archaeological fieldwork and reporting, including preparing archaeological contributions to Environmental Impact Assessments.
		Elspeth St. John-Brooks	Environmental and Geoarchaeology specialist; Over 13 years' experience working in the field, an extensive academic and laboratory background in archaeology and well versed in writing reports including fieldwork and desk-based reports;
Built Heritage Assessment (Volume II)	KM Heritage	Anne Roache	Anne Roache MSc MA is a built heritage professional of broad experience having worked for leading commercial organisations in the fields of property, planning and law. She holds an MSc in Historic Building Conservation and an MA Library & Information Studies - affording her expertise in archival research and interrogation. Anne began her career in the research team of international real estate consultancy, Jones Lang LaSalle and was for some years Director of Research at a large international law firm. This experience has given her an in-depth understanding of the legislative and policy framework governing the built environment. At KMHeritage, Anne provides advice and guidance to clients on all aspects of the historic built environment and has been involved in a wide range of residential, commercial and municipal projects throughout England including advising on a significant project in the UNESCO World Heritage Site Liverpool Maritime Mercantile City.
Townscape, Visual Impact Assessment (Volume II)	Peter Stewart Consultancy	Peter Stewart	Peter Stewart is a chartered architect. After fifteen years in practice in central London, he was appointed Deputy Secretary of the Royal Fine Art Commission (RFAC), and then Director of the design review programme at CABE (the body which, at that time, was the Government's advisor on architecture and urban design). In 2005 he founded Peter Stewart Consultancy. Since then, he has provided advice on architecture, urban design and the historic environment, and overseen the production of townscape and heritage impact assessments as part of an EIA, in respect of hundreds of projects. He has served as a member of the London Advisory Committee of English Heritage (now Historic England).

Discipline	Company	Person(s)	Expertise
		Jonathan Freeman	Jonathan Freeman is an RTPI Accredited town planner with over 18 years' experience, working across the public and private sectors. Experience includes working as a conservation and design officer at LB Hackney; coordinating the delivery of major planning applications at AECOM; and working as an advisor in the CABE/Design Council design review team. He has worked as a project lead at Peter Stewart Consultancy over the last 7 years, writing a number of Townscape, Visual Impact, and Built Heritage Assessments for Environmental Statements.
Demolition and Construction	Blue Sky Building	Tim Cole	Tim Cole is an experienced construction project manager with a proven track record of delivering technically complex high-profile demolition & construction projects, having worked in the construction industry for 45 years. He has a proven ability of working with keynote consultants on high quality, complex projects. A firm believer that successful projects are achieved by proper understanding of client requirements, accurate briefing and clear planning from inception, Tim has specialised in Preconstruction organisation of major schemes through feasibility and Planning stages for the last 10 years. Previous Projects include: • MSG – The Sphere. Preconstruction logistics and strategy planning for this unique proposed entertainment venue development in Stratford; • North West Cambridge Development. Author of Construction Advisor's report for the programme, logistics and procurement of this "new town" style residential development for the University of Cambridge; and • Bloomberg Square . Preconstruction manager for major construction of complex City commercial office headquarters scheme in a congested City of London location. Qualifications: MCIOB
Water Resources, Flood Risk Assessment and Drainage	Meinhardt	Gurdeep Bansal	Gurdeep is an Associate Director at Meinhardt, with over 14 years' experience of civil engineering experience, with a key focus on drainage design and flood risk. Gurdeep has managed an array of different projects from mixed use/residential, hospitality, urban regeneration throughout the UK, providing advice and design from feasibility all the way to construction, including planning application documents, such as Drainage Strategies, Flood Risk Assessments, Foul Drainage Assessments, Water Resources and Flood Risk ES Chapters as well as other technical drainage and flood risk related reports.

Appendix: Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: EIA Scoping Opinion Response
Annex 4: Cumulative Schemes List and Map
Annex 5: Cumulative Schemes Assessment Matrix

Appendix: Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: EIA Scoping Opinion Response
Annex 4: Cumulative Schemes List and Map
Annex 5: Cumulative Schemes Assessment Matrix

Aberfeldy New Masterplan
EIA Scoping Report

Prepared for:

Ecoworld International and Poplar Harca

Date:
August 2021

Trium Environmental Consulting LLP
4 Cavendish Square
London
W1G 0PG
+44 (0) 20 3887 7118
hello@triumenv.co.uk
www.triumenvironmental.co.uk

Project Reference: TEC0187

This report has been prepared for the Client by Trium Environmental Consulting LLP with all reasonable skill, care and diligence and in accordance with the Client's particular and specific instructions. This report is issued subject to the terms of our Appointment, including our scope of Services, with the Client.

This report has been prepared for, and is intended solely for the use of, the Client alone and accordingly is personal to the Client. The Report should not be disclosed, exhibited or communicated to any third party without our express prior written consent. Trium Environmental Consulting LLP accepts no responsibility whatsoever to any third parties to whom this report, or any part thereof, is disclosed, exhibited or communicated to, without our express prior written consent. Any such party relies upon the report at their own risk.

Trium Environmental Consulting LLP disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the Services.

Trium Environmental Consulting LLP shall be under no obligation to inform any party of any changes or updates in respect of any matter referred to or contained in the Report.

This report is the Copyright of Trium Environmental Consulting LLP. Any unauthorised use or reproduction by anyone other than the Client is strictly prohibited.

CONTENTS

INTRODUCTION 1
Overview 1
Structure of the EIA Scoping Report 2
EIA AND THE SCOPING PROCESS 3
EIA Purpose and Process 3
The Scoping Process 4
SITE CONTEXT 5
Site Location 5
Existing Environmental Context 5
RELEVANT PLANNING HISTORY 8
THE PROPOSED DEVELOPMENT AND PLANNING APPLICATION 9
Overview of the Proposed Development 9
Hybrid Planning Application 10
PLANNING CONTEXT 11
Planning Policy Context 11
EIA METHODOLOGY 14
EIA Methodology and Approach to Assessment of the Proposed Development 14
Baseline Conditions 15
Sensitive Receptors 15
Demolition and Construction 15
Completed Development 16
The Format of the Planning Application 17
Cumulative Effects and Effect Interactions 19
Reasonable Alternatives 20
DETERMINING EFFECT SIGNIFICANCE – TERMINOLOGY AND APPROACH 20
Reference to 'Impact' and 'Effect' 20
Receptor Sensitivity and Magnitude of Impact 20
Identification of a Resultant Effect 21
Effect Scale 21
Effect Nature 21
Geographic Extent of Effect 21
Effect Duration 21
Direct and Indirect Effects 22
Effect Significance 22
TOPICS TO BE SCOPED IN 23
Air Quality 23
Climate Change 24
Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare 28
Noise and Vibration 31
Health 33
Socio Economics 34

Townscape and Visual Impact Assessment 40
Traffic and Transport 43
Wind Microclimate 52
Archaeology (Buried Heritage) 55
Built Heritage 58
TOPICS TO BE SCOPED OUT 61
Ecology and Biodiversity 61
Daylight, Sunlight and Overshadowing – Internal, new receptors within the Proposed Development 64
Geoenvironmental (Ground Conditions, Groundwater and Land Take and Soils) 64
Water Resources, Drainage and Flood Risk 68
Project Vulnerability 72
Electronic (TV and Radio) Interference 73
Waste 73
SCOPE SUMMARY 78
FORMAT AND CONTENT OF THE EIA 79
REQUEST FOR AN EIA SCOPING OPINION 81

APPENDICES

APPENDIX A - Site Location and Redline Planning Application Boundary .....
APPENDIX B – Information for Inclusion within an ES: Way Finding .....
APPENDIX C– Cumulative Schemes .....
APPENDIX D – Archaeological Desk-Based Assessment .....
APPENDIX E - Preliminary Ecological Appraisal .....
APPENDIX F - Geoenvironmental Desk Study .....
APPENDIX G - Viewpoints .....

INTRODUCTION

Overview

1. EcoWorld & Poplar HARCA (hereinafter referred to as the 'Applicant') are seeking part-detailed and part-outline planning permission (commonly known as and referred hereafter as a "Hybrid planning application") for the proposed redevelopment of the Aberfeldy New Masterplan.
2. The site covers a total area of 9.69 hectares (ha) (herein referred to as the 'site') and falls within the administrative boundary of the London Borough of Tower Hamlets (LBTH). Figure 1 and Figure 2 show the indicative redline planning application boundary and site location plan respectively. The redline boundary plan include areas of land with the potential to be included within the planning application boundary as shown in Figure 1. The final decision on their inclusion as part of the redline planning application boundary will be subject to agreement with the LBTH on the best approach in securing the delivery of works to those areas of land.
3. The components of the respective outline and detailed parts of the planning application are as follows:
    - Outline part: The remainder of the site, which will provide approximately 1,330 residential units and approximately 5,000sqm of non-residential uses.
    - Detailed part: Providing approximately 270 residential units and a new high street and approximately 2,500sqm of non-residential uses.
4. The combined detailed and outline parts are referred to herein as the 'Proposed Development', which will include the phased demolition of non-retained structures and clearance of the site, and construction over a number of phases. Flexibility is being sought in the uses that could come forward, therefore a mix of the uses are being sought for approval. Further details of the Proposed Development are provided in the Proposed Development and Planning Application Section of this Scoping Report.
5. The site is subject to an existing outline planning application with all matters reserved (ref: PA/11/025716/PO) which was permitted in June 2012 as amended by a section 73 permission dated 15 June 2015 (ref: PA/15/0002) (herein referred to as the 'OPP'). A new planning application would replace Phases 4-6 of the OPP to provide a new residential-led development. Further details on the OPP are provided in the Relevant Planning History section of this Scoping Report.
6. The site is currently in use and occupied. It is characterised by low rise development (up to four stories). Key uses within the site include 330 homes, a retail element consisting of two rows of shops along Aberfeldy Street and Aberfeldy (GP) Practice. The GP Practice has been provided within the phases 1-3 of the OPP. Further details on the site and the surrounding area are provided in the Existing Environmental Context section of this Scoping Report.

Figure 1 Indicative Redline boundary

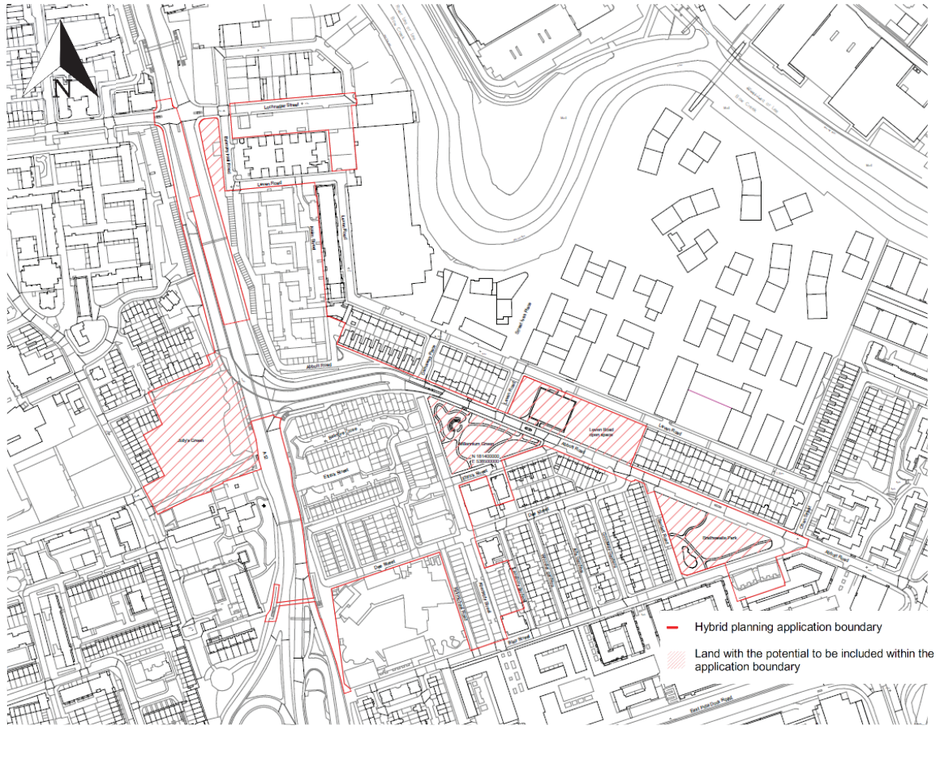
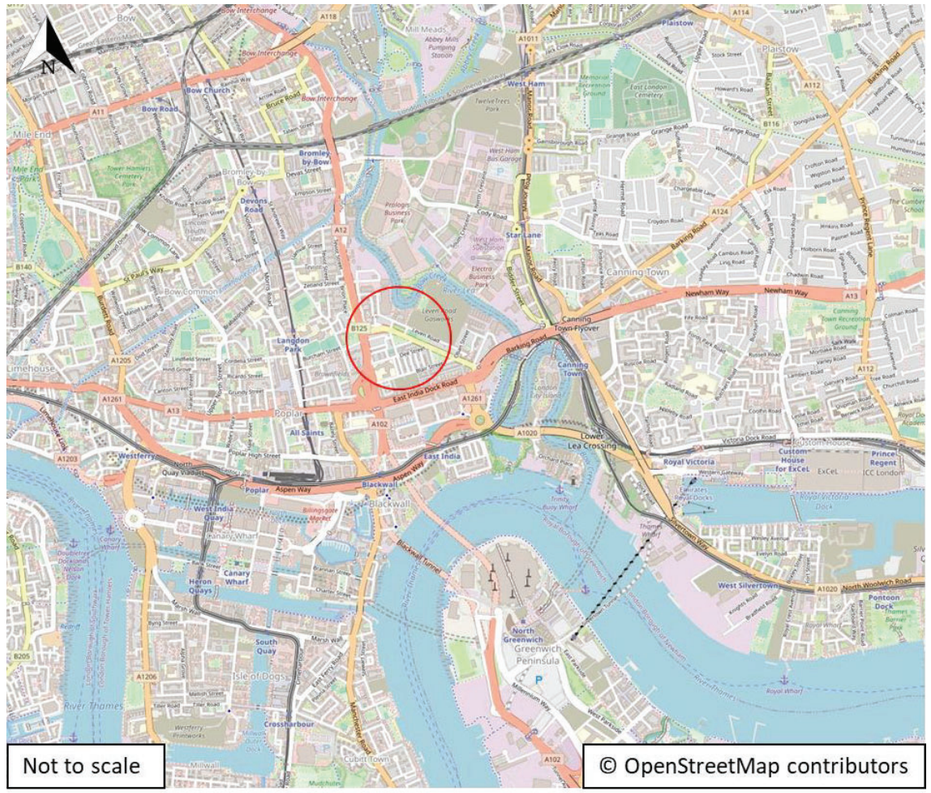


Figure 2 Site Location Plan



7. Given the size and nature of the scheme, the Proposed Development falls within the classification of Schedule 2, 10(b) (Infrastructure Projects – Urban Development Projects) of the EIA Regulations[1]. Taking into account the scale of the Proposed Development and the nature of the site and surrounding area, it is considered that there is the potential for significant environmental effects to arise. The Proposed Development is therefore considered to constitute 'EIA development' under the EIA Regulations, and so an Environmental Statement (ES) will be prepared and submitted in support of the hybrid planning application.

8. Trium Environmental Consulting LLP (Trium) has been commissioned by the Applicant to prepare this EIA Scoping Report and are submitting it to the LBTH to seek a formal EIA Scoping Opinion in accordance with Regulation 15 of the EIA Regulations, to agree the approach and scope of the EIA to be reported in the ES that will be submitted to accompany the hybrid planning application.

9. A pre-application meeting was held on 17th November 2020 via Microsoft Teams with Clare Richmond and Nelupa Malik of the LBTH. The meeting was held to discuss the proposed general approach to the EIA Scoping Report. This discussion was supported by a technical note which outlined the proposed general approach to the EIA (including topics proposed to be scoped in and out of the EIA) issued to LBTH on the 10th November 2020. Following the meeting, pre-application advice was issued from LBTH on 17th November 2020. The Proposed Development and the extent of the site has subsequently evolved however where it remains applicable, the content of the LBTH pre-application advice is reflected in the proposed scope set out herein.

[1] *Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)*

10. The EIA Regulations require that in order to ensure the completeness and quality of the ES, '(a) the developer must ensure that the environmental statement is prepared by competent experts;' and '(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts.' Trium consider that these requirements are equally important and relevant to the EIA scoping process in addition to the preparation of the ES. As such, in accordance with this requirement, the following statement is provided:

> "Trium is an environmental consultancy specialising in urban regeneration and property development projects in the UK, with a specific focus in London. Trium's Partners and Employees have extensive experience in managing the environmental issues and impacts surrounding large scale, high profile urban regeneration development projects. The Partners and Employees of Trium have, over the course of their careers to date (including with former employers), project directed, managed or contributed to over 400 EIAs within the retail, residential, leisure, commercial, cultural, infrastructure and industrial sectors."

11. Information on Trium's lead partner and project manager including information for each technical sub-consultant will be appended to the ES within **ES Volume 1, Chapter 2: EIA Methodology**.

Structure of the EIA Scoping Report

12. This Scoping Report is structured as follows and provides:

- A summary of the EIA purpose and process including EIA Scoping.
- Site description and environmental context.
- An overview of the Proposed Development;
- An outline of the potential environmental sensitivities and receptors;
- An outline of the planning context;
- A description of the EIA methodology;
- The approach to determining the significance of effects;
- A description of the environmental topic areas that are considered to potentially result in significant effects on the environment and an explanation of the proposed scope and assessment methodology that will be adopted to predict the magnitude of potential impacts and the resultant scale, nature, geographic extent and duration of potential effects, and the effect significance within the EIA;
- A description of the environmental topic areas that are considered unlikely to result in significant environmental effects and are therefore 'scoped out' of the EIA;
- Confirmation of the proposed structure of the ES; and
- The request for an EIA Scoping Opinion.

EIA AND THE SCOPING PROCESS

EIA Purpose and Process

13. EIA is a process carried out which examines available environmental information to ensure that the likely significant environmental effects of certain projects are identified and assessed before a decision is taken on whether a project is granted planning permission. This means environmental issues can be identified at an early stage and projects can then be designed to avoid or to minimise significant environmental effects, and appropriate mitigation and monitoring can be put in place.

14. Regulation 4 of the EIA Regulations sets out the EIA process. Specifically, Regulation 4(2) states that "the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors:

- (a) population and human health;
- (b) biodiversity;
- (c) land, soil, water, air and climate;
- (d) Material assets, cultural heritage and the landscape;
- (e) The interaction between the factors referred to in sub-paragraphs (a) to (d)."

15. The potential for likely significant effects on the aforementioned factors, during both the demolition and construction works associated with the Proposed Development and once the Proposed Development is complete and operational, is considered within the following relevant environmental topics addressed within this Scoping Report:

- Air Quality;
- Archaeology (Buried Heritage);
- Climate Change and Greenhouse Gases;
- Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
- Ecology and Biodiversity;
- Geoenvironmental (Ground Conditions, Groundwater and Land Take and Soils);
- Health;
- Noise and Vibration;
- Project Vulnerability;
- Socio Economics;
- Health;
- Townscape, Built Heritage and Visual;
- Traffic and Transport;
- Electronic Interference;
- Waste;
- Water Resources, Drainage and Flood Risk; and
- Wind Microclimate.

16. The method behind the EIA process generally[2] takes into account the existing conditions of the area into which the development is being introduced (***the baseline***) and makes reasonable predictions of the likely change (***the impact*** – in terms of magnitude) that may occur, during both its construction and when the development is completed and operating as proposed. The predicted impact is considered in terms of key environmental and social aspects (***receptor / resource***) found within the site and the surrounding area, and based on their sensitivity to change, the resulting change experienced by the receptor / resource (***the effect***) is then determined. Any mitigation measures required in order to reduce or eliminate adverse effects are then considered and assessed, with the resulting residual effect being determined as significant or not. The likely significant effects are then reported within an ***ES*** for consideration by the relevant planning authority when considering whether to grant planning permission for a proposed development.

The Scoping Process

17. EIA Scoping forms one of the first stages of the EIA process. Requesting an EIA Scoping Opinion Request from a local planning authority, under Regulation 15 of the EIA Regulations, involves the preparation of a Scoping Report and its submission to the local planning authority as a formal request for their opinion on the content or 'scope' and approach to the EIA.

18. The purpose of the scoping process is to identify:

- the important environmental issues and topics for consideration in the EIA;
- the baseline conditions and assessment methodology to be used for assessment;
- any potentially sensitive receptors that may be affected by the development being proposed;
- the appropriate spatial context of the EIA;
- the information necessary for decision-making; and
- the potential significant effects which are likely to result from the development both during its demolition and construction and operation.

19. This Scoping Report constitutes a formal request for an EIA Scoping Opinion from the LBTH.

20. In accordance with the requirements of the Town and Country Planning (Development Management Procedure) Order 2015 (article 18, Schedule 4), this Scoping Report will need to be issued by the LBTH to the statutory consultees that are considered to have an interest in the EIA of the Proposed Development and should be consulted as part of the EIA Scoping process. It is expected that the LBTH will also issue the Scoping Report to non-statutory and key, local stakeholders and interest groups who are deemed to similarly have an interest in the EIA of the Proposed Development.

21. The process of consultation is a key requirement of the EIA process, and the views of statutory consultees and other stakeholders help to identify specific issues, as well as identifying additional information in their possession, or of which they have knowledge, which may be of assistance in progressing the EIA.

22. The Scoping Opinion will be appended to the ES which will include a summary of any other consultation undertaken as part of the EIA process.

[2] *There may be exceptions to the general approach described. Where there are exceptions, this will be clearly described within the relevant methodology section, outlining both the departure from the general EIA methodology and the description of the alternative approach. This is discussed further within 'EIA Process and Methodology' section of this Scoping Report.*

SITE CONTEXT

Site Location

23. The site is located in Poplar at National Grid Reference: Easting 538412, Northing 181392 and covers a total area of a total area of approximately 9.69 hectares (ha). It is broadly bordered by:

- Bromley Hall School and Lochnagar Street to the north;
- B125 Abbott Road and Leven Road to the east;
- Culloden Primary School and residential areas off Blair Street to the south; and
- A12 and properties on Joshua Street and St. Leonards road to the west.

24. The site currently comprises a range of uses including a large area of residential dwellings up to four storeys in height. The site also comprises public realm, containing soft landscaping, Aberfeldy Millennium Green, Braithwaite Park and a hard standing Multi Use Games Area (MUGA). An area of the site to the north currently comprises an area of brownfield land, with both soft and hard landscaping. The site also incorporates a retail and commercial businesses (along Aberfeldy Street), Aberfeldy Cultural Centre and the Aberfeldy GP Practice. The site contains the Aberfeldy Neighbourhood Centre to the east of the site. The GP Practice has been provided within the phases 1-3 of the OPP.

25. The main vehicular access into the site is currently gained from the B125 Abbott Road in the north-east corner of the site which then bisects the site to the west. Blair Street and Lochnagar Street form secondary access points into the site.

Existing Environmental Context

Environmental Context of the Site and Surrounding Area

26. Figure 3 identifies the location of the site and its surrounding context, including conservation areas, listed buildings, Sites of Importance for Nature Conservation (SINC), Archaeological Priority Areas (APA), and local social infrastructure such as medical practices and schools.

27. The wider surrounding context of the local area is made up of a mixture of uses, comprising a mixture of low to medium rise residential areas and low-rise commercial uses. There are several taller existing and consented buildings to the north west of the site along the A12, and the east of the site within the former poplar bus depot and Leven Road developments, ranging up to 22 storeys in height.

28. The site does not lie within an environmentally sensitive area as defined by the EIA Regulations. The site itself does not contain any heritage assets however, the site is located within 700m of the site to 5 Conservation areas and 10 listed buildings. Namely, a 26 storey Grade II* Listed Building called Balfron Tower which is located approximately 60m west of the site.

29. There are several health facilities and schools within a 1km radius of the site located to the north and west, the closest being Langdon Park School (secondary) (approximately 10m west of the site), Woolmore Primary School (approximately 190m south-west of the site) and The Aberfeldy Practice (on-site) and Chrisp Street Health Centre (approximately 250m west of the site).

30. The site has a variety of transport links available, however the Public Transport Accessibility Level (PTAL) rating for the site varies from 3 to 4 (where 0 is the worst and 6b is the best). Bromley-by-Bow Station is located 950m from the north of the site and is served by the London Underground (Hammersmith & City and District lines). Langdon Park Station is located approximately 260m from the west of the site and East India Station is located approximately 650m from the south of the site. Both stations provide access to Docklands Light Railway services. Bus service 309 routes through the site and a further three bus services (108, 115 and D8) can be accessed from the site within a 10-minute walk.

31. The key environmental features and designations on-site and in the surrounding area are listed in **Error!**

No bookmark name given.

Table 1 Existing Environmental Context

Environmental Topic	Key features and designations
Air Quality	• LBTH Air Quality Management Zone, pollutants declared for: NO_2 and PM_{10}. • The site is located adjacent to an AQMA which encompasses all main roads within the borough.
Archaeology	• The site is within the Lea Valley Archaeological Priority Area (Tier 3).
Daylight, Sunlight and Overshadowing	• Daylight and Sunlight receptors in proximity of the site include a number of residential receptors which are listed later in this scoping report, residential components of Phase 1- 3 of the 2012 OPP and the existing Culloden Primary School. • Areas of open amenity space (listed later within this scoping report) have been considered as overshadowing receptors.
Ecology and Biodiversity	• The site is not within a 'sensitive area' (as defined in Part 1 of the EIA Regulations) and does not fall within the boundaries of any statutory or non-statutory sites. • The site has the potential to support the following notable and/or protected species: o Low potential to support foraging and commuting bats; o Low potential to support roosting bats; o Moderate potential to support nesting birds; and o Confirmed presence of invasive/non-native species. • Epping Forest SAC lies approximately 6.4km north of the site. • Further detail is provided within the ecological baseline and Preliminary Ecological Assessment appended to this report.
Geoenvironmental	• The site has a bedrock geology of Lambeth Group – clay, silt and sand and superficial deposits of Alluvium – clay, silt, sand and peat. • The EA's Groundwater Source Protection Zone Map confirms that the site is not located within a Groundwater Source Protection Zone.
Noise and Vibration	• Noise receptors in the vicinity of the site include the existing and future residents of Phases 1- 3 of the 2012 OPP, Culloden School and residential receptors north, north-east and east of the site. • The main noise source in the area is road traffic from the A12 Blackwall Tunnel Approach to the west of the site and the A13 East India Dock Road to the south.
Townscape and Heritage	• The site is not located within a Conservation Area. • Part of Bromley Hall School (Grade II) lies within the site. The site does not contain any other statutory or non-statutory listed buildings. **Surrounding Conservation areas** • The Balfron Tower Conservation Area is located approx. 15m west of the site; • The St Frideswide's Conservation Area, approx. 130m to the west; • The Langdon Park Conservation Area, approx. 80m to the north west; • Naval Row Conservation Area, approx. 265m to the south; and • The All-Saints Conservation Area, approx. 270m to the south west; **Surrounding Listed Buildings** • The Balfron Tower, St Leonard's Road (Grade II* listed) approx.15m to the west); • Carradale House, St Leonard's Road approx. 45m to the west; • Glenkerry House, Burcham Street approx. 20m to the west; • Former Bromley Hall School, Bromley Hall Road adjacent to the north of the site; • Poplar Public Library, Gillender Street approx. 120m to the north; • Bromley Hall, Gillender Street (Grade II*) approx.140m to the north; • Former Fire Station, Gillender Street approx. 215m to the north; • Church of St Michael and All Angels, St Leonard's Road approx. 130m to the west; • Former Financial Times Print Works, East India Dock Road (Grade II*) approx. 145m to the south; and • Plaque on Modern Dock Wall Facing West, East India Dock Road approx. 167m to the south.

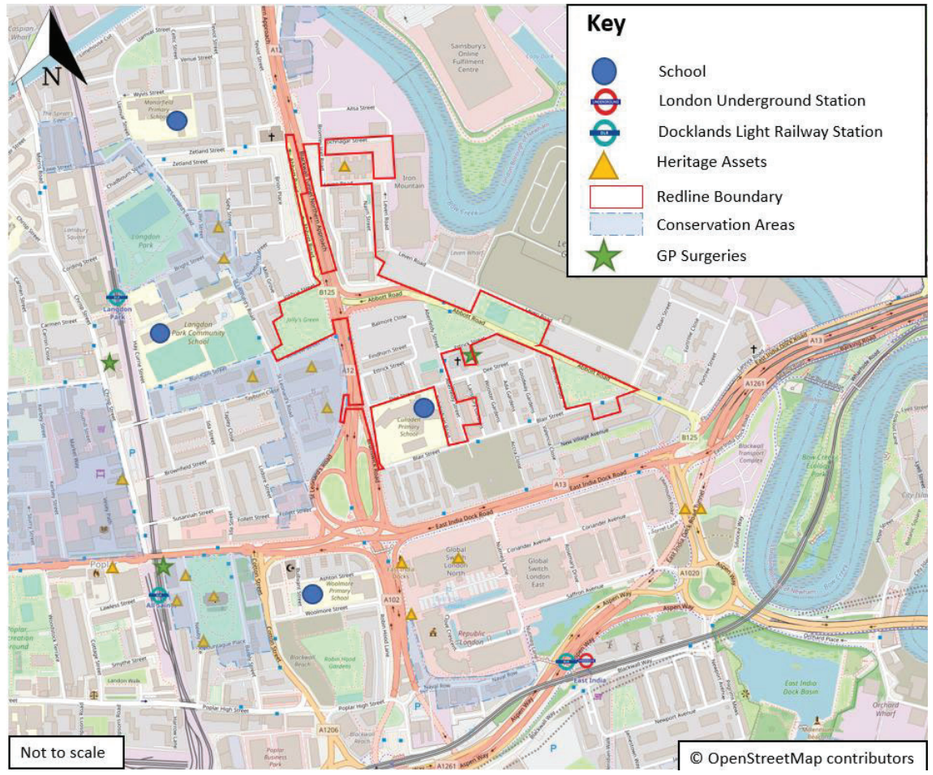
Environmental Topic	Key features and designations
Socio Economics	• The nearest primary schools to the are Culloden Primary School located adjacent to the south of the site and Langdon Park School located approx.10m to the west; • Aberfeldy Practice GP is located within the site boundary; • The nearest GP is being provided as part of Phase 3 of the OPP. In addition, Chrisp Street Health Centre is located approx. 265m to the west of the site; • St Nicholas Church, Poplar is located adjacent to the east; • There are a number of formal green spaces located within the site including Braithwaite Park, Aberfeldy Millennium Green, Jolly's Green and Leven Road Green (Multi-Use Games Area), there are a number of informal green spaces between buildings; and • Nearby open spaces include Langdon Park (approx. 180m north west).

Traffic and Transport	• The site has a Public Transport Accessibility Level (PTAL) rating of 3 to 4 (poor/moderate);
	• Vehicular access to the site is achieved from:
	  ○ Lochnagar Street, which forms a signalised junction with the A12 at the north of the site.
	  ○ Abbott Road passes through the site and connects the A12 and A13. At its western end Abbott Road forms, a junction with the A12 via a grade separated right turn onto the northbound A12 in the form of a vehicle underpass and a left-in left-out southbound A12 traffic.
	  ○ Jolly's Green towards the west of the site can be accessed via Joshua Street, Andrews Street and St Leonards Road.
	  ○ At its eastern end Abbott Road forms, a signalised junction with the A13. The access operates as left-in, left-out with the right turn entry movement being restricted to bus only.
	  ○ Abbott Road forms junctions with Ettrick Street, Dee Street and Blair Street, which each provide access to the site.
	• Bus service 309 routes through the site and has five services per hour. A further three bus services (108, 115 and D8);
	• East India DLR Station (approx. 450m south), Langdon Park DLR Station (approx. 275m west);
	• Bromley-By-Bow London Underground Station is located approximately 800m north of the site;
	• Cycleway 3 forms the main strategic cycle route in the vicinity of the site and provides a connection into Central London. There are a number of cycle routes in the vicinity of the site including the Cycleway 3 which runs along the A13 East India Dock Road; and
	• Furthermore, Aberfeldy Street Cycle Hire station is located on-site.

Water	• The site is located within an area designated as 'Flood Zone 3, benefitting from flood defences[3]; • Environment Agency (EA) information for the site indicates that there is mainly a very low (0.1% chance) risk of surface water flooding across site with a low (0.1% - 1% chance) to medium to high risk (<1% chance) focused along Blair Street, Abbott Road and Kirkmichael Road[4]; • At the nearest point the River Lea (a designated Site of Importance for Nature Conservation (SINC)) is located 50m to the east of the site.

[3] *Land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.*
[4] *Source: https://flood-map-for-planning.service.gov.uk/*

Figure 3 The Site and Surrounding Area



RELEVANT PLANNING HISTORY

32. The 2012 outline planning permission (ref: PA/11/02716/P0) ("2012 OPP") was for the comprehensive regeneration of the Aberfeldy Estate, over 6 phases. It covers the area to the north of East India Dock Road (A13), east of the Blackwall Tunnel Northern Approach Road (A12) and to the south-west of Abbot Road (B125), overlain with the Proposed Development site boundary.

33. The 2012 OPP consented the following development:

> 'Outline planning application (all matters reserved) for the mixed-use redevelopment of the existing Aberfeldy estate comprising: Demolition of 297 existing residential units and 1,990 sq m of non-residential floorspace, including shops (use class A1), professional services (use class A2), food and drink (use class A3 and A5), residential institution (use class C2), storage (use class B8), community, education and cultural (use class D1); and Creation of 1,176 residential units (Use Class C3) in 15 new blocks between 2 and 10 storeys in height plus 1,743sqm retail space (Use Class A1), professional services (Use Class A2), food and drink (Use Classes A3 and A5) and 1,786 community and cultural uses (Use Class D1) together with a temporary marketing suite (407sqm), energy centre, new and improved public open space and public realm, semi-basement, ground and on-street vehicular and cycle parking and temporary works or structures and associated utilities/services.'

34. The 2012 OPP was amended by way of an application for minor material amendments under s.73 of the Town and Country Planning Act (Ref: PA/15/00002/S) resulting in the following amendments:

- Extending development contained within the consented Phase 3 to include sections of consented Phase 4, including Block J within the amended Phase 3;
- Increasing the maximum parameter heights of the buildings in Phase 3 by 2.5m to allow for additional storeys to Blocks G, H ad J thereby enabling an increase in the number of dwellings in Phase 3 whilst not impacting upon the consented total number of units or residential floorspace brought forward by the scheme across all 6 phases of the consented development, as this remains restricted by conditions 5 and 8 of the Outline Permission;
- Clustering the retail uses to the intersection between Aberfeldy Street and Blair Street;
- Expanding the floor area allocated to the community centre and health centre to respond to projections of increased demand for these facilities, by reducing quantum of retail floorspace provided within Phase 3 to release space within this phase to facilitate space for a larger quantum of health and community centre floor space set within the consented building footprint parameter plans. Overall floorspace increased by 686sqm (430sqm increase in D1 Community Centre and 256sqm increase in D1 Health Centre);
- Resigning of the S106 Agreement; and
- Phase 1 has delivered, 338 residential units (263 private sale, 67 social rent and 8 shared ownership), two retail units (subsequently approved as a change of use to a gym and concierge), and a marketing suite for the scheme. Phase 2 has delivered 219 residential units (194 private sale, 21 social rent and 4 shared ownership). Phase 3 will deliver once complete 344 new homes (262 private sale; 69 social rent; 13 shared), a community centre, a health centre, a range of new retail space and a new energy centre.

35. The 2012 OPP as amended by the July 2015 section 73 permission is collectively referred to as "the OPP" in this Scoping Report.

36. The current status of the development that falls under the OPP is as follows:

- Phases 1, 2 and 3a – fully built out and occupied (approximately 678 residential dwellings);
- Phase 3b - currently under construction; and
- Phases 4 to 6 – not yet started.

37. The site of the Proposed Development in part covers the areas of Phases 4 to 6 of the OPP.

THE PROPOSED DEVELOPMENT AND PLANNING APPLICATION

Overview of the Proposed Development

38. The Proposed Development is anticipated to comprise the construction of a residential mixed-use scheme, in plots up to 96m high, providing:

- The provision of approximately 1,600 residential units;
- Approximately 7,500 m^2 gross internal area (GIA) non-residential uses;
- New and improved access arrangements;
- Associated servicing facilities and ancillary, plant space and associated landscaping; and
- New vehicular access onto the site north of Blair Street and a new A12/ Abbott Road junction moved further north. The existing vehicular underpass is proposed to be converted into a pedestrian and cycle route connecting Jolly's Green with the site.

39. The Proposed Development is likely to include the demolition of the existing structures on-site and the construction of several urban blocks that are partially defined by Phase 1, 2 and 3a of the OPP, and Phase 3b which is currently under construction.

40. A new significant public open space is proposed at the heart of the development between the A12 and

Abbott Road. A number of smaller open spaces are also proposed. A new public square in front of St Nicolas Church and a number of smaller open spaces for play and recreation. Car parking will be provided within podium car parks and on-street.

41. In terms of building heights, the Proposed Development is located within the London City Airport safeguarding zone. Discussions surrounding height are subject to ongoing conversations with LBTH.

42. The Proposed Development would facilitate the pedestrianisation of the Abbot Road vehicle underpass and the provision of a healthy street along Abbot Road.

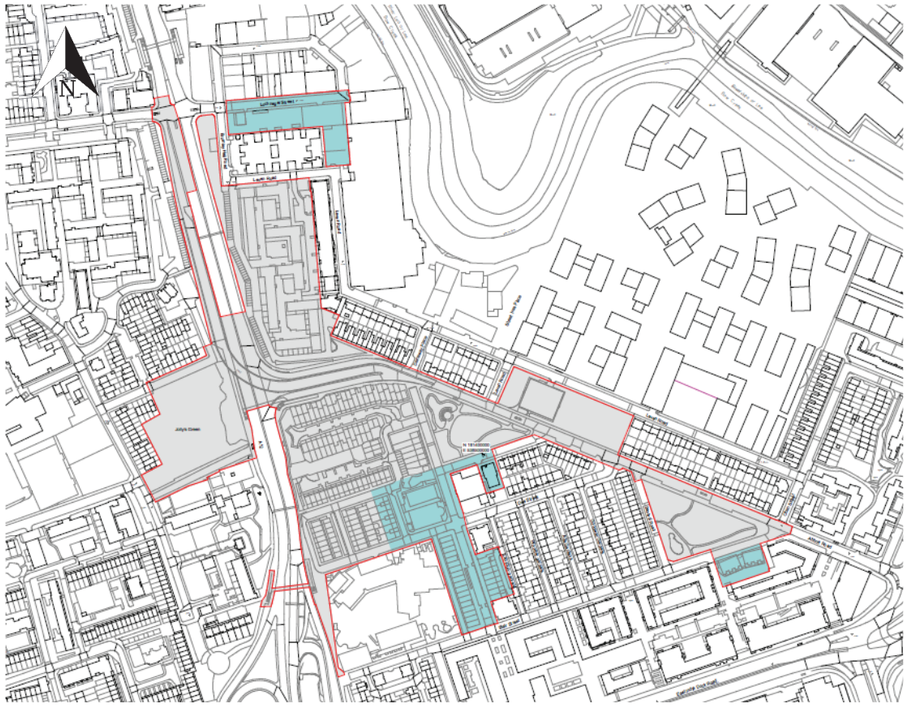
Hybrid Planning Application

43. The ES will present a description of the Proposed Development, in terms of the design details sought for approval where relevant and the development 'parameters' and 'guidelines' sought for approval for those components of the Proposed Development where only outline approval is sought. The likely significant effects of the outline part will be based on a set of Parameter Plans and a Development Specification (to be read together) which will allow for a degree of flexibility for the detailed design to evolve and be submitted through the reserved matters applications. The Parameter Plans and Development Specification will provide enough information on the Proposed Development to allow an assessment of potential impacts and likely significant effects of the completed and operational development to be undertaken.

44. Any assumptions made will be clearly presented in the narrative.

45. The Proposed Development is a residential led mixed-use scheme. The following sections provide further detail of the proposals within the detailed and outline parts of the scheme. Figure 4 presents the detailed and outline parts of the scheme.

Figure 4 Indicative Detailed (blue) and Outline (Grey) parts of the scheme.



46. The Proposed Development is anticipated to provide:

- Outline part: -Demolition of existing buildings and the provision of:
  - Comprising approximately 1,330 units – Class C3.
  - Approximately 5,000m^2 GIA of non-residential uses including Restaurant / Retail
  - / Office– Class E(a), E(b) and E(g);
  - Construction of new buildings up to 96m in height;
  - Cycle and pedestrian routes through the site;
  - Provision of an approximately 1,200m^2 Residents Hub; and
  - Provision of internal vehicle access routes.
- Detailed part: -Demolition of existing buildings and the provision of 4 residential areas comprising:
  - Comprising approximately 270 units– Class C3;
  - Building heights ranging between approximately 7m – 42m in height; and
  - Approximately 2,500 m^2 GIA of non-residential uses including Restaurant / Retail – Class E(a) and E(b).

47. A new access point is proposed, to facilitate access to the Proposed Development from the A12 onto Abbott Road. In addition, the development seeks to pedestrianise the Abbott Road vehicular underpass at the existing Abbott Road junction to create a new walking and cycling route under the A12 and new public open space.

48. The Proposed Development intends to provide car parking provision onsite. It is envisaged this will be provided on street and within three podium car parks. Where possible car parking shall be designed to allow repurposing in the event of modal shift away from car use. Provision for electrical car charging points will also be made.

49. Demolition and construction are anticipated to occur over 120 months. A summary demolition and construction programme, outlining the demolition and construction programme assessed is to be presented within Chapter 5 of the ES.

50. The landscape design intends to create a significant new public open space at the centre of the site with good connections to existing public open spaces to the east and west, with improvements to public open spaces within the redline boundary.

PLANNING CONTEXT

Planning Policy Context

51. The ES (within ES Volume 1, Chapter 1: Introduction and EIA Methodology), will define the relevant national, regional and local policy context. Specifically, the ES will list out the key relevant policy documents but will not discuss the policies within these in any detail.

52. Although relevant policies out of the key planning policy documents will, in some instances, inform the scope and the methodology of the technical assessments within the EIA, the Proposed Development's compliance with and performance against the relevant planning policies will be appraised within the Planning Statement which will be a standalone document that is submitted in support of the planning application. It is not the purpose of the ES to appraise the Proposed Development against relevant national, regional and local planning policy standards / targets.

53. Where planning policy informs the scope and the methodology of the technical assessments of the EIA, the policies will be presented in the ES (in the relevant technical topic chapters) and discussed as necessary. Any policy detail required to support the relevant impact assessment scope, methodology or assessment of effects, will either be provided within the technical topic chapter itself or within an appendix to the ES.

National Planning Policy and Guidance

54. The EIA will be undertaken having regard to the National Planning Policy Framework (NPPF). The NPPF sets out the Government's economic, environmental and social planning policies for England. The policies contained within the NPPF articulate the Government's vision of sustainable development, which are intended to be interpreted at a local level, to meet the requirements of local aspirations.

55. As relevant to the EIA, specifically to the scope, methodology and assessment of effects for the EIA technical topics, the NPPF shall be considered throughout the EIA process.

56. The EIA will also refer to, as relevant to the EIA technical topics, the Planning Practice Guidance (PPG), which is an online resource. The PPG aims to make planning guidance more accessible, and to ensure that the guidance is kept up to date.

Strategic Planning Policy and Guidance

57. As relevant to the EIA technical topic scope, methodology or assessment of effects, the ES will have regard to the following key strategic planning documents. Any additional strategic planning policy and guidance documents considered relevant to the technical assessments which are covered by the EIA will also be considered:

- The London Plan: The Spatial Development Strategy for Greater London 2021 – hereafter referred as 'the London Plan';
- Supplementary Planning Guidance (SPG) (i.e., further guidance on policies in the London Plan that can't be addressed in sufficient detail in the plan itself).
- The GLA has designated Housing Zones as areas with substantial potential to unlock and accelerate housing delivery in London through targeted investment, engagement and planning. The site is included within the Poplar Riverside Housing Zone. The area was allocated Mayoral grant and loan funding to accelerate the delivery of new homes. The London Plan has designated Poplar Riverside as a new Opportunity Area.

Local Planning Policy and Guidance

58. As relevant to the EIA technical topic scope, methodology or assessment of effects, the ES will have regard to key local planning policy and guidance documents.

59. The LBTH's new Local Plan was adopted by the Council in January 2020. The 'Local Plan 2031: Managing Growth and Sharing Benefits' supersedes the previous Local Plan 2010, which consisted of the Core Strategy (2010) and Managing Development Document (2013).

60. The Local Plan 2031 is the principal document guiding development and growth within the LBTH, and provides spatial policies, development management policies and site allocations to guide development within the borough.

61. The site is partially located within the Ailsa Street Site Allocation, as designated under the new Local Plan 2031. The site allocation outlines a number of design principles and delivery considerations for new developments. The design principles include the provision of appropriate building heights, scale and massing and the avoidance of significant adverse environmental impacts. This includes the provision of an active and well-defined street frontage along Lochnagar Street and create a stronger east-west link between the River Lea and the Langdon Park DLR station and improve the quality of and create a positive sense of place in the form of an active square at the corner of the A12 and Lochnagar Street.

62. The site is located within the Draft Leaside Area Action Plan (2021) under Site: LS-A, which aims to improve the quality and connectivity of the area, encourage new employment, access to community facilities and policies relating to the type and quality of open spaces and homes in the area.

Other Guidance

63. In addition to any relevant planning policies that inform the scope, methodology or assessment of effects, as relevant, the technical topic chapters of the ES will present a summary of any pertinent recognised industry guidance documents.

EIA METHODOLOGY

EIA Methodology and Approach to Assessment of the Proposed Development

64. In addition to the EIA Regulations, there is also guidance available that has been referenced where appropriate, including but not limited to:

- at a European level, reference has been made to the European Commission's (EC) various EIA guidance documents available here: http://ec.europa.eu/environment/eia/eia-support.htm;
- at a domestic level, reference has been made to the Ministry of Housing, Communities and Local Government (MHCLG) overarching PPG;
- in addition, the Department for Transport 'Design Manual for Roads and Bridges Volume 11: Environmental Assessment' has been referred to as applicable;
- in relation to publications from professional bodies, reference has been made to IEMA publications as these include best practice/suggested improvements to the EIA process. This includes:
  - IEMA's ES Review Criteria (COM3-6);
  - 'Guidelines for Environmental Impact Assessment' (2004);
  - 'Special Report into the State Environmental Impact Assessment Practice in the UK' (2011)[5];
  - 'Shaping Quality Development' (2015)[6];
  - 'Delivering Quality Development' (2016)[7];
  - 'Delivering Proportionate EIA' (2017)[8];
  - IEMA 'Guide to Materials & Waste in EIA' (2020)[9];
  - IEMA 'Climate Change Resilience and Adaption' (2020)[10];
  - IEMA 'Major Accidents and Disasters Guidelines' (2020)[11];
  - IEMA 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (2017)[12]; and
  - IEMA 'Environmental Assessment of Road Traffic' (1993)[13].
- Reference is also made to 'Tower Hamlets Council EIA Scoping Guidance', as it includes relevant / helpful information https://www.towerhamlets.gov.uk/Documents/Planning-and-building-control/Development-control/Revised_Scoping_Guidance_V2_Final.pdf; and
- Applicable case law.

65. In accordance with the EIA Regulations and best practice guidance documents, the EIA will comprise an assessment for each of the relevant technical topics against an appropriate baseline condition of the site and surrounding area, using methods of prediction including established standards and industry

[5] *IEMA (2011) Special Report – The State of Environmental Impact Assessment Practice in the UK.*

[6] *IEMA (2015) Environmental Impact Assessment Guide to Shaping Quality Development.*

[7] *IEMA (2016) Environmental Impact Assessment Guide to: Delivering Quality Development.*

[8] *IEMA (2017) Delivering Proportionate EIA, A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice.*

[9] *Institute of Environmental Management and Assessment, 2020; Guide to Materials and Waste in Environmental Impact Assessment*

[10] *Institute of Environmental Management and Assessment, 2020; Climate Change Resilience and Adaption'*

[11] *Institute of Environmental Management and Assessment, 2020; Major Accidents and Disasters Guidelines*

[12] *Institute of Environmental Management and Assessment, 2017, Assessing Greenhouse Gas Emissions and Evaluating their Significance'*

[13] *Institute of Environmental Management and Assessment, 1993 'Environmental Assessment of Road Traffic'*

guidelines and techniques confirmed as part of the EIA Scoping process. In all cases, the source data and guidance used to establish the baseline conditions and assessment methodology will be clearly set out within the ES.

Baseline Conditions

66. Baseline assessments will utilise any existing and available information, as well as new information either collected through baseline surveys undertaken during the course of the EIA process or additional information provided as part of the EIA Scoping Opinion and consultation process. This information will be used to present within the ES (within the individual technical chapters) an up-to-date description of the current baseline conditions of the site and surrounding area.

67. Some assessments (such as transport and accessibility and air quality) when assessing the effects of the operation of the Proposed Development will include a projected environmental condition in the future (i.e., 'future baseline'), at the projected year of opening of the Proposed Development (if relevant a different future year appropriate/specific for the technical assessment may be used). Where using a future baseline is more appropriate, this will be detailed in the relevant methodology of the technical assessment and be made clear in the ES.

68. In addition, as per the requirements of the 2017 EIA Regulations, consideration as to how the current baseline conditions may evolve in the future in the absence of the Proposed Development will also be presented in the ES (within the individual technical chapters). This likely evolution of the baseline conditions will be quantified where possible and where not possible, a qualitative review will be presented.

Sensitive Receptors

69. When undertaking an EIA, it is important to identify potential environmental receptors which may be impacted by the Proposed Development and may need to be considered as part of the assessment.

70. The environmental receptors that may be sensitive to change are identified and discussed within the scope of each technical topic in this EIA Scoping Report (hereafter referred to as 'sensitive receptors'). The sensitive receptors outlined within this EIA Scoping Report have been identified at the time of writing as part of the EIA scoping process, however these will be reviewed during preparation of the ES and may be subject to change.

Demolition and Construction

71. The ES (within a non-technical chapter titled 'Demolition and Construction') will provide an outline of the anticipated demolition and construction programme and anticipated related activities and aspects (i.e., demolition and enabling works, substructure works, superstructure works etc., demolition waste volumes and construction material quantities, HGV movements and HGV routing). In addition, key environmental controls and management measures relevant to the Proposed Development (including relevant codes of construction practice) will be presented.

72. This information will inform the demolition and construction impact assessments. Throughout the demolition and construction impact assessments, the assumption will be made that the standard environmental controls required under legislation and best practice guidance are met as a matter of course.

73. The assessment of the potential for likely significant effects arising during the demolition and construction works will be addressed within each of the individual technical assessment chapters of the ES and will assess against the defined Baseline Condition (described earlier). The demolition and construction assessments presented within the technical chapters of the ES will identify the need for any additional or bespoke environmental management or mitigation measures in order to avoid, prevent, reduce or off-set any significant adverse effects identified.

74. Where required, a description of any proposed monitoring arrangements will also be presented and would

define (where appropriate) the procedures regarding the monitoring of the potential effects, the types of parameters to be monitored and the monitoring duration.

75. All the measures proposed within the technical chapters will be compiled and presented in a mitigation and monitoring schedule (to be presented as a separate chapter within the ES).

76. It is anticipated that any required demolition and construction related environmental management / mitigation and monitoring measures would be secured and controlled through an appropriate Construction Environmental Management Plan (CEMP) (or equivalent) and it is proposed that this would be secured via planning condition(s) if permission is granted. Key mitigation and management controls that would form part of a CEMP will be presented in the ES to help define the policies, procedures and management framework for the implementation of any identified specific environmental management and mitigation controls and monitoring.

Completed Development

77. The ES will present a description of the Proposed Development in order to provide suitable context to enable the assessment of potential and likely significant environmental effects. Enough information on the Proposed Development, in terms of the key aspects, will be presented to allow an understanding of the development being proposed, in order to enable the assessment of potential and likely significant environmental effects of the completed and operational development. Any assumptions made will be clearly presented in the narrative.

Approach to the Assessment of Detailed Part of the Proposed Development

78. The Proposed Development will be applied for under a hybrid planning application.

79. In respect of the part of the Proposed Development that will be applied for in detail, the assessments contained with the Environmental Statement will be based on detailed design information including but not limited to: fixed area schedules, floor plans, layouts, elevations and massing. Where this detailed information is available and provides the basis of technical assessments within the ES, this will be stated.

Approach to the Assessment of Outline Parts of the Proposed Development

80. The technical studies of the massing (layout and height) parameters of the Proposed Development (i.e. wind microclimate, townscape and visual impacts, built heritage and daylight, sunlight and overshadowing) will provide a quantitative assessment of the likely environmental effects of the maximum scale and layout parameters sought for approval, as per the Parameter Plans and taking into consideration any controls as presented in a 3D massing model.

81. In terms of the noise and air quality assessments (as they relate to changes in road traffic), ground conditions and archaeology the EIA will assess the maximum amount of development across the mix of uses sought for approval as a worst-case scenario. For these topics, the maximum parameters for the amount of development sought for approval represent the worst-case scenario, as a greater area of development means a greater disturbance and redevelopment of existing land on site.

82. In terms of traffic and transport related effects, the upper limits on the amount of development sought for approval represents the worst case, as a greater amount of floorspace or number of residential units for example leads to a higher trip generation (for all modes of transport). Although still to be confirmed at this stage of the project programme, a combination of retail, office and leisure facilities (Use Class E) are anticipated to be provided by the outline parts of the Proposed Development. The assessment of traffic from these uses will consider a mix of these uses, based on what is currently anticipated to be provided by the completed Proposed Development at this stage, and where possible taking into account a higher quantum of trip generating uses to present a realistic worst-case approach. Consideration will also be given to the net trips generated on site by the Proposed Development, accounting for the existing residents and businesses on site.

83. In terms of air quality and noise and vibration, the EIA will firstly use the worst-case scenario trip generation as identified in the traffic and transport modelled assessment data. Secondly the EIA will assess the maximum amount of floorspace as this presents the worst-case scenario for the Energy Strategy, as a greater floorspace will represent the highest energy demands and therefore the maximum plant strategy and maximum anticipated emissions. The Energy Strategy is still to be confirmed at this stage in the project programme. Should on site emitting plant not be required (i.e. because clean/ green energy sources will be used), the assessment of emissions will be scoped out of the air quality ES chapter.

84. In terms of socio-economics, the EIA will firstly assess the maximum amount of development across the mix of uses sought for approval. However, there are likely to be components of this assessment where a lower amount of floorspace presents the worst-case scenario, for example in terms of job generating floorspace. Where this is the case, a sensitivity test will be applied to demonstrate the likely socio-economic effects of a lesser amount of development coming forward. This approach will also be taken when assessing the quantum of development that falls under Use Class E, where confirmation of the exact nature of the end uses within this use class cannot be provided.

85. In terms of the residential component of the development, the socio-economics assessment will assess a unit mix which represents the maximum amount of residential development that is sought for approval. This will represent the worst case in terms of demand for social infrastructure, such as General Practitioners (GPs), primary and secondary schools, and open and play spaces.

Phasing of the Proposed Development

86. As appropriate to the topic in question, the technical chapters of the ES will address the phased delivery of the Proposed Development. The construction sequencing and phased occupation of the Proposed Development is evolving as the design progresses, and where appropriate, the assessments will take into account any temporary effects on sensitive receptors during this interim stage. The approach to this will be clearly set out in the ES.

The Format of the Planning Application

87. Recognising the nature of the planning application as being a hybrid planning application, with respect to the outline parts, the following 'reserved matters' will not been given in the application:

- **Access**;
- **Scale**.
- **Layout**;
- **Appearance**; and
- **Landscaping**.

88. In addition, the outline parts of the Proposed Development (like the detailed parts) will seek approval for an 'amount of development'. This is the quantum (amount) of floorspace proposed for each use class; in some cases, flexibility across a range of uses classes maybe sought.

89. In respect of the Applicant's planning application for the Proposed Development:

- An 'Amount of Development' across a range of uses classes is sought for approval. This represents either a fixed quantum of development for a land use or an 'up to' or 'maximum' amount of development that could come forward across a range of uses classes;
- The detailed part (see above) – None of the above 'matters' are reserved for this phase, because detailed planning permission will be sought and will include full design details relating to scale, layout, appearance and landscaping; and
- The outline part (see above) – Reserved matters relating to the access, scale, layout, appearance and landscaping for this phase are reserved for subsequent approval.

90. Following the grant of the outline (where relevant) planning permission, subsequent 'Reserved Matters Applications' will need to be made to the LBTH to agree the design details that have been 'reserved' for later approval by the Applicant and the LBTH under the outline planning permission. The 'Reserved Matters Applications' will constitute 'subsequent applications'.

91. The combination of the Parameter Plans and the design guidelines and development specifications will provide the upper (maximum) building limits and establish a 3-dimensional building envelope within which the detailed design of buildings can come forward through the submission of reserved matters applications.

92. The technical assessments will ensure that a realistic worst-case scenario, based on the parameters applied for, is assessed. This will be clearly set out in each chapter of the ES.

93. In relation to the scale and layout dependent studies of the EIA, the 3-dimensional envelope tested is the upper limit (maximum extent) of development in terms of scale and layout or in relation to a building-based parameter. The maximum permissible development (in terms of scale and layout or "massing") is generally considered to represent a reasonable worst-case scenario as a larger development massing leads to, for example, increased view obstruction, greater overshadowing or daylight / sunlight reductions.

Key Planning Application Documents

94. This ES, will be based on a number of key planning application documents that will define and describe the Proposed Development (in relation to the 'matters' set out above), as follows:

- Development Specification – which will define and describe the principal components of the Proposed Development. It will include information associated with the amount of development and the proposed use classes of the Proposed Development.
- Detailed Plans, Sections and Elevations relating to the detailed part of the Proposed Development;
- Parameter Plans – a set of plans which will provide outline parameters associated with the scale, layout, appearance and amount of development for the outline part of the Proposed Development;
- Access and Circulation Plans – a set of plans which will define the hierarchy of routes into and across the site for different vehicles types as well as details associated with access arrangements;
- Design Guide - guidelines associated with layout, scale, appearance and landscaping of the outline elements.
- Design and Access Statement – this document will explain the design rationale, vision and objectives for the Proposed Development.

95. In addition, details relating to any proposed highway works and the anticipated phasing of the Proposed Development will be presented in a suite of appropriate plans / drawings.

96. The documents described above will present the details of the Proposed Development that are sought for planning permission and will explain and justify the design intent and principles of the outline and detailed parts of the Proposed Development that are submitted for the Hybrid planning application at this stage. For the outline parts they will also provide the parameters and guidelines that will dictate the final form of these components of the Proposed Development within which design details will be approved at a later date through applications for the approval of reserved matters.

97. Where proposed uses fall under Use Class E, consideration will be given as to whether any of these uses can be excluded from the assessment within the ES. Where certainty can be given over the end uses within this Use Class, the assessment will be completed on this basis. Where certainty cannot be given, a reasonable worst case scenario will be assumed and assessed within the ES.

Cumulative Effects and Effect Interactions

98. The EIA will identify the potential for (a) Cumulative Effects and (b) Effect Interactions which are described below.

Cumulative Effects

99. The cumulative assessment will be based on the information available on the Council's planning register. Generally, the schemes to be included within the cumulative effects assessment will either have:

- Full planning consent, or have a resolution to grant consent located within 1km of the site; and
- Produce an uplift of more than 10,000 square meters GEA of mixed-use floorspace or, provide over 150 residential units located within 1km of the site; or
- Is an office to residential conversions (granted under the General Permitted Development Order) giving rise to over 150 residential units located within 1km of the site.

100. By applying an initial screening exercise to the surrounding development schemes, the cumulative effects assessment of the EIA becomes more focused on the larger schemes (i.e. those with the potential to interact in a cumulative manner).

101. A preliminary list of cumulative schemes for consideration within the EIA has been identified and is presented in **Appendix C** of this EIA Scoping Report. As part of this EIA scoping process, the LBTH (and other consultees, as relevant) are invited to comment on the proposed cumulative schemes, so that the list of cumulative schemes can be agreed,

102. Each technical chapter of the ES will consider the potential for cumulative effects associated with the schemes identified for inclusion within the cumulative effects assessment. Each technical ES Chapter will be clear on the cumulative schemes that have been considered within the cumulative effects assessment.

103. Cumulative schemes that are under construction at the time of the EIA, where the construction works are significantly progressed or where early phases are occupied, will be included in the baseline of the massing-based technical assessments as completed schemes, rather than included in the cumulative assessment for these topics (e.g. daylight/sunlight, wind).

Effect Interactions

104. Effect interactions occur as interactions between effects associated with just one project, i.e. the combination of individual effects arising as a result of the Proposed Development, for example effects in relation to noise, airborne dust or traffic on a single receptor.

105. Effect Interactions from the Proposed Development itself on particular receptors at the site and within the surrounds will be considered during the demolition and construction works and also once the Proposed Development is completed and operational. Dependent on the relevant sensitive receptors, the assessment will focus either on key individual receptors or on groups considered to be most sensitive to potential effect interactions. Based on the definitions of what negligible effects comprise for each of the technical assessments, these do not warrant further consideration in relation to cumulative effects and therefore will not been pulled through into the assessment of effect interactions. Only residual effects described as minor and above will therefore be considered in the assessment of effect interactions.

106. There is no established methodology for assessing the impact of cumulative effects on a particular receptor. The interaction of a combination of individual effects would be determined to be either 'not significant' or 'significant', a scale of the combined effects (minor, moderate or major) would not be applied. If one of the individual effects is significant the combination of effects would be regarded as 'significant'. If none of the individual effects are significant, consideration will be given as to whether or not the combination of many not significant effects could result in a combined significant effect, based on professional opinion.

107. Consideration of effect interactions will be presented within the ES in a separate chapter (i.e. Effect Interactions (Volume 1)).

Reasonable Alternatives

108. In addition, the EIA Regulations require (Schedule 4) that the ES provides "*a description of the reasonable alternatives […] relevant to the proposed project and its specific characteristics*" which have been considered by the Applicant and "an indication of the main reasons for selecting the chosen option, including comparison of environmental effects".

109. The ES will discuss any relevant and reasonable alternatives considered and if relevant, include a qualitative comparison of their environmental effects. The chapter will also describe the evolution of the Proposed Development, and key modifications made during the design process. Environmental considerations which have influenced this process will be discussed. Matters that will be considered in terms of design evolution include land uses, layout, building heights and massing. The preferred design alternative, culminating with the Proposed Development being sought for approval, will be discussed.

110. This information will be presented within a specific chapter titled, **ES Volume 1, Chapter 3: Reasonable Alternatives and Design Evolution**.

111. The summary of the design evolution will also consider the initial microclimate analysis undertaken on the evolving scheme, including daylight and sunlight analysis and initial wind design reviews, which are currently underway, (design modifications as a result of this upfront testing will be summarised in **ES Volume 1, Chapter 3: Reasonable Alternatives and Design Evolution**).

DETERMINING EFFECT SIGNIFICANCE – TERMINOLOGY AND APPROACH

Reference to 'Impact' and 'Effect'

112. It is noted that the terms 'impact' and 'effect' are distinctly different. Having gained an understanding of the likely impact it is then important to know whether the change in environmental or socio-economic conditions results in a significant environmental effect. The impacts of the Proposed Development may or may not result in significant effects on the environment, depending on the sensitivity of the receptor and possible other factors (such as duration). The assessment of the likely significant effects of the development is a requirement identified by Schedule 4 of the EIA Regulations.

Receptor Sensitivity and Magnitude of Impact

113. To achieve a consistent approach across the different technical disciplines addressed within the ES (Volume 1), assessments will broadly define the sensitivity of the receptors that could be affected by the Proposed Development and the magnitude of impact or change from the baseline conditions in order to derive the resultant effect. Technical specialists will use their own approach or amend the approach stated below based on what is appropriate for their assessments.

114. Terminology to describe the sensitivity of receptors and magnitude of impact or change from the baseline conditions is broadly as follows:

- High;
- Medium;
- Low; or
- Negligible.

115. Where there is no impact/change, no assessment will be required due to there being no potential for significant effects.

116. Each of the technical assessment chapters of the ES (Volume 1) will provide further detail on the definition of each of the above terms specific to the topic in question and will also provide the criteria, including sources and justifications, for quantifying the different levels of receptor sensitivity and 'impact magnitude'. Where possible, this will be based upon quantitative and accepted criteria (for example, national standards for air quality and noise), together with the use of value judgement and expert interpretation.

Identification of a Resultant Effect

117. The basis for determining the resultant effect generally takes into account the sensitivity of the receptor and magnitude of impact or change from the baseline conditions. A generic matrix that combines the sensitivity of the receptor and the magnitude of impact to identify the resultant effect is provided within Table 2.

Table 2 Resultant Effects

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Effect Scale

118. The categories and definitions of the 'scale' of the resultant effect (i.e. definitions of Major, Moderate, Minor and Negligible effects) will be set out in each technical chapter of the ES and adjusted to suit the technical topic in question, where relevant; where this is the case revised definitions of effect scale will be presented in the technical assessment chapters of the ES (Volume 1) and in ES Volume 2.

119. Where there is no impact to a receptor and therefore no effect, this will be stated.

Effect Nature

120. Table 3 provides definitions of the 'nature' of the resultant effect i.e. definitions of Adverse and Beneficial.

Table 3 Definition of the Nature of the Resultant Effect

Type of Effect	Description
Adverse	Detrimental or negative effects to an environmental / socio-economic resource or receptor. The quality of the environment is diminished or harmed.
Neutral	The quality of the environment is preserved or sustained or there is an equal balance of adverse and beneficial effects.
Beneficial	Advantageous or positive effect to an environmental / socio-economic resource or receptor. The quality of the environment is enhanced.

Geographic Extent of Effect

121. The ES (Volumes 1 and 2) will identify the geographic extent of the identified effects. At a spatial level, 'site' or 'local' effects are those affecting the site and neighbouring receptors, while effects upon receptors in LBTH beyond the vicinity of the site and its neighbours are considered to be at a 'district / borough' level. Effects affecting Greater London are considered to be at a 'regional' level, whilst those which affect different parts of the country, or England as a whole, are considered being at a 'national' level.

Effect Duration

122. For the purposes of the ES, effects that are generated as a result of the demolition and construction works (i.e. those that last for this set period of time) will be classed as 'temporary'; these maybe further classified as either 'short term' or 'medium-term' effects depending on the duration of the demolition and construction works that generate the effect in question. Effects that result from the completed and operational phases of the Proposed Development will be classed as 'permanent' or 'long-term' effects.

Direct and Indirect Effects

123. The ES will identify whether the effect is 'direct' (i.e. resulting without any intervening factors) or 'indirect' or 'secondary' (i.e. not directly caused or resulting from something else).

Effect Significance

124. Following identification of an effect, the effect scale, nature, geographic extent and duration using the above summarised terminology, a clear statement will then be made within the ES as to whether the effect is significant or not significant. As a general rule, the following applies:

- 'Moderate' or 'major' effects are deemed to be 'significant'.
- 'Minor' effects are considered to be 'not significant', although they may be a matter of local concern; and
- 'Negligible' effects are considered to be 'not significant' and not a matter of local concern.

125. Where mitigation measures are identified to either eliminate or reduce likely significant adverse effects, these will be incorporated into the Proposed Development, for example either through the design, or will be translated into demolition and construction commitments; or operational or managerial standards / procedures.

126. The ES will then highlight the 'residual' likely significant effects (those effects which remain following the implementation of suitable mitigation measures) and classifies these in accordance with the terminology defined above.

Aberfeldy New Masterplan

TOPICS TO BE SCOPED IN

Air Quality

Introduction

127. Entran Ltd will undertake an air quality assessment, to determine the potential effects of the Proposed Development.

128. This chapter will consider the impact of the Proposed Development on air quality, in terms of impact on existing and new receptors. The proposed development will generate additional traffic on the local road network, which could impact on air quality at existing properties. There is also the potential for dust generated during construction works to impact upon nearby sensitive receptors.

129. An air quality assessment is therefore **SCOPED IN** to the EIA.

Baseline

130. The London Borough of Tower Hamlets declared a Borough wide Air Quality Management Area (AQMA) in 2000, due to exceedances of the air quality objectives for nitrogen dioxide (NO_2) and particulate matter (as PM_{10}). Consequently, the Proposed Development site falls within the designated AQMA.

131. The site is located in an area where air quality is mainly influenced by road transport using the A12/A102 Blackwell Tunnel Northern Approach and the A13 East India Dock Road, which border the site to the west and south.

132. There are no industrial pollution sources in the immediate vicinity of the site that will influence the local air quality.

Potential Effects

133. The potential for significant effects as a result of the demolition and construction as well as the operation of the Proposed Development will be addressed in the assessment by considering the following:

- Potential temporary increase in dust generated by on-site activities during the construction phase of the Proposed Development;
- Potential increase in PM_{10} concentrations generated by on-site activities during the site preparation, demolition, earthworks and construction phase of the Proposed Development;
- Potential increase in air pollutants (NO_2 and PM_{10}) generated from construction plant and vehicle exhaust emissions during the site preparation, earthworks and construction phase of the Proposed Development; and
- Potential change in pollutant concentrations (notably NO_2, PM_{10} and $PM_{2.5}$) due to exhaust emissions from road traffic and an energy centre / CHP (where one is proposed) generated during the operational phase of the Proposed Development.

Potentially Sensitive Receptors

134. Human receptors have the potential to be affected by dust and PM_{10} generated during the construction phase as well as from emissions from construction traffic. During the operational phase, existing human receptors have the potential to be affected by emissions from road traffic generated by the Proposed Development. Additionally, exposure of future occupants to the existing pollutant concentrations and the suitability of the site for its proposed end use will be considered.

135. There are no ecological designated sites within the vicinity of the Proposed Development or on the roads leading away from the site. As such, impacts on ecological receptors are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Demolition and Construction

136. Demolition and construction related impacts will be examined. This will involve a review of the proposed works and related traffic data during the various phases of the development to identify any potentially adverse effects at nearby sensitive receptors. The construction assessment will be carried out in-line with the Institute for Air Quality Management (IAQM) Guidance.

Completed Development

137. The air quality assessment will be undertaken using detailed dispersion modelling (ADMS Roads) for road traffic emissions. The assessment will take account of all relevant national and local policies and relevant Defra technical guidance relating to air quality.

138. The road traffic assessment will focus on NO_2, PM_{10} and $PM_{2.5}$ and a comparison of predicted concentrations with the statutory air quality standards and objectives. The significance of predicted impacts will be determined in accordance with the Environmental Protection UK (EPUK) and IAQM Planning Guidance.

139. The extent of the assessment of the traffic related air quality impacts will be determined by the extent of the Transport Assessment as agreed with the relevant bodies. It is anticipated that this will cover the local road network and any roads predicted to experience significant changes in flow.

140. The ADMS Roads modelling will be verified against existing monitoring data for the area. In addition, air quality monitoring for nitrogen dioxide (using diffusion tubes) will be undertaken at the site in order to provide further confidence in the modelled predictions. This monitoring will be carried out over a minimum period of three months.

141. An Air Quality Neutral Assessment will be undertaken in accordance with guidance provided in support of the Mayor's policy on Air Quality Neutral developments, prepared by Air Quality Consultants Ltd.

142. Detailed air quality dispersion modelling of any energy centre / CHP plant will be undertaken, if required.

143. The assessment will also take account of the New London Plan and will consider how local air quality can be improved across the area of the proposal as part of an air quality positive approach.

Cumulative Effects

144. The potential cumulative effects of the Proposed Development when considered in combination with the Cumulative Schemes (**Appendix C**) with planning permission, will be assessed in accordance with the methodologies set out above. Cumulative schemes will also be considered as future receptors within the assessment.

Climate Change

145. Greengage will undertake a climate change resilience assessment and greenhouse gas (GHG) assessment, to determine the potential effects of the Proposed Development.

146. A climate change resilience assessment and greenhouse gas (GHG) assessment are therefore **SCOPED IN** to the EIA.

147. This chapter will consider:

- The climate change resilience of the Proposed Development;
- Any in-combination climate impacts associated with the Proposed Development whereby climate change events alter the significance of environmental effects identified in other technical areas; and
- The impact of the Proposed Development on climate change.

Baseline

148. The United Kingdom's Climate Impact Programme (UKCIP) highlights the key climate projections over the next 60+ years and summarises these as follows:

- Summers will become hotter and drier;
- Winters will become milder and wetter;
- Soils will become drier on average;
- Snowfall and the number of very cold days will decrease;
- Sea levels will rise; and
- Storms, heavy and extreme rainfall, and extreme winds will become more frequent.

149. Future climate projections under UKCP18 for the 25 km Grid Cell (537500, 187500) are in Table 4 for 2040, 2070 and 2099. This Grid Cell covers the area in which the site is located. The high emission scenario RCP8.5 was used and projections for the 50th percentile is displayed. The wider range shows the range of projections for RCP8.5 5th percentile to 95th percentile under each climate variable. These projections within Table 4 indicate the changes in temperature and precipitation for the projected years.

Table 4 UKCP18 Future Climate Change Projections Relative to the 1981-2000 Baseline Period under RCP8.5

Climate Variable	Predicted Change from Baseline Period 1981-2000					
	2040		2070		2099	
	RCP8.5 (50th Percentile)	Wider Range (5th to 95th Percentile)	RCP8.5 (50th Percentile)	Wider Range (5th to 95th Percentile)	RCP8.5 (50th Percentile)	Wider Range (5th to 95th Percentile)
Mean Air Temperature Anomaly at 1.5m (°C)						
Annual Average	+1.4 °C	-0.3 – +2.9 °C	+3 °C	0.2 – +5.4 °C	+5.0 °C	0.7 – +8.1 °C
Winter Average	+1.4 °C	-1.1 – +3.7 °C	+2.5 °C	-0.7 – +5.4 °C	+4.2 °C	-0.2 – +7.8 °C
Spring Average	+0.9 °C	-1.0 – +2.7 °C	+2.1 °C	-0.7 – +4.5 °C	+3.5 °C	-0.2 – +6.4 °C
Summer Average	+1.5 °C	-1.4 – +4.2 °C	+4.1 °C	-0.6 – +8.1 °C	+6.8 °C	0.5 – +11.7 °C
Autumn Average	+1.5 °C	-0.9 – +3.7 °C	+3.2 °C	-0.2 – +6.2 °C	+5.1 °C	0.1 – +9.0 °C
Maximum Air Temperature Anomaly at 1.5m (°C)						
Annual Average	+1.5 °C	-0.5 – +3.3 °C	+3.3 °C	-0.1 – +5.9 °C	+5.3 °C	0.5 – +8.8 °C
Winter Average	+1.4 °C	-1 – +3.7 °C	+2.5 °C	-0.6 – +5.1 °C	+3.9 °C	-0.3 – +7.2 °C
Spring Average	+1.2 °C	-1.2 – +3.4 °C	+2.5 °C	-0.9 – +5.3 °C	+4.0 °C	-0.4 – +7.6 °C
Summer Average	+1.7 °C	-2.1 – +5.3 °C	+4.7 °C	-1.2 – +9.8 °C	+7.8 °C	-0.1 – +14.2 °C
Autumn Average	+1.7 °C	-1.1 – +4.4 °C	+3.4 °C	-0.8 – +7.2 °C	+5.3 °C	-0.7 – +10.3 °C
Minimum Air Temperature Anomaly at 1.5m (°C)						
Annual Average	+1.3 °C	-0.4 – +2.9 °C	+2.9 °C	0.0 – +5.4 °C	+4.9 °C	+0.5 – +8.4 °C
Winter Average	+1.3 °C	-1.2 – +3.9 °C	+2.6 °C	-0.8 – +5.8 °C	+4.3 °C	-0.3 – +8.5 °C
Spring Average	+1.1 °C	-1.0 – +3.1 °C	+2.2 °C	-0.7 – +4.8 °C	+3.7 °C	-0.3 – +7.0 °C
Summer Average	+1.5 °C	-0.7 – +3.5 °C	+3.7 °C	-0.1 – +7.0 °C	+6.3 °C	+0.7 – +10.6 °C
Autumn Average	+1.4 °C	-1.0 – +3.7 °C	+3.2 °C	-0.4 – +6.4 °C	+5.2 °C	-0.2 – +9.7 °C
Precipitation Rate Anomaly (%)						
Annual Average	+0%	-20 – +27%	-3%	-26 – +29%	-6%	-25 – +25%

Climate Variable	Predicted Change from Baseline Period 1981-2000					
	2040		2070		2099	
	RCP8.5 (50th Percentile)	Wider Range (5th to 95th Percentile)	RCP8.5 (50th Percentile)	Wider Range (5th to 95th Percentile)	RCP8.5 (50th Percentile)	Wider Range (5th to 95th Percentile)
Winter Average	+12%	-32 – +58%	+20%	-32 – +72%	+27%	-34 – +91%
Spring Average	-4%	-44 – +45%	-3%	-45 – +48%	-9%	-52 – +42%
Summer Average	-13%	-70 – +62%	-40%	-87 – +44%	-48%	-82 – +28%
Autumn Average	-1%	-44 – +46%	0%	-41 – +51%	+4%	-42 – +59%

Potential Effects

150. The potential for significant effects as a result of the operation of the Proposed Development will be addressed in the climate change resilience assessment by considering:

- Overheating (due to increased average temperatures, heatwaves and the urban heat island effect);
- Increased flood risk;
- Water shortage and drought; and
- Extreme weather events.

151. In addition, the climate change resilience assessment will include a qualitative assessment of all likely significant potential in-combination climate impacts.

152. During the construction and operation of the Proposed Development, potentially significant sources of greenhouse gases could include:

- Embodied carbon emissions from construction materials and activities;
- Operational energy emissions; and
- Operational transport emissions.

Potential Sensitive Receptors

153. For the climate change resilience assessment the following potentially sensitive receptors will be considered:

- The human health of future occupants as a result of overheating;
- Infrastructure receptors; and
- Landscaping receptors.

154. For the assessment of in-combination climate impacts, receptors will be identified based on those assessed in other technical areas.

155. For the GHG assessment, there is no specific sensitive receptor as such given that all GHG emissions have an infinitesimal but significant impact on the climate change system as a whole.

Scope of Assessment

156. The assessment will follow guidance within the:

- Institute of Environmental Management and Assessment (IEMA) Environmental Impact Assessment (EIA) Guide to Climate Change Resilience and Adaptation (2020);
- IEMA EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (2017);
- BREEAM 2018 assessment criteria Waste 05 Adaptation to Climate Change; and

- RICS Whole Life Cycle Carbon Assessment for the Built Environment Guidance (2017).

Demolition and Construction

157. The GHG assessment will consider the GHG emissions arising from the Proposed Development during the demolition and construction phase relating to construction activities and materials.

158. The assessment of construction materials will be informed by the Whole Life-Cycle Carbon Assessment which will be prepared in accordance with the RICS Whole Life Cycle Carbon Assessment for the Built Environment Guidance (2017).

Completed Development

159. The scope of climate change resilience assessment will include:

- Overheating (due to increased average temperatures, heatwaves and the urban heat island effect);
- Increased flood risk;
- Water shortage and drought;
- Extreme weather events; and
- All relevant in combination climate impacts.

160. For the climate change resilience assessment, the methodology will include a risk-based assessment that considers the resilience of the proposed development to future climate change risks. For the purpose of this assessment, the study area will be the redline boundary.

161. The climate change resilience assessment applied to the proposed development will cover the following stages:

- Defining the future climate baseline;
- Identifying and determining the sensitivity of receptors to climate change;
- Reviewing and determining the magnitude of effect;
- Determination of significance; and
- Developing additional adaptation including adaptive management for significant risks.

162. The assessment will establish the climatic data surrounding current seasonal temperatures and precipitation for the operational lifespan of the proposed development. This data will be used to analyse the current climate and compare these findings, in relation to the Proposed Development, to the high emission (RCP 8.5) climate change projections identified in the UK Climate Change Projections 2018 (UKCP18).

163. The assessment will consider the risk posed by these hazards on relevant receptors. The risk evaluation stage will consider the sensitivity of these receptors along with the magnitude and likelihood of climate change effects in order to evaluate the significance of climate change impacts.

164. The GHG assessment will consider the GHG emissions arising from the Proposed Development during operation relating to operational energy emissions and operational transport emissions. Operational transport emissions will be approximated based on relevant BEIS emission factors.

Cumulative Effects

165. For Climate Change, it is not considered proportionate to provide a detailed assessment accounting for all proposed developments in the area that may have a cumulative effect with the proposed development due to the global nature of climate change and the fact that the effects will not occur within a defined boundary. The emissions that each scheme makes will have some effect on climate change, but it will be

a proportionally very small amount.

Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

166. GIA will undertake a daylight, sunlight, overshadowing and solar glare assessment, to determine the potential effects of the Proposed Development.

167. A daylight, sunlight, overshadowing and solar glare assessment is therefore **SCOPED IN** to the EIA.

168. This chapter will consider the potential for likely significant effects as a result of the Proposed Development on daylight, sunlight and overshadowing to existing, neighbouring residential properties, as well as existing open space and public amenity areas. Given the proximity of sensitive viewpoints to the site, a solar glare assessment will be undertaken.

169. Given the residential nature of the Proposed Development, it is not likely to comprise highly glazed areas emitting artificial light at night which would cause significant light pollution effects and therefore this topic **SCOPED OUT** of the EIA.

Baseline

Daylight / Sunlight

170. For the baseline, the daylight and sunlight conditions within each of the relevant surrounding sensitive receptors will be defined firstly under the existing site conditions by reference to the Vertical Sky Component (VSC), No-Sky Line (NSL) and Annual Probable Sunlight Hours (APSH) methods. Any emerging sensitive developments under construction will be assessed using the Average Daylight Factor (ADF) method.

Overshadowing

171. With regards to the relevant existing surrounding outdoor amenity areas and the baseline level of overshadowing, the transient overshadowing (TOS) methods will be used. Where significant effects are considered likely, the Sun Hours on Ground method will be adopted.

172. The daylight, sunlight and overshadowing effects of the Proposed Development will then be assessed against this baseline condition.

Solar glare

173. Solar glare is not a comparative assessment; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of the Proposed Development. Consequently, the assessment will consider the effect of the Proposed Development in absolute terms using professional judgement.

Potential Effects

174. The potential daylight, sunlight, overshadowing, solar glare and light pollution effects associated with the Proposed Development are considered to be as follows (and as relevant to the scope of the assessment in terms of receptors identified above):

- Changes to the daylight and sunlight amenity within surrounding residential properties and other properties identified which have a reasonable expectation to natural light because of the demolition and construction works;
- Changes to overshadowing of surrounding outdoor amenity spaces because of the demolition and construction works;
- The potential for solar glare effects on sensitive viewpoints surrounding road users because of the Proposed Development during construction works;

- Changes to the daylight and sunlight amenity to surrounding residential properties and other properties identified which have a reasonable expectation to natural light as a result of the Proposed Development once complete;
- Changes to overshadowing of surrounding outdoor amenity spaces as a result of the Proposed Development once complete; and
- The potential for solar glare effects on sensitive viewpoints surrounding road users because of the Proposed Development once complete.

Potential Sensitive Receptors

Daylight and Sunlight Receptors

175. Residential receptors identified on nearby roads/streets that are considered sensitive in relation to daylight and sunlight and will therefore be included within the assessments. Educational facilities may also be considered sensitive to changes in daylight and sunlight and therefore will be included in the assessment. Therefore, the following sensitive receptors include but are not limited to:

- Existing residential properties along Abbott's Road;
- Existing residential properties along Darnaway Place;
- Existing residential properties along Leven Road;
- Existing residential properties along Kirkmichael Road;
- Existing residential properties along Aberfeldy Road;
- Existing residential properties along Joshua Street;
- Existing residential properties along Mills Grove;
- Existing residential properties along St Leonards Road;
- Carndale House;
- Balfron Tower;
- Residential Components of Phases 1-3 of Aberfeldy Masterplan (Aberfeldy Village); and
- Existing Culloden Primary School.

Overshadowing Receptors

176. Areas of amenity space are considered most sensitive to overshadowing effects resulting from the Proposed Development. Owing to the southerly location of the sun path, only open space areas located from north west through to north east of the site require consideration in relation to overshadowing. Therefore, the following sensitive receptors include but are not limited to public and private open amenity spaces surrounding the site.

Solar Glare Receptors

177. Solar glare assessments consider potentially sensitive viewpoints for road users and train drivers surrounding the site. The viewpoints will generally be located at the minimum stopping distance and at the driver's eye level with the focal point being a relevant traffic element, such as signals or incoming traffic.

178. Solar glare assessments are undertaken where the façade detailing is known and the potential for reflections occur on areas of glazed materials. Only the south eastern blocks are proposed in detail, however, at this stage the façade detailing is unknown. Viewpoints within approximately 500m of the site, where the Proposed Development is visible within the drivers field of view will be assessed. At distances greater than 500m from the Proposed Development, instances of solar glare would be unlikely to occur. Given the close proximity of the railway line from Kentish Town station in relation to the Proposed

Development, viewpoints along this railway line may need be assessed.

Scope of Assessment

179. The assessments will be carried out in accordance with the Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight 2011, A Guide to Good Practice, Second Edition 2011[14]. The analysis will be undertaken with a 3D computer model constructed using specialist software.

Demolition and Construction

180. Owing to the evolving and changing nature of demolition and construction activities, the assessment of potential effects during demolition and construction of the Proposed Development on daylight, sunlight and overshadowing to surrounding properties will not be modelled. Instead, a qualitative assessment will be undertaken using professional judgement, with the worst-case scenario in terms of the effects quantitatively modelled and analysed through the assessment of the completed Proposed Development (see below for further details).

Completed Development

Daylight / Sunlight

181. In line with the BRE Guidelines, both the VSC and NSL assessments will be undertaken for the Proposed Development for the relevant sensitive receptors identified above. ADF will be applied to emerging sensitive developments either under construction or consented and the internal layouts are known.

182. The sunlight amenity to the surrounding relevant receptors will be considered by reference to the APSH method of assessment. Due to the southerly rotation of the sun, this assessment will consider those windows which face the site and are located within 90 degrees of due south.

183. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of daylight and sunlight amenity effects will be determined using professional judgement and by reference to Appendix I of the BRE Guidelines.

Overshadowing

184. The overshadowing analysis on the surrounding areas of amenity space will be undertaken by reference to the TOS and Sun Hours on Ground method of assessment.

185. For the TOS assessment, the path of shadow will be mapped for the Proposed Development on the following dates as suggested by the BRE Guidelines:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice).

186. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of overshadowing effects will be determined using professional judgement.

187. Additionally, owing to the proximity of private rear gardens surrounding the site and the potential significant impacts arising from the Proposed Development), a Sun Hours on Ground assessment will be undertaken to confirm and quantify any effect on 21st March, as recommended by the BRE Guidelines. The Sun Hours on Ground assessment will consider the proportion of a designated amenity space which receives 2 hours of direct sunlight on 21st March.

[14] *British Research Establishment, 2011.Guidelines: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice, Second Edition.*

188. Considering the above, the nature, scale and ultimate significance of overshadowing effects will be determined using professional judgement and by reference to the BRE Guidelines.

Solar Glare

189. The BRE guidelines provide that '*glare or solar dazzle can occur when sunlight is reflected from a façade or area of metal cladding*'. This is considered an issue in relation to road users whereby an instance of reflection can obscure the view of traffic signals and thus have the potential to cause an accident.

190. Owing to the proximity of sensitive viewpoints and reflection portions of the façade design of the Proposed Development, a solar glare assessment will be undertaken.

191. Road junctions and the railway line are sensitive in relation to solar glare as instances of reflection may obscure the view of traffic signals or temporarily blind drivers and thus result in accidents.

192. The assessment of solar glare identifies the time of the day and year that solar reflections will be visible from the assessed viewpoints, as well as their relationship to a driver's line of sight. The assessment does not however, measure the intensity of the reflection, but merely the occurrence and duration.

193. The nature (adverse), scale (negligible, minor, moderate or major) and ultimately the significance of solar glare effects will be determined using professional judgement and taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight and the probability of these occurring.

Cumulative Effects

194. The potential cumulative effects of the Proposed Development when considered in combination with the Cumulative Schemes (**Appendix C**) with planning permission, will be assessed depending on their distance from the site, scale and planning status.

Internal Daylight, Sunlight and Overshadowing

195. Daylight and sunlight availability within the newly proposed residential units and within the newly created public realm within the site is dependent on the design of the Proposed Development, and is a design consideration, rather than an EIA issue. As there is no baseline scenario to assess or compare with, the assessment of internal daylight and sunlight condition within the proposed residential units and the quality of the onsite amenity areas (from overshadowing) within the site will not form part of the EIA. These matters will be presented as a separate standalone report which will be prepared and submitted in support of the planning application.

Noise and Vibration

Introduction

196. Entran will undertake a noise and vibration assessment to determine the potential effects of the Proposed Development on existing and proposed receptors, with the noise effects assessed against the most appropriate available national standards and guidelines. Consideration will be given to any relevant local authority guidance, standards or policies.

197. A noise and vibration assessment is **SCOPED IN** to the EIA.

Baseline

198. The current ambient noise environment is dominated by road traffic on the A12 and East India Dock Road, which bound the site to the west and south, respectively.

199. Baseline noise levels will be obtained by unattended noise surveys, which will be undertaken during daytime and night-time periods and in accordance with the principles of BS 7445:2003.

Potential Effects

200. Potential impacts from the construction and operational phases of the Proposed Development will be addressed.

201. The following key impacts will be addressed:

- changes in noise levels at existing sensitive receptors as a result of traffic and plant noise generated by the Proposed Development during demolition/construction and operation; and
- suitability of the proposed site uses in relation to the noise environment.

Potential Sensitive Receptors

202. Existing residential receptors on the surrounding road links may be subject to impacts from construction noise levels, likely increase in road traffic flows, and proposed commercial plant noise.

203. Noise impacts at the future residential occupants of the Proposed Development, from road traffic and proposed commercial plant, will be assessed to ensure suitable noise levels can be attained.

Scope of Assessment

204. Existing background noise levels will need to be established by measurement in order to assess the effects of the Proposed Development. This will be carried out in locations representative of the nearby residential dwellings, over both the day and night time periods.

205. Ambient noise conditions will be considered using a combination of unattended measurements and computer noise modelling. Noise parameters, such as $L_{Aeq,T}$, $L_{A90,T}$, $L_{A10,T}$ and $L_{Amax,F}$ will be monitored and the relevant values obtained for the standard measurement periods.

206. The results from the noise monitoring will be used as a basis to assess the likely impact from the Proposed Development.

207. Legislation and guidance documents to be used in the assessment will include:

- BS 8233:2014: Sound Insulation and Noise Reduction for Buildings - Code of Practice;
- BS 5288-1:2009+A1:2014, Code of Practice for noise & vibration control on construction & open sites;
- World Health Organisation - Guidelines for Community Noise 2000, and subsequent WHO guidance;
- The Calculation of Road Traffic Noise (CRTN) and the Design Manual for Roads and Bridges (DMRB);
- BS 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound; and
- The Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment (2014).

Demolition and Construction

208. Likely impacts from the construction phase will be calculated based on noise levels pertaining to typical construction activities and the likely distances between these activities and the nearby existing residential receptors. Construction noise levels will be considered against the target construction noise criterion of 75 dB $L_{Aeq,16hr}$, provided within BS 5228.

209. The likelihood of impacts from construction vibration will be considered against typical distances at which vibration from construction activities may be perceptible.

Completed Development

210. The existing ambient environment will be calculated across the existing site by use of a computer noise

model, which will be calibrated against the obtained ambient noise data. The Proposed Development will be modelled in order to understand the propagation across the proposed residential dwellings.

211. The calculated ambient noise levels will be assessed in accordance with the guidance provided by BS 8233 and other relevant standards. Maximum noise levels overlooking road sources will be considered using the measured noise data, and assessed against the guideline value provided by the WHO Guidelines for Community Noise.

212. The change in road traffic noise levels on the surrounding road network will be assessed based on the baseline and proposed 18-hour AAWT road traffic data. The noise change, in dB, will calculated using the procedure set out in CRTN and the magnitude of impact assessed using the methodology provided in Volume 11 of the DMRB.

Cumulative Effects

213. The potential cumulative effects of the Proposed Development when considered in combination with the Cumulative Schemes (**Appendix C**), will be assessed.

Health

214. The potential health impacts of a new development are largely determined by the way newly proposed buildings and spaces are used, as well as lifestyle factors which cannot be accurately quantified at the planning stage. However, appropriate design and planning can play a role within the wider determinants of health and well-being, including provision of good quality work space, employment, amenity and leisure infrastructure, ease of access to different forms of transport, etc.

215. The EIA Regulations requires that the EIA must *'[…] identify, describe and assess in an appropriate manner […] the significant effects of the proposed development [in terms of] - human health, […]'* (Regulation 4(2) and Schedule 4(4)).

216. The effects of the Proposed Development on human health (both direct and indirect) will be considered to an extent through a number of individual assessments that comprise the ES, including the following:

- **Socio Economics** – This shall consider the provision of public realm, open space and place space to benefit both future users and visitors to the site, as well as the wider community.
- **Traffic and Transport** – This shall consider the impact of the Proposed Development on existing and future road users, in terms of driver delay, and delays to cyclists and their amenity. The assessment also takes account of pedestrians along the surrounding road network, in terms of delays, their amenity, fear and intimidation; their potential for severance from places and other people; and with regard to the risk for accidents and their safety. The assessment will also include the impacts and resultant effects as a result of the creation of any new footpaths, roads and increased connectivity to the surrounding transport networks.
- **Air Quality** – This shall directly consider the potential impact on human health (both receptors external to the site, and for future occupants) in terms of air quality, in the form of dust generated during the enabling and construction works, and from introduced sources associated with the Proposed Development, including transport emissions when operational.
- **Noise and Vibration** – This shall indirectly consider the impact of the Proposed Development on human health from noise and vibration - particularly the effect of change in noise and vibration levels at high sensitive receptor locations (i.e. residential) within the surrounding local area and to users of the Proposed Development and proposed new outdoor amenity areas.
- **Geoenvironmental** – A Geoenvironmental Desk Study is included in **Appendix F**. This has been prepared to identify potential land quality (and associated human health and environmental) risks and constraints associated with the Proposed Development. In particular, the report assesses the potential risk of contaminated land on human health based on a 'source-pathway-receptor' analysis - for a risk to be present, there must be a viable contaminant linkage; i.e., a mechanism whereby a source impacts on a sensitive receptor via a pathway. Receptors considered include – human health (future site users); site neighbours; and construction workers.
- **Flood Risk Assessment** – Shall be prepared to identify the susceptibility of the land being redeveloped to flooding and the risk to future occupants of the site and ensuring the safe development and secure future occupancy of the site. It is a requirement for development to address the threat of flooding and manage accordingly to ensure that the development is and remains safe throughout its lifetime (i.e. it has an appropriate degree of protection) and does not increase flood risk elsewhere (i.e. to other vulnerable uses).

217. In addition, it is proposed that for the period of demolition and construction works, a Construction Environmental Management Plan (CEMP) would be prepared in advance of works commencing on-site to manage the potential impacts from the works and subsequent construction of the Proposed Development. The CEMP would include key matters relating to health impact including public safety, and amenity and site security.

218. HUDU[15] has a published healthy urban planning checklist which is a desktop assessment tool aimed to 'mainstream' health into the planning process. A Health Impact Assessment (HIA) will be undertaken and submitted with the planning application, to demonstrate that health and wellbeing considerations have been adequately addressed within the Proposed Development. Given the scale and nature of the scheme, it is considered that a detailed assessment would be appropriate. The HIA will be undertaken in line with LBTH's policy D.SG3, the LBTH HIA Assessment Guidance (October 2020) as well as the Rapid Health Impact Assessment Toolkit published by the Healthy Urban Development Unit (HUDU) and will be proportionate to the Proposed Development that is being considered.

219. The HIA will cover a wide range of health determinants and will largely be a qualitative assessment, rather than quantitative but where possible, the HIA will draw on the assessments of effects presented within the technical chapters ES of relevance including the Socio-economics ES Chapter.

220. The HUDU tool is the most widely accepted methodology for considering impacts of proposed schemes on health and the output does not confirm to an EIA assessment format which concludes on the significance of potential effects. The HIA will therefore be submitted as a standalone report with the planning application and will provide sufficient information on the potential health impacts of the Proposed Development for LBTH to determine the planning application.

221. A discussion on the scope of the HIA has been undertaken with the LBTH HIA Officer in May 2021. The HIA submitted will be undertaken in accordance with this discussion.

222. Human Health is therefore considered within each of the aforementioned ES chapters intrinsically as part of the technical assessments and therefore it is not considered necessary to include a separate ES Chapter on human health is listed above, the topic of health is scoped out of the EIA.

Socio Economics

Introduction

223. The socio-economic ES assessment will be undertaken, and the chapter will be prepared, by Hatch Associated Ltd.

224. This ES chapter will include an assessment of the likely socio-economic effects, (including employment, housing and aspects of human health including social infrastructure, crime, deprivation and social cohesion of the Proposed Development associated with both the demolition/construction phase and completed Proposed Development (i.e. operational phase).

[15] *https://www.healthyurbandevelopment.nhs.uk/our-services/delivering-healthy-urban-development/hudu-model/*

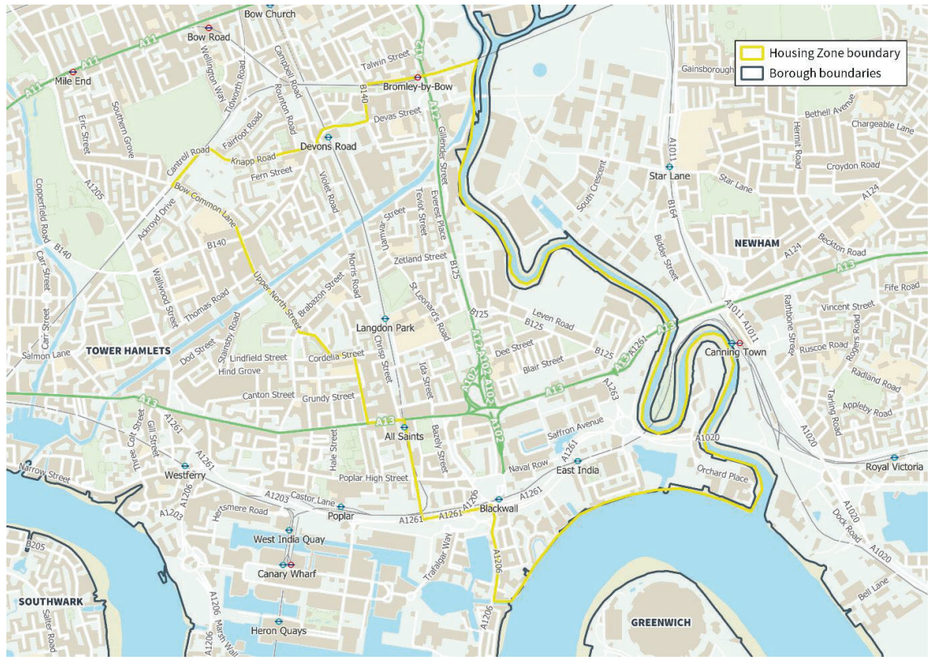
225. This topic is to be **SCOPED IN** to the EIA.

Baseline Conditions

226. The baseline socio-economic assessment will address the baseline conditions at the following geographical scales:

- The site;
- A Local Impact Area (LIA) area - which encompasses the Poplar Riverside Housing Zone (PRHZ) as identified in the London Plan (local) (see Figure 5 below);
- The London Borough of Tower Hamlets (LBTH) (borough); and
- Greater London (regional).

Figure 5 Local Impact Area (LIA)



227. In addition, the baseline analysis for education and healthcare facilities will be based on appropriately defined catchment areas for primary and secondary schools and primary healthcare facilities. These include:

- Primary Healthcare Facilities – GP surgeries located within one-mile of the Proposed Development based on advice from the Healthy Urban Development Unit (HUDU[16]);
- Early-Years Facilities – located within the 'mini cluster' in which the Proposed Development is located based on LBTH's Childcare Sufficiency Assessment;

[16] *1 mile has been applied as a proxy catchment area for GP surgeries based on consultation with the CCG and NHS London HUDU. In practice each surgery will operate its own catchment distance depending on the size of the local population.*

- Primary Schools – located within two-miles[17] of the Proposed Development and Tower Hamlet's Primary School Catchment Area 3 as defined by LBTH[18];
- Secondary Schools – located within Tower Hamlets;
- Open Spaces – based on London Plan guidance:
  - < 400m small open spaces, pocket parks and local parks;
  - < 1.2km district parks;
  - < 3.2km metropolitan parks; and
  - Between 3.2km to 8km for regional parks.
- Children's Play Spaces – based on London Plan guidance available in Play and Informal Recreation SPG:
  - <100m walking distance (or 60m buffer) for local areas for play (LAPs) to be used by under five-year olds;
  - <400m walking distance (or 240m buffer) for local equipped area for play (LEAPs) to be used by five- to 11-year-olds; and
  - <1km walking distance (or 600m buffer) for neighbourhood equipped areas for play (NEAPs) to be used by children aged 12-years and over.

228. The relevant detailed socio-economic baseline conditions will be assessed using established statistical sources such as the Office for National Statistics (ONS), Business Register and Employment Survey (BRES), Annual Business Inquiry (ABI) and Annual Population Survey (APS)[19]. This will be supplemented with any relevant data held by LBTH Council, the Greater London Authority (GLA) and the client team. Where necessary, consultation will be undertaken with Tower Hamlets Council (LBTH), the Education Department and Clinical Care Commissioning Group to test the findings in relation to the baseline position.

229. Full details of the methodology including all sources and references will be provided as part of the ES chapter itself. In addition, the ES chapter will detail which geographical scales will be relevant for which indicator and why.

230. Key baseline indicators will include:

- Population: The existing population in the LIA and borough including the age structure, ethnicity and proportion of working age population. There are currently 324,745[20] residents in the LBTH, of which 73% are of working age. This is above the London average (67%). The LIA has a relatively high proportion of the population who classify as Asian British.
- Employment: Current employment sustained on the site itself, in the LIA and at borough level, including detail on the type of employment by sector and occupation where available. Data for the LIA (local) geography shows that there were currently around 9,000 jobs in 2019, the most recent employment data available from BRES[21]. There were 309,000 jobs in LBTH (2019), although this does not include all self-employment.
- Gross Value Added (GVA): This is a measure of the value of goods and services produced in an area, by an industry or individual business. It will be estimated for the site in its current use based on benchmark GVA per full time equivalent (FTE) jobs using ONS Gross Value-Added

[17] *Section 444(5) of the Education Act 1996 suggests a maximum walking distance of 2 miles (3.2 km) for a child who is under the age of eight. This is used as the upper bound for determining eligibility for free school transport. As this guidance applies to children under the age of eight, the distance of 2 miles (3.2 km) is used to assess primary provision*

[18] *Planning for School Places 2018/19 Review, LBTH*

[19] *These sources are available via www.nomis.web.uk*

[20] *ONS midyear population estimates*

[21] *Business Register and Employment Survey, 2019, www.nomis.web.uk, accessed November 2020*

statistics[22] and from the same sources for the LIA, LBTH and London. Current GVA in the LBTH is recorded at £33 billion in 2018, the latest year for which the data is available. These GVA statistics will provide the baseline against which additional GVA generated by the Proposed Development would be assessed.

- Education: Existing capacity of early years (within ward), primary (within 2 miles and Primary School Catchment Area 3) and secondary school places (borough) based on analysis of data from the Department for Education as well as a review of evidence from the LBTH local education department. This will provide the baseline against which the additional demand for education facilities will be assessed.
- Healthcare: Existing capacity of GP facilities within 1m of the site based on a review of data on from the NHS and Clinical Commissioning Group (CCG). This will provide the baseline against which additional demand for GP facilities generated by the Proposed Development would be assessed.
- Deprivation: The LIA's ranking in terms of overall Index of Multiple Deprivation (IMD) will be considered, alongside relevant domain such as crime, access to housing and environmental barriers. Recent IMD data (2019) suggests the majority of the LIA is amongst the 20% most deprived neighbourhoods in the UK.
- Crime: Analysis of overall crime rates per head of population for the LIA based on data from the Metropolitan Policer Service data dashboard. Tower Hamlets has a current crime rate of 216 per 1,000 population.
- Open space and children's play space: Existing provision of open space and children's play space based on appropriate spatial catchments from the site according to GLA and LBTH standards.

Potential Sensitive Receptors

231. The Proposed Development will deliver housing, new commercial floorspace including office, workspace, retail and community and leisure uses, and will include provision open space and children's play space. It will generate population and new jobs within the LBTH, additional GVA, impacts on the demand for education, healthcare and open space provisions as well as changing and increasing the stock of commercial floorspace including smaller and flexible workspaces.

232. The selection of receptors that could be subject to effects has been informed by the initial baseline analysis presented above, as well as consideration of evidence on socio-economic effects associated with the demolition, construction and operation of similar developments; these include:

- Existing population and labour market characteristics including proportion of working age population;
- Residents seeking new housing (including private and affordable housing) within the borough;
- Existing total employment and employment within the construction sector;
- The size, diversity and prosperity of the local economy as measured by direct, indirect and induced employment, economic output (i.e. gross value added (GVA)) and household expenditure;
- Existing provision of commercial floorspace;
- Residents using or seeking educational facilities including Early Years, Primary and Secondary facilities;
- Residents using or seeking primary healthcare facilities;
- Residents experiencing crime, deprivation or issues related to social cohesion; and

[22] *https://www.ons.gov.uk/economy/grossvalueaddedgva*

- Residents using open space provisions (children's play space and private and communal open space).

Potential Effects

233. The potential for significant effects as a result of the demolition and construction as well as the operation of the Proposed Development will be addressed in the assessment by considering the following:

Temporary:

- Loss of existing employment and residential accommodation; and
- The generation of temporary employment opportunities during the demolition and construction phase.

Permanent:

- The creation of any net additional long-term employment opportunities from the proposed commercial uses of the Proposed Development;
- The economic effect of additional GVA and expenditure in the surrounding area resulting from additional employees and residents;
- The provision of new commercial floorspace;
- The provision of new homes and the contribution of the new homes, including affordable homes, to local policy housing targets;
- Implications of the site's new residential population for early years, primary and secondary school places;
- Implications of the site's new residential population upon primary healthcare facilities;
- Implications of the site's new residential population on crime, deprivation and social cohesion; and
- Implications of the site's new residential population upon open space provisions including children's play space.

Scope of Assessment

234. In the absence of statutory guidance and formal methodologies for assessing socio-economic effects, the assessment of the Proposed Development will be based on widely recognised methods for quantifying the impacts of mixed-use developments. As far as possible, the likely significant socio-economic effects will be quantified, but where this is not feasible a qualitative assessment will be provided based on professional judgement and experience.

235. There is no statutory technical guidance for the assessment of the scale and nature of socio-economic effects; the likely significant effects of the Proposed Development on the sensitive receptors identified will therefore be based on professional judgement and consider the following factors:

- The sensitivity of each receptor affected (as discussed above and in **Table 1** below); and
- The magnitude of change to the receptor brought about by impacts of the Proposed Development (see **Table 2** below).

236. The sensitivity of each receptor will be evaluated as being high, medium, low or negligible based on a review of the baseline position and its performance against benchmark areas, together with consideration of the importance of the receptor in policy terms (**Table 1**).

Table 1: Socio-Economics – Definition of Receptor Sensitivity

Sensitivity of Receptor	Description
High	Evidence of direct and significant socio-economic challenges relating to the receptor.

Sensitivity of Receptor	Description
	May be given high priority in local, regional and/ or national economic and regeneration policy.
Medium	Some evidence of socio-economic challenges linked to the receptor, some of which may be indirect. Change relating to receptor has medium priority in local, regional and national economic and regeneration policy.
Low	There is little evidence of socio-economic challenges related to the receptor. Receptor is given low priority in local, regional and national economic and regeneration policy.
Negligible	Very low importance and rarity, with little or no priority identified for the receptor at the local, regional and national scales.

237. The magnitude of change (or 'impact') to a receptor will be determined by considering the estimated deviation from baseline conditions once measures aimed at mitigating the Proposed Development's adverse impacts are considered. The criteria used for the assessment of the magnitude of socio-economic impacts (i.e. both beneficial and adverse) are set out in **Table 2**.

Table 2: Socio-Economics – Definition of Magnitude of Impact

Magnitude of Impact	Description
High	Proposed Development would cause a large change – judged as beneficial or adverse – to baseline socio-economic conditions in terms of absolute and/ or percentage change.
Medium	Proposed Development would cause a moderate change – judged as beneficial or adverse – to the existing socio-economic conditions in terms of absolute and/ or percentage change.
Low	Proposed Development would cause a slight change – judged as beneficial or adverse – to existing socio-economic conditions in terms of absolute and/ or percentage change.
Negligible	No discernible change, either way, in baseline socio-economic conditions.

238. In reporting the likely scale of the effects of the Proposed Development, with respect to both construction (i.e. demolition of current uses and construction) and operation, the assessment will contextualise both the sensitivity of the receptor and magnitude of impacts / change identified above, using a combination of data and a review of relevant policies relating to the specific issues (for example, job creation or commercial development) and the area (for example, Poplar Riverside Housing Zone).

239. The matrix used to determine the scale of the socio-economic effects on a receptor is presented in **Table 3**. The nature of the effects will be defined as:

- Beneficial (i.e. an advantageous effect on the impact area); or
- Adverse (i.e. detrimental effect on the impact area).

Table 3: Matrix used to Determine Scale of Effect

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Minor	Negligible	Negligible

Those effects assessed as “moderate” and “major” are considered to be significant, and those assessed as “minor” and “negligible” are considered to be not significant.

240. The overall proposed methodology will include:

- Review of local, regional, national policy, plans and development constraints in so far as they influence the baseline conditions; judgements about the sensitivity of receptors; the assessment methodology or justification of a specific socio-economic effect described in the socio-economic assessment; and
- A full review of baseline conditions for areas described in the baseline section above. This will be assessed using recognised data sources principally from the ONS but drawing where appropriate on evidence from the LBTH and GLA.

Demolition and Construction

- Quantification of any existing on-site Full Time Equivalent (FTE) jobs lost as a result of the Proposed Development. These will be based on information provided by the Applicant if available. In the absence of information, existing employment will be estimated using existing floorspace schedules and relevant employment densities based on the Homes and Communities Agency’s (HCA) Employment Density Guide[23]; and
- An estimation of the FTE jobs generated during the demolition/construction phase. This will use data on construction spend estimates and use Communities and Local Government (CLG) / Offpat Labour co-efficient ratios to derive estimates of the likely number of temporary construction workers per annum during the construction phase.

Complete and Operational

- An estimation and quantification of the FTE jobs created by the completed and operational Proposed Development. On-site jobs will be estimated using established employment density ratios. Off-site jobs will be estimated using standard HCA Additionality Guide multipliers[24];
- An estimation of the new residential site population will be made based on the proposed mix of units applied to existing average household sizes within the local area. The child yield arising from the Proposed Development will be calculated based on the Greater London Authority’s (GLA) Population Yield Calculator[25];
- An estimation of the additional expenditure created by the completed and operational Proposed Development. This will be based on data from the Family Expenditure Survey (FES);
- An appraisal of the likely effects of the Proposed Development’s additional population on the capacity of existing early years provision and local primary and secondary schools, as well as the capacity of primary healthcare facilities, open space provision and children’s play space. Where relevant, established standards for provision (e.g. per head of population) set out within local and GLA policy will be referred to;
- An appraisal of the likely effects of the Proposed Development’s additional population on crime, deprivation and social-cohesion; and
- Identification of appropriate mitigation measures should any significant adverse effects be identified.

Cumulative Effects

An overall assessment of the potential cumulative effects of the Proposed Development when considered in combination with the Cumulative Schemes (**Appendix C**) with planning permission, will be quantitatively assessed based on available information across all of the impacts set out above

Townscape and Visual Impact Assessment

Introduction

241. The Townscape and Visual Impact Assessment (‘TVIA’) identifies the likely effects of the Proposed Development on townscape and visual amenity.

[23] *Homes and Community Agency, Employment Density Guide, 3rd Edition, November 2015*
[24] *Homes and Community Agency, Additionality Guide, 4th Edition, 2014*
[25] *GLA Population Yield Calculator, October 2019, V3.2*

242. This topic is to be **SCOPED IN** to the EIA.

Baseline Conditions

243. The site is located in an area known as Poplar Riverside, in LB Tower Hamlets. The irregular shaped masterplan area fronts Blackwall tunnel Northern Approach (A12) to the west; Nairn Street, Leven Road and Abbott Road to the east; Lochnagar Street and Leven Road to the north; and Blair Street and Dee Street to the south. East India Dock Road (A13) lies a short distance to the south of the site. The River Lea is also located nearby, lying less than 100m to the north-east of the site at its closest point.

The Site

244. The site is occupied by buildings that form part of the late-20th century Aberfeldy Estate, comprising low and medium rise housing blocks and terraces (2-4 floors), occupying the south-west corner of the site. The final component of the site is an outlier, lying just to the north of the main site, comprising a rectangular strip of vacant land and the playground of the former Bromley Hall School at Lochnagar Street. The site includes a Neighbourhood Centre, the focus of which is Aberfeldy Street, which provides local shops and services.

245. The site is urban in character, although those parts developed at lowest density are more suburban in nature. In terms of architectural quality, the built form is typical of its period and unexceptional in design terms. The various housing developments feel self-contained and inward-looking, which is partly a product of the oppressive local environment, defined by urban motorways. Away from these, the green spaces offer valuable respite. However, the high level of disconnectedness from the surrounding area, including the riverside, is to the detriment of the estate.

The Site's surroundings

246. The surrounding area is severed by transport corridors - both the A12 and A13, and also the River Lea, which is a barrier to east-west movement. The townscape is fragmented and as a whole undergoing wide scale regeneration. There are areas of industrial land, large areas of post-war housing estates, and areas of recently developed land, as well as pockets of historic or earlier development. The site's immediate heritage context includes the Balfron Tower (grade II*) and associated listed housing blocks that lie within the Balfron Conservation Area to the west, beyond the A12; as well as the grade II listed former Bromley Hall School, and Bromley Hall (grade II*) to the north. The recent and emerging context in the surrounding area comprises predominantly residential led schemes, many of which include at least one tall building.

Potentially Sensitive Receptors

Townscape

247. An assessment will be made of the site and surrounding townscape in their existing states. This will be based on a study of the historic development of the area with reference to relevant publications, and a study of the present-day condition of the area based on site visits, study of maps and aerial photographs, and relevant publications.

248. This analysis will inform the division of the study area into townscape character areas (TCAs) as receptors i.e. geographical areas which have readily identifiable characteristics in common. The impact of the Proposed Development on these TCAs will then be assessed, based on conclusions drawn from the views analysis. Above-ground heritage assets located within these TCAs are identified and also inform the sensitivity of these receptors.

Views

249. A study has been undertaken to establish a set of potential viewpoint locations from which 'before and after' views will be provided. The study area is centred on the site and limited to locations from which the site can be seen, or from which new buildings on the site would be seen at the maximum height proposed. The study area for local and medium range views extends to approximately 1km from the centre of the site. The study area for long range views extends to approximately 4 km from the centre of the site, the approximate distance to Greenwich Park (LVMF 5A.1). This is considered an appropriate spatial extent in relation to the scale of development envisaged and the built-up nature of the surrounding context.

250. Within this study area, four principal types of viewing location are identified:

- Views that have been identified as significant, by the GLA, LBTH or others, e.g. in planning policy and guidance documents or conservation area appraisals;
- Other locations or views of particular sensitivity, including those viewpoints in which the Proposed Development may significantly affect the townscape settings of Heritage Assets (HAs) including listed buildings, conservation areas and World Heritage Sites;
- Representative townscape locations from which the Proposed Development will be visible; and
- Locations where there is extensive open space between the viewer and the Proposed Development so that it will be prominent rather than obscured by foreground buildings. This includes areas of open space that are important in a local context, e.g. for leisure purposes, such as the riverside paths.

251. The set of viewpoints has been chosen so that it covers:

- A representative range of viewpoints from different directions from which the Proposed Development will be visible;
- A range of distances from the site; and
- Different types of TCA.

252. Possible locations in these categories within the study area have been identified based on an examination of maps and aerial photographs; relevant documents (such as Conservation Area Appraisals); maps of conservation areas; maps and lists of listed buildings; and good prior knowledge of the area.

253. See **Appendix G** for the proposed set of viewpoints.

254. The study area and the possible locations were tested using VuCity[26] to verify candidate viewpoints.

255. The sensitivity of the receptor (as existing) will be assessed as high, medium or low, depending on the importance, value and quality of the view or TCA, and its susceptibility to change, taking into account the quality of the receptor, and the nature and expectation of the viewer.

256. The assessment of sensitivity will also take into account the presence of any designated HAs (listed buildings, conservation areas, registered parks and gardens of special historic interest) and non-designated HAs (locally listed buildings), and the amenity value of the viewing location and area in which it is located. The assessment of the sensitivity of the receptor under consideration will be moderated to take into account a judgement about its overall quality.

Potential Effects

Townscape and Visual

257. The magnitude of the impact resulting from the Proposed Development will be assessed as high, medium, low and very low according to the change.

258. The sensitivity of the receptor (view or TCA) and the magnitude of the impact is combined to provide a measure of the significance - major, moderate, minor, or negligible - of the effect on the receptor which will result from the Proposed Development, the most significant effects being effects of high magnitude

[26] *VuCity is an interactive 3D digital model of London that enables users to test the visibility of proposals from chosen viewpoints around a given site.*

on receptors of high sensitivity.

259. The nature of the effects is also assessed qualitatively as beneficial, adverse, or neutral in respect of their effect on the view or townscape under consideration.

260. The demolition of the existing buildings on the site, and the provision of new buildings as part of the Proposed Development would have the potential to alter the existing townscape character and quality of the site and the surrounding townscape study area. In addition, views to, from and through the site would also potentially be altered as a result of the Proposed Development. As such, the EIA will address the following potential townscape and visual impacts and likely effects:

- Temporary change in townscape character and visual effects during demolition and construction works;
- Permanent changes to the character, context and quality of the site and the local townscape; and
- Permanent changes to selected views.

Scope of Assessment

Townscape and Views

261. Assessment of the impact of the Proposed Development on a receptor is made on the basis of professional judgment which takes into account relevant planning policies and guidance. It is based on the methodology set out in the 'Guidelines for Landscape and Visual Impact Assessment Third Edition' (GLVIA) (2013) supplemented by advice contained in the LVMF; and Historic England Advice Note 4: Tall Buildings (GPA4) (2015).

262. The assessment considers how potential impacts would vary with seasonal change and changes in atmospheric conditions where applicable.

263. For each of the identified views in the assessment to be produced, there are images of the view 'as existing' and 'as proposed'. 'As proposed' images are provided as 'Accurate Visual Representations' ('AVRs'). AVRs are provided either as rendered (photorealistic) images ('AVR3') or as 'wirelines' (diagrammatic representations showing the outline of the proposed development, 'AVR1').

264. For each of the identified views, a description of the view as existing is given, identifying its visual quality, sensitivity to change and reason for that sensitivity. A description of the view as proposed is then given with an assessment, based on the method set out above, of the significance of the effect that the Proposed Development will have on the view.

265. Effects during the demolition and construction programme are assessed in accordance with the methodology set out above. The townscape and visual effects of the demolition and construction process will vary in intensity across the programme, as is normal in any construction project. The assessment takes into account the temporary nature of the maximum effect with regard to each receptor.

Cumulative Effects

266. An overall assessment of cumulative effects (i.e. the effect of the Proposed Development taking into account other committed developments) is also provided. The approach to cumulative assessment is to focus on the impact of the Proposed Development on top of the cumulative 'future baseline' formed by other committed developments (i.e. as if the committed developments were in place).

267. As for the Proposed Development scenario, a description of the cumulative impact on the identified views will be provided, based on AVRs for this scenario.

Traffic and Transport

268. Velocity Transport Planning will undertake a traffic and transport assessment, to determine the potential

effects of the Proposed Development on the local road network, transport infrastructure and facilities, and access.

269. Traffic and transport could potentially have significant effects as a result of the Proposed Development, and therefore will be scoped into the EIA.

270. A separate Transport Assessment (TA) will be prepared by Velocity Transport Planning and submitted as a standalone document as part of the Planning Application. A Transport Assessment Scoping Report (TASR) and Strategic Modelling Scoping Report (SMSR) has been prepared and issued to LBTH and TfL and pre-application meetings have taken place. This has informed the scope of the EIA highways and transport assessment.

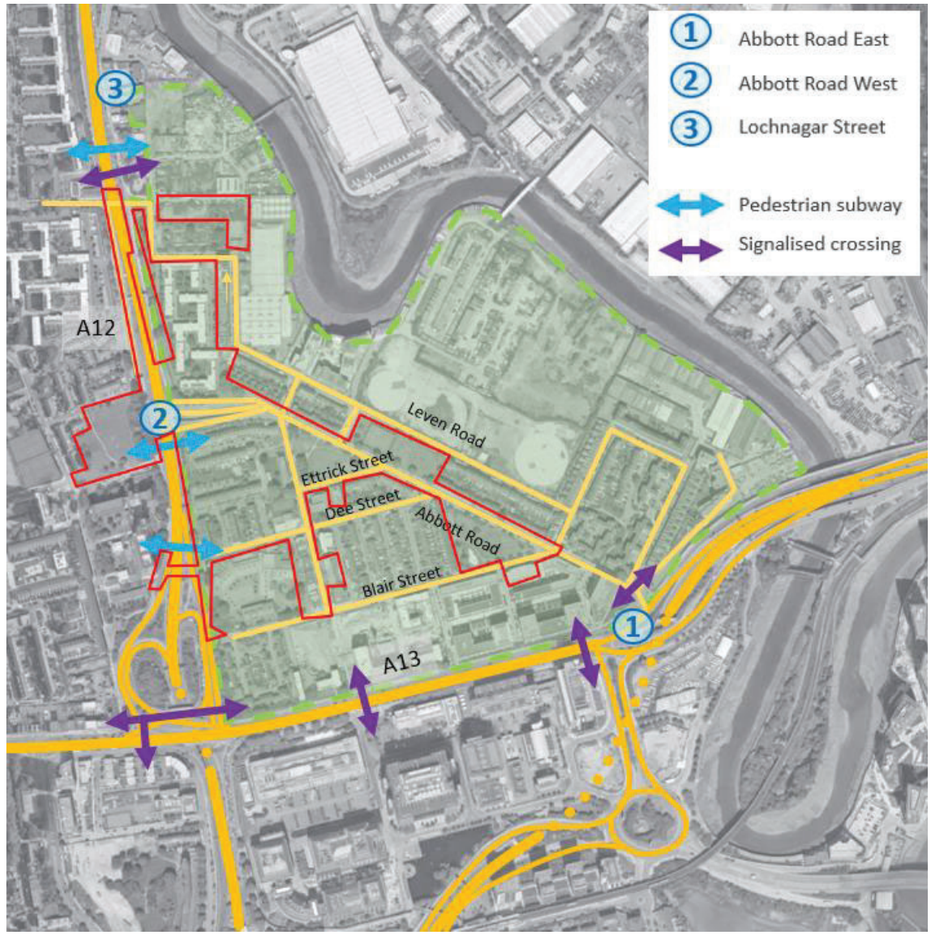
Baseline

271. The site is located within the London Borough of Tower Hamlets (LBTH), which is the highways authority. Transport for London (TfL) is the highways authority responsible for the strategic road network, including the A12, which borders the site to the west.

272. With the River Lea to the northeast, the site is located within a contained area (for ease this is referred to as the Aberfeldy Island) with three points of access, shown within Figure 6:

- Lochnagar Street, which forms a signalised junction with the A12 at the north of the site.
- Abbott Road passes through the site and connects the A12 and A13. At its western end Abbott Road forms a junction with the A12 via a grade separated right turn onto the northbound A12 in the form of a vehicle underpass and a left-in left-out southbound A12 traffic.
- At its eastern end Abbott Road forms a signalised junction with the A13. The access operates as left-in, left-out with the right turn entry movement being restricted to bus only.

Figure 6 Existing Street Network and Key Accesses



273. Abbott Road forms junctions with Ettrick Street, Dee Street and Blair Street, which each provide access to the site.

274. The site comprises various private streets including Nairn Street, Balmore Close, Findhorn Street and part of Abbott Road (in front of Poplar Works).

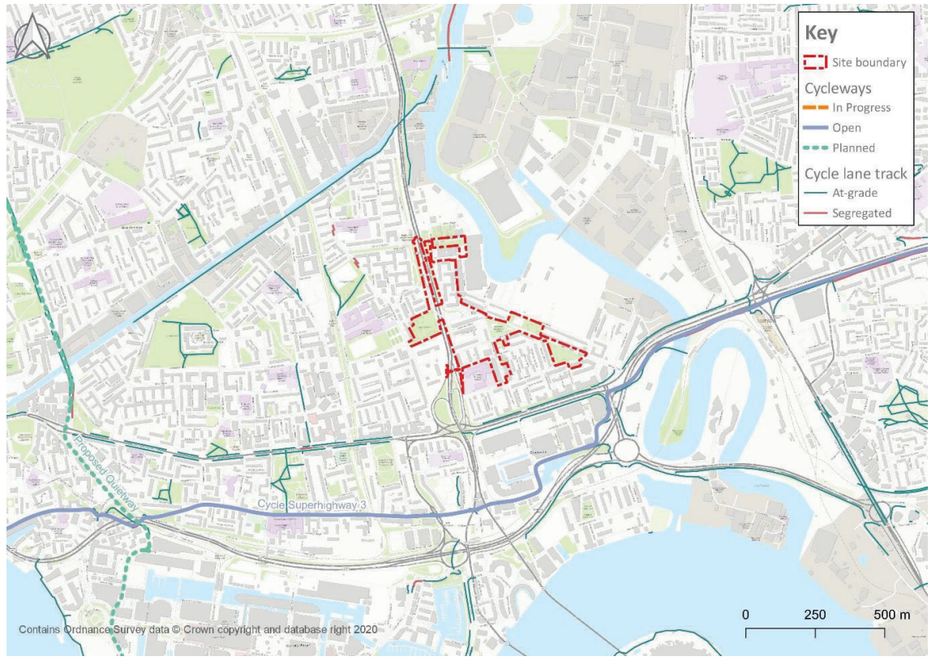
275. The local street network within the site has an established network of footways typical of an urban environment that provide access to the nearby facilities, amenities and local bus stops. The A12 and A13 are strategic roads that carry high levels of vehicular traffic and form a barrier to walking and cycling movements. There are a number of subways and signalised crossings including:

- A pedestrian subway underneath the A12 adjacent to the Abbott Road underpass.
- A pedestrian subway underneath the A12 which connects to Dee Street.
- A pedestrian subway underneath the A12 and a signalised crossing to the north of Lochnagar Street.

276. The existing cycle network is shown in Figure 7. Cycleway 3 forms the main strategic cycle route in the

vicinity of the site and provides a connection into Central London.

Figure 7 Local Cycling Routes



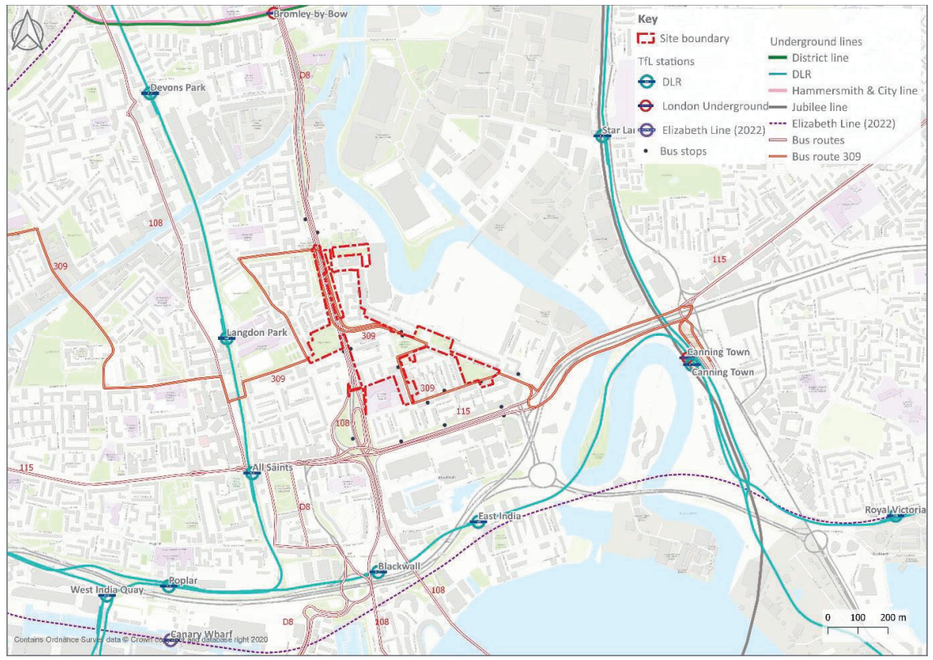
277. The existing site PTAL rating ranges between 3 and 4 (moderate to good). The local public transport network is shown on Figure 8.

278. Bromley-by-Bow Station is located c.950m from the north of the site and is served by the London Underground (Hammersmith & City and District lines).

279. Langdon Park Station is located c.640m from the west of the site and East India Station is located 650m from the south of the site. Both stations provide access to Docklands Light Railway services.

280. Bus service 309 routes through the site and has five services per hour. A further three bus services (108, 115 and D8) can be accessed from the site within a 10 minute walk.

Figure 8 Public Transport Network



Potential Effects

281. The 'Guidelines for the Environmental Assessment of Road Traffic, IEMA,1993' set out a number of potential environmental effects which may require assessment. Those which relate to the Traffic and Transport chapter are summarised below.

- Severance;
- Delay;
- Amenity;
- Fear and Intimidation;
- Accidents and Safety; and
- Hazardous Loads.

282. Amenity and Fear and Intimidation can be considered together as they are strongly interrelated.

Potential Sensitive Receptors

283. The receptors which are considered within the assessment are those people making journeys within the study area and include:

- Pedestrians;
- Cyclists;
- Bus passengers;
- Rail / Underground / DLR passengers; and
- Car drivers.

Scope of Assessment

Baseline / Future Baseline Scenario

284. The scope of the assessment has been agreed with TfL. The agreement includes confirmation that the existing Baseline will not require assessment. Strategic modelling will be undertaken on the Future Baseline Scenario (Do Minimum). The results of the strategic modelling will inform the scope of local modelling. TfL will provide access to the London Highway Assignment Model (LoHAM) and a local Vissim model which provides the Future Baseline Scenario for 2031.

285. The Future Baseline Scenario (Do Minimum) includes any changes which are committed to take place to existing conditions by the future design year, described as the Evolution of the Baseline. In determining this scenario, the 'IEMA Guidelines for Environmental Impact Assessment, 2004' guidance sets out some context in section 10.3 as follows:

- *"It is often assumed that the environmental baseline for a proposed development is necessarily the status quo… and use this as the baseline for assessment without any apparent consideration of whether this is wholly correct."*
- *"…The environmental baseline is constantly changing, irrespective of the development under consideration."*
- *"…It is because of these complications that it is important to establish a 'do nothing', future scenario as the environmental baseline. The 'do nothing' scenario comprises the predicted environmental conditions that would exist, in the absence of the particular development under consideration."*
- *"Establishing the 'do nothing' scenario raises the issue of making a choice as to what changes should be included or excluded from the future baseline…"*
- *"The determination of a future 'do nothing' scenario will rarely be an entirely objective, straightforward process. There may be uncertainty as to what future conditions, in the absence of the development, would be. Inevitably, judgements may have to be made based on certain assumptions…"*

286. The nearby developments and changes which will be included in the baseline scenario will be agreed separately through the TA scoping discussions but are expected to include those near-by developments which have planning permission (or committee resolution to grant consent) and which the local planning authority and local highway authority reasonably expects will be constructed by the assessment year. TfL has confirmed that the Silvertown Tunnel scheme will form part of the future baseline scenario.

287. The changes to existing conditions arising as a result of committed developments (which will define the baseline scenario) will be taken from either the Transport Assessments supporting those schemes, data held and provided by the relevant highway authorities, by a first principles review or by any other methodology as may be agreed with the relevant highway authorities.

Proposed Development Scenario

288. The Development Assessment Scenario (Do Something) will assess the Proposed Development against the Future Baseline Scenario. The potential environmental effects during both construction and operation of the Proposed Development has been reviewed.

289. The potential environmental effects of the Proposed Development will be assessed through quantitative and qualitative assessment. Qualitative assessment will be undertaken through applying professional judgment to consider anticipated changes as a result of development in the context of prevailing baseline conditions. For each potential effect considered qualitatively, a judgement will be made as to the Sensitivity of each Receptor and the Magnitude of Change arising. This will then define the magnitude of Significance. Broadly, the magnitude of change for transport effects will be defined as follows:

- Negligible – changes which are unlikely to be perceptible;
- Small – changes which are likely to be perceptible but not the extent that it would materially change conditions which would otherwise prevail;
- Medium – changes which are likely to be perceptible and which would materially change conditions which would otherwise prevail to the extent that it may affect travel behaviour to a measurable degree; and
- Large – changes which are likely to be perceptible and which would significantly change conditions which would otherwise prevail to the extent that it would significantly affect travel behaviour.

290. A key aspiration of the scheme is to overcome severance created by the A12 and create new walking and cycling connectivity by re-purposing the Abbott Road vehicular underpass. This proposal would close the underpass to vehicles and make it an attractive walking and cycling connection that is integrated into new public realm. The left-in, left-out Abbott Road / A12 junction would be relocated to the north by extending Abbott Road along its historic alignment. This would allow the removal of the existing vehicle dominated environment on Abbott Road to be replaced by a new public realm and green space, which is proposed to be named Highland Place. The closure of the underpass to vehicles would result in traffic displacing. Traffic departing from the Aberfeldy Island would no longer be able to use the underpass and would use alternative routes.

291. The transport network (underpass) changes are being discussed with LBTH and TfL during transport scoping / pre-application meetings. A methodology for assessment is being agreed with TfL and the detailed traffic assessments which will be provided in the TA will inform the analysis set out within the ES transport chapter.

292. The technical scope for each of the potential environmental effects is discussed individually below setting out whether the effects are scoped in or scoped out and the basis for that judgement.

Severance

293. The usual threshold for a non-negligible severance effect is a 30% change in vehicle flow or HGV flow on a link. This can be used as a benchmark when considering whether or not severance should be scoped in or scoped out. This can also be used to inform the extent of any assessment.

294. During demolition and construction, the Proposed Development is expected to generate less than 100 vehicles per day at the peak of construction activity, which is not expected to result in changes which would affect perceptions of severance. In line with planning requirements a Construction Logistics Plan (CLP) would be secured to manage routing and arrival profile of construction vehicles to minimise disruption to the surrounding area.

295. Construction vehicles are expected to arrive at the site using the A12 and A13, part of the Strategic Road Network which is already carrying high volumes of HGVs. Therefore, the Proposed Development is not expected to exceed the 30% threshold for vehicle or HGV flow along the A12 or A13. Construction vehicles will also use local streets for access, primarily Lochnagar Street, Abbott Road and Blair Street. These roads have lower levels of existing traffic, and the construction traffic may have a perceptible effect in terms of severance. Severance is therefore scoped in for the construction phase assessment for Abbott Road, Lochnagar Street and Blair Street.

296. While the traffic generation associated with the operational Proposed Development would not generate a perceptible change to severance, the proposed re-purposing of the underpass has the potential to change existing traffic flows by a perceptible amount (>30%). Severance is therefore scoped in for the operational phase assessment.

Delay

297. The 'IEMA,1993' guidance makes reference to potential delays to drivers and to pedestrians. Users of other modes can also experience delays, such as cyclists and those travelling by public transport.

Pedestrian and Cyclist Delay

298. Pedestrian and cyclist delay may change as a result of layout changes including new and modified streets; changes to volumes; or where new facilities such as crossings are provided. Pedestrian and cyclist delay will be assessed based on professional judgment.

299. During demolition and construction, the Proposed Development is not expected to result in changes which could affect perceptions of pedestrian and cyclist delay. If off-site construction works are required, the CLP will manage the implementation of these to maintain pedestrian and cycle routes where possible and mitigate delay if a diversion is required. On this basis the assessment of impacts on pedestrian and cyclist delay is scoped out for demolition and construction.

300. The Proposed Development would result in some perceptible beneficial effects in terms of pedestrian and cyclist delay during operation. The proposed re-purposing of the underpass for walking and cycling would reduce journey times. These benefits may be significant, and the assessment of operational impacts on pedestrian and cyclist delay is therefore scoped in. A qualitative assessment of delay will be undertaken through applying professional judgment.

Vehicle and Bus Delay

301. Vehicle and bus delay may change as a result of street layout changes, modifications to junctions, changes to traffic volumes and speeds and the introduction of pedestrian/cyclist crossings. Vehicle and bus delay will be assessed using traffic and junction modelling which will forecast delays that may be experienced by vehicles. The scope of strategic modelling has been agreed with TfL through transport scoping discussions. The scope of the local modelling is being agreed with TfL and LBTH through scoping discussions.

302. During demolition and construction, the Proposed Development is not expected to result in changes which would significantly affect perceptions of driver/bus delay. The volume of vehicular construction trips is expected to be low relative to existing flows and would be managed as part of the CLP. On this basis the assessment of impacts on vehicle and bus delay is scoped out for demolition and construction.

303. The Proposed Development may result in changes which would significantly affect perceptions of vehicle/bus delay during operation. While the vehicle trips generated by the Proposed Development in operation are expected to be imperceptible on the road network, the closure of the underpass to vehicles will change local traffic flows and journey routing choices. A route change to the existing bus route 309 is anticipated as a direct result of the Proposed Development. Therefore, assessments of operational vehicle and bus delay have been scoped in. The change in delay to vehicles and buses will be among the outputs of both strategic and local modelling, along corridors and individual junctions. A qualitative assessment of delay will be undertaken through applying professional judgment.

Rail Delay

304. Rail delay, as experienced by passengers of the Underground, National Rail and DLR networks, could change as a result of changes to station or rail service capacity or changes to volumes, for instance if a station or rail service becomes congested.

305. During demolition and construction, the Proposed Development is not expected to result in changes which would significantly affect perceptions of rail delay and the assessment of impacts on rail delay during demolition and construction is therefore scoped out of the assessment.

306. During operation, the Proposed Development is not expected to result in changes which would significantly affect perceptions of rail delay. Rail based trips that are generated by the proposed

development will disperse across the Underground and DLR networks which provide frequent and high-capacity services. The assessment of impacts on rail delay during operation is therefore scoped out of the assessment.

Amenity, Fear and Intimidation

307. As set out within 'IEMA, 1993' guidance, Amenity, Fear and Intimidation broadly relate to the pleasantness of a journey and is generally affected by the availability of pedestrian/cyclist provisions and the flow of vehicle and HGV traffic. The IEMA Guidelines suggested criteria for assessing fear and intimidation are roads where the average traffic flow over an 18-hour day is 600vph.

308. During demolition and construction, the Proposed Development could result in changes which could affect perceptions of amenity, fear and intimidation. The A12 and A13 already experience very high levels of traffic which is the primary condition for causing fear and intimidation, however the demolition and construction phase of the Proposed Development will not change this perception. On local streets, there is potential for the construction phase to change perceptions of amenity, fear and intimidation. The assessment of impacts on amenity, fear and intimidation is therefore scoped in for the construction stage assessment.

309. The proposed development could result in changes which could significantly benefit affect perceptions of amenity, fear and intimidation during operation. The design of the site would create new pedestrian spaces and streets creating an attractive and secure environment. On this basis the assessment of operational Amenity, Fear and Intimidation is scoped in.

Accidents and Safety

310. The potential for changes to Accidents and Safety can relate to the increased use of the transport network, however the greatest potential for change relates to more fundamental street and junction layout changes such as a new access or pedestrian/cyclist crossing.

311. During construction, the Proposed Development is not expected to result in changes which could affect accidents and safety. Traffic changes arising from the construction of the development will be low and unlikely to be perceptible relative to baseline conditions. Road safety would also be further managed and mitigated through the CLP and measures requiring contractors that use the safest construction vehicles. The assessment of impacts on accidents and safety is therefore scoped out for the construction stage assessment.

312. The Proposed Development would change the existing highway network by removing the Abbott Road / A12 underpass and relocating the left-in / left-out part of the junction to the north. These changes have potential to affect accidents and safety during operation and therefore, the assessment of accidents and safety is scoped into the operational stage assessment.

Hazardous Loads

313. Hazardous Loads are specialist loads such as explosives or highly flammable materials.

314. During demolition and construction, the Proposed Development is not expected to generate or attract hazardous loads. The assessment of impacts on Hazardous Loads is therefore scoped out of the assessment.

315. Transport Network Scenario 1 and 2. The operational Proposed Development is not expected to generate or attract hazardous loads. The assessment of impacts on Hazardous Loads is therefore scoped out of the assessment.

Mitigation

316. Mitigation measures integral to the development proposals (embedded mitigation) will form part of the transport strategy. The embedded mitigation measures are typical of development of this nature and

includes management plans required by planning policy secured by planning condition, expected to include a Construction Logistics Plan, Travel Plan and Delivery & Servicing Plan. These will be included within or appended to the TA.

317. There may be significant effects arising from Highways and Transport issues that require mitigation.

Summary of Scope of Assessment

318. A review of the potential effects of the Proposed Development has been undertaken for the construction and operational phases. Embedded mitigation measures will be in place to manage potential adverse effects and secured through planning condition.

Table 5 Highways and Transport Scope of Assessment

Effect	Receptor	Demolition and Construction of the Proposed Development	Completed and Operational Development
Severance	Pedestrians, cyclists	Scoped in (local streets only)	Scoped in
Pedestrian and Cyclist Delay	Pedestrians, cyclists	Scoped out	Scoped in
Vehicle and Bus Delay	Car drivers and passengers, bus passengers	Scoped out	Scoped in
Rail Delay	Rail passengers	Scoped out	Scoped out
Amenity, Fear and Intimidation	Pedestrians, cyclists	Scoped in (local streets only)	Scoped in
Accidents and Safety	All modes	Scoped out	Scoped in
Hazardous Loads	All modes	Scoped out	Scoped out

Cumulative Effects

319. These cumulative effects assessment will consider the Proposed Development in combination with the cumulative schemes that have planning applications but are yet to be determined (i.e. the cumulative schemes that have not been assessed in the baseline scenario). The same potential effects assessed for the Proposed Development scenario will be assessed cumulatively.

Wind Microclimate

320. The wind assessment will include wind tunnel testing undertaken for the Proposed Development and the results will be presented within the ES.

321. A wind assessment is therefore **SCOPED IN** to the EIA.

Baseline

322. The Baseline Conditions across the site and the immediate surrounding area will be quantified as part of the assessment.

323. Winds for the London area are predominantly from the south west, with a secondary peak from the north east during spring. Winds are typically stronger in the winter season, and lighter throughout the summer. Wind roses for the London area per season, combined data obtained from Heathrow and London City airports over a period of 30 years are shown in Figure 9.

324. The site is located approximately 700m north of the Thames at its nearest point, and therefore benefits from some shelter that may be provided by a build-up of urban context rather than being open and exposed to oncoming winds that would otherwise be the case south of Aspen Way (A1261). As such, when compared to an open and exposed site the oncoming winds would be expected to have the characteristic of relatively lower mean wind speeds, but higher turbulence levels.

325. The majority of the surrounding context in the immediate area is low to mid-rise buildings. The 26 storey

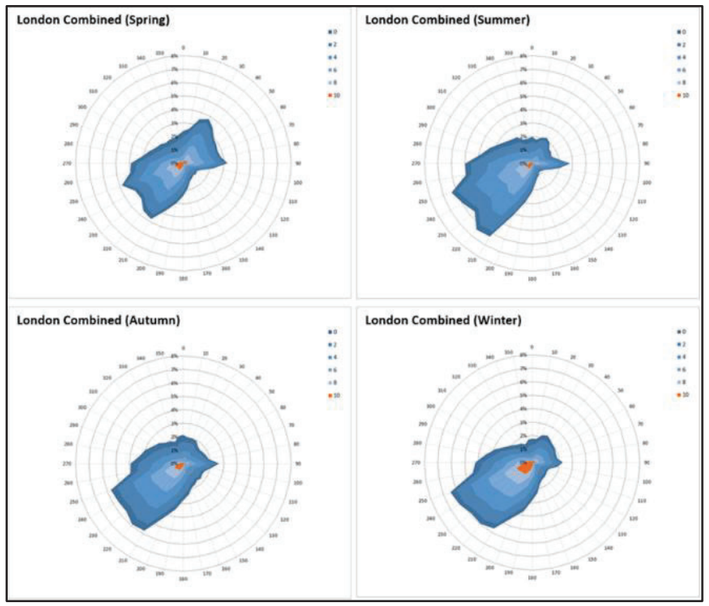
Balfron Tower to the west of the site is the tallest structure in the vicinity, and the site is somewhat exposed to prevailing winds from the southwest due to the open expanse of highways infrastructure associated with the A102/A12 and East India Dock Road (A13).

326. The 'physical' baseline conditions of the surrounding area will be considered as they are likely to evolve in the future, such that they may have an influence on the local wind environment of the site and surrounding area. For example, when determining the baseline of the site, other surrounding redevelopment schemes and the likelihood of these being constructed and occupied prior to the completion and operation of the Proposed Development will be taken into consideration. Any buildings already under construction would be deemed to be existing.

327. The wind tunnel test will allow the mean and peak wind speeds to be measured (for both the windiest season – typically winter and summer seasons) at locations across the existing site and at the entrances to and around other surrounding buildings, footpaths, roads, and areas of open space, within an appropriate proximity and for all wind directions.

328. The baseline results from the wind tunnel will be combined with long-term meteorological climate data for the London area, corrected to the site to understand the baseline conditions specific to the site having regard to its location within London. Testing in the wind tunnel will be conducted in the absence of any hard or soft landscaping in the first instance, in order to provide a least sheltered conservative result.

Figure 9 Seasonal wind roses from London Combined (in m/s) (Radial axis indicates the percentage of time for which the stated threshold is exceeded)



Potential Effects

329. Undesirable wind speeds can make spaces uncomfortable or unsafe for pedestrian use. The potential effects associated with the interaction of the local wind microclimate conditions with the Proposed Development are considered to be as follows:

330. During demolition and construction works, there is the potential for undesirable wind speeds at:

- Ground level in publicly accessible areas bordering the demolition / construction compounds, specifically pedestrian thoroughfares and any areas of public open / amenity space; and
- Buildings in proximity to the demolition / construction compounds, with specific reference to building entrances and pedestrian routes around buildings.

331. Once the Proposed Development is complete and operational, there is the potential for undesirable wind speeds at locations:

- Within the site, specifically:
  - Ground level - pedestrian thoroughfares and public realm / amenity space;
  - Accessible elevated levels i.e. roof terraces and balconies.
- External to the site, specifically:
  - Ground level pedestrian thoroughfares, and
  - Culloden School (playspace); and
  - Surrounding buildings - with specific reference to building entrances and pedestrian routes around buildings.

Potential Sensitive Receptors

332. The assessment will consider all areas both within, and immediately surrounding the site that the general population and users of the site would be reasonably expected to utilise. This includes, but is not limited to:

- St Nicholas Church, Aberfeldy Street;
- Aberfeldy Practice (medical facility), Ettrick Street;
- Thoroughfares;
- Entrances;
- Amenity Spaces;
- Culloden School;
- Podium/Roof Top Terraces;
- Pick-up/Drop-Off Points;
- Bus Stop/Other Public Transport Infrastructure;
- Cycle Lanes/Roadways; and
- Pedestrian Crossings.

333. As a Hybrid planning application, a range of conditions associated with the target use of the site will be considered where specific on-site uses are yet to be determined. These are anticipated to be residential, commercial, leisure and retail.

Scope of Assessment

Design Guidance

334. Design guidance will be provided to the Design Team through a review of expected wind conditions, informed by the use of Desk Based Design Review as the design develops.

Demolition and Construction

335. Generally, as demolition and construction works progress, the conditions on and around a redevelopment site would be expected to gradually transition between those of the baseline and the completed and operational scheme. As this will also apply to the demolition and construction of the

Proposed Development, a qualitative approach will be taken (based on professional judgement) to the assessment of the potential effects of the demolition of the existing buildings and construction of the Proposed Development on the wind microclimate.

Completed Development

336. Given the size and geometry of the Proposed Development, in addition to the site's location in relation to surrounding buildings and nearby areas of open space, it is important to avoid undesirable wind speeds being generated at ground and accessible elevated levels. Undesirable wind speeds could make some spaces within and around the Proposed Development uncomfortable or unsafe for pedestrian use.

337. The following model scenarios will be tested within the wind tunnel (for both the windiest (typically winter) and summer seasons):

- Baseline (Existing Site + Existing Surrounding Context);
- Proposed development (detailed only)+ Existing Surrounding Context;
- Proposed development (detailed & outline elements)+ Existing Surrounding Context;
- Proposed Development (detailed & outline elements) + Future Surrounding Context (Cumulative Schemes);
- Future Baseline (Existing Site + Future Surrounding Context).

338. Scaled models of the Proposed Development and nearby cumulative schemes will be manufactured and tested in a boundary layer wind tunnel test facility – Likely at 1:300 scale, with a real world radius of 450m from the centre of each model. The models will be arranged such that the site in its entirety will be considered with an appropriate margin of surrounding context towards the outer extents. Mean and peak wind speeds will be measured at sensitive receptor locations, for all wind directions. These results will be combined with long-term meteorological climate data for the London area and then benchmarked against the Lawson Comfort Criteria (# variant - both in terms of comfort and safety to include strong winds), to determine the suitability of different areas within and surrounding the site.

Mitigation

339. Should mitigation measures be required to ensure wind conditions within a particular area / space are suitable for their intended use, or mitigate against predicted strong winds, such mitigation will be developed in consultation with the Applicant and the Design Team. As a hybrid application, broad mitigation strategies will be specified in the ES and where applicable referred to in the Design Codes and would need to be developed further at RMA stages for the outline part. A planning condition should be imposed to ensure that no development takes places prior to ensuring a safe and comfortable wind environment can be achieved on a detailed scheme.

340. For the detailed part where necessary due to the presence of any strong winds that represent a safety concern, mitigation measures will be tested through additional rounds of wind tunnel studies Minor exceedances comfort criterion would be expected to be addressed by way of qualitative recommendation.

Cumulative Effects

341. The cumulative assessment is undertaken to the same methodology as for the scheme when completed and operational. A list of cumulative schemes to be considered is included within **Appendix C** of this Scoping Report.

342. Cumulative schemes within the extent of the physical models will be included. assuming a 1:300 model. Schemes beyond the model radius are considered to be too far from the site to result in any cumulative impacts and are therefore excluded from the assessment.

Archaeology (Buried Heritage)

Introduction

343. An archaeological technical desk-based assessment (DBA) will be presented in ES. The assessment will consider the potential enabling and construction stage impacts of the Proposed Development.

344. The assessment and ES Chapter will be undertaken by TVAS.

345. An Archaeology (Buried Heritage) assessment is therefore **SCOPED IN** to the EIA

Baseline Conditions

346. Information has been obtained from the Greater London Historic Environment Records (GLHER) database on a 750m search radius, historic and modern maps, geological maps and relevant publications or reports.

347. The GLHER data indicates that the site is located in a Tier 3 Archaeological Priority Area (DLO37841).

348. In terms of nationally designated heritage assets, no World Heritage Sites, Scheduled Monuments, Registered Parks and Gardens, Historic Battlefield, or Historic Wreck Sites occur within or in close proximity to the site according to the received GLHER data. It is considered that the development would not have any negative impact on the settings of several nearby listed buildings.

Potentially Sensitive Receptors

349. The Summary and Definition of the Lea Valley Archaeological Priority Area indicates that the APA;

"runs along the western banks of the River Lea and its various channels from the borough border with Hackney almost to its mouth at the Thames. Extensive excavations that took place in advance of the Olympic Park construction demonstrated that the Lower Lea Valley had potential for prehistoric finds, features and deposits. In later periods the area saw the establishment of numerous industries which required water for power and used the rivers to transport their produce."

350. The Lea Valley Archaeological Priority Area has been classified as Tier 3 because it is an extensive area *"containing palaeoenvironmental evidence for past wetland and riverine environments and potential for new discoveries of well-preserved prehistoric sites. It was also an extensive area of historic industry in the medieval and post medieval periods."*

351. Within the immediate environs of the site, there is significant evidence of Neolithic and Bronze Age occupation. The size of the area increases the chances of archaeological remains of some period being present simply by chance.

352. The area has been repeatedly redeveloped since the late 19th century, which will probably have removed most, if not all, shallow archaeological remains. Previous work in the area has demonstrated the presence of often quite deep alluvial deposits, which may have protected archaeologically relevant levels below or within them. The development of the area may also have involved raising the ground rather than cutting down in some instances, further protecting deeply buried levels.

Potential Effects

353. The assessment will consider the effects of the Proposed Development using the methodology set out below within the context of the policy framework and baseline conditions. The assessment will consider the following potential impacts and associated likely effects:

- Site set-up works, including contractors compound set-up and associated temporary services levelling work and other preparatory groundworks including remediation for UXO and chemical contaminants;
- Construction, including foundation excavation or pile installation, service installation, road construction;

- Landscaping, including ground reduction or levelling and creation of attenuation tanks and ponds;
- Compression of buried remains from vehicle movement, construction of spoil tips, bunds or raised landscape areas; and
- De-watering of waterlogged or organic archaeological remains through alterations to the level of groundwater across the site.

354. It is considered that due to the nature of the Proposed Development, it would not give rise to any significant effects during the Completed Development stage and therefore effects of the Completed Development will not be assessed as part of the ES Chapter.

355. This is because once the Proposed Development has been completed, no further ground disturbance would occur and consequently there would be no additional impacts or resulting environmental effects upon buried heritage assets.

Scope of Assessment

356. The suite of assessments will conform entirely to requirements of the NPPF, and to standards specified by the Chartered Institute for Archaeologists and Historic England.

357. In order to set the site into its full archaeological and historical context, a search of the GLHER has been undertaken to a 750m radius study area from the Proposed Development.

Demolition and Construction

358. An Archaeology DBA has been produced, to professional standard and guidance, in support of the ES Chapter for the Proposed Development, to be included as a Technical Appendix in the ES. The DBA will put the Proposed Development into its full archaeological and historical context.

359. The ES Chapter will provide an assessment of the significance of known and potential buried heritage assets within and beyond the site, which may be affected by the Proposed Development. The DBA includes assessments of factors which will have compromised the survival of archaeological remains.

360. The assessment of enabling and construction effects within the ES Chapter will focus on physical impacts on buried heritage assets within the site. These will include any activity which would entail ground disturbance, for example site set up works, the construction of new foundations and basements, remediation, landscaping, new drainage and services.

361. Physical effects upon buried archaeological remains would all be permanent, whether or not the proposed works are temporary in nature (e.g. ground excavation for temporary services, lighting and hoardings).

362. The archaeological specialist will liaise closely with other topic specialists (e.g. contamination) to ensure that there is no overlap in the assessment of effects, along with the design team. Where possible there will be an attempt to mitigate, by design, any impacts on particularly sensitive assets.

363. A site visit would be carried out to confirm topography, any evidence of past ground disturbances and possible archaeological potential.

Completed Development

364. Operational activities are not expected to have an effect on buried archaeological assets.

Cumulative Effects

365. An assessment will be given of cumulative effects, if any. The approach to cumulative assessment for Archaeology will be to focus on the additional effects of the proposed development on top of the cumulative baseline.

Built Heritage

366. This chapter will consider the impact of the Proposed Development on above-ground built designated and non-designated heritage assets in terms of the effect of the proposed development on their heritage significance and the contribution made to that significance by their setting.

367. Listed buildings and conservation areas are 'designated heritage assets', as defined by the National Planning Policy Framework (the NPPF). Other buildings and structures identified as having heritage significance can be considered as 'non-designated heritage assets', and this includes the locally listed buildings. Heritage 'significance' is defined in the NPPF as 'the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic'. The Historic England 'Historic Environment Good Practice Advice in Planning Note 2' puts it slightly differently – as 'the sum of its architectural, historic, artistic or archaeological interest'. 'Conservation Principles, Policies and Guidance for the sustainable management of the historic environment' (English Heritage, 2008) describes a number of 'heritage values' that may be present in a 'significant place'. These are evidential, historical, aesthetic and communal value.

Baseline

368. The location of heritage assets in relation to the site is illustrated in Figure 3. They are principally located to the north, west and south of the site. The part of Newham nearest the site does not contain any heritage assets that have a significant relationship to the site.

369. The heritage assets identified below are considered to be those whose significance is most likely to be directly affected by the proposed development in its current iteration. Other heritage assets, both designated and non-designated, are located further afield, and the number and location of heritage assets to be assessed remains to be agreed with the London Borough of Tower Hamlets. The selection identified here seeks to strike a balance regarding a correct and credible extent of effect from a development that involves tall buildings,

370. The site itself contains a portion of the Grade II listed Bromley Hall School site. No other heritage assets are contained within the wider development site boundary.

<u>Conservation areas</u>

371. The conservation areas most directly affected by the emerging proposals are:

- The Balfron Tower Conservation Area, to the west;
- The St Frideswide's Conservation Area, to the south west;
- The All Saints Conservation Area, to the south west;
- The Langdon Park Conservation Area, to the north west; and
- Naval Row Conservation Area, to the south.

<u>Listed buildings</u>

372. The listed buildings (Grade II unless otherwise indicated) most directly affected by the emerging proposals are:

- Balfron Tower, St Leonard's Road (Grade II*);
- Carradale House, St Leonard's Road;
- Glenkerry House, Burcham Street;
- Former Bromley Hall School, Bromley Hall Road;
- Poplar Public Library, Gillender Street;

- Bromley Hall, Gillender Street (Grade II*);
- Former Fire Station, Gillender Street;
- Church of St Michael And All Angels, St Leonard's Road;
- Former Financial Times Print Works, East India Dock Road (Grade II*); and
- Plaque on Modern Dock Wall Facing West, East India Dock Road.

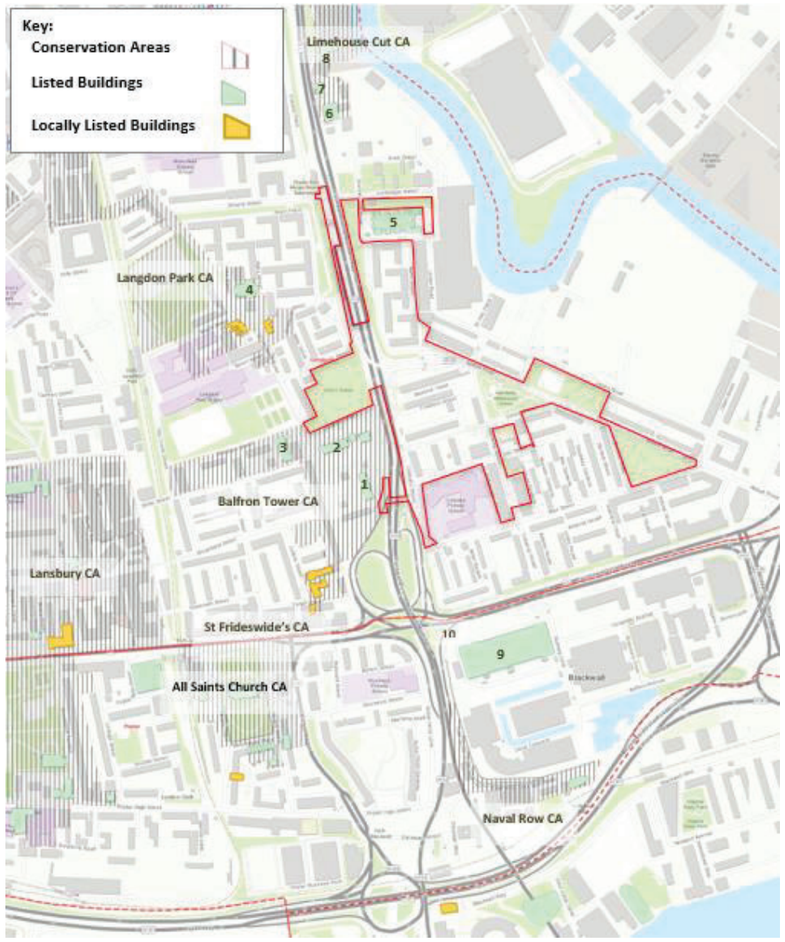


Figure 10 Location of heritage assets in relation to the site (red line)

Potential Effects

373. The potential for significant effects as a result of the demolition and construction as well as the operation of the Proposed Development will be addressed in the assessment by considering how the location, scale, bulk, massing and architectural expression of the proposed development will affect the setting of the heritage assets identified and thus the contribution made to that significance by their setting.

Potential Sensitive Receptors

374. The scale of development that is proposed at the site – the height and location of the tall buildings proposed – and its effect on the setting of the Grade II* Balfron Tower, the Grade II Carradale House and the Balfron Tower Conservation Area has the potential to significantly affect these assets. In addition, the effect on the setting of Bromley Hall School (Grade II), located at the northern end of the site, also has the potential to be significant.

Scope of Assessment

375. The effects of the Proposed Development on each of the identified heritage will be assessed and a judgment formed as to the duration, extent and magnitude of impact. This will be undertaken for Demolition and Construction and Completed Development phases of the proposed development.

376. The principal approach to assessing the effects of the Proposed Development upon the built heritage assets is to measure those effects identified against criteria contained in legislation and national and local policy and guidance relating to the historic built environment.

377. The methodology for the assessment will take account of the relevant legislation, policy, and standards and guidance documents concerning urban design and heritage protection, at national, regional and local level.

378. The assessment of the effects as a result of the Proposed Development on heritage receptors is made on the basis of professional judgement which takes into account relevant planning policies and guidance. It is based on the methodology set out in Historic England guidance concerning the setting of heritage assets.

379. The assessment will be undertaken with reference to the following policy and guidance documents:

- National Planning Policy Framework (NPPF) (2012 and subsequent revisions);
- National Planning Practice Guidance (NPPG) (March 2014 and subsequent revisions);
- The London Plan 2021;
- The London Borough of Tower Hamlets Local Plan;
- Relevant conservation area appraisals;
- Conservation Principles: Sustainable Management of the Historic Environment, English Heritage (now Historic England) (2008);
- Seeing the History in the View, English Heritage (now Historic England) (2011); and
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2015).

380. The assessment will take into account the contribution to the setting of heritage assets area in which it is located. The assessment of the sensitivity of the receptor under consideration is moderated to take into account a judgement about its quality in the round.

381. The magnitude of the change to the composition and character of the view, as a result of the Proposed Development, takes account of factors including the proximity, scale and the contribution of the Proposed Development to the setting of heritage assets. The magnitude of the change resulting from the Proposed Development will be assessed as major, moderate, minor or negligible.

382. The final assessment of the significance of effect is based on an assessment of the nature of the existing setting and its sensitivity to change, combined with an assessment of the nature and magnitude of proposed change, made through relevant guidance and policy and based on professional judgement and experience.

383. For effects judged to be minor, moderate or major, the effect will be further categorised as beneficial,

neutral or adverse. Adverse effects are those that detract from the heritage significance of the heritage asset. This may be through a removal of valuable characterising elements or addition of new intrusive or discordant features. Beneficial effects are those that contribute to the heritage significance of the heritage asset. This may be through the introduction of new, positive attributes; for example, through improved legibility or setting. A neutral effect would be one where the setting of heritage asset may change but its overall quality does not, or where the balance of positive and negative effects is finely balanced; effects can be significant and neutral in quality terms i.e. noticeably different but not better or worse in terms of quality.

384. Where the effect is minor, moderate or major, good design can reduce or remove potential harm or provide enhancement, and design quality may be the main consideration in determining the balance of harm and benefit.

Cumulative Effects

385. The potential cumulative effects of the Proposed Development when considered in combination with the Cumulative Schemes (**Appendix C**) with planning permission, will be assessed.

TOPICS TO BE SCOPED OUT

386. The Proposed Development is not anticipated to cause any likely significant effects in relation to the following technical topics and are therefore **SCOPED OUT** of the ES.

Ecology and Biodiversity

387. A Preliminary Ecological Appraisal (PEA) has been prepared for the site by Greengage Environmental and is presented in **Appendix E**. The following presents a summary of the key findings and conclusions drawn in respect of the likelihood for significant ecological effects as a result of the Proposed Development.

388. It is proposed that this topic is to be **SCOPED OUT** of the EIA.

Baseline

Desk Study

389. Consultation with the local biological record centre (Greenspace Information for Greater London (GiGL)) and the Multi-Agency Geographic Information for the Countryside (MAGiC) dataset have confirmed that there are no statutory designations of national or international importance within the boundary of the site. There are also no non-statutory designated sites within the boundary of the site.

390. There are two Local Nature Reserves (LNRs) and 24 non-statutory designated sites within 2km of the site. Additionally, a wider search was undertaken for European designated sites which recorded the presence of Epping Forest Special Area of Conservation (EFSAC) within approximately 6.4km of the site.

Phase 1 Habitat Survey

391. During the site survey the following habitats were recorded on site:

- Scattered scrub;
- Amenity grassland with scattered trees;
- Introduced shrub;
- Wall (brick built);
- Buildings and hard standing with street trees; and
- Bare ground.

392. All the habitats on-site are common and widespread urban habitats with limited ecological value. The

dominant habitat on-site was building and hard standing followed by heavily managed amenity grassland.

393. Given the limited ecological value of the habitats on-site, the potential for the site to support protected species was limited to the following:

- Low potential to support foraging and commuting bats;
- Low potential to support roosting bats;
- Moderate potential to support nesting birds; and
- Confirmed presence of invasive/non-native species (Virginia creeper and Buddleia).

394. A specific assessment of the potential for the site to support black redstart was also undertaken. However, no suitable foraging or nesting habitat for this species of bird was present on site.

395. Given the site's location, setting and the habitats present, it is considered to have negligible potential to support great crested newt, reptiles, dormouse, water vole and otter or any Local Biodiversity Action Plan (LBAP) species not previously mentioned above.

Ecological Management, Mitigation and Enhancement Measures

Designated Sites within 2km of the site

396. The proposed development is not expected to have an impact on statutory and non-statutory designated sites within 2km of the site during the construction stage due to the distance from the site and presence of significant geographical barriers. Whilst construction phase impacts are considered to be unlikely, given the River Lea lies approximately 70m from the closest part of the site and more than 100m from the majority of the site, a CEMP will be produced to detail how pollution/runoff from the site during site preparation/construction will be avoided and minimised.

397. The proposed development is also not expected to have an impact on statutory and non-statutory designated sites within 2km of the site during the operational stage of the development because:

- The statutory and non-statutory designated sites within 2km of the site are managed already with public access in mind or are not easily accessible to the general public e.g., due to barriers such as dense industrial and commercial development and/or reasons such as heavily canalised sides to waterways;
- There are multiple open spaces within and immediately adjacent to the site that existing and future residents will have access to and be able to access quicker and more easily; and
- The proposals include the creation of new amenity and recreational space as part of the proposals, which seek to improve the existing biodiversity on the site.

Designated Sites – Epping Forest SAC

398. Epping Forest SAC lies approximately 6.4km north of the site, which is within the 10km Screening radius. Based on information currently available, there are no likely significant effects anticipated from the Aberfeldy scheme on European designated sites. This is because the proposed development lies outside the 6.2km Zone of Influence buffer detailed within the EFSAC Interim Mitigation Strategy[27] and the net increase in vehicle trips as a result of the proposed development are considered to be negligible beyond the local road network (see Transport Scoping Report for the proposed development).

399. To confirm the above, a stand-alone Habitat Regulation Assessment Screening exercise would be conducted under the Habitat Regulations[28] and will be presented within an stand-alone Habitat Regulation Assessment Screening.

[27] *Epping Forest District Council (2018) Interim Mitigation Strategy for Epping Forest Special Area of Conservation* https://eppingforest.moderngov.co.uk/mgConvert2PDF.aspx?ID=87389
[28] *Conservation of Habitats and Species Regulations 2017* www.legislation.gov.uk/uksi/2017/1012/regulation/1/made

Foraging and Commuting Bats

400. Site clearance has the potential to result in the loss of poor foraging/commuting habitat for bats. To avoid impacts associated with site clearance, site layout will avoid installation of hard surfaces in the parks/green spaces within the site. Additionally, retention of all existing mature street trees will be sought, where possible.

401. Compensatory soft landscaping should seek to provide foraging and commuting habitat for bats. The proposals include the creation of such soft landscaping as well as areas of biodiverse roof and rain gardens.

Roosting Bats

402. To confirm the presence/likely absence of roosting bats, bat emergence/re-entry surveys will be undertaken focusing upon the buildings and trees identified as having low potential roosting features. In line with best practice guidelines, buildings with low potential to support roosting bats will be subject to a single emergence or return survey between May and August. Trees with low potential do not require any further survey, instead, if they are to be lost, they will be section felled, with limbs lowered gently to the ground and left on the ground for 24hrs before being disposed of.

403. Results from these surveys will be used to identify a suitable approach to mitigation for roosting bats, should it be required.

404. Given the habitats present on site, the type of access and egress points noted and the species records within 2km, if a roost is found to be present on site it is likely to be for a relatively common species and be of low conservation value e.g. a pipistrelle summer transitory roost for a low number of individuals. The likely mitigation in this case would involve the provision of temporary roosting space in the form of bat boxes on site, timing works to damage/destroy any roosting place at a time of year when the bats are least likely to be present, the removal of the features by hand under the supervision of a licensed bat worker and the installation of modified tiles and/or integrated bat boxes on the completed building so suitable roosting features are replaced. This would all be undertaken under a European Protected Species Mitigation (EPSM) license from Natural England. The mitigation and approach will be confirmed through further survey.

405. This assessment will be presented as a stand-alone report and submitted to the LPA.

Nesting Birds

406. No further survey works are recommended. However, to minimise the impact of the proposed development on nesting birds the following measures will be implemented:

- Clearance of suitable nesting bird habitat will be undertaken outside of the nesting bird season (taken to run from March to August inclusive) or only be undertaken after an ecologist has conducted a nesting bird check and confirms the likely absence of nesting birds;
- A selection of nest boxes will be installed within the completed development; and
- The proposals include the creation of extensive landscaping as well as areas of biodiverse roofs which will provide suitable habitat for nesting and foraging birds.

Invasive Species

407. No further survey works are recommended. However, the invasive species, as listed on the London Invasive Species Initiative (LISI), will be removed from site and disposed of responsibly.

Enhancement Measures

408. As mentioned above, the proposed development includes the following ecological enhancements:

- Extensive, substrate-based biodiverse roofs on suitable areas of flat roof;

- Wildlife friendly landscaping including rain gardens; and
- A range of bird and bat boxes installed across the development area.

409. The enhancement recommendations have been made with the intention of improving the ecological value of the site for notable species listed in the London and London Borough of Tower Hamlets LBAP, in addition to supporting relevant local Habitat Action Plans (HAPs).

410. To evidence an improvement in biodiversity on site as a result of the development a Biodiversity Impact Assessment will be prepared which will present the results of a Biodiversity Net Gain Assessment using The DEFRA Metric 2.0.

Conclusion

411. The site is dominated by common and widespread habitats with limited ecological value. The site has potential to support a number of protected species, however, through further survey and the implementation of standard mitigation measures any impacts from the development on these protected species can be eliminated or reduced so to be not significant. There are no likely significant effects anticipated from the Aberfeldy scheme on European designated sites, including the EFSAC, for the reasons provided earlier. This will be confirmed within a stand-alone Habitat Regulation Assessment Screening document.

Daylight, Sunlight and Overshadowing – Internal, new receptors within the Proposed Development

412. The potential for daylight and sunlight availability within the newly proposed residential units and within the newly created public realm is dependent on the design of the Proposed Development, and is a design consideration, rather than an EIA issue. Therefore, the assessment of daylight and sunlight availability (including overshadowing) within the Proposed Development itself will not form part of the ES but will be presented as a separate standalone report submitted in support of the planning application.

Geoenvironmental (Ground Conditions, Groundwater and Land Take and Soils)

Introduction

413. A Phase 1 Preliminary Geo-environmental and Geotechnical Risk Assessment (also referred to as the 'Phase 1') has been undertaken for the site, based on a walkover of the site (17th March 2021) and drawing on several sources, including an Envirocheck report (providing survey records, historic maps and technical information from a variety of databases).

414. The Phase 1 intends to identify the likely source-pathway-receptor pollutant linkages and provides a qualitative indication of the level of risk posed by potential ground contamination at the site. From this assessment, recommendations for further surveys and reporting are identified.

415. Additional site investigations have been undertaken within different parts of the site or adjacent to the site boundary. These reports are listed below, and are summarised within the Phase 1:

- Aberfeldy Estate - Site N Blair Street London E3, AP Geotechnics (2001). This assessment covered the Braithwaite Park area of the site;
- Site Investigation - Culloden Primary School, Mayer Environmental (2004);
- Aberfeldy New Village, London, E14 Land Quality Statement, Campbell Reith (2011). Phases 4 to 6 identified within the report, partially lies within the current site boundary;
- Aberfeldy New Village Phase 3, Land Quality Statement, Campbell Reith (2015). This assessment covers an area directly south of the current site boundary;

- Aberfeldy New Village Phase 3, Additional Ground Investigation, Campbell Reith (2016). This assessment covers an area directly south of the current site boundary;
- Aberfeldy New Village Phase 3a, Verification Report, Campbell Reith (2020). This assessment covers an area directly south of the current site boundary; and
- Ground Investigation Report at Leven Road, South Bromley, London, E14 Structural Soils (2007). This investigation was undertaken adjacent to the eastern site boundary.

416. The Phase 1 has been prepared by RPS and is presented in **Annex Ground Conditions** to support the summary presented below.

Baseline Description

417. The geology at the site has been identified from publicly available British Geological Society (BGS) mapping and the Environment Agency (EA) Groundwater Vulnerability mapping. The site's geology is likely to comprise Made Ground underlain by deposits of Alluvium, Kempton Park Gravel Member (Secondary A Aquifer), London Clay Formation, Lambeth Group (Secondary A Aquifer), Thanet Formation (Secondary A Aquifer), and the White Chalk Subgroup (Principal Aquifer).

418. Ground conditions at the site, encountered during the 2011 site investigation, comprised strata in the following order from ground level, and estimated thickness, in metres (m): Made Ground (between 0.75 and 3.1m); Alluvium (between 1.2 and 2.3m); Kempton Park Gravel Member (between 2.4 and 5.1m); London Clay Formation (between 11.3 and 16.4m); and the Lambeth Group (to depths of up to 30m below ground level).

419. Three types of groundwater are likely to be present beneath the site. ***Perched groundwater*** is likely to be present within granular Made Ground and shallow Alluvium deposits. A continuous ***shallow groundwater*** body is likely to be present within the Kempton Park Gravel Member. A continuous ***deep groundwater*** body is likely to be present within the more permeable lower layers of the Lambeth Group, the Thanet Formation and White Chalk Subgroup. There is potential for the deep groundwater body to be under artesian type conditions, where being confined by the more cohesive upper layers of the Lambeth Group.

420. A review of the historical uses of the site and surrounding area has identified the following:

- the majority of the site historically comprised of undeveloped open land known as Bromley Marsh, with some building's associated with Macintosh's Farm (south-eastern portion of the site) and some other buildings of unknown uses (centre of the site) and residential housing along the south western boundary of the site between 1869 and 1896;
- Between 1896 and 1916, the site has been developed and comprises mostly of residential terraced housing;
- Educational facilities were developed between 1916 and 1946, with a school developed in the south west of the site, with additional buildings for the Bromley Hall School present in the far northern portion of the site;
- Between 1946 and 1954, the south west, central and south eastern portions of the site are in ruin / undeveloped;
- Between 1954 and 1975, Culloden Primary School had been developed in the south west of the site, with an electricity substation present in the central portion of the site. Braithwaite House had been construction in the south eastern portion the site, with St Nicholas Church present in the centre of the site;

- From 1975 to 1990, the northern and eastern portions of the site are vacant. By 1990, the central and eastern portions of the site comprise vacant land, with the north and far south east of the site redeveloped with residential housing. The area of land in the far north of the site remains undeveloped; and
- By 2006, Braithwaite House had been demolished, with this portion of the site now comprising vacant land. The central portion of the site had been developed to resemble the present layout.

421. Potential historical sources from contamination identified by the review include the electricity substation located in the centre of the site between 1954 and 1975.

422. No visual evidence of contamination was noted during the site walkover.

423. A number of existing potential sources of contaminants of concern have been identified within the site, which include the following:

- A dry cleaners located in the west of 25 to 55 Aberfeldy Street area;
- Domestic garages located in the south east of the Ettrick Street to Abbot Road area;
- Electricity substations located within the Braithwaite Park and Culloden Primary School areas;
- Flammable liquid store in the south east of the Ettrick Street to Abbot Road area as identified in the 2011 Campbell Reith report; and
- Petroleum storage indicated at the base of residential blocks in the area between Abbot Road and Nairn Street.

424. Additionally, there may also be potential for plant rooms (including oil storage tanks) to be present within properties within the site that were not accessible at the time of the site walkover.

425. The Phase 1 noted that the organic rich natural superficial Alluvium deposits may also represent a potential source of ground gas generation.

426. A detailed unexploded ordnance (UXO) assessment was undertaken for the site in February 2021, which identified that the site has a high risk of UXO potential. This assessment recommended that a UXO Emergency Response Plan, UXO safety awareness briefing and intrusive magnetometer survey are undertaken for 'blind' intrusive works (such as borehole drilling). Additionally, non-intrusive surveys and a UXO Watching brief should be undertaken for 'open' intrusive works (such as excavations and trenching).

427. Within the area surrounding the site, the Phase 1 identified several contaminative sources or historical incidents. A full list is provided within the Phase 1; however this does include the Poplar Gas Works (approximately 10m to the east of the site), Ailsa Wharf (approximately 50m north east of the site); Devon Wharf (approximately 50m east); Islay Wharf (adjacent to the site), and others, including a rifle range, sawmill, hospital, bus depot and more docks / depots.

428. Overall, the Phase 1 concludes that the general risk of contamination of receptors (i.e. construction workers, future on-site users, neighbours) and resources (i.e. groundwater) is considered to be mostly low to moderate, with a moderate risk identified for volatile inhalation from groundwater.

The Proposed Development

429. The Proposed Development will involve works in the ground are expected as part of construction, including sub-structure / foundation works and piling.

430. Taking into account the nature of the site and its historical use, and the Proposed Development being proposed, the following matters are to be considered in terms of design and mitigation:

- Undertaking an intrusive Site Investigation (i.e. involving laboratory testing) subsequent to planning determination/consent, followed by further stages of investigation and site remediation

agreed through planning conditions. The Phase 1 provides further detail on what the scope of this investigation should include, to further assess the presence of soil and groundwater contamination and ground gas. Following agreement on the written programme, an investigation shall be carried out in accordance with the approved programme and the results. If necessary, a written scheme of remediation measures shall be submitted to and approved by the LBTH.

- The ground investigations will be undertaken prior to the commencement of works on-site and will further inform the geotechnical design / foundation / piling works, which will confirm the appropriate piling methods and foundation design to mitigate geotechnical risk.
- The Intrusive Investigation will include a risk assessment of the contamination at the site, which would be undertaken by comparing measured levels of soil contamination with generic assessment criteria established through industry guidance and best practice.
- Should significant areas of contamination be identified during the further site survey / investigation work, a Remedial Strategy (including options appraisal) will be undertaken. Remediation strategies for soil include:
  - The remediation of soils on site;
  - A strategy for ensuring separation between source and receptors via structural slabs, membranes and soil capping layers (as appropriate);
  - Off-site treatment (where practicable); and/or
  - The disposal of soil off-site.
- The appropriate Remedial Strategy will be agreed as appropriate in advance of any remediation work. The remediation framework will identify remediation requirements for protection of human health and controlled waters as well as identifying any areas that require remediation to be undertaken.
- Should a Remedial Strategy be implemented, a verification process (verification plans and reporting to the local authority) will be undertaken to confirm that the strategy has remediated the soils to a level acceptable for the intended end use of the site (based on site specific criteria).
- Off-site disposal of soils will include segregation of soil types (contaminated or otherwise) into stockpiles and removed via an approved waste contractor and in accordance with the regulatory requirements, including the Hazardous Waste Regulations and Landfill Regulations (i.e. any contaminated soil would be disposed of off-site at a location appropriate to the level of contamination present and the waste classification determined from chemical analysis).
- An assessment for the potential for ground gas will be completed during further intrusive site investigation work.

431. Overall, the proposed ground works across the site, associated with the preparatory ground works and foundation excavations during the construction of the Proposed Development, will result in the appropriate treatment of the identified areas of contamination (i.e. soils and materials) This will result in residual beneficial effects to the local environment, through reducing the net contaminant loading at the site and surrounding area.

432. Health and safety procedures appropriate to the contamination status of the site will also be implemented during construction in order to avoid or reduce potential effects to human health (i.e. construction workers and to neighbours / general public) and the wider environment.

433. Recommended mitigation measures will be managed through a Construction Environmental Management Plan (CEMP); Site Waste Management Plan (SWMP); Emergency Response Plan (ERP); and Health and Safely Plans (H&SP). These plans will all be completed by the Principal Contractor/s and

sub-contractors prior to demolition and construction activities and agreed in advance with the LBTH. The mitigation measures implemented will be reviewed regularly to best suit the practices being undertaken across the site.

434. It is anticipated that the proposed mitigation / management and monitoring measures will be secured by the LBTH through appropriately worded pre-commencement planning conditions, which will be attached to the planning permission.

Land Take

435. With regards to 'Land Take', the site represents an opportunity to develop brownfield land in London in a bespoke and sustainable manner. Regeneration of this nature will lead to a range of economic benefits, as well as providing a number of enhancements over the existing situation. The site is not a 'greenfield site' or is a soil resource used for example as a resource for agricultural use / farming; it is not natural or semi-natural land that is being 'taken up' by urban development. While the site does include some areas of green space (such as the Aberfeldy Millennium Green and Braithwaite Park), the Proposed Development is proposing a significant new public open space, alongside a number of smaller open space areas. As a result, no likely significant adverse effects associated with 'Land Take' are anticipated because of the development of the land for the scheme proposed.

Conclusion

436. In conclusion, based on the findings of the study undertaken to date and the proposed mitigation and management measures, it is considered that the Proposed Development is unlikely to give rise to significant residual adverse effects in respect of geo-environmental matters (Land Contamination, Ground Conditions, Groundwater and Land Take). On this basis, a ground conditions impact assessment is scoped out of the EIA.

437. The Phase 1 has been appended to this EIA Scoping Report in **Appendix F**.

Water Resources, Drainage and Flood Risk

Introduction

438. Surface water features are present within the local area surrounding the site. This includes the River Lea which is located approximately 160m east of the site and the River Thames is located approximately 550m south of the site. Both the River Lee and the River Thames are classified as 'main rivers'.

439. This section has been drafted by Trium with assistance from Parmabrook.

Flood Risk and Surface Water Drainage

440. Flood risk is regulated through the NPPF, and which outlines the need for a site-specific Flood Risk Assessment ('FRA') to be produced for all sites located within Flood Zone 2 and 3, larger than one hectare, or with critical drainage problems.

441. Based on the Environment Agency's (EA) 'Flood Map for Planning'[29] the site occupies an area of approx. 17.4 ha and is located within Flood Zone 3a. Flood Zone 3a is defined as an area with a 1% or greater annual probability of river flooding, or a 0.5% or greater annual probability of flooding from the sea in any given year. According to the NPPF, the risk of flooding from rivers or the sea in Flood Zone 3a is classified as high. The primary risk cause of flooding to the site is tidal flooding from the River Lee and the River Thames. It should be noted that this classification does not account for the protection afforded by the Thames tidal flood defences present on the site, and that the actual risk of flooding will be lower.

442. British Geological Survey (BGS) mapping indicates that the site is underlain by superficial deposits of clay, silt, sand and peat (Alluvium). The bedrock geology underlying the site is shown to comprise clay,

[29] Source: https://flood-map-for-planning.service.gov.uk/ - Accessed June 2018

silt and sand of the London Clay Formation.

443. According to the Environment Agency (EA) Aquifer Designation Map, the site is underlain by a Secondary (undifferentiated) superficial aquifer with no bedrock aquifer denoted.

444. The BGS Groundwater Flooding Hazard map indicates that the majority of the site is at a very low risk of flooding from this source, with the western most side of the site at a significant risk of groundwater flooding.

445. According to the River Basin Management Plan, the Thames Middle (ref: GB530603911402), which encompasses both the River Lee and River Thames in the vicinity of the site, has 'Moderate' ecological status.

446. The EA Flood Risk from Surface Water map indicates that the majority of the site is at a very low risk of flooding from surface water. However, the risk of flooding along the site access roads is generally shown to be low, with isolated areas of medium and high flood risk where ground levels are lowest.

447. The London Borough of Tower Hamlets Surface Water Management Plan (Figure i) indicates that a Critical Drainage Area is located to the west of the site along the A12 / A102.

448. Given the FRA criteria referenced in the NPPF, an FRA will be prepared for the Proposed Development and will accompany the planning application(s). The FRA will be prepared in line with the NPPF requirements, and will present matters including:

- details of any historical flooding events;
- acceptability of the proposed land use in relation to known flood zones;
- indicative volume of surface water runoff likely to be generated by the development;
- details of SuDS surface water drainage; and
- details of flood resilience and resistance measures as appropriate.

449. The Drainage Strategy will include details of the outline surface water drainage strategy which will be the primary means to control the quality and quantity of surface water runoff from the new development in line with local policy and London Plan requirements. The strategy will also consider the options available for the management of surface water runoff in line with the drainage hierarchy, which will include minimising at source (i.e. through the use of sustainable drainage systems (SuDS)) through to attenuation and discharge to the public sewer network. It is expected that the drainage strategy presented will be further finalised during the detailed design stage as part of a standard condition attached to any future planning permission granted.

450. Through a well informed and considered design process with regard to flood risk and surface water drainage considerations, coupled with appropriate measures through the design to manage the residual flood risk at the site following redevelopment, no likely significant effects associated with flooding and surface water drainage are anticipated in line with London Plan Policy 5.

451. The results and conclusions of the FRA and the Drainage Strategy, including accounting for climate change resilience with regard to flood risk and surface water drainage, will be presented in **ES Volume 1, Chapter 4: Proposed Development**. Both the FRA and Drainage Strategy will be submitted as standalone planning deliverables with the planning application.

Sewers

452. The existing site is heavily urbanised and is served by a network of public combined water sewers. The current sewer network consists of primarily combined sewers. There is a mix of local and strategic sewers located across the site. There are minimal dedicated surface water sewers however and surface water sewers that are in place discharge into the combined network.

453. Sewer abandonments and diversions may be required due to the location of the proposed buildings. These are currently in the initial stages of discussion with Thames Water to agree a strategy.

Strategic Sewers

454. A pair of strategic combined 2250mm and 1524 x 1257mm sewer pipes encroach into the site and located primarily under the Blackwall Tunnel Northern Approach Road running south to north. A strategic 1219mm sewer running under Abbott Road which then splits into two 914mm sewers prior to one of the larger strategic sewers mentioned above. These sewers serve as the primary collectors for the site.

Local Sewers

455. There are various sewers serving the various sites and buildings located within the boundary of the masterplan. All local sewers collect discharge from the existing roads, hardstanding and buildings prior to discharging to the strategic sewers. The pipe diameters range from small diameter sewers to 475mm sewers.

Wastewater (Foul Drainage)

456. Foul water discharge rates to the existing Thames Water Utilities Ltd (TWUL) network[30] are expected to increase as a consequence of the Proposed Development relative to the existing condition. The consideration of foul drainage, and the strategic options for foul water management at the site, will be accounted for within the surface water Drainage Strategy referred earlier.

457. The anticipated increase in foul flows generated by the Proposed Development would be compensated by the expected reduction in the rate of surface water discharged to the drainage / sewer network. Further measures, including the installation of water efficient fixtures and fittings, can further help reduce the volume of foul water generated on-site and therefore reduce the overall magnitude of the impact of the Proposed Development on the public drainage network.

458. It is expected that during the detailed design stage, a pre-planning enquiry has been submitted to TWUL and they have stated that there is sufficient capacity in their network to accept the flows from the development. A S106 will be completed after planning and between RIBA Stages 4 and Stage 5 to obtain formal permission to connect. The assessment (undertaken by TWUL) would confirm the capacity of the local sewer network and details relating to the point of connection, with the aim to identify any requirement to upgrade the local sewer network (if required).

459. Where there is existing capacity available in the local sewer network, it is considered the increased peak foul flows will result in a low magnitude of impact and therefore have a likely minor effect (not significant) on TWUL infrastructure local to the site. If it is determined that capacity within the local sewer network needs to be increased, then agreement between the Applicant and TWUL would involve works to upgrade the local sewer network and therefore, following these works, any likely effect would remain not significant.

Water Demand

460. TWUL produce Water Resource Management Plans (WRMP) which sets out forecasts for water supply and demand, and outlines the strategy proposed to meet consumers' needs into the future. As part of the production of the WRMP, TWUL has taken into account the projected future growth within its defined catchment area (i.e. London), with forecasts based on underlying source data from Government census data, past trends and local authorities' forecasts of future population growth. TWUL bases its forecasts on a combination of these sources to determine the most likely scenarios for growth. It is therefore considered that the likely effects of the Proposed Development on water demand have been accounted for strategically within the TWUL assessments.

[30] Understood that Thames Water provides sewerage services

461. To inform the detailed design stage, consultation with TWUL may result in the need to carry out flow and pressure tests for daily demand estimations for the Proposed Development. This will assess the available capacity in the local supply network and determine whether any additional mains pipework is necessary to support the Proposed Development and provide an indication of any cost of upgrades to the network. This may be undertaken as part of the detailed design stage if required.

462. Following the inclusion of water efficiency measures to reduce water usage, in addition to the implementation by TW of the Thames Water Resource Management Plan (i.e. management and provision of water supply at a strategic level which has been made to accommodate future growth), it is considered that sufficient measures will be in place for water demand to be met and so no likely significant effects are anticipated.

463. It is therefore not considered that there is the potential for significant effects.

Demolition and Construction Works

464. A number of water resources and drainage mitigation measures shall be implemented throughout the demolition and construction works to protect water resources, particularly relating to groundwater and drainage networks. These mitigation measures can be categorised as 'Pre Commencement' measures, and measures implemented throughout the demolition and construction works themselves. The measures are as follows and will also be presented within the ES in ***ES Chapter 16 - Mitigation and Monitoring Schedule (Volume 1)***.

- Pre-Commencement:
  - Discharge arrangements into the foul water sewer will be agreed with TW.
  - All existing utilities will be identified and marked before works commence, with the use of signs to warn of their presence.
  - Settlement facilities and oil / petrol interceptors will be installed at relevant discharge points into the sewers (for surface water runoff and wastewater discharges).
  - An Emergency Response Plan (ERP) will be prepared and which will set out the procedure to be adopted in the event of a leak or spill.
- During Enabling and Construction Works:
  - Any damage to existing infrastructure would be immediately repaired.
  - Any waste effluent will be tested and any water that may have come into contact with contaminated materials or be identified as being contaminated, will be disposed of appropriately and, to the satisfaction of the EA and/or TW; and where necessary, disposed of at the correctly licensed facility by a licensed specialist contractor/s.
  - Plant and machinery will be kept away from controlled waters and will have drip trays installed beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator.
  - Refueling and delivery areas will be located away from the local sewer network drains.
  - All liquids and solids of a potentially hazardous nature (e.g. diesel fuel, oils and solvents) will be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents in accordance with the EA's requirements. Any tanks storing more than 200 litres of oil on-site, will have secondary bunding.
  - All storage will be protected from vandalism and kept locked up when not in use.

  - Wherever possible, plant and machinery will have drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator.
  - On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material in accordance with an Emergency Response Plan (ERP).
  - All relevant contractors will be required to investigate opportunities to sustainably manage the use of water, such as turning off taps when not in use, both on site and within site offices and the use of recycled water / a rainwater harvesting system for equipment such as wheel washes.
  - The water consumption throughout the enabling and construction works will be monitored, either through sub-metering or reading of utility bills, to allow comparison against best practice benchmarks and improvements to be made.

Conclusion

465. Taking into account the above approach and the proposed mitigation / management measures, it is considered that the Proposed Development is unlikely to give rise to significant residual effects with respect to flood risk, drainage and water demand. Additionally, in recognition of the size of the site and it being located in Flood Zone 3a, an FRA will be prepared to accompany the planning application. Therefore, it is proposed that water resources, drainage and flood risk is scoped out of the EIA.

Project Vulnerability

466. With reference to Regulation 4(4) and Schedule 4 of the EIA Regulations, this Scoping Report also considers whether there are likely to be any significant effects on the environment or the Proposed Development arising from the vulnerability of the Proposed Development to major accidents or disasters that are relevant to the development.

467. Available IEMA information (IEMA Quality Mark Article 'Assessing the Risks of Major Accidents and Disasters in EIA (WSP, 2016)) defines major accidents and disasters as follows:

> *"man-made and natural events which are considered to be likely and are anticipated to result in substantial harm that the normal functioning of the project is unable to cope with/rectify".*

468. Paragraph 8 of Schedule 4 of the EIA Regulations provides further description of the information to be provided in the ES in relation to these events. In line with this description it is understood this information would in particular be considered to be of key importance for the assessment of major industrial and/or infrastructure schemes which could pose significant risks to society and the environment in the event of a major accident or a natural disaster which would impede its normal function (e.g. nuclear / petrochemical installations, major transport infrastructure such as tunnels, bridges or airports, etc.). While the Proposed Development does not fall into either of these scheme categories, the project's vulnerability to such events has nevertheless been taken into consideration in order to ascertain the potential risks to future site users and surrounding human and environmental receptors.

469. For any new development, a project's vulnerability to major accidents and natural disasters should be considered both in terms of the likelihood of the project itself to cause a major man-made accident, and in terms of the project being affected by an external man-made accident or by a natural disaster. In all these cases it is furthermore important to consider whether any aspect of a proposed development's design or operation could worsen the effects of any such events on nearby receptors.

470. The London Resilience Partnership has developed the London Risk Register[31], which lists a range of

31 London Resilience Partnership, February 2017. London Risk Register. Available: https://www.london.gov.uk/sites/default/files/london_risk_register_6.0.pdf

natural hazards and man-made accidents/incidents and assesses the risks they pose to the London area based on their potential impact and likelihood. As well as assessing the risk of these events, the London Risk Register also provides an outline of the control measures already in place to avoid, manage and respond to them. These measures range from specific laws and regulations intended to avoid or manage the potential causes of major accidents and natural disasters, to government agency programmes intended to prevent, inspect and monitor these causes, as well as a variety of response plans, forecasting and early warning systems. The effective implementation of these plans, programmes, legislative tools and guidance is considered to reduce the risk of these events to a level which is as low as reasonably possible.

471. Due to the nature and surroundings of the Proposed Development, many of the events listed in the Register (e.g. wildfires, animal diseases, etc.) are not considered relevant or likely to pose a risk to future site users or surrounding receptors. The remaining events in the Register will be managed, or altogether avoided, through the aforementioned established regulatory framework and the control measures implemented at the local and/or national government level, with the support of specialist government agencies.

472. In some cases, this risk management process will be further supported with project-specific information and assessments which form part of the EIA and the wider planning process. This includes the assessment of potential weather-related events, such as those relevant to the wind microclimate assessment, which under certain conditions could pose a safety risk to pedestrians (in the event of said effects occurring, mitigation measures will be implemented). Likewise, the requirement for a Flood Risk Assessment within the planning application will address the flood related risks as listed in the London Risk Register.

473. In line with the above, within the context of the events assessed in the London Risk Register, it is considered that the vulnerability of the Proposed Development to major accidents and natural disasters will be adequately managed throughout the lifetime of the project. As such, it is considered that the vulnerability of the Proposed Development to such events, is in itself, unlikely to result in any further significant effects on introduced site users, and surrounding environmental and human receptors.

474. The EIA for the Proposed Development will therefore not specifically consider the issue of major accidents and natural disasters any further as they will be appropriately managed through the aforementioned established regulatory framework and the control measures implemented at the local and/or national government level and considered where relevant in ES technical assessments such as the wind microclimate and flood risk assessments.

Electronic (TV and Radio) Interference

475. Since the replacement of analogue TV with digital, there has been a reduced need to assess signal interference from new buildings, whilst mobile reception interference is unlikely to be affected in the site locality due to the lack of surrounding tall buildings. In addition, EIA best practice recognises that telecommunication issues do not normally constitute environmental effects and that such issues can be dealt with by way of standard planning conditions. It is therefore proposed that the topic of telecommunications is scoped out of the EIA.

Waste

Introduction

476. A waste technical assessment is proposed to be scoped out of the EIA because the Proposed Development would not give rise to significant environmental effects in relation to waste.

477. A separate Operational Waste Management Strategy (OWMS) will be prepared by Velocity Transport Planning and submitted as a standalone document as part of the Planning Application.

478. This topic is **SCOPED OUT** of the EIA.

Baseline Conditions

479. The site currently comprises occupied residential dwellings of varying composition, a primary school and a number of small commercial operations.

480. Existing waste streams include residential properties waste collected by LBTH and commercial / industrial waste collected by private contractors.

481. The London Plan 2021 provides apportionment targets for LBTH for household, and commercial and industrial waste. Table 6 below summarises these targets and LBTH's waste projections to 2041.

Table 6 LBTH waste targets and projections

Waste Capacity	Tonnes per Annum	
	2021	2041
LBTH Household and Commercial / Industrial Waste Arisings	260,000	273,000
London Plan Apportionment	195,000	207,000

482. Extracted from the LBTH Local Plan, Table 7 demonstrates how LBTH can meet its apportionment targets through existing waste sites and identifying enough land suitable for new waste facilities. The ranges shown denote the differences in throughput per hectare for each type of facility / technology.

Table 7 LBTH target achievement strategy

Land and Tonnage	LBTH Capacity	
	2021	2041
Existing apportionment capacity (tonnes)	51,874	51,874
Potential capacity from vacant safeguarded waste sites * (tonnes)	23,850 – 34,450	23,850 – 34,450
Capacity gap (tonnes)	108,676 - 119,276	120,766 – 131,276
Additional land required (hectares)	1.67 – 2.65	1.86 – 2.92
Additional land identified (hectares)	5.28	5.28

483. The Local Plan summarises the active permitted waste management sites and land suitable for new waste facilities in the LBTH; it is considered likely that the combined annual waste capacity would exceed the LBTH London Plan apportionment figures. It is therefore expected that these facilities and land suitable for new waste facilities (combined) would provide sufficient capacity within the borough to manage the apportionment targets.

Mitigation

484. IEMA's guide to Materials and Waste in Environmental Impact Assessment refers to different types of mitigation measures to prevent or reduce adverse effects:

- Primary mitigation measures: are "an intrinsic part of the development, and do not require additional action to be taken" [32]; for example, choosing to refurbish an existing building, rather than demolish it;
- Secondary mitigation measures: are "foreseeable actions brought out by the environmental assessment process, and that have not previously been achieved through primary and tertiary mechanisms" 33; for example, the implementation of a Procurements Strategy or Construction Environmental Management Plan (CEMP); and

[32] *IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment (page 19).*
[33] *IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment (page 27).*

- Tertiary mitigation measures: are “those that are in place with or without the iterative EIA process” and include “those that will be undertaken to meet existing legislative requirements, of those that are considered standard practices used to manage commonly occurring environmental effects” 34; for example, sending waste to active and permitted waste management sites, which have to adhere to the requirements of the Environmental Permitting Regulations, whereby carrying out certain types of activity (such as receiving waste for landfill) requires an active and permitted waste management site to hold an environmental permit to do so.

Development Context

485. The Proposed Development will bring forward a range of uses including commercial, residential and retail. Waste will be generated by the Proposed Development during the demolition, construction and operational phases.

486. Once operational, LBTH will be responsible for the collection and subsequent treatment and disposal of municipal waste, which is usually undertaken by specialist contractors.

487. Management of the commercial and industrial waste will be the responsibility of the individual commercial occupiers who will employ specialist contractors to undertake collections on their behalf.

488. Waste streams would be created from the demolition, enabling and construction of the Proposed Development, which would be the responsibility of the contractors and sub-contractors to manage, including disposal.

Discussion for Scoping Out

Demolition and Construction

489. The London Plan 2021 states that construction, excavation and demolition (CE&D) waste is re-used or recycled at a rate of between 85-95% for larger construction projects. Policy SI 7 also provides a target of 95% for re-use and recycling of CE&D waste. It is anticipated that CE&D material unsuitable for re-use on site will be processed outside of the local waste management infrastructure

490. During demolition, enabling and construction works, the greatest potential for waste arisings would be during the demolition phases. Expected waste streams arising during the demolition and construction phases include inert materials, such as crushed concrete, hardcore and brick, as well as materials stripped out from the existing structures. The excavation phase would generate soil and rubble of varying classification, subject to physical and chemical analysis.

491. Estimated volumes of materials arising during these phases, as well as any specific mitigatory measures required will be presented within the *Demolition and Construction* chapter of the ES.

492. The mitigatory measures that can be employed during the demolition and construction phases to reduce the potential impact of waste and recycling include:

- Provision of a Construction Environmental Management Plan (CEMP) and Site Waste Management Plan (SWMP) to include waste reduction and management objectives;
- A suite of testing to identify on-site contamination and subsequent methodologies to segregate material accordingly; and
- Minimisation of stockpiled construction materials.

493. A CEMP and SWMP will be prepared and implemented throughout the demolition, enabling and construction phases, pursuant to any planning conditions. Providing the measures included within the CEMP and SWMP are enforced and adhered to via a condition, significant adverse effects on sensitive receptors, pertaining to the quantity and composition of waste during the enabling and construction phase,

[34] *IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment (page 20).*

are considered unlikely.

494. Considering the available capacity specified within the Local Plan for waste (including land suitable for new waste facilities) to accommodate the apportionment targets, and the adherence to mitigation measures pursuant to planning conditions, waste generated during the demolition and construction phases from the Proposed Development is not anticipated to cause strain to the borough’s waste management facilities. Therefore, significant adverse effects on the local waste management infrastructure and landfill capacity, resulting from the waste expected to be generated during the demolition and construction of the Proposed Development, are considered unlikely.

495. Based on the above, it is proposed to scope out an assessment of the Proposed Development’s demolition and construction effects on waste and recycling.

Completed Development

496. During the operation of the Proposed Development, it is anticipated that any waste for recovery or waste for disposal generated from the site would be directed to active and permitted waste management sites within the LBTH or London.

497. Once operational the Proposed Development is expected to generate the following materials:

- Residential waste; comprising of:
  - Residual waste;
  - Dry Mixed Recycling (DMR);
  - Food waste;
  - Garden waste; and
  - Bulky waste.
- Commercial / industrial waste.

498. The LBTH Waste Management Strategy[35] identifies a requirement for new developments to include sufficient space for the separation of recyclable materials, whilst highlighting the associated issues with achieving this within blocks of flats.

499. To ensure there is sufficient space for storage of separate recyclable materials for residents in accordance with LBTH policy, the Proposed Development will use a combination of communal waste storage systems:

- Underground waste storage system (SULO (implemented across Phases 1 and 2);
- Portable compactors; and
- Wheeled bins.

500. The volume of waste storage provided for residents will be calculated in accordance with the LBTH requirements detailed in the Local Plan.

501. Waste generated by commercial and industrial uses will be the responsibility of the producer to arrange suitable storage and collection of waste streams. Storage requirements for commercial and industrial waste will be calculated in accordance with British Standard *BS5906:2005 Waste Management in Buildings – Code of Practice.*

502. An OWMS will be prepared and submitted as part of the planning application. This document will summarise the types and volumes of waste expected to be generated by the Proposed Development once occupied, as well as the methodologies for storage and collection of waste for residential as well as

[35] *LBTH, Waste Management Strategy 2018-2030*
https://democracy.towerhamlets.gov.uk/documents/s143602/6.4a%20Appendix%201%20-%20WasteStrategy_final.pdf

commercial users.

503. The strategy will identify how waste will be reduced, minimised and recycled in accordance with the waste hierarchy and LBTH guidance.

504. Considering the available capacity specified within the Local Plan for waste (including land suitable for new waste facilities) to accommodate the apportionment targets, and the adherence to mitigation measures pursuant to planning conditions, waste generated from the Proposed Development is not anticipated to cause strain to the borough's waste management facilities once operational. Therefore, significant adverse effects on the local waste management infrastructure and landfill capacity, resulting from the waste expected to be generated during the operation of the Proposed Development, are considered unlikely.

505. Based on the above, it is proposed to scope out an assessment of the Proposed Development's operational effects on waste and recycling.

SCOPE SUMMARY

506. To assist the reader, a summary of what is proposed to be 'scoped in' and 'scoped out' of the EIA, is provided in Table 88.

507. Further detail on each topic is provided in the preceding technical sections of this request for an EIA Scoping Opinion.

Table 8 EIA Technical Topics

Environmental Topics	'Scoped In' the ES	Additional Assessments to Accompany the Planning Application
Air Quality	✓	
Archaeology (Buried Heritage)	✓	**Archaeological Desk Based Assessment**
Climate Change	✓	
Daylight, Sunlight, Overshadowing and Solar Glare (residential properties outside of the red line boundary)	✓	
Daylight, Sunlight and Overshadowing (internal, new receptors within the Proposed Development)	x	
Ecology and Biodiversity	x	**Preliminary Ecological Assessment**
Geo-environmental (Ground Conditions, Groundwater and Land Take and Soils	x	**Geoenvironmental Desk Study**
Built Heritage	✓	
Townscape and Visual Impact Assessment	✓	
Light Pollution	x	
Noise and Vibration	✓	
Project Vulnerability, Major Accidents and Natural Hazards	x	
Socio Economics	✓	
Health	x	**Health Impact Assessment**
Traffic and Transport	✓	
TV and Radio Interference	x	
Waste	x	
Water Resources, Drainage and Flood Risk	x	**Flood Risk Assessment**
Wind Microclimate	✓	

FORMAT AND CONTENT OF THE EIA

508. The proposed scope and structure of the ES is as follows:

- **ES Volume 1: Main ES** – a document which forms the main body of the ES and which comprises of the following non-technical and technical chapters:
  - Chapter 1. Introduction and EIA Methodology;
  - Chapter 2. Reasonable Alternatives and Design Evolution;
  - Chapter 3. The Proposed Development;
  - Chapter 4. Demolition and Construction;
  - Chapter 5. Socio-Economics;
  - Chapter 6. Traffic and Transport;
  - Chapter 7. Air Quality;
  - Chapter 8: Climate Change
  - Chapter 9. Noise and Vibration;
  - Chapter 10: Archaeology
  - Chapter 12: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
  - Chapter 13. Wind Microclimate;
  - Chapter 14: Effect Interactions;
  - Chapter 15. Likely Significant Effects and Conclusions;
  - Chapter 16. Mitigation and Monitoring Schedule;
  - Chapter 17. Glossary and Abbreviations.
- **ES Volume 2: Townscape Visual Impact Assessment** – a built heritage assessment and a separate townscape and visual impact assessment (TVIA) document that will be accompanied by a full set of views and verified images, and as agreed with LBTH as part of this EIA Scoping Process:
  - Built Heritage Assessment
  - Townscape Visual Impact Assessment
- **ES Volume 3: Technical Appendices** – comprises background data, technical reports, tables, figures and surveys. The following appendices are currently envisaged:
  - Appendix Introduction and EIA Methodology:
  - Appendix Socio-Economics:
  - Appendix Air Quality:
  - Appendix: Archaeology
  - Appendix Noise and Vibration:
  - Appendix Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare:
  - Appendix Wind Microclimate:
  - Appendix Flood Risk and Drainage:
  - Appendix Climate Change:
- **ES Non-Technical Summary (NTS)** - this will be a separate document providing a concise description of the Proposed Development, the alternatives considered, any identified mitigation measures and the residual likely significant environmental and socio-economic effects.

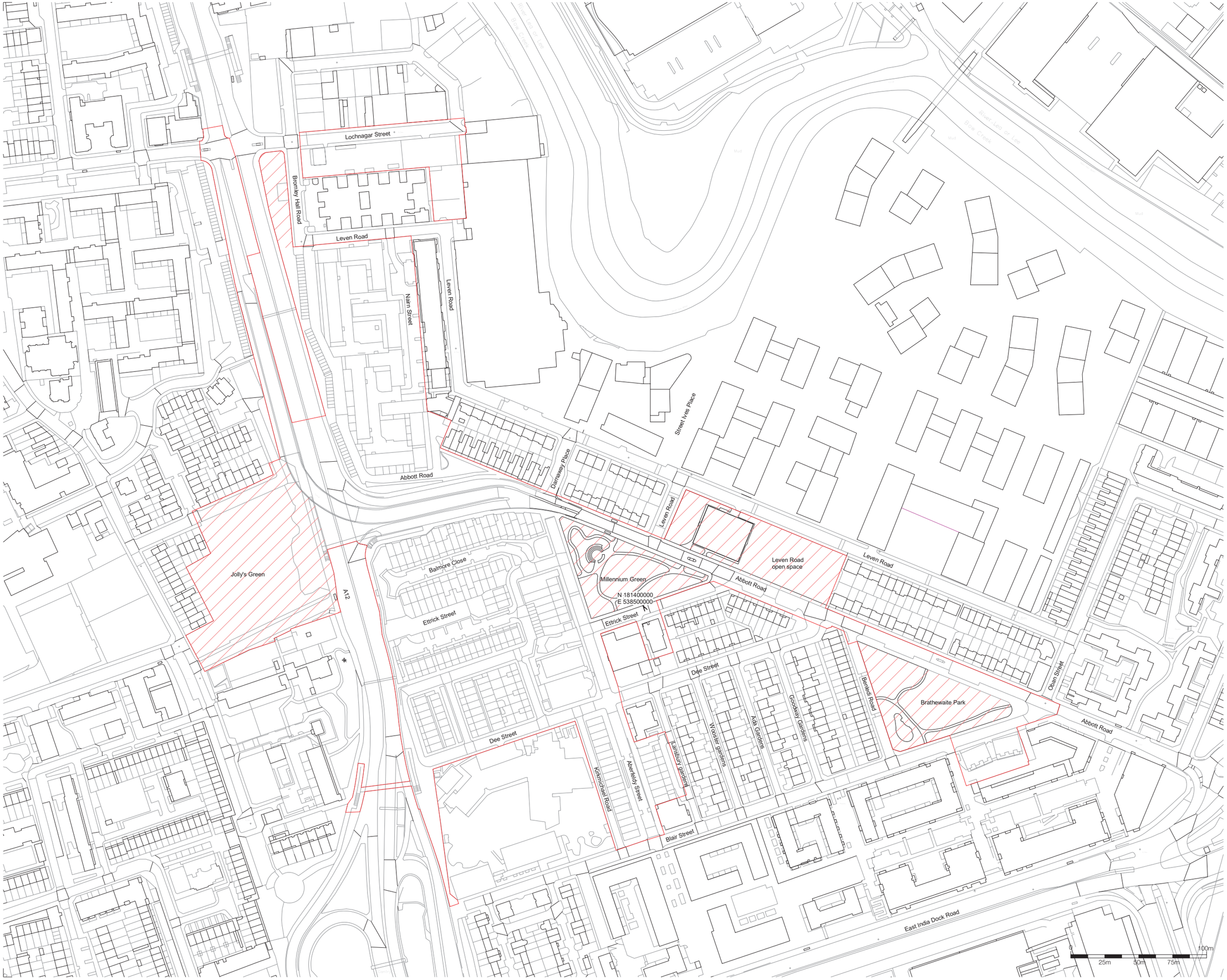
509. Schedule 4 of the EIA Regulations sets out the information for inclusion within an ES. In response to this Schedule of the EIA Regulations, **Appendix B** to this EIA Scoping Report provides a 'way-finding' table which sets out the information for inclusion within an ES and where this information will be presented within the ES.

REQUEST FOR AN EIA SCOPING OPINION

510. This Report requests a Scoping Opinion of the LBTH pursuant to Regulation 15 of the EIA Regulations.

511. The EIA Scoping Report suggests a comprehensive scope of work based on previous experience of the assembled team of specialists and existing knowledge of the site. The LBTH and consultees are invited to consider the contents of this Report and comment accordingly within the five-week period prescribed by the EIA Regulations.

APPENDIX A - Redline Planning Application Boundary



Notes

1. Do not scale this drawing.
2. All dimensions must be checked on site and any discrepancies verified with the architect.
3. Unless shown otherwise, all dimensions are to structural surfaces.
4. Drawing to be read with all other issued information. Any discrepancies to be brought to the attention of the architect.
5. This drawing is the copyright of Levitt Bernstein and may not be copied, altered or reproduced in any form, or passed to a third party without license or written consent.
6. This document is prepared for the sole use of EcoWorld London
and no liability to any other persons is accepted by Levitt Bernstein. Levitt Bernstein accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.

This is not a construction drawing, it is unsuitable for the purpose of construction and must on no account be used as such.

— Hybrid planning application boundary

Land with the potential to be included within the application boundary

The copyright in the drawing shall remain vested in Levitt Bernstein, who asserts all "moral rights" conferred by statute.

This drawing is an uncontrolled version issued to enable the recipient to prepare their own documents/ models/ drawings for which they are solely responsible. The drawing is based on background information current at the time of issue. Levitt Bernstein accepts no liability for any such alterations or additions to or discrepancies arising out of changes to such background information which occur to that information after it is issued by Levitt Bernstein.

Levitt Bernstein prepared this drawing using Revit and does not accept liability for any loss or degradation of that information held in the drawing/model resulting from the translation from the original file format to any other file format or from the recipients reading of it in any other programme or another version of the programme referred to above.

This drawing is prepared for the sole use of the client and no liability to any other persons is accepted by Levitt Bernstein. The contents have been prepared solely for their use and no other person or organisation should place reliance upon this information. Levitt Bernstein accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.

This is not a construction drawing; it is unsuitable for the purpose of construction and must on no account be used as such.
It is not to be relied on and does not address build-ability or compliance with the Building Regulations. It is your responsibility to review thoroughly the design for these purposes prior to construction.
Levitt Bernstein does not accept any responsibility for any delay and/or disruption to the construction of the project and/or any cost that may arise in relation to the above. You will indemnify Levitt Bernstein against all costs, losses, claims, proceedings and expenses incurred as a result of the use of the drawing by you.

By using the drawing you are deemed to have accepted the above terms.

Rev	Date	Description	Drawn / Checked
P12			LS
P11			LS
P10			LS
P9			LS
P8			CL
P7			CL

Project name

Aberfeldy New Masterplan

Drawing number: 3663 - LBA - 01
Rev: **P12**

Drawing: Indicative Red line boundary

Purpose of issue: Information

Scale: 1 : 1250 @ A1
Date: 20/27/20

Client: EcoWorld London

C:\Revit Local\3663-DOC-R20-Central_leonie.smith.rvt

APPENDIX B – Information for Inclusion within an ES: Way Finding

APPENDIX C– Cumulative Schemes

Cumulative Scheme List

Table C1 Cumulative Schemes

Ref.	Name/Address	Application Number	Scheme Description	Status
Applications Granted Permission				
1	Blackwall Reach The Robin Hood Gardens Estate together with land south of Poplar High Street and Naval Row, Woolmore School and land north of Woolmore Street bounded by Cotton Street, East India Dock Road and Bullivant Street	PA/12/00001/P0	Outline application for alterations to and demolition of existing buildings, site clearance and ground works and redevelopment to provide: Up to 1,575 residential units (up to 191,510 sq.m GEA - Use Class C3); Up to 1,710 sq.m (GEA) of retail floorspace (Use Class A1-A5); Up to 900 sq.m of office floorspace (Use Class B1); Up to 500 sq. m community floorspace (Use Class D1); Replacement school (up to 4,500 sq.m GEA - Use Class D1); Replacement faith building (up to 1,200 sq.m - Use Class D1) The application also proposes an energy centre (up to 750 sq.m GEA); associated plant and servicing; provision of open space, landscaping works and ancillary drainage; car parking (up to 340 spaces in designated surface, podium, semi-basement and basement areas plus on-street); and alterations to and creation of new vehicular and pedestrian access routes. All matters associated with details of appearance, landscaping, layout and scale and (save for the matters of detail submitted in respect of certain highway routes, works and/or improvements for the use by vehicles, cyclists and pedestrians as set out in the Development Specification and Details of Access Report) access are reserved for future determination and within the parameters set out in the Parameter Plans and Parameter Statements	Permission Granted by LBTH March 2012 **Commenced**
2	Castle Wharf Esso Petrol Station, Leamouth Road, London, E14 0JG	PA/16/01763/A1	Redevelopment of the former Service Station site with a residential led mixed use development, comprising residential units, together with 295 sqm of D1 floorspace, 81 sqm of flexible non-residential floorspace (Use Classes A1, A2, A3, B1, D1 and D2), 36 sqm café floorspace (Use Class A3), set across two main buildings including a 24 storey tower with stepped blocks of 20, 17, 11 and 8 storeys, linked by a 2 storey podium at ground level, with a single basement level, landscaping and associated amenities.	Permission Granted October 2017 by LBTH **Under Construction**
3	Ailsa Wharf, Ailsa Street, London	PA/16/02692 & PA/18/03461	Demolition of existing structures/buildings and the redevelopment of the site for a mixed use scheme providing 785 residential units (C3) and 2,954 sqm GIA commercial floorspace (A1/A3/B1/D2) within a series of thirteen building blocks varying between 3 and 17 storeys (Maximum AOD height of 59.9) ; the creation of a new access road and the realignment of Ailsa Street; the provision of cycle and car parking spaces; and associated site-wide landscaping and public realm works.	Permission Granted October 2018 by LBTH **Commenced**
4	Imperial 2 (formerly Clockhouse and Access House), Bromley by Bow, London, E3 3AE	17/00364/FUL 18/00572/NMA, & 18/00575/NMA	Full planning application for the demolition of the existing buildings on site and the construction of a residential-led mixed use scheme comprising a series of buildings ranging from one to 27 storeys in height to provide 3,570 sq m of flexible community, commercial and retail floorspace (Use Classes A1, A2, A3, A4, B1 and/or D1) at ground and mezzanine floor level, 491 residential units (Use Class C3) on the upper floors, parking/refuse/servicing at basement and ground floor, energy centre, communal amenity areas, and all associated landscaped public open space.	Permission Granted September 2018 by LLDC **Under Construction**

Ref.	Name/Address	Application Number	Scheme Description	Status
5	Chrisp Street Market, Chrisp Street, London	PA/16/01612/A1	Comprehensive redevelopment of the site (including existing car park) comprising the demolition of existing buildings with the exception of the Festival of Britain buildings, Clock Tower and Idea Store; erection of 19 new buildings ranging from 3 to 25 storeys (up to a maximum AOD height of 88m) providing 643 residential units (C3 Use Class) (including re-provision of 124 affordable residential units); existing market enhancement, including new canopy and service building; refurbishment of retained Festival of Britain buildings; reconfiguration and replacement of existing and provision of new commercial uses including new cinema (D2 use class); alterations and additions to existing Idea Store for community use and multi-function space (D1 Use Class); flexible affordable workspace/ community space (B1/D1 Use Class); office space (B1 use class); retail, financial and professional services and cafe/ restaurant floor space (A1 - A3 Use Class), including A1 food store; public house (A4 Use Class); hot food takeaway floor space (A5 Use Class); upgrade and provision of new public open space including child play space; new public realm, landscaping works and new lighting; cycle parking spaces (including new visitor cycle parking); and provision of disabled car parking spaces. (Reconsultation due to revised submission documents that take in to account Grade II Listed status of the clock tower and the Festival Inn pub. Also changes to housing mix and child play space. Additional documents uploaded since the last letter was sent.) The application is accompanied by an Environmental Impact Assessment.	Permission Granted March 2019 by LBTH **Not Commenced**
6	Barrett Industrial Estate, 20-22 Gillender Street, London	PA/18/00528/A1 & PA/19/00914	Demolition of the existing buildings, with the exception of 21-22 Gillender Street (Magnolia House), and redevelopment of the site to provide 307 residential units (Use Class C3), 1,815 sq m of commercial floorspace (Use Class B1) and 100 sq m of flexible commercial/retail floorspace (Use Class A1/A3/B1) within three buildings of 8 storeys (42.9m AOD), 17 storeys (67.0m AOD) and 20 storeys (78.5m AOD) with public and private amenity spaces, together with disabled car parking, cycle parking and associated landscaping.	Permission granted November 2018 by LBTH **Commenced**
		PA/18/00520/NC (related listed building consent)	Listed Building Consent for remedial works to Grade II listed wall that forms the north wall of the Dowgate Wharf P B Burgoyne and Company Limited Warehouse (List Entry UID: 1065050) in association with redevelopment of the site at 20 -22 Gillender Street for demolition of the existing buildings, with the exception of 21-22 Gillender Street (Magnolia House), and redevelopment of the site to provide 307 residential units (Use Class C3), 1,815 sq m of commercial floorspace (Use Class B1) and 100 sq m of flexible commercial/retail floorspace (Use Class A1/A3/B1) within three buildings of 8 storeys (42.9m AOD), 17 storeys (67.0m AOD) and 20 storeys (78.5m AOD) with public and private amenity spaces, together with disabled car parking, cycle parking and associated landscaping.	
7	Hercules Wharf, Castle Wharf and Union Wharf, Orchard Place, London, E14	PA/14/03594/A1, PA/17/02292 & PA/18/02805	Demolition of existing buildings at Hercules Wharf, Union Wharf and Castle Wharf and erection of 16 blocks (A-M) ranging in height from three-storeys up to 30 storeys (100m) (plus basement) providing 834 residential units; Retail / Employment Space (Class A1 ? A4, B1, D1); Management Offices (Class B1) and Education Space (Class D1); car parking spaces; bicycle parking spaces; hard and soft landscaping works including to Orchard Dry Dock and the repair and replacement of the river wall. Listed Building Consent application - Works to listed structures including repairs to 19th century river wall in eastern section of Union Wharf; restoration of the caisson and brick piers, and alteration of the surface of the in filled Orchard Dry Dock in connection with the use of the dry docks as part of public landscaping. Works to curtilage structures including landscaping works around bollards; oil tank repaired and remodelled and section of 19th century wall on to Orchard Place to be demolished with bricks salvaged where possible to be reused in detailed landscape design. The application is accompanied by an Environmental Impact Assessment	Permission granted September 2016 by LBTH **Under Construction**

Ref.	Name/Address	Application Number	Scheme Description	Status
			Amended proposal: A reduction of storeys to Blocks B, C, E, F and J, a reduction in number of residential units to 804, an increase in commercial floorspace, alterations to the mix of proposed residential units including a reduction in studio and one bed units and an increase in 3 and 4 bed units. Further integration of door step play space and mitigation measures in relation to Orchard Wharf including the change of use of three town houses in Block M from residential to commercial floor space and the addition of panels to the south and south-west balcony sides on Blocks J and K.	
8	Cody Dock 11c South Crest, Canning Town, London, E16 4TL	17/03659/OUT	Outline planning permission (with all matters reserved) for up to 1,500sqm of employment floorspace (Use Class B1 b/c), up to 500sqm of employment floorspace (Use Class B2), up to 50sqm ancillary community and exhibition space (Use Class D1), up to 200sqm ancillary restaurant/cafe space (Use Class A3), public toilets, dockside storage space, boat parking, car parking, cycle parking, and ancillary hard and soft landscaping. Full planning permission for up to 500sqm employment floorspace (Use Class B1 b/c), up to 60sqm employment floorspace (Use Class B2), up to 700sqm work/live mooring space (Use Class Sui Generis) and ancillary access pontoon, up to 50sqm ancillary community space (Use Class D1), a pedestrian footbridge, one mooring for a commercial passenger vessel, two moorings for visitor vessels, a composter, and ancillary hard landscaping and soft landscaping.	Permission Granted April 2019 by LBN **Not Commenced**
9	Former Parcel Force Depot, Street, Canning Town, London, E16 4SB **[2.5km from site]**	17/01847/OUT	Hybrid planning application comprising: Detailed planning application for Phase 1 with works to include: The proposed demolition of existing buildings and structures, The erection of buildings, including tall buildings, comprising: 1,020 Residential Units (Use Class C3) 689 sqm (GEA) of Business Floorspace (Use Class B1); 5,400 sqm (GEA) of Retail Floorspace (Use Class A1-A4); and 12,004 sqm (GEA) of Community and Leisure Floorspace including a Secondary School (Use Class D1 and D2). Associated infrastructure, including a new bridge connection to West Ham Station and two footbridges across Manor Road; Alterations to the existing access road and vehicle bridge; Streets, open spaces, landscaping and public realm; Car, motorcycle and bicycle parking spaces and servicing spaces; Utilities including energy centre and electricity substations; and Other works incidental to the proposed development Outline planning application (all matters reserved) for the balance of the site for: The proposed demolition of existing buildings and structures; The erection of buildings, including tall buildings, comprising: Residential Units (Use Class C3); Business Floorspace (B1); Retail (A1-A4); Community and Leisure (D1 and D2); and Associated infrastructure; Streets, open spaces, landscaping and public realm; Car, motorcycle and bicycle parking spaces and servicing spaces; Utilities including electricity substations; and Other works incidental to the proposed development.	Permission Granted August 2018 by LBN **Commenced**
10	Anchorage House, 2 Clove Crescent, London, E14 2BE	PA/16/01061/A1	Change of use at part ground floor level from Class B1 Office to a mix of flexible Class B1, A1, A3, A4 and D2 uses, the infill of the ground floor colonnades and the construction of a two storey podium at the south east corner of the building providing additional Class B1 Office space at first floor level, and associated alterations and landscaping.	Permission Granted July 2016 by LBTH **Not Commenced**
	Wood Wharf, Prestons Road	PA/13/02966/P0	Outline planning permission for comprehensive mixed use redevelopment of Wood Wharf comprising: Demolition of existing buildings and structures, including dwellings at Lovegrove Walk; The erection of buildings, including tall buildings, and basements comprising: Up to 3,610 residential units (C3); Hotel (C1);	Permission granted December 2014 by LBTH **Under Construction**

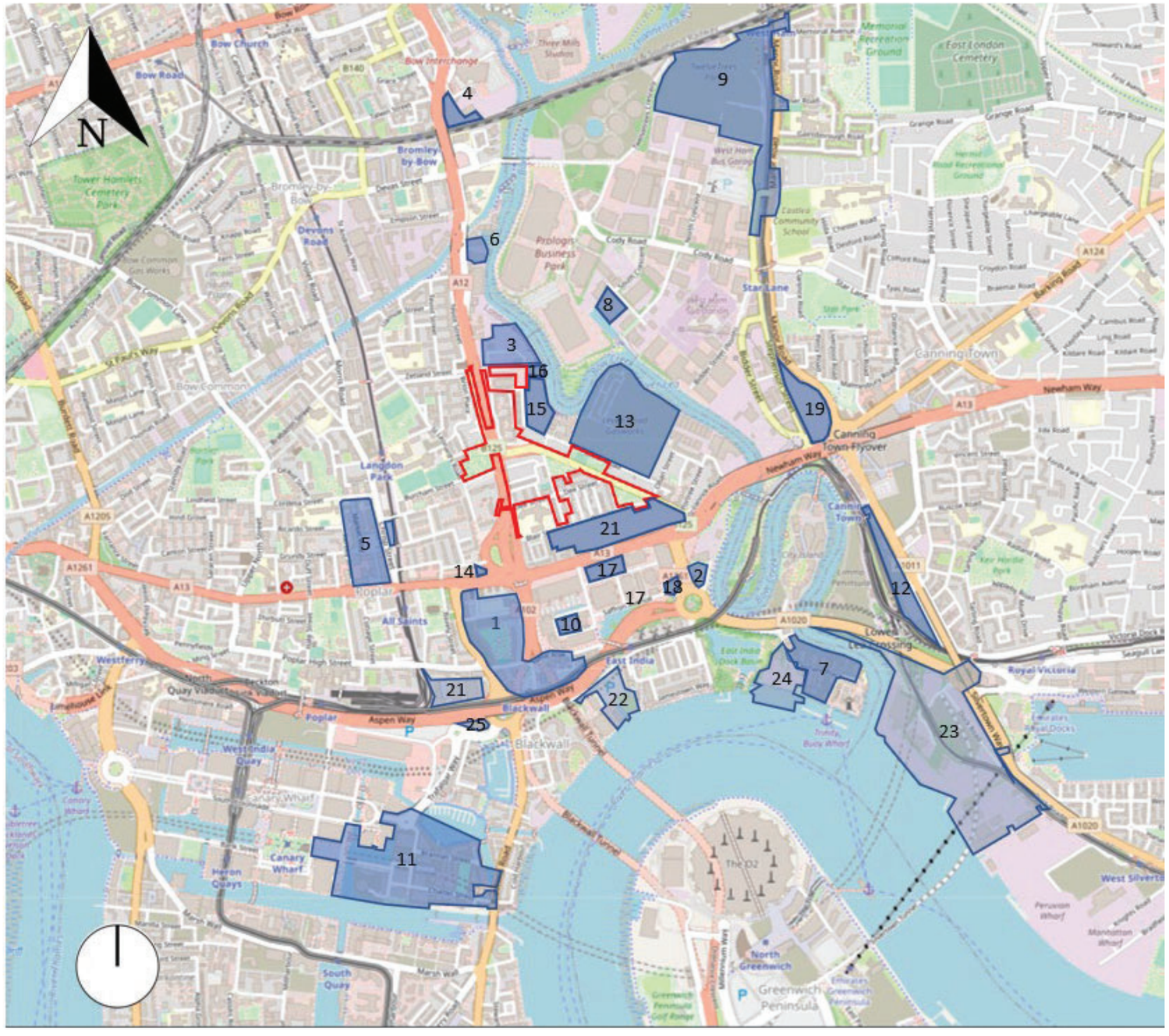
Ref.	Name/Address	Application Number	Scheme Description	Status
11			Business floorspace (B1); Retail (A1-A5); Community and Leisure (D1 and D2); Sui Generis uses including Conference Centres, Theatres, Launderettes, and Data Centres Minimum commercial floorspace would be 165,000 sqm GIA; Associated infrastructure, including the creation of structures in Blackwall Basin, the Graving Dock, and South Dock; Streets, open spaces, landscaping and public realm; Bridge links; Car, motorcycle, and bicycle parking spaces, servicing; Utilities including energy centres and electricity substation(s); and Other works incidental to the proposed development.	
12	Brunel Street Works, Canning Town Area 8 Bounded by Peto Street North and Victoria Dock Road Sivertown Way, Canning Town	16/03428/FUL	Detailed planning permission for mixed use development to provide 975 residential units (Use Class C3), A 152 bedroom hotel (Use Class C1), A 3,000sqm (GIA) of flexible commercial floor space (Use Classes B1 (A,B&C), A1-A4, D2 and a nursery within Use Class D1) including a foodstore of up to 550sqm, An enhanced public realm with cycle ways, tree planting and public squares, amenity space, car parking, cycle parking, refuse stores and servicing arrangements and all associated works. Relocation of existing electricity substation. (This major application is accompanied by an Environmental Statement for the purposes of Environmental Impact Assessment)	Permission granted October 2017 by LBN **Under Construction**
13	Leven Road Gasworks, Poplar Gas Works, Leven Road, London	PA/18/02803/A1	A hybrid planning application (part outline/part full) comprising: 1.) In Outline, with all matters reserved apart from access, for a comprehensive mixed-use development comprising a maximum of 195,000 sqm (GEA) (excluding basement and secondary school) of floorspace for the following uses: Residential (Class C3); Business uses including office and flexible workspace (Class B1); Retail, financial and professional services, food and drink uses (Class A1, A2, A3 & A4); Community, education and cultural uses (Class D1); A secondary school (Class D1) (not included within the above sqm GEA figure); Assembly and leisure uses (Class D2); Public open space including riverside park and riverside walk; Storage, car and cycle parking; and Formation of new pedestrian and vehicular access and means of access and circulation within the site together new private and public open space. 2. In Full, for 66,600 sq.m (GEA) of residential (Use Class C3) arranged in four blocks (A, B, C and D), ranging from 4 (up to 23m AOD) 5 (19.7m AOD), 6 (up to 26.9m AOD), 8 (up to 34.1m AOD), 9 (up to 36.3m AOD) 12 (up to 51.3m AOD) and 14 (57.6m AOD) storeys in height, up to 2700 sq.m GIA of office and flexible workspaces (Class B1), up to 500 sq.m GIA community and up to 2000 sq.m GIA leisure uses (Class D1 & D2), up to 2500 sq.m GIA of retail and food and drink uses (Class A1, A2, A3 and A4) together with access, car and cycle parking, energy centre, associated landscaping and new public realm, and private open space. Further explanation (not forming part of the formal description of development set out above): Further details submitted with the application explain that the Proposed Development could deliver up to 2,800 new homes of which 577 new homes are included in the Full component of the Application (Phase 1), at least 1ha Public Park; and a maximum of 0.5 hectares of land secured for a secondary school. The application is accompanied by an Environmental Statement.	Permission granted October 2019 by LBTH **Commenced**

Ref.	Name/Address	Application Number	Scheme Description	Status
14	267-269 East India Dock Road, London, E14 0EG	PA/19/01838/A2	Internal and external alterations to the existing residential units at no. 267 East India Dock Road and proposed erection of a 163-bedroom hotel (C1 use class) comprising of a part four, and part-eighteen storey building over basement, with associated roof top plant room, ground floor servicing, car and bike parking and landscaping.	Permission granted November 2020 by LBTH **Not commenced**
15	(Former Poplar Bus Depot), Leven Road, London, E14 0LN	PA/19/02148/A1	Part retention, part alteration, and part demolition of the existing boundary walls and the former tram shed depot arches, and retention of the three storey office building. Demolition of the remainder of the existing warehouse and the redevelopment of the site to provide 547 residential units (Class C3), 3,492sqm (GIA) of flexible space comprising of a mix of: office; retail; professional services; restaurant/bar; community space; and leisure space (Classes B1, A1, A2, A3, A4, D1 and D2) within buildings ranging from 3 storeys (20.2m AOD) to 20 storeys (72.7m AOD), with associated parking, landscaping, public realm and all associated works. This application is accompanied by an Environmental Statement.	Permission granted October 2020 by LBTH **Not commenced**
16	Islay Wharf, Lochnagar Street	PA/19/01760	Demolition of existing warehouse building and redevelopment of the site for mixed use development comprising two blocks ranging in height between 12 storeys and 21 storeys, accommodating 351sqm of flexible uses classes (Class A1, A2, B1, D1, D2) on ground floor and mezzanine with associated public realm works and residential accommodation (Class C3) on the upper floors providing 133 residential units.	Permission granted November 2020 by LBTH **Not commenced**
17	London Docklands Travelodge Hotel, Coriander Avenue, London, E14 2AA	PA/18/03088/A1	Outline application (with all matters reserved) for the demolition of existing Travelodge Hotel (Use Class C1) and erection of a data centre (Use Class B8).	Permission granted December 2019 by LBTH **Not commenced**
18	Site north west of Leamouth Road Roundabout, Leamouth Road, London	PA/18/03089	Erection of 19 storey building (up to maximum height of 64.250 metres AOD) to provide a new 350 room hotel (Use Class C1) together with ancillary restaurant and bar, car parking, cycle parking and landscaping.	Permission granted December 2019 by LBTH **Commenced**
19	300 Manor Road, Land Comprising Former HSS Site And 300 Manor Road Canning Town London	18/03506/OUT	Redevelopment of land bounded by Manor Road, (i) outline planning permission for up to 449 dwellings (Class C3), up to 1,845m2 of commercial (Class B1) and retail (Class A1/A2/A3/A4) floorspace; car parking, open space and associated infrastructure works; (ii) full planning permission for Phase 1 for 355 dwellings (Class C3), 555m2 of commercial (Class B1) and retail (Class A1/A2/A3/A4) floorspace; car parking, open space and associated infrastructure works. This application is accompanied by an Environmental Statement for the purposes of Environmental Impact Assessment under The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	Permission granted November 2020 by LBN **Not commenced**
	Aberfeldy Estate, Abbott Road, London, E14	PA/11/02716/P0	Outline planning application (all matters reserved) for the mixed-use redevelopment of the existing Aberfeldy estate comprising:	Permission granted June 2021 by LBTH

Ref.	Name/Address	Application Number	Scheme Description	Status
20			Demolition of 297 existing residential units and 1,990 sq m of non-residential floorspace, including shops (use class A1), professional services (use class A2), food and drink (use class A3 and A5), residential institution (use class C2), storage (use class B8), community, education and cultural (use class D1); and creation of 1,176 residential units (Use Class C3) in 15 new blocks between 2 and 10 storeys in height plus 1,743sqm retail space (Use Class A1), professional services (Use Class A2), food and drink (Use Classes A3 and A5) and 1,786 community and cultural uses (Use Class D1) together with a temporary marketing suite (407sqm), energy centre, new and improved public open space and public realm, semi-basement, ground and on-street vehicular and cycle parking and temporary works or structures and associated utilities/services.	**Commenced** Phases 1-3a of the Aberfeldy Village masterplan complete Phase 3b works commenced
21	Poplar Business Park, 10 Prestons Road, London, E14 9RL	PA/11/03375	Demolition of existing buildings and redevelopment of the site to provide a mixed use scheme of between 3 and 22 storeys comprising 8,104 sq metres business accommodation (Use Class B1), 392 residential units (Use Class C3), associated parking and landscaping. This application is accompanied by an Environmental Impact Assessment	Permission granted under appeal (LBTH) **Commenced**
Applications Under Determination				
22	Land at Blackwall Yard, Blackwall Way, London, E14 2EH	PA/20/02509/A1	Phased redevelopment of the site and construction of 5 buildings (with maximum heights of between 9 and 39 storeys) comprising residential dwellings of mixed tenure, primary school & nursery, commercial, business & service floorspace, communal floorspace, public house, realignment of & environmental improvements to Blackwall Way, associated car & cycle parking, landscaping & public realm works (including alterations to the existing graving dock), installation of plant and associated works. External repairs and alterations to Grade II listed graving dock. This application is accompanied by an Environmental Statement.	Application under determination by LBTH **Under determination**
23	Land At Thameside West And Carlsberg Tetley Dock Road Silvertown London	18/03557/OUT	Hybrid planning application comprising: 1.Detailed planning application for Phase 1 with works to include: Proposed demolition of existing buildings and structures, erection of buildings, including tall buildings, comprising: 460 residential Units(Use Class C3), 3,417sqm(GEA) of flexible employment floorspace (Use Classes B1b, B1c, B2 (restricted), B8); 162 sqm(GEA) of flexible retail floorspace (Use Classes A1-A4) ;a new/altered access road from Dock Road/North Woolwich Road; new streets, open spaces, landscaping and public realm; car, motorcycle and bicycle parking spaces and servicing spaces; and other works incidental to the proposed development. 2. Outline planning application (all matters reserved) for phased delivery of the balance of the site for the proposed demolition of existing buildings and structures; erection of buildings, including tall buildings, comprising: a new local centre; a primary school (Use Class D1); residential and older person units (Use Class C3); flexible employment floorspace (Use Classes B1b, B1c, B2 (restricted), B8) ; flexible employment floorspace (Use Classes B1c, B2, B8); flexible retail floorspace (Use Classes A1-A4); community and leisure floorspace (Use Classes D1 and D2) ; the construction of a new flood defence wall and delivery of ecological habitat adjacent to the River Thames and associated infrastructure; streets, open spaces, landscaping and public realm (including new park and SINC improvements); car,motorcycle and bicycle parking spaces and servicing spaces; utilities including energy centre, electricity substations and incidental works. This is a major planning application, departure from the development plan and affects the setting of listed buildings and structures (see online for full details of listed buildings). The application is accompanied by an Environmental Statement for the purposes of Environmental Impact Assessment under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.	Application called in by GLA **Under determination**

Ref.	Name/Address	Application Number	Scheme Description	Status
24	Orchard Wharf, Orchard Place, London	PA/20/02488/A1	Phased Hybrid Planning Application Part A - Full planning application for redevelopment of site following demolition of all existing buildings and enabling works to provide a mixed-use development consisting of the erection of five buildings between 15 and 30 storeys (56.6 m AOD and 103.75 m AOD) above a raised safeguarded wharf box (15.5m AOD) and one standalone 20 storey building (68.9 m AOD) which would deliver: (i) a total of up to 826 dwellings (Class C3) and ancillary accommodation; (ii) up to 8,212 m2 gross internal area (GIA) of General Industrial / Storage or Distribution floorspace (Class B2/B8) including ancillary office accommodation; and (iii) 135 m2 (GIA) of flexible commercial floorspace (Class E). Associated works include hard and soft landscaping; private amenity space; vehicular access and servicing facilities; car parking and cycle parking; and other works incidental to the proposals including works to the River Wall; and Part B - Outline planning application for external waterborne freight infrastructure and all other related works (including marine works) for which all matters are reserved. This application is accompanied by an Environmental Statement.	Application under determination by LBTH **Under determination**
25	2 Trafalgar Way, London, E14 5SP	PA/20/01402/A2	Redevelopment of the site to provide a new mixed use building including student accommodation units and associated uses (Sui Generis), residential units (Class C3), office (Class B1), shops/cafes (Class A1/A3) and a restaurant/takeaway (Class A3/A5) arranged over a 4 storey podium with three taller elements of 46, 36 and 28 storeys (with roof-top plant and basements), alongside parking, landscaping, public realm and other associated works. This application is accompanied by an Environmental Statement.	Application under determination by LBTH **Under determination**

Figure C1 Cumulative Schemes map



APPENDIX D – Archaeological Desk-Based Assessment

THAMES VALLEY

ARCHAEOLOGICAL

SERVICES

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets

Archaeological Desk-based Assessment

by Steve Preston

Site Code: AVL 20/188
(TQ 3850 8140)

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets

Archaeological Desk-based Assessment

for Ecoworld London

by Steve Preston

Thames Valley Archaeological Services Ltd

Site Code AVL 20/188

December 2020

Summary

Site name: Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets

Grid reference: TQ 3850 8140

Site activity: Archaeological desk-based assessment

Project coordinator: Elspeth St John-Brooks

Site supervisor: Steve Preston

Site code: AVL20/188

Area of site: *c.* 10 ha

Summary of results: There are no known heritage assets on the site itself. It is not considered that the development would have any negative impact on the settings of several nearby listed buildings. The site lies in the Lea Valley Archaeological Priority Area which may hold evidence from the earliest prehistory onwards, and in which the chance of exceptional organic survival in waterlogged conditions where the potential for palaeoenvironmental reconstruction is also high. Within the immediate environs of the site, there is significant evidence of Neolithic and Bronze Age occupation, although later periods are less well represented, until the important post-medieval industrial and commercial history of the area, chiefly focussed on shipbuilding. The size of the area increases the chances of archaeological remains of some period being present simply by chance. While the area has been repeatedly redeveloped since the late 19th century, which will probably have removed most if not all shallow archaeological remains, previous work in the area has demonstrated the presence of often quite deep alluvial deposits which may have protected archaeologically relevant levels below or within them, and the development of the area may also have involved raising the ground rather than cutting down in some instances, further protecting deeply buried levels. It is considered that it will be necessary to provide further information about the archaeological potential of the site from field observations in order to draw up a scheme to mitigate the impact of development on any below-ground archaeological deposits where necessary.

This report may be copied for bona fide *research or planning purposes without the explicit permission of the copyright holder. All TVAS unpublished fieldwork reports are available on our website: www.tvas.co.uk/reports/reports.asp.*

Report edited/checked by: Steve Ford✓ 31.12.20

Thames Valley Archaeological Services Ltd, 47–49 De Beauvoir Road, Reading RG1 5NR
Tel. (0118) 926 0552; email: tvas@tvas.co.uk; *website: www.tvas.co.uk*

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment

by Steve Preston

Report 20/188

Introduction

This report is an assessment of the archaeological potential of a complex of several parcels of land located east of the A12 in Aberfeldy Village, Poplar, in the London Borough of Tower Hamlets (Fig. 1). The project was commissioned by Ms Gemma Hale of EcoWorld London, 25 Victoria Street London SW1H 0EX and comprises the first stage of a process to determine the presence/absence, extent, character, quality and date of any archaeological remains which may be affected by redevelopment of the area.

Planning permission is to be sought from the London Borough of Tower Hamlets for the re-development of the site. No detailed proposals were to hand at time of writing. This assessment will form the basis of an input into an Environmental Statement that will accompany the application in order to inform the planning process with regard to potential archaeological implications.

Site description, location and geology

The site is located at Aberfeldy Village in Poplar in central London (Fig. 1) and consists of one large irregularly shaped area of land made up of many smaller plots, and one smaller detached potion to the north, both just south of the river Lea (or Lee), to the north of its confluence with the Thames. Limehouse Cut is also located to the north-west. The overall area is bounded by the A12 (Blackwall Tunnel northern approach) to the west, Blair Street (beyond which is the A13) to the south, and is within an area of mostly modern development (Fig. 2). The smaller area to the north is bounded by Lochnagar Street to the north, Bromley Hall Road to the west and Leven Road to the south. The development area is centred on NGR TQ 385 814. A site visit conducted on 27th November 2020 showed that the site covers four distinct zones (Pls 1–6). In the south and south west the area is primarily residential with houses along Ettrick Street, Dee Street, Aberfeldy Road, Kirkmichael Road and Baltimore Close. This area also includes a park (Millennium Green) and educational facilities. To the east there is an open space/games area on the east side of Abbott Road and south of Leven Road and another park Brathewaite Park also on Abbott Road. The northern part of the main development area is primarily occupied by large blocks of flats, bounded by Leven Road on the north, Abbott Road to the south, Nairn Road to the east and the A12 to the west. There is also a smaller detached area north of this between Leven Road and Lochnagar

Road, separated from the main area by Bramley Hall School. The site is located on alluvium overlying London Clay, with a thin strip of Kempton Park gravel in the extreme west roughly on the line of the A12 (BGS 1994 and Geoindex). It is at a height of approximately 5m above Ordnance Datum.

Planning background and development proposals

Planning permission is to be sought from the London Borough of Tower Hamlets for the re-development of the site. No detailed proposals were to hand at time of writing.

The Ministry of Housing, Communities and Local Government's *National Planning Policy Framework* as revised in 2019 (NPPF 2019) sets out the framework within which local planning authorities should consider the importance of conserving, or enhancing, aspects of the historic environment, within the planning process. It requires an applicant for planning consent to provide, as part of any application, sufficient information to enable the local planning authority to assess the significance of any heritage assets that may be affected by the proposal. The Historic Environment is defined (NPPF 2019, 67) as:

> 'All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.'

Paragraphs 189 and 190 state that

> '189. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.
> '190. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.'

A 'heritage asset' is defined (NPPF 2019, 67) as

> 'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing).'

'Designated heritage asset' includes (NPPF 2019, 66)

> 'A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.'

'Archaeological interest' is glossed (NPPF 2019, 65) as follows:

> ‘There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.’

Specific guidance on assessing significance and the impact of a proposal is contained in paragraphs 192 to 197:

> ‘192. In determining planning applications, local planning authorities should take account of:
> ‘a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
> ‘b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
> ‘c) the desirability of new development making a positive contribution to local character and distinctiveness.
> ‘193. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.
> ‘194. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:
>
> a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;
>
> b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional[63].

Footnote 63 extends the application of this provision considerably:

> ‘Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.’

> ‘195. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:
>
> ‘a) the nature of the heritage asset prevents all reasonable uses of the site; and
>
> ‘b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
>
> ‘c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
>
> ‘d) the harm or loss is outweighed by the benefit of bringing the site back into use.
>
> ‘196. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.
>
> ‘197. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.’

Paragraph 199 requires local planning authorities to ensure that any loss of heritage assets advances understanding, but stresses that advancing understanding is not by itself sufficient reason to permit the loss of significance:

> ‘199. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.’

In determining the potential heritage impact of development proposals, ‘significance’ of an asset is defined (NPPF 2019, 71) as:

> **‘**The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site’s Statement of Outstanding Universal Value forms part of its significance.’

while ‘setting’ is defined as:

> **‘**The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.’

The Tower Hamlets Local Plan (THBC 2020) contains detailed policy (and explanation) relating to heritage and the historic environment:

> **‘Policy S.DH3 Heritage and the historic environment**
>
> ‘1. Proposals must preserve or, where appropriate, enhance the borough’s designated and non-designated heritage assets in a manner appropriate to their significance as key and distinctive elements of the borough’s 24 places.
> ‘2. Proposals to alter, extend or change the use of a heritage asset or proposals that would affect the setting of a heritage asset will only be permitted where:
> ‘a. they safeguard the significance of the heritage asset, including its setting, character, fabric or identity
> ‘b. they are appropriate in terms of design, height, scale, form, detailing and materials in their local context
> ‘c. they enhance or better reveal the significance of assets or their settings
> ‘d. they preserve strategic and locally important views and landmarks, as defined in Policy D.DH4, and
> ‘e. in the case of a change of use from a use for which the building was originally designed, a thorough assessment of the practicability of retaining its existing use has been carried out outlining the wider public benefits of the proposed alternative use.
> ‘3. Applications affecting the significance of a heritage asset will be required to provide sufficient information to demonstrate how the proposal would contribute to the asset’s conservation. Any harm to the significance of a heritage asset must be justified having regard to the public benefits of the proposal: whether it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long term use of the asset. Factors that will be considered can include:
> ‘a. The significance of the asset, architecturally, historically and contextually
> ‘b. The adequacy of efforts made to retain the asset in use, and
> ‘c. The merits of any alternative proposal for the site.
> ‘4. Substantial harm to or the total loss of significance of a designated heritage asset will only be supported where it is necessary to achieve substantial public benefits that outweigh that harm or loss, or the following criteria can be satisfied:
> ‘a. The nature of the heritage asset prevents all reasonable uses of the site
> ‘b. No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation

‘c. Conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible

‘d. The harm or loss is outweighed by the benefit of bringing the site back into use.

‘5. Alterations, extensions or changes of use, or development in the vicinity of listed buildings (as shown on the Policies Map) will be expected to have no adverse impact on those elements which contribute to their special architectural or historic interest, including their settings.

‘6. Significant weight will be given to the protection and enhancement of the borough’s conservation areas (as shown on the Policies Map), including their setting. Development within a conservation area will be expected to preserve or, where appropriate, enhance those elements which contribute to their special character or appearance. There will be a presumption in favour of the retention of unlisted buildings that make a positive contribution to the character and appearance of a conservation area. Planning applications should explore opportunities from new development within conservation areas and their setting to enhance or better reveal their significance.

‘7. Significant weight will be given to the protection and enhancement of scheduled monuments (as shown on the Policies Map) and other archaeological sites of equivalent importance. Any harm to their significance must be justified having regard to the public benefits of the proposal: whether it has been demonstrated that all reasonable efforts have been made to mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to sustain the asset.

‘8. Applications affecting the significance of the archaeology will be required to provide sufficient information to demonstrate how the proposal would contribute to the asset’s conservation. Where the development includes or has the potential to include heritage assets with archaeological interest, an appropriate desk-based assessment and, where necessary, field evaluation will be required. Where harm can be fully justified, we will require archaeological excavation and/or recording as appropriate, followed by analysis and publication of the results.

‘9. Development that lies in or adjacent to archaeological priority areas (as shown on the Policies Map) will be required to include an archaeological evaluation report and will require any nationally important remains to be preserved permanently in situ, subject to consultation with Historic England.

‘10. We will seek to ensure the protection and appropriate enhancement of the borough’s historic parks and gardens (as shown on the Policies Map). Development proposals should therefore safeguard those features which form an integral part of the special character or appearance of the park or garden and ensure they do not detract from the enjoyment, layout, design, character, appearance or setting of the park or garden, key views into and out of the park, or prejudice its future restoration. Where development is likely to affect a historic park and garden or its setting, applications should include a heritage impact assessment setting out the likely impact which it would have upon its significance and the means by which any harm might be mitigated.’

‘Explanation

…

‘8.26 Tower Hamlets has a higher proportion of scheduled monuments, listed buildings and conservation areas compared to that of other London boroughs. Some of the key elements of the borough’s heritage include:

‘a. Military and naval buildings (e.g. Tower of London)

‘b. Museums, art galleries, music halls and breweries (e.g. Bethnal Green Museum of Childhood and Wiltons Music Hall)

‘c. Squares, cemeteries and parks and gardens

‘d. Indoor and outdoor markets (e.g. Spitalfields)

‘e. Industrial heritage and archaeology

‘f. Residential streets and buildings of Georgian and Victorian origin

‘g. Innovative post-war housing (e.g. Keeling House and Balfron Tower)

‘h. Religious and education institutions (e.g. Christ Church, Spitalfields and Tonybee Hall).

…

‘8.29 In order to satisfy the criteria set out in Parts 2 to 9, developments will need to demonstrate an understanding of the significance of the relevant asset, including the contribution setting makes to its significance, as part of the planning application process. It should also include an assessment of group value, as well as the individual significance of heritage assets. As a minimum, this should include both desktop analysis and on-site investigation, with reference to the Greater London Historic Environment Record and other relevant documentation. The borough has a local history library, which provides a useful resource. Research undertaken into the heritage asset affected should describe the significance of the heritage asset in sufficient detail to determine its historic, archaeological, architectural or artistic interest to a level proportionate to its importance. The Greater London Historic Environment Record will help inform whether a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest.

…

‘8.31 Where a new heritage asset is discovered, the developer will be expected to work with us to seek a solution that protects the significance of the new discovery, so far as is practicable within the existing scheme. Depending on the importance of the discovery, modifications to the scheme being implemented may be required

‘8.32 In relation to Parts 1 and 4, designated heritage assets include listed buildings and structures, registered parks and gardens and conservation areas. We will not permit harm to or total loss of a designated heritage asset unless the benefits of the proposal outweigh the harm or the criteria set out in Part 4 can be met.

‘8.33 In particular, listed buildings and structures in the borough make an important and valued contribution to the character and appearance of the borough and provide places to live and work in, well-known visitor attractions and cherished local landmarks. We have a duty to preserve and maintain these assets for present and future generations.

‘8.34 Proposals relating to works to a listed building or within the vicinity of a listed building will be required to demonstrate that it will not affect the special interest of the listed building. In addition to planning permission, listed building consent may also be required for works that will affect the special character of a listed building.

‘8.35 When considering proposals within conservation areas, as set out in Part 6, consideration will be given to the relative significance of the element affected and its contribution to the significance of the conservation area as a whole and its setting.

…

‘8.37 In relation to Part 9, any development in or adjacent to archaeological priority areas is required to investigate and consider any archeological interests in the area. The archaeology of the borough can best be protected if as much information as possible is available at the planning application stage. The evaluation, which may involve fieldwork, is needed so that we can assess the archaeological implications of proposals. Where appropriate, the evaluation may show how developments can be designed so that they do not harm a site of archeological interest and/or how the remains will be preserved at the site, and where appropriate, preserve the archaeological findings at the site.

Policy S.DH5 also deals with heritage but relates specifically to World Heritage Sites, not relevant in this instance.

The site lies within the Lea Valley Archaeological Priority Area. There are no Scheduled Monuments, Conservation Areas, nor Registered Parks/Gardens or Battlefields nearby.

Methodology

The assessment of the site was carried out by the examination of pre-existing information from a number of sources recommended by the Chartered Institute for Archaeologists’ paper *Standards in British Archaeology* covering desk-based studies (CIfA 2014). These sources include historic and modern maps, the Greater London Historic Environment Record, geological maps and any relevant publications or reports.

Archaeological background

General background

Tower Hamlets was originally part of the county of Middlesex with its southern and eastern boundaries being defined by the rivers Thames and Lea respectively. From the Mesolithic period onwards, a marsh landscape developed along the river valleys. It comprised small areas of dry land separated by numerous water channels. When these marshes were reclaimed in the 19th and 20th centuries, large expanses were buried under made ground, leaving their archaeological content intact. The wetland environment preserves a rich palaeoenvironmental record and there is potential for evidence for human activity to be preserved on contemporary land surfaces and within the peat deposits that are recorded in the borough. The geoarchaeology of the Lea Valley has been extensively studied and modelled in recent years as a result of developments including at the Olympic Park (Single *et al.* 2017, 10-11).

However, evidence for early prehistoric activity in the immediate vicinity of the proposal site is fairly sparse. It comprises several findspots for Palaeolithic flintwork at Bromley-by-Bow and Old Ford while Mesolithic finds have been discovered at Old Ford and Poplar. During the Neolithic period small settlements developed on drier areas in the marsh and the Neolithic burial found on Yabsley Street in Blackwall (Coles *et al.* 2008) indicates the presence of a more permanent settlement in the valleys. Blackwall has also produced a Neolithic axe while finds of Bronze Age metalwork in Bromley indicate activity there. Old Ford and Stepney have produced evidence for Iron Age occupation while Iron Age findspots are recorded at Blackwall (Single *et al.* 2017).

Lying beyond the eastern edge of the Roman London, the borough had satellite settlements at Old Ford on the Colchester Road and at Shadwell on a Roman route now followed by The Highway. Well-preserved remains of the Colchester road have been found at Old Ford, where it forded the Lea, along with structural, funerary and agricultural remains dated between the 1st-2nd and 4th centuries. The Shadwell settlement comprised a bath house dating from the mid-2nd to mid-3rd century as well as evidence of riverside commercial activity and a cemetery (Single *et al.* 2017, 12).

Due to its location and the presence of the river, the borough became a main provider of various services for London. The earliest documentary evidence of milling on the Lea dates from the Saxon period. The Lea's mills ground flour for London while other industries included cloth dyeing and fulling as well as livestock for the City's markets. In 1110 the Lea was bridged at Bow, replacing the ford at Old Ford, and the road east from London realigned on a route south of the old Roman road. During the later Middle Ages, there were five

monastic sites in the borough including the Benedictine convent of St Leonard's Priory founded in Bromley-by-Bow in the late 11th or early 12th century (Single *et al.* 2017, 13).

Historic maps suggest that the area remained marshland until the late 19th and early 20th centuries, although it was divided into fields from at least the mid-18th century. Reclamation of the land for use as docks would be expected to have required the laying of some depth of made ground. Due to the proximity of London's docks, the area was heavily bombed during the Second World War, with most of the houses and buildings demolished by the late 20th century.

Development of the Aberfeldy Estate has already seen several phases of archaeological investigation (Taylor 2012; McNicoll-Norbury 2015; Wallis 2017). The first two of these revealed nothing of archaeological interest except a buried soil horizon, while the third located a single, poorly dated, prehistoric pit.

The site is within the Lea Valley Archaeological Priority Area (which carries a tier 3, or low, grading). Extensive excavations at the Olympic Park (to the north) demonstrated that the Lower Lea Valley had potential for prehistoric sites, although finds were relatively few, while in later periods the area saw the establishment of numerous industries which required water for power or used the river as a method of transport. The wetland environment may also have high potential for palaeoenvironmental reconstruction and organic survival, though deeply buried (Single *et al.* 2017, 141).

Greater London Historic Environment Record

A search was made on the Greater London Historic Environment Record (HER) on 27th November 2020 for a radius of 750m around the proposal site. This revealed 103 entries within the search radius, comprising: 51 'monuments', 6 Archaeological Priority Areas, 46 'events' (archaeological investigations) within the search radius. Excluding 12 entries for desk-based assessments, these are summarized as Appendix 1 and their locations are plotted on Figure 1, where multiple entries for one site, or sites which are very close together, have been combined.

<u>Palaeolithic/Mesolithic</u>

There are no GLHER entries relating to the earliest prehistoric periods within the search radius.

<u>Neolithic/Bronze Age</u>

Archaeological investigations as part of previous phases of development at what was then referred to as the Aberfeldy Estate **[Fig. 1: 1]** trial trenches were excavated within the south-western corner of the current proposal area in 2017 (Wallis 2017). These revealed that, other than small undulations in the underlying gravel geology, the area was relatively flat before being covered with alluvial deposits, which may suggest that the area was part

of the western floodplain of the River Lea. A possible buried soil or peat horizon was recorded which had also been seen in other work nearby. A small pit was recorded in the north-east part of the site, containing tiny fragments of prehistoric pottery that could belong to the Bronze Age or Iron Age. A similar deposit sequence was also recorded in trenching towards the northern end of the site **[5]** along with a few cut features possibly of Bronze Age date. More significant evidence came from an excavation at Yabsley Street to the south **[3]** in 2002 (Coles *et al*. 2008), where an Early Neolithic burial of a possible woman accompanied by pottery and flints was radiocarbon dated to 4220-3979 cal BC. This represented London's earliest known inhabitant at that time. Peat deposits showed evidence for arable farming, suggesting a settlement may have existed nearby. A hearth near the grave contained early Bronze Age pottery, and analysis of the peat deposits showed the growth of grasslands (and later cereals) and decline in woodland cover through the Middle Bronze Age.

There have been two finds of Bronze age metalwork from the River Thames, a sword and a socketed axe. The location given for these finds **[2]** is likely imprecise but in any case they could have been moved considerable distances by the river since their original deposition (or loss). Prehistoric pottery and flints were also found at Culloden Street **[6]** to the south-west.

Iron Age

There are no records of Iron Age finds or sites in the vicinity.

Roman

Roman evidence within the search radius is rather sparse. An excavation in 2009 on Gillender Street **[7]** north-west of the proposal site revealed a single ditch containing early Roman pottery and there is a record for a Roman wine jug donated to the Museum of London in 1912 from the Blackwall area **[8]**, probably to the south. one of a series of Roman watchtowers supposedly stood at Shadwell **[9]**, also to the south, but it is not clear exactly what the evidence for this is.

Saxon

There are no entries in the GLHER within the search radius relating to the Saxon period.

Medieval

Much of the medieval evidence recorded in the GLHER for the area is documentary rather than archaeological. This includes entries for the first naming of Blackwall and Poplar in the 14th century **[3, 10]**, and tidal mills being recorded up to the 16th century **[3]** and general use of the area throughout the medieval period, including known routes of roads **[4, 11, 12, 14, 15]**. Only one medieval feature has been recorded archaeologically, a pit below what may be chapel walls at St Matthias Centre **[10]**. Timbers in Bromley Hall **[13]** to the north-west of the proposal area have been dated by dendrochronology to the period 1482–95 and the building is Listed, Grade

II*. Besides the Lea valley APA, there are two further Archaeological Priority Areas within the search radius, with specific potential for the medieval period, at the Limmo to the south-east **[15]** and Poplar to the west **[16]**.

Post-medieval, Victorian

The majority of the GLHER entries in the area are for post-medieval features. Virtually all archaeological investigations in central London uncover evidence for post-medieval, 19th-century and early 20th-century occupation, little of which is of much archaeological significance. In this area, there is much evidence for successive raising of the ground level or efforts at drainage, both designed to permit occupation or industry on the river front and in the tidal zone, recorded in multiple observations, including within the site itself or adjacent to it **[5, 17, 27, 36, 37]**. Several entries refer to elements associated with the very extensive construction and activity of the East India Docks to the south **[21–25, 28]**. There are also specific entries for some other industrial sites: a casting hall and kilns were excavated at the Thames Plate Glass Company site in 2007 **[18]**. A post-medieval fishpond **[19]** is recorded below the gas holders immediately north of the site. Three gas holders dating from the 1870s, 1920s and 1970s on Leven Road were recorded prior to demolition **[29]**. The Blackwall Tunnel **[31]**, to the south, dates from the 1890s; its entrance **[33]** is a listed building.

There are also entries covering documentary evidence for the importance of the shipbuilding industry and other commercial enterprises along the river **[3, 10, 15, 16]**, or continuing post-medieval use of medieval roads **[11, 12, 14, 15]**. The medieval gatehouse at Bromley Hall **[13]** was remodelled after 1700 and more timbers have been dated by dendrochronology to the period from the end of the 17th to early 18th century: these appear to have been imported from Scandinavia. Other 19th-century finds such as masonry foundations are of less interest **[32, 36, 37]**.

Other 19th-century listed buildings include St Michael's Church **[34]** the East India Dock House **[35], and** Dowgate Wharf **[38]**.

Modern, undated, negative

Dumping to raise the ground level continued in the 20th century and again is recorded in multiple archaeological investigations in the area, along with records for undated alluvial layers **[17, 27, 36, 37, 41, 48, 51, 53, 54]**. Modern Listed Buildings in the area include the war memorial at St Michael's Church **[34]**, Carradale House **[39]** and Balfron Tower **[42]** to the west, Poplar Library **[40]**, where there are also Second World War civil defence structures, the former Bromley Hall School for the Physically Handicapped **[43]**, Glenkerry House, and the former fire station on Gillender Street **[44]**. A 1970s tower block **[45]** is also recorded in the HER though not listed.

Many archaeological investigations in the area have revealed modern features and finds, or truncations, or undated features **[26, 30, 41, 47–54]**.

Scheduled Ancient Monuments

There are no Scheduled Monuments in the immediate area.

Cartographic and documentary sources

The place-name Bromley derives from Old English nouns broembel meaning ‘bramble’ and lēah denoting ‘a woodland clearing or glade’ giving the composite meaning of ‘Woodland clearing where brambles grow’ (Mills 2010, 35; Mills 2011, 80). It was first recorded in c. 1000 in an Anglo-Saxon charter as Broembelege, then as Brembellee in the 12th century, Brambeley in c. 1128 and Bromlegh in 1274 (Mills 2010, 35). In spite of some early confusion of the first element with the Old English noun brōm meaning ‘broom’ spellings with -a- like Brambeley are usual up to the end of the 16th century (Mills 2010, 35). Neither Poplar nor Bromley (-by-Bow) is mentioned by name in Domesday Book (though the Bromley in Kent is), while Tower Hamlets is a much later name. In the absence of the definitive Victoria County History for this area, Poplar’s early history remains obscure. For more recent times, it is served by the Royal Commission’s Survey of London (Hobhouse 1994), although this focuses more on architecture than history. Poplar attracted a succession of notably large-scale developments, from Blackwall Yard in 1614, and Brunswick Dock in 1789–90, to the West India and East India Docks of 1800–1806. Accompanying these large-scale commercial complexes were more modest developments typical of London's East End riverside: shipbuilding yards, metal-working and food-processing factories, noxious establishments such as tar and chemical works, and much substandard housing. Very little of this survives, however, and almost the whole area has been rebuilt since the Second World War, with only pockets of exceptions.

The long riverside on the Thames and the Lea was the dominant influence on the area’s economy until the late 20th century. The general pattern of development established by the late 15th century remained largely unchanged until a period of expansion during the mid-19th century. There was settlement along Poplar High Street and, by the 17th century at Blackwall. Ship repairing was established at Blackwall before 1500, and the area was chosen by the East India Company for its shipbuilding yard, constructed between 1614 and 1617. The yard was the largest commercial employer in London, and remained the basis of Poplar's economy throughout the 17th and 18th centuries. However, employment was almost all casual and despite the bustle, did not generate much prosperity for the area, while fluctuations in the demand for ships often led to widespread unemployment

(Hobhouse 1994) and by the later 19th century there was a prolonged period of decline in the industry, though also a surging population growth. By the end of the century Poplar was recognised as one of the poorest parts of the capital (Hobhouse 1994, 7).

A range of Ordnance Survey and other historical maps of the area were consulted online in order to ascertain what activity had been taking place throughout the site’s later history and whether this may have affected any possible archaeological deposits within the proposal area (see Appendix 2). Due to the COVID restrictions, some maps such as tithe and enclosure were not available to view.

The earliest map available of the area is Saxton’s map of Middlesex, 1575 (Fig. 3). At this scale little detail is afforded, but the general location of the site can be suggested showing a close proximity to the confluence of the rivers Thames and Lea. ‘Stretfort Bowe’ and Stepney are the closest settlements named. Norden’s map of Middlesex from 152–3 adds several more of the hamlets, including Blackwall (Fig. 4) but still shows no detail for the area of the site. Speed’s 1610 update of Norden’s map adds no new detail for this area except to name Osulston Hundred (not illustrated). Other 17th-century maps (listed in Appendix 2, not illustrated) show some of the growth of London but add no detail for this area until Ogilby’s county map of 1672 (Fig. 5) which shows Bromley for the first time. The 18th-century maps show London’s continuing growth but tends to be no more informative for the area of interest here. A notable exception is the map by Warburton from 1749 (Fig. 6) which shows the outline of the road layout and names Bromley Hall, allowing the site to be located a little more closely. It appears to have remained undeveloped. Rocque’s map of 1762 (Fig. 7) appears to show much more detail including the layout of fields, but it is suspected that much of this is schematic rather than accurately surveyed. Nonetheless, the site’s location can be pinpointed a little better on this map, and it appears to be undeveloped. Bromley Hall is not noted but there is a Copperas House to the north. What appears to be an earthwork of some sort to the south-east is unexplained. Cary’s map of 1801 (Fig. 8) shows a little more detail on the roads, and the Limehouse to Bromley canal whose more direct route would have cut off the long sweep south around the Isle of Dogs.

The First Edition Ordnance Survey map of 1872 (Fig. 9) provides the first detailed mapping of the site and surroundings. Much of the layout of the area is recognizable but almost nothing within the site is in its current form. The East India Docks dominates the vicinity. Brunswick Road marks more or less the course of the modern A12 and four blocks of four houses long its east side are just within the site boundary, as are the houses

on the north side of Blair Street in the south. The rest of the site appears to be fields, partly within Bromley Marsh with the majority probably belonging to Mackintosh's farm, including one orchard, and part of the farm building complex. There is a small group of other buildings set back from Brunswick Road towards the west of the site.

The site and environs have almost completely change by the second edition of 1894 (Fig. 10) and present as very close to its modern overall layout with many of the streets already in place. The whole of the site area is under housing on these streets. The blocks at the west edge of the site on Brunswick Road are recognizably those for the previous map and those on Blair Street might be, but everything else in the area is new. The 1920 map (Fig. 11) shows some minor change to buildings between Dee Street and Culloden Street (probably schools) and one new building probably also a school, south of Lochnagar street, but all else remains the same. By 1955 (Fig. 12) there has again been some demolition in the Ettrick Street, Dee Street and Culloden Street area, perhaps clearance of war-time bomb damage, and modifications to the school buildings in the north but little other change within the site. By 1965 (Fig.13) new housing has arisen on Ettrick Street, Dee Street and Culloden Street but other changes appear only to be in cartographic style. Maps of the 1970s (1973 illustrated as Fig. 14) shows more dramatic change, with Brunswick Road now rerouted and houses along it demolished, along with the whole blocks either side of Nairn Street. The school to the north has been wholly rebuilt and no longer occupies any part of the site. Culloden Street and the school on Dee Street have both vanished, replaced by another school slightly to the south.

By 1981 (Fig. 15) the former Nairn Street area has been redeveloped and much of the housing along Abbot Road and Lochnagar Street demolished. By 1989 (Fig. 16) there has been more development in the north of the site along the western edge, and more space cleared between Abbot Road and Leven Road to the east. The Ordnance Survey map of 2001 (Fig. 17) shows a major new building on Dee Street but no other change. By 2020 (Fig. 18) this new building has expanded and the road layout here remodelled. There has also been further demolition at the south-eastern extreme of the area.

Listed buildings

There are 19 listed buildings within 750m of this site, as listed in Appendix 1 and detailed above, many of which are intervisible with it and therefore in positions where their settings may be affected by the development. The most significant of these are the Grade II* listed Bromley Hall, East India Dock House, Balfron Tower and Glenkerry House. All of the listed buildings are located in positions where their settings are already thoroughly

modern, bustling city landscapes, subject to almost continuous change. Any contribution made by their settings to the heritage significance of these assets lies in this vibrant modern urban scene. While no detailed plans of the proposed redevelopment were available at time of writing, it is anticipated that it will not in any way alter the essential character of this landscape and thus will have no detrimental effect on the heritage significance of any nearby heritage asset and may positively reinforce it.

Registered Parks and Gardens; Registered Battlefields

There are no registered parks and gardens or registered battlefields within close proximity of the site.

Historic Hedgerows

There are no hedgerows, historic or otherwise, on the site.

Aerial Photographs, LiDAR

The site areas lies within an urban area which has been heavily developed since before the advent of aerial photography. No photographic collections nor LiDAR data have therefore been consulted.

Discussion

There are no known heritage assets on the site but there are several listed buildings in positions where their settings may be liable to be affected by its development. The discussion above suggests that the heritage significance of these listed buildings will suffer no measurable harm from the proposed development and could potentially be enhanced. It remains therefore to establish if there may be potential for previously unknown heritage assets, that is, below-ground archaeological remains.

In considering the archaeological potential of the study area, various factors must be taken into account, including previously recorded archaeological sites, previous land-use and disturbance and future land-use including the proposed development.

In general, the site lies in an area of high archaeological potential as recognized by its designation as part of the Lea Valley Archaeological Priority Area. This area is known to hold evidence from the earliest prehistory onwards, in which the chance of exceptional organic survival in waterlogged conditions, and the potential for palaeoenvironmental reconstruction is also high. Within the immediate environs of the site, there is significant evidence of Neolithic and Bronze Age occupation, although later periods are perhaps surprisingly less well

represented until we reach the important post-medieval industrial and commercial history of the area, chiefly focussed on ship-building. Even without this specific potential, the sheer size of the area increases the chances of archaeological remains of some periods simply by chance.

Previous phases of development in Aberfeldy have allowed some archaeological investigation and while on the whole this has not been very productive, some prehistoric features have been recorded and the work has demonstrated the existence of (sometimes quite deep) peat and alluvial deposits which may have protected archaeological levels even in areas of extensive modern truncation.

The entire site area has been developed and redeveloped repeatedly since the late 19th century. While it is reasonable to predict that this will have removed any shallow archaeological remains, there is the possibility that deposits and features could survive below or within any deeper peat or alluvial layers. The constant redevelopment of the area may also have involved raising the ground rather than cutting down in some instances, further protecting deeply buried levels.

No detailed development plans are available but it is understood that at least part of the development will involve basements and thus inevitably have the potential to impact the archaeologically relevant level, assuming this survives anywhere on the site.

It will be necessary to provide further information about the potential of the site from field observations in order to draw up a scheme to mitigate the impact of development on any below-ground archaeological deposits if necessary. A scheme for this evaluation will need to be drawn up and approved by the archaeological advisers to the Borough and implemented by a competent archaeological contractor.

References

BGS, 1994, *British Geological Survey*, 1:50000, Sheet **256**, Solid and Drift Edition, Keyworth.

CIfA, 2014, *Standard and guidance for historic environment desk-based assessment,* Chartered Institute *for* Archaeologists, Reading

Coles, S, Ford, S and Taylor, A, 2008, 'An Early Neolithic grave and occupation, and an Early Bronze Age hearth on the Thames foreshore at Yabsley Street, Blackwall, London', *Proc Prehist Soc* **74**, 215-33.

Corcoran, J, Halsey, C, Spurr, G, Burton, E, and Jamieson, J, 2011, *Mapping Past Landscapes in the Lower Lea Valley*, MOLA Monogr **55**, London

FA, 2008, *From Hunter-gatherers to Huntsmen: A History of the Stansted Landscape*, Framework Archaeology, Oxford and Salisbury

GLA, 2016, *The London Plan - The Spatial Development Strategy for London Consolidated with Alterations Since 2011*, Greater London Authority, London

Hobhouse, H, 1994, 'General introduction', in RCHM(E), *Survey of London,* Vol **43/44***, Poplar, Blackwall and Isle of Dogs*, London, 1-20. [http://www.british-history.ac.uk/survey-london/vols43-4/pp1-20, accessed 8 December 2020].

McNicoll-Norbury, J, 2015, 'Aberfeldy Estate (Phase 2), East India Dock Road, South Bromley, London Borough of Tower Hamlets - an archaeological evaluation', TVAS unpubl rep **12/112b**, Reading

Meddens, F M, 1996, 'Sites from the Thames Estuary, England and their Bronze Age use', *Antiquity,* **70**, 325–34

Mills, A D, 1998*, Dictionary of English Place-Names*, Oxford

MoLAS, 2000, *The Archaeology of Greater London; an assessment of archaeological evidence for human presence in the area now covered by Greater London*, Museum of London Archaeology Service Monogr, London

NPPF, 2019, *National Planning Policy Framework* (revised), Ministry of Housing, Communities and Local Government, London

Single A, Taylor, J, Kidd, S, Sidell, J, Bright, I and Booth, P, 2017, *London Borough of Tower Hamlets Archaeological Priority Areas Appraisal*, Historic England

Stafford, E, 2012, *Landscape and Prehistory of the East London Wetlands*, Oxford Archaeology Monogr **17**, Oxford

Taylor, A, 2012, 'Aberfeldy Estate (Phase 1), East India Dock Road, South Bromley, London Borough of Tower Hamlets: An Archaeological Evaluation', TVAS unpubl rep **12/112**, Reading

THBC, 2020, *Tower Hamlets Local Plan 20131 adopted January 2020 Managing growth and sharing the benefits*, Tower Hamlets Borough Council, London

VCH, 1969, *Victoria History of the Counties of England: Middlesex,* **i**, London

Wallis, S, 2017, 'Aberfeldy Estate (Phase 3), East India Dock Road, South Bromley, London Borough of Tower Hamlets: An Archaeological Evaluation', TVAS unpubl rep **12/112c**, Reading

Williams, A and Martin, G H, 2002, *Domesday Book, A complete Translation,* London

APPENDIX 1: Historic Environment Records within a 750m search radius of the development site

No	*HER Ref*	*Grid Ref (TQ)*	*Type*	*Period*	*Comment*
1	ELO18795	3855 8119	Evaluation	Prehistoric	In 2017 four trenches were excavated in the Aberfeldy Estate, revealing one pit containing flint and pottery.
2	MLO2541 MLO25630 FLO6267	39 81	Find Spot	Bronze Age	A Late Bronze Age sword of Wilburton type was found at Bow Creek. Unstratified artefact near Leamouth Road consisting of a Bronze Age socketed axehead made of copper alloy.
3	DLO37840	3849 8057	Excavation Background	Neolithic Bronze Age Medieval Post-medieval Modern	Yabsley Street, Early Neolithic burial (radiocarbon dated to 4220-3979BC). Peat deposits showing evidence for arable farming during the Neolithic suggesting a settlement may have existed nearby. Sea levels rising caused intertidal activity in the form of timber trackways (Neolithic/Bronze Age). Archaeological Priority Area: Blackwall is named in the 14th century along with tidal mills until the 16th century. Important for ship building and the area preserves remains of Blackwall's significant industrial and commercial power from the middle ages until the 19th century.
4	DLO37857	3792 8280	Background	Prehistoric Medieval Post-medieval Modern	Archaeological Priority Area: Lea Valley. The area has been extensively excavated showing deeply buried islands, gravel terraces, channels and wetlands exploited since early prehistory.
5	ELO2630 MLO744	3841 8148	Evaluation Find Spot	Prehistoric Post-medieval	An evaluation in 2000 discovered a sequence of alluvial deposits associated with the River Lea floodplain and a palaeochannel. Peat deposits containing burnt flint and sealing a few cut features were possibly mid-late Bronze Age. Two post-medieval channels or ditches presumably for drainage. A gully and a shallow feature were cut into a possible buried land surface with burnt flint.
6	ELO3739 MLO6392 FLO15513 FLO15514	3833 8107 3830 8120	Evaluation Findspot	Prehistoric Post-medieval	Excavations in 1993 around Abbey Mills. At Culloden Street unstratified finds of fire cracked flint and a single pot sherd. At 13 St Leonards Road, three shafts were dug and a 19th century cellar was identified. At No. 12 Culloden Street, prehistoric potsherds and flint were found.
7	ELO10470 MLO101087 FLO15603	38190 81852	Excavation	Roman	Excavation on Gillender Street found a 1st century Roman ditch cutting alluvium, this included 18 sherds of Grey Ware pottery.
8	MLO3851 FLO1102	386 807	Find Spot	Roman	A Roman miniature oenochoe (wine vessel) was found.
9	MLO3893	389 809	Monument	Roman	Roman watchtower, one of a series.
10	ELO8767 MLO100465 MLO100466 FLO13235 MLO3931	38189 80961 381 809 382 810	Watching Brief Background	Medieval Post-medieval Victorian	In 2008 geotechnical pits were dug at St Matthias Centre, showing the foundation walls and basement of a potential house also walls where it is believed a Chapel was located along with a medieval pit below the foundations. Finds included Post-medieval pottery. The village of Poplar was so named by at least 1327 and expanded with the shipping industry.
11	MLO9170	377 813	Road	Medieval Post-medieval	Road from Poplar High Street to Bromley.
12	MLO1125	3719 8082	Street	Medieval Post-medieval	Limehouse Causeway, Narrow Street to Poplar High Street road.
13	DLO28414 ELO20319 ELO20318 ELO20232 ELO7890 MLO93430 ELO7890 MLO93430 MLO3738	3817 8190 38173 81908 3816 8192	Dendrochronology Listed Building Building Recording	Medieval Post-medieval Victorian Modern	Timbers associated with Bromley Hall have been dated from 1482-95 to the late 17th or early 18th century. Bromley Hall is Grade II* listed including the walls, house and tower house. A building survey concluded the existence of a medieval gatehouse (c. 1482-95), evidence and details about the previous towered house (3 stories) and its remodelling after 1700. Use after this period is documented up until damage in WW2 and reconstruction in 1951. A post-medieval gate lodge on Brunswick Road
14	MLO9164	3815 8185	Street	Medieval Post-medieval	St Leonard Street from Bromley to Blackwall along the west side of Lea.
15	DLO37841	3906 8091	Background	Medieval Post-medieval Modern	Archaeological Priority Area. The Limmo occupies the west bank of the mouth of the River Lea and its confluence with the Thames which has great potential for the area's historic industry.
16	DLO37839	3771 8085	Background	Medieval	Archaeological Priority Area. The historic settlement

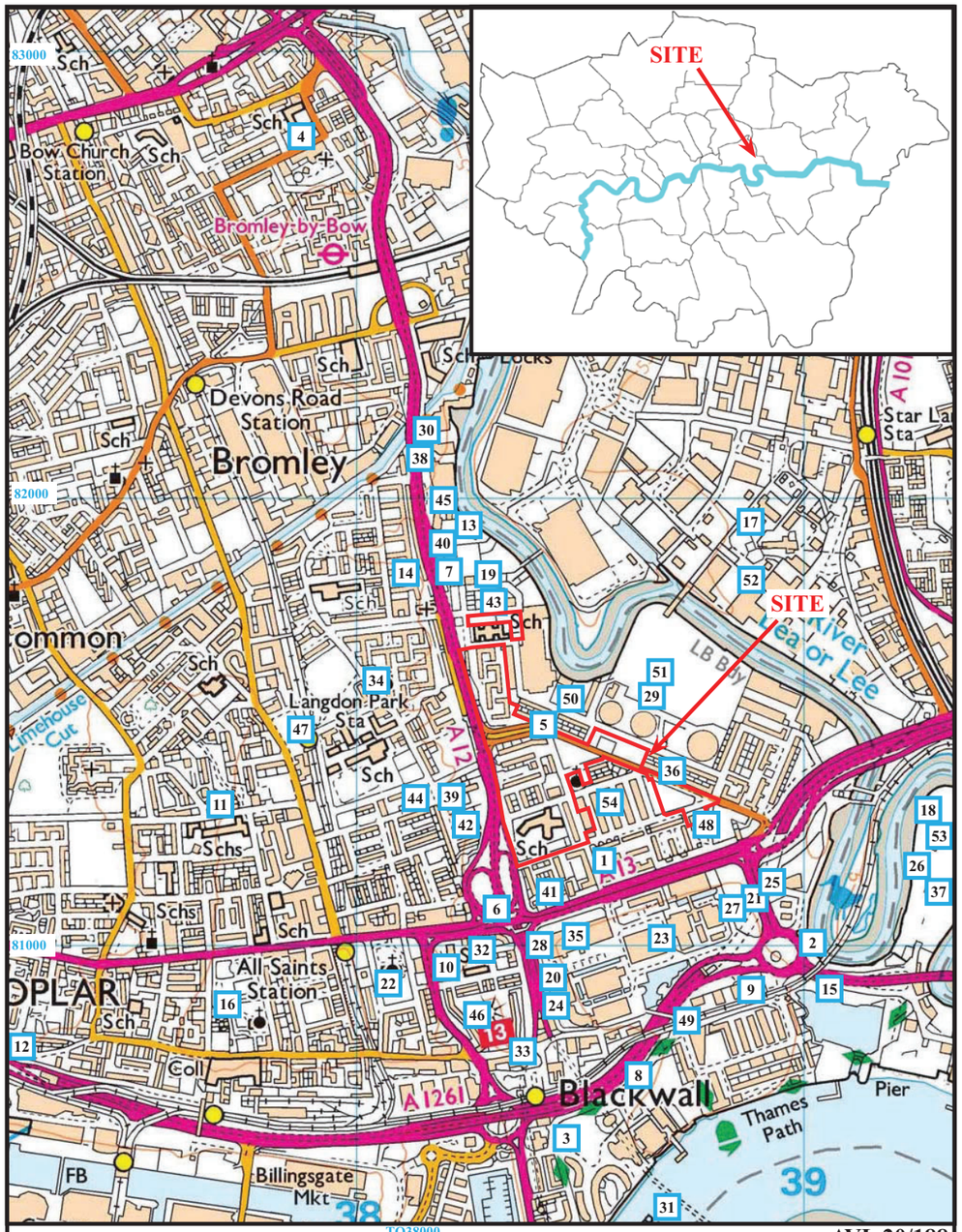
No	*HER Ref*	*Grid Ref (TQ)*	*Type*	*Period*	*Comment*
				Post-medieval Modern	of Poplar with Medieval origins, includes buildings, burial grounds, settlements and flood defences associated with the seafaring industry. Survival of ironworks is fair.
17	ELO19643	3891 8196	Watching Brief Evaluation	Post-medieval Modern	Fieldwork in 2006 on the Olympic and Paralympic Park Undergrounding Shafts East-1 and West-1. In the west alluvial clays and a peat band was observed underlying dark modern debris layers. East showed alluvial gravels underlying modern demolition and levelling.
18	ELO18549	3930 8131	Excavation	Post-medieval	Thames Plate Glass Company excavation in 2007. found the full extent of the casting hall and adjacent kilns including details of construction and surviving foundations and walls.
19	MLO3029	3830 8180	Structure	Post-medieval	A post-medieval fishpond underlying later gas tanks.
20	DLO28095 MLO93111 DLO28425 MLO93441	38421 80914 38616 80811 3880 26/877	Listed Building	Post-medieval Victorian	Early 19th century dock and boundary wall to the East India Docks including a gateway
21	DLO28468 MLO93484	38899 81122	Listed Building	Post-medieval Victorian	East India Dock Pumping Station mid 19th century
22	MLO104373 MLO93108 MLO104374 MLO93502 DLO28423 MLO93439	3807 8093 38076 80937	Listed Building	Post-medieval Victorian	All Saints' Church on East India Dock Road with 19th century railings, gate piers and churchyard, cemetery, Garden of Rest and Park along with the Newby Place All Saints' Rectory.
23	MLO7284	3870 8100	Cartographic	Post-medieval Victorian	Landfill site from the Eastern Dock.
24	DLO27730 MLO92759	38431 80854 3880 26/888	Listed Building	Post-medieval Victorian	Embankment wall, railings and steps on Naval Row associated with the East India Docks.
25	DLO28347 MLO93363	38908 81144	Listed Building	Post-medieval Victorian	Gate pier and wall called Blackwall Goods Yard II, was an original entrance to the East India Company's Cos Pepper group of Warehouses.
26	ELO18131	3926 8115	Evaluation	Post-medieval Victorian	The Thames Plate Glass Company 12 evaluation trenches dug in 2007, with further stripping of 5 trenches where remains were found.
27	ELO19609	3885 8110	Evaluation	Post-medieval Victorian	East India Dock: evaluation in 2006 discovered the dock wall and areas of built up ground. Modern concrete yard and with modern dumps.
28	DLO28093 MLO93109	38399 81000 3881 19/685	Listed Building	Post-medieval Victorian Modern	A plaque on the modern dock wall
29	ELO20230	3870 8157	Building Recording	Post-medieval Modern	Gasholder Station on Leven Road surveyed in 2015 in advance of demolition.
30	ELO19817	3818 8213	Watching Brief Evaluation	Post-medieval Victorian Modern	Fieldwork in 2019 on Barratt Industrial Estate with five trenches and four test pits finding masonry and brick structures
31	DLO33367 MLO7485	3871 8010	Structure	Victorian Modern	The Blackwall Tunnel built between 1892 and 1897. This included a north and south gatehouse, one of which survives today (south). A second tunnel was built in 1937.
32	ELO2693 MLO7151 084132/00/00	3828 8100	Evaluation	Victorian	In 1997 trenches on the north side of Ashton Street found two 19th century walls.
33	DLO27667 MLO92696	38394 80782	Listed Building	Victorian	Blackwall Tunnel northern portal and parapet.
34	DLO27644 MLO92673 DLO28499 MLO93515	38066 81583 3881 19/701 38079 81534 3881 19/700	Listed Building	Victorian Modern	St Michael's Church, includes south tower and a short spire. A war memorial also listed.
35	DLO38147 MLO107687	3850 8102	Listed Building	Victorian Modern	East India Dock House former Financial Times Print Works Grade II* Listed.
36	ELO3868 MLO749	3872 8138	Evaluation	Victorian Modern	In 2000 a channel was recorded cutting natural gravel and sandy layers were succeeded by peaty deposits. Above these were 19th century dumped deposits.
37	ELO4234 MLO67565 ELO7575 MLO98915	3925 8105 39312 81089	Watching Brief Building Recording	Victorian Modern	Watching Brief at Orchard Place where alluvial deposits were overlain by backyards and walls dating to the Victorian period and later. Building recording on Orchard Place, before demolition of warehouses.
38	DLO27646 MLO92675	38165 82087	Listed Building	Victorian Modern	Early/Mid 19th century brick warehouse at Dowgate Wharf, P.B. Burgoyne and Company Limited Warehouse

No	*HER Ref*	*Grid Ref (TQ)*	*Type*	*Period*	*Comment*
39	DLO28234 MLO93250	38228 81343	Listed Building	Modern	Concrete framed building called Carradale House.
40	DLO28070 MLO93086 ELO1031 ELO1034 MLO75402	38192 81869 3881 19/683 38212 81872	Listed Building Field Survey Building Recording	Modern	Poplar Public Library and two Second World War civil defence structures at the rear of Poplar Library. Two excavations in 2001 to expose features and access the interiors.
41	ELO10939 MLO741 FLO19744	3847 8112	Test Pit	Modern	Only remains found were 19th/20th century made ground/dumps and a sequence of alluvial layers including peat.
42	MLO93337	38266 81277	Listed Building	Modern	Balfron Tower on St Leonard's Road is a concrete framed Grade II* listed building (flats).
43	MLO102830	38309 81697	Listed Building	Modern	Former Bromley Hall School for the Physically Handicapped.
44	DLO37943 MLO107594	3813 8133	Listed Building	Modern	Concrete framed building on Burcham Street, Glenkerry House on Brownfield Estate, Grade II*.
45	DLO35262 MLO93430	38186 81966	Listed Building	Modern	Former Fire Station on Gillender Street.
46	MLO107824	3827 8083	Building	Modern	Tower block on Woolmore Street/Robin Hood Lane/Poplar High Street/Cotton Street, c. 1970s.
47	ELO7559	37888 81475	Watching Brief	Undated	Undertaken at Langdon Park DLR Station for new platform construction, no archaeology found.
48	ELO13384	38816 81271	Evaluation	Undated	Aberfeldy Estate 3 trenches excavated in 2012, with no archaeological remains but deep alluvial deposits.
49	ELO10385	3876 8084	Borehole Survey	Undated	In 2009 a geoarchaeological investigated was undertaken at the DLR East India Station totalling 2 boreholes. Only truncation noted.
50	ELO17461	38503 81554	Borehole Survey	Undated	In 2015 a geoarchaeological survey was carried out made up of 18 boreholes showing inorganic alluvial deposits with 2 boreholes capturing peat.
51	ELO19826	3870 8157	Borehole Survey	Undated	Around Leven Road 40 boreholes were put down in 2019. These were used to produce an up-to-date detailed geoarchaeological deposit model. Pleistocene deposits were discovered with overlying Holocene deposits, the later consisted of alluvial deposits with infrequent peats, the alluvial deposits were truncated in certain areas by made ground.
52	ELO2760	3890 8181	Watching Brief	Undated	A total of 26 test pits with no archaeology found. The area was contaminated and highly truncated.
53	ELO10128	394 813	Evaluation	Undated	Canning Town Station evaluation in 1991. Included well preserved organic deposits and well stratified alluvium deposits.
54	ELO2642 MLO6432	3857 8130	Watching Brief	Undated	Watching brief at Ada Gardens in 1993 found alluvial deposits with peat layers.

Listed Buildings Grade II unless stated.

APPENDIX 2: Historic and modern maps consulted

1575	Saxton's map of Middlesex (Fig. 3)
1593	Norden's map of Middlesex (Fig. 4)
1610	Speed's map of Middlesex
1645	Anonymous, map of Middlesex
1672	Blome's map of Middlesex
1672	Ogilby's map of Middlesex (Fig. 5)
1749	Warburton's map of Middlesex (Fig. 6)
1762	Rocque's map of Middlesex (Fig. 7)
1785	Bowles' map of Middlesex
1801	Cary's map of Middlesex *Fig. 8)
1872	Ordnance Survey First Edition (Fig. 9)
1894	Ordnance Survey Second Edition (Fig. 10)
1920	Ordnance Survey Third Edition (Fig. 11)
1955	Ordnance Survey Third Edition (Fig. 12)
1965	Ordnance Survey Third Edition (Fig. 13)
1973	Ordnance Survey Third Edition (Fig. 14)
1981	Ordnance Survey Third Edition (Fig. 15)
1989	Ordnance Survey Third Edition (Fig. 16)
2001	Ordnance Survey Third Edition (Fig. 17)
2020	Ordnance Survey Third Edition (Fig. 18)

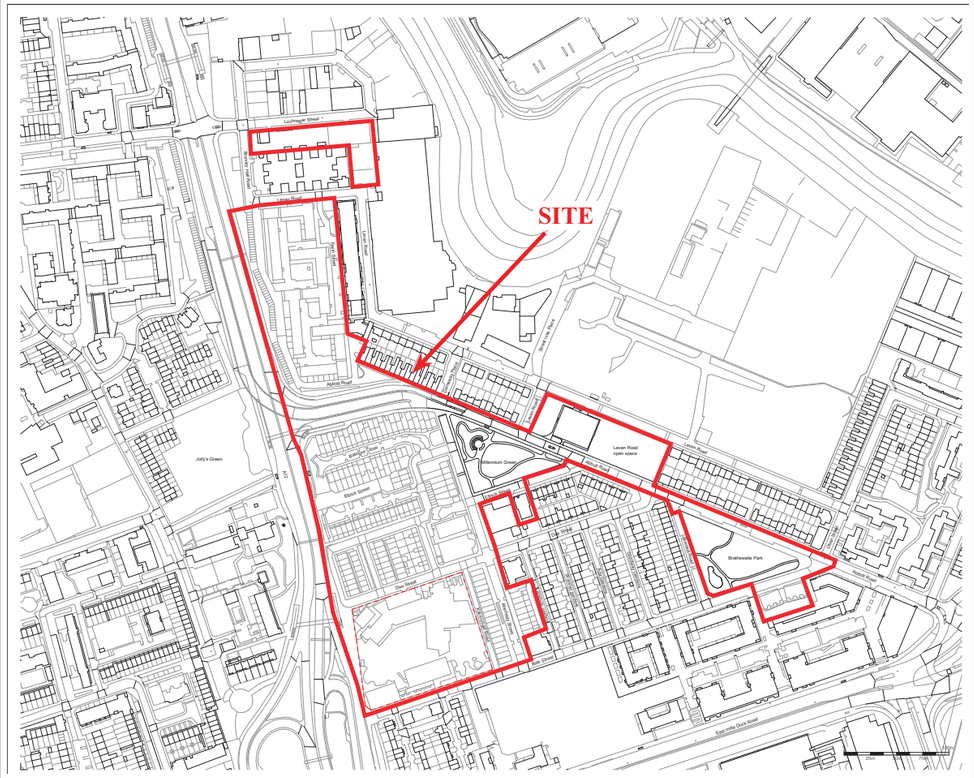


AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 1. Location of site within Tower Hamlets and London, showing locations of GLHER entries.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

THAMES VALLEY ARCHAEOLOGICAL SERVICES

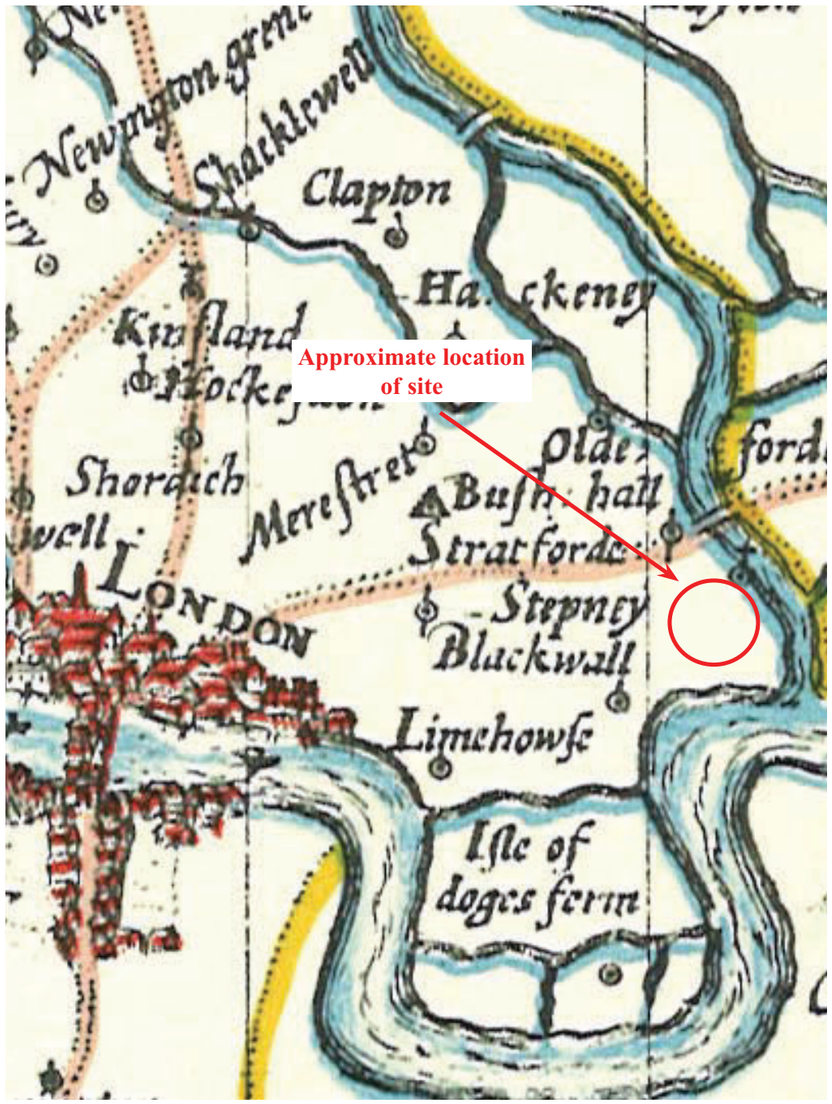


NMW 20/177

N

Aberfeldy Village, Lighterman Point, New Village Avenue, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 2. Current layout of site. Not to scale.

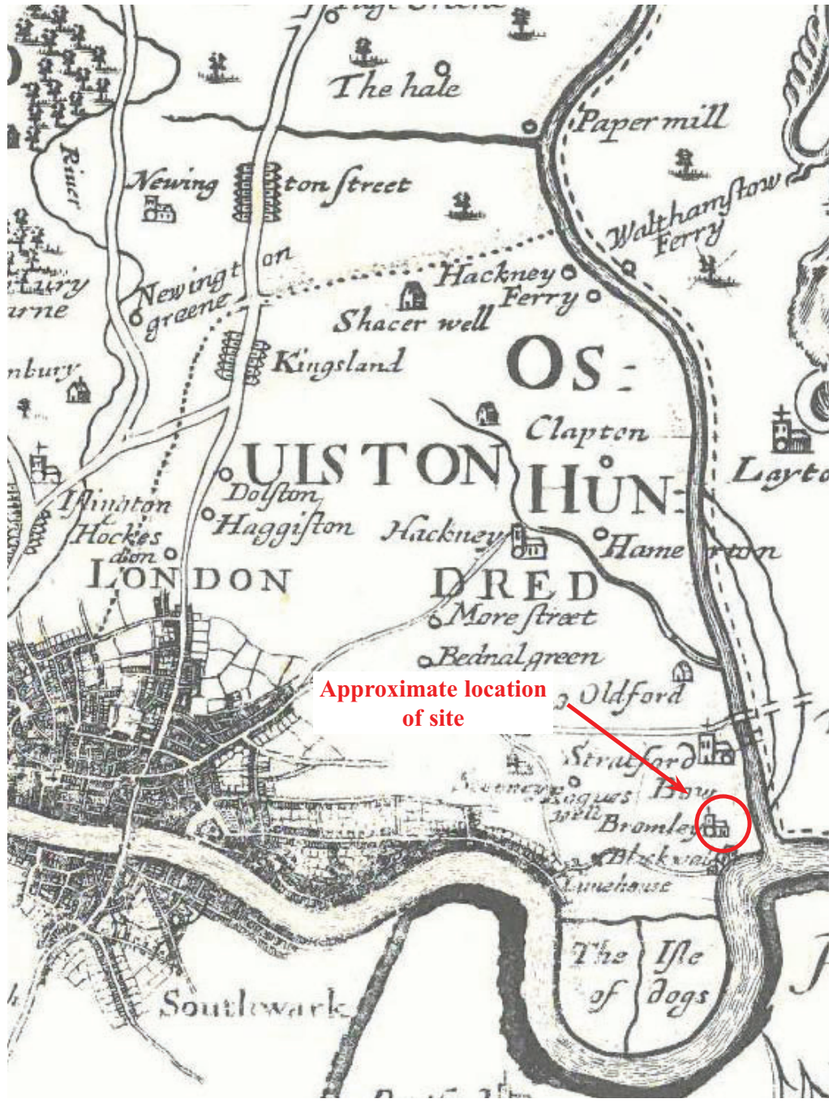
TVAS EAST MIDLANDS



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 4. Norden's map of Middlesex, 1593.

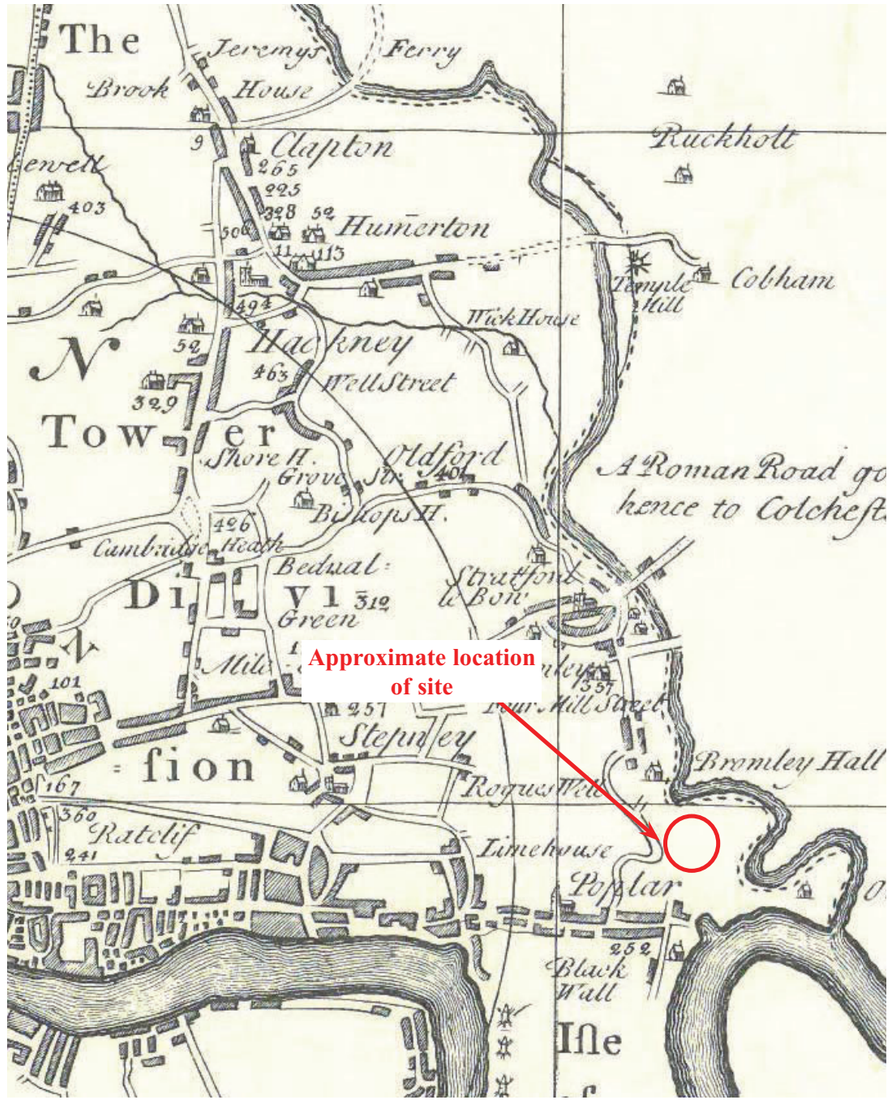
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 5. Ogilby's map of Middlesex, 1672.

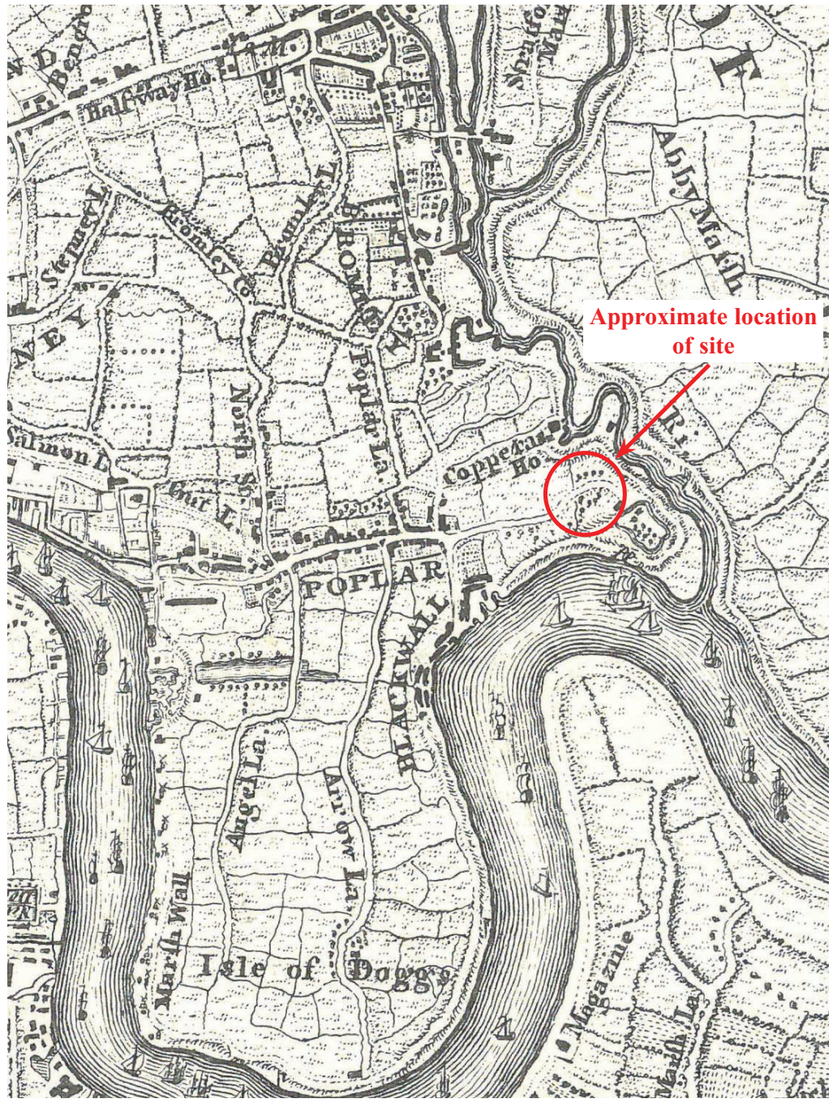
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 6. Warburtons' map of Middlesex, 1749.

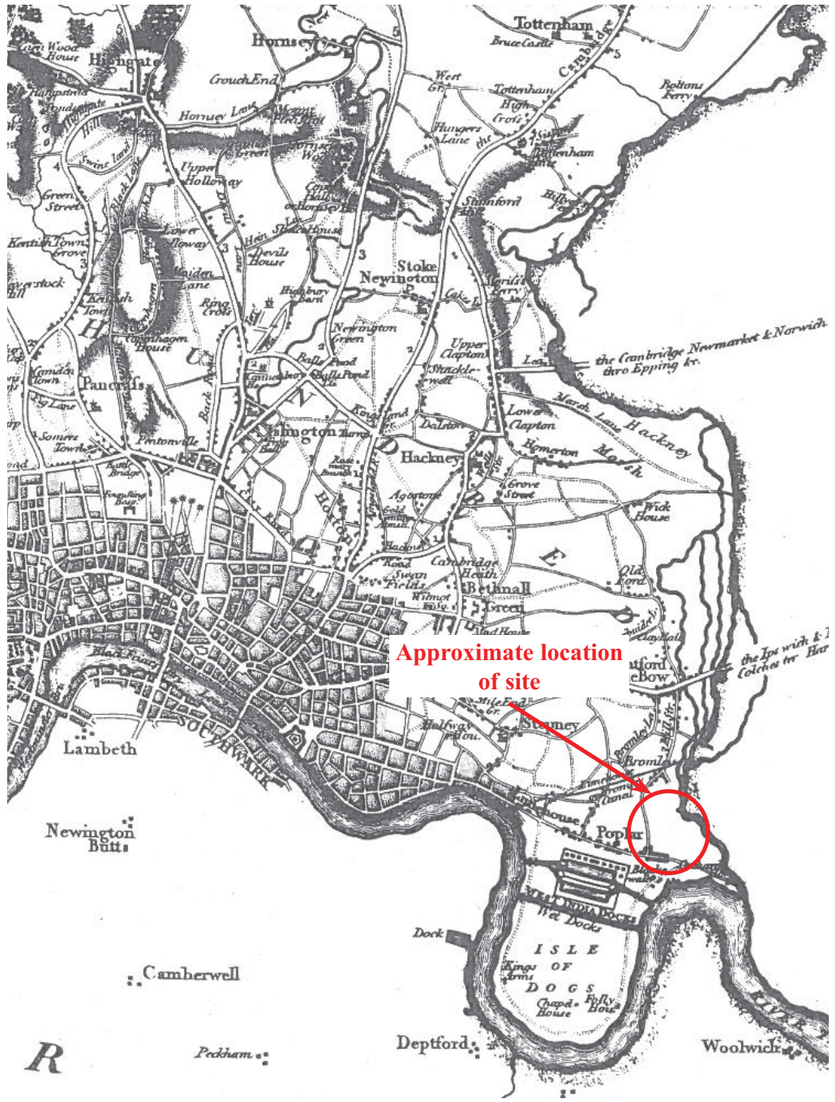
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 8. Cary's map of Middlesex, 1801.

THAMES VALLEY ARCHAEOLOGICAL SERVICES

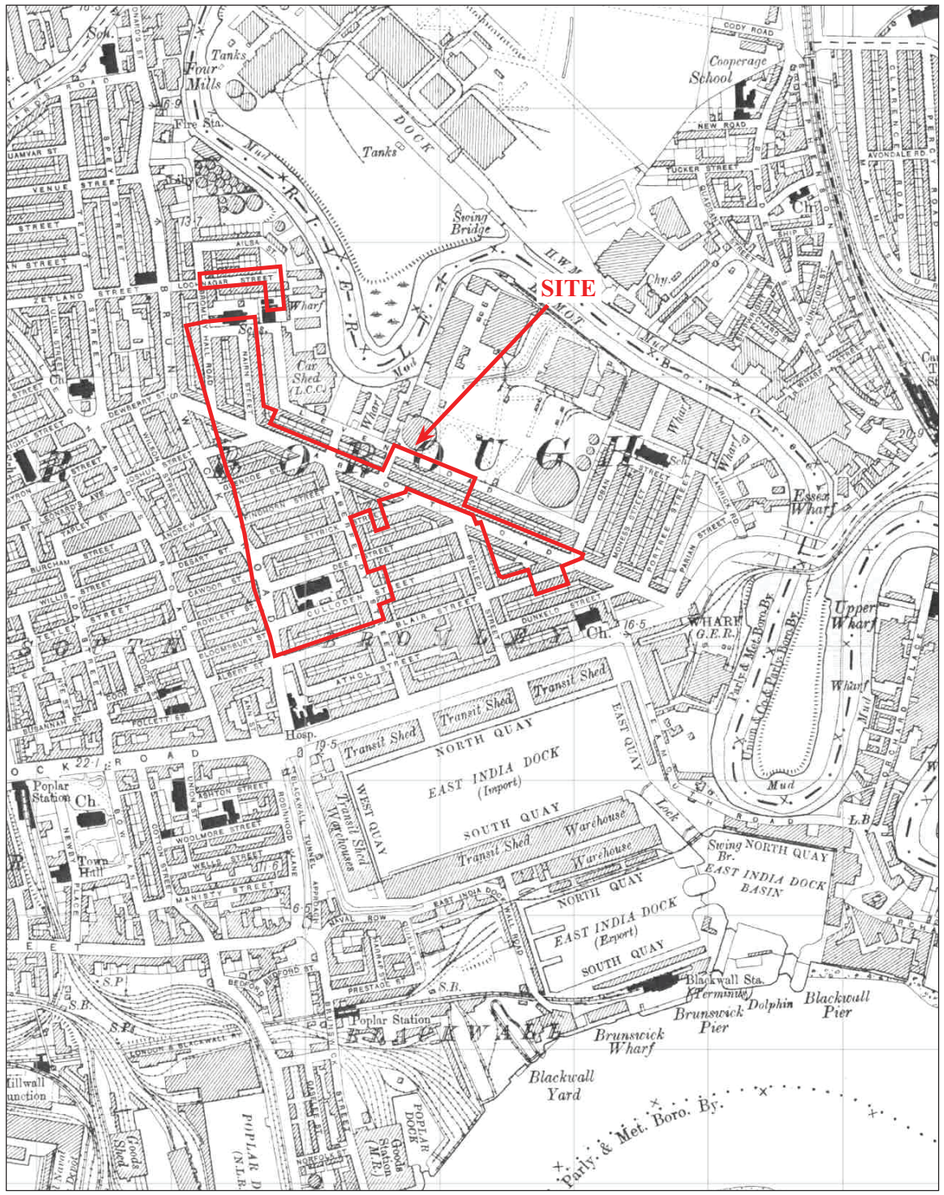


AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 8. Cary's map of Middlesex, 1801.

THAMES VALLEY ARCHAEOLOGICAL SERVICES

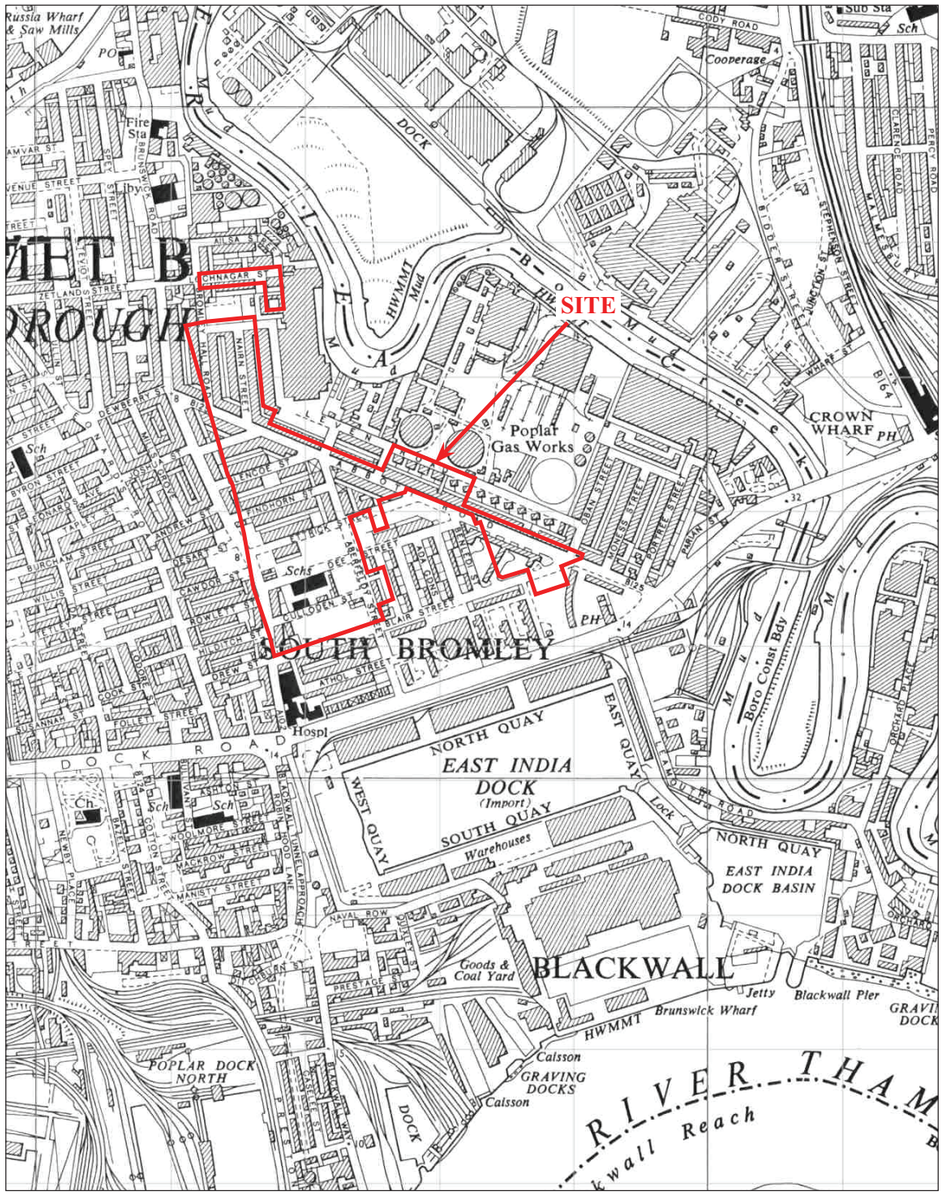

Bromley Marsh
EAST INDIA DOCK (Import)
EAST INDIA DOCK (Export)
Blackwall
Blackwall Yard (Ship Build.g.)
Brunswick Wharf
Brunswick Hotel
Brunswick Stairs
Graving Dock
London & Blackwall R.y Term.s
Blackwall Pier
Orchard Wharf
West Ham Outfall Sewerage Wks
Lea Wharf
Thames Wharf
Crown Wharf
Barking Road Station
Limehouse Cut
Bow Creek
Limehouse Reach
Mucrontoaks Farm
Gateway
Gateway
Gateway



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 11. Ordnance Survey, 1920.

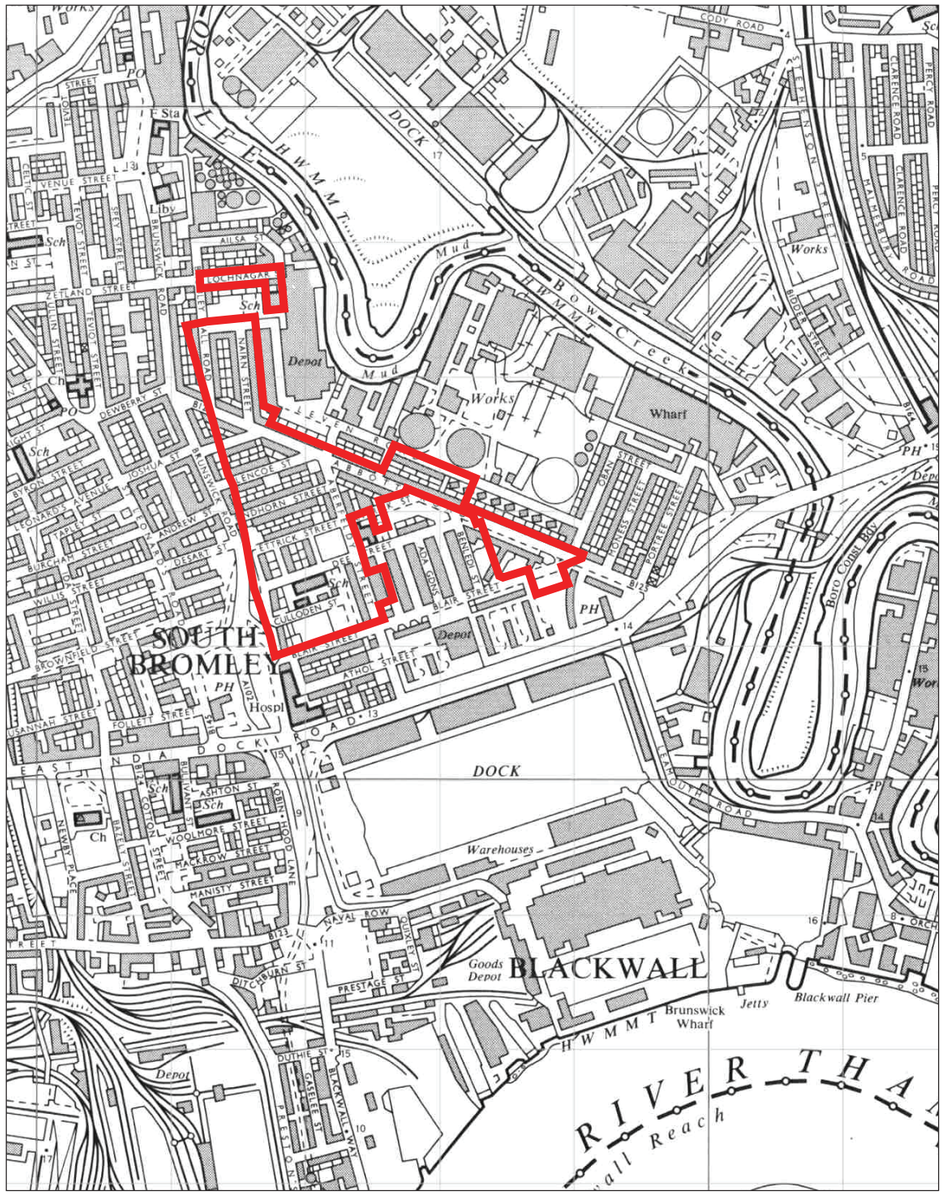
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 12. Ordnance Survey, 1955.

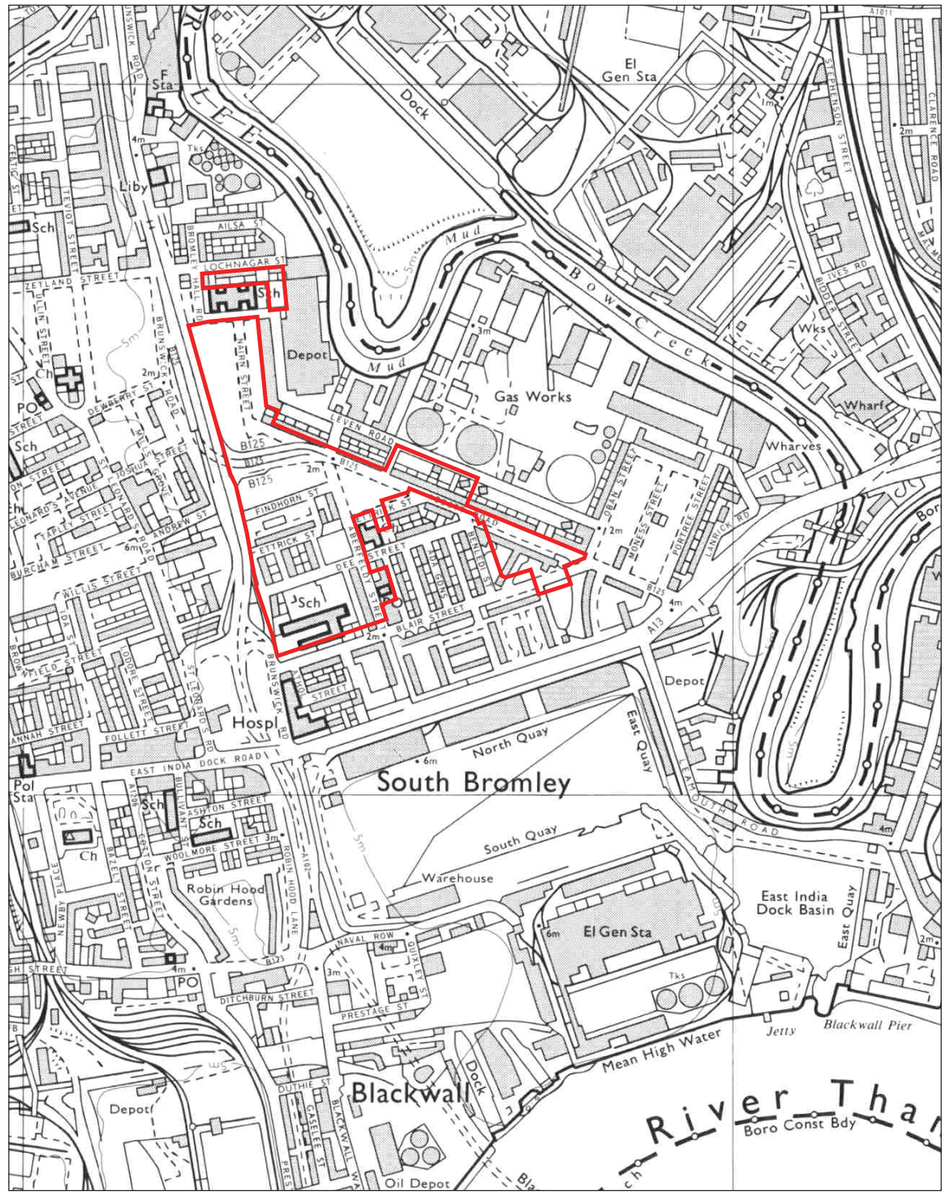
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 13. Ordnance Survey, 1965.

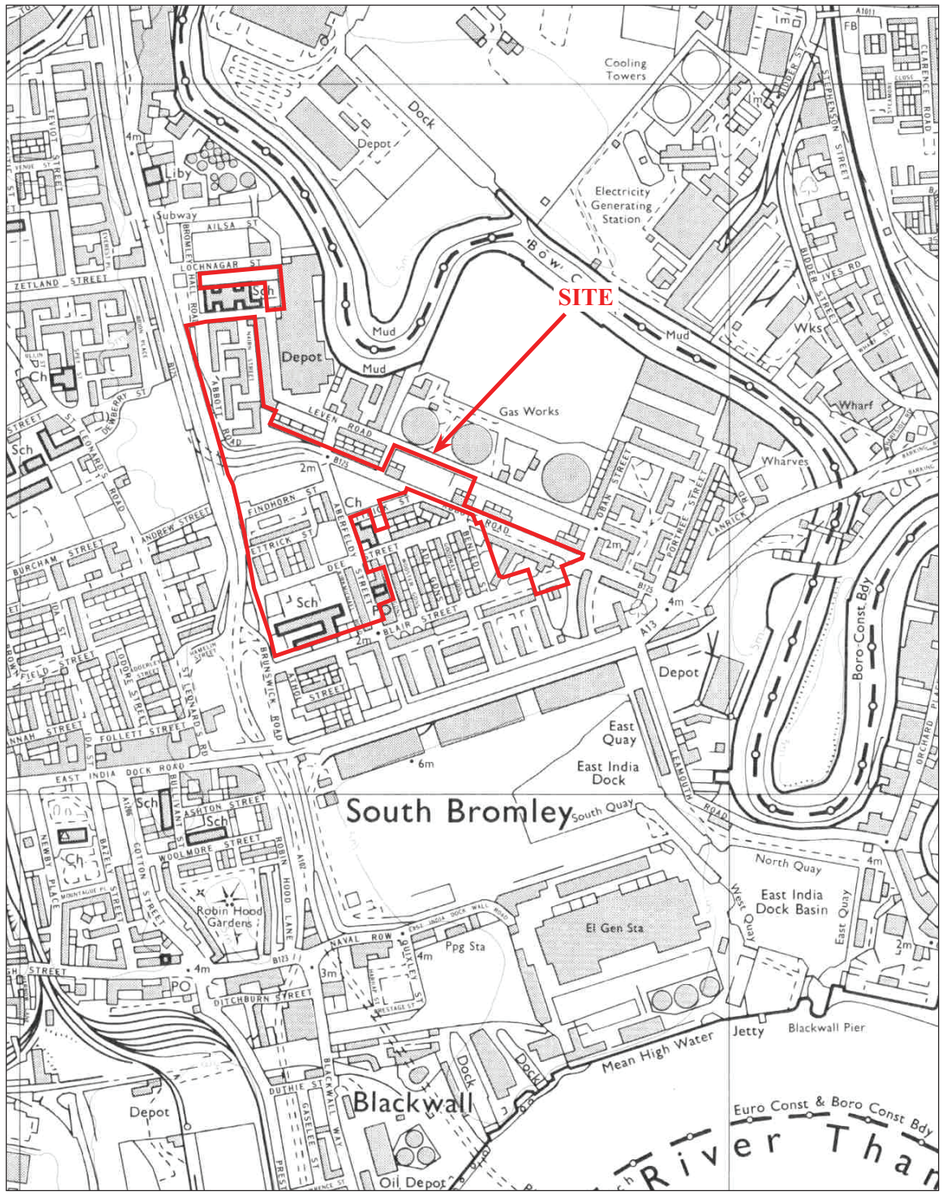
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 14. Ordnance Survey, 1973.

THAMES VALLEY ARCHAEOLOGICAL SERVICES

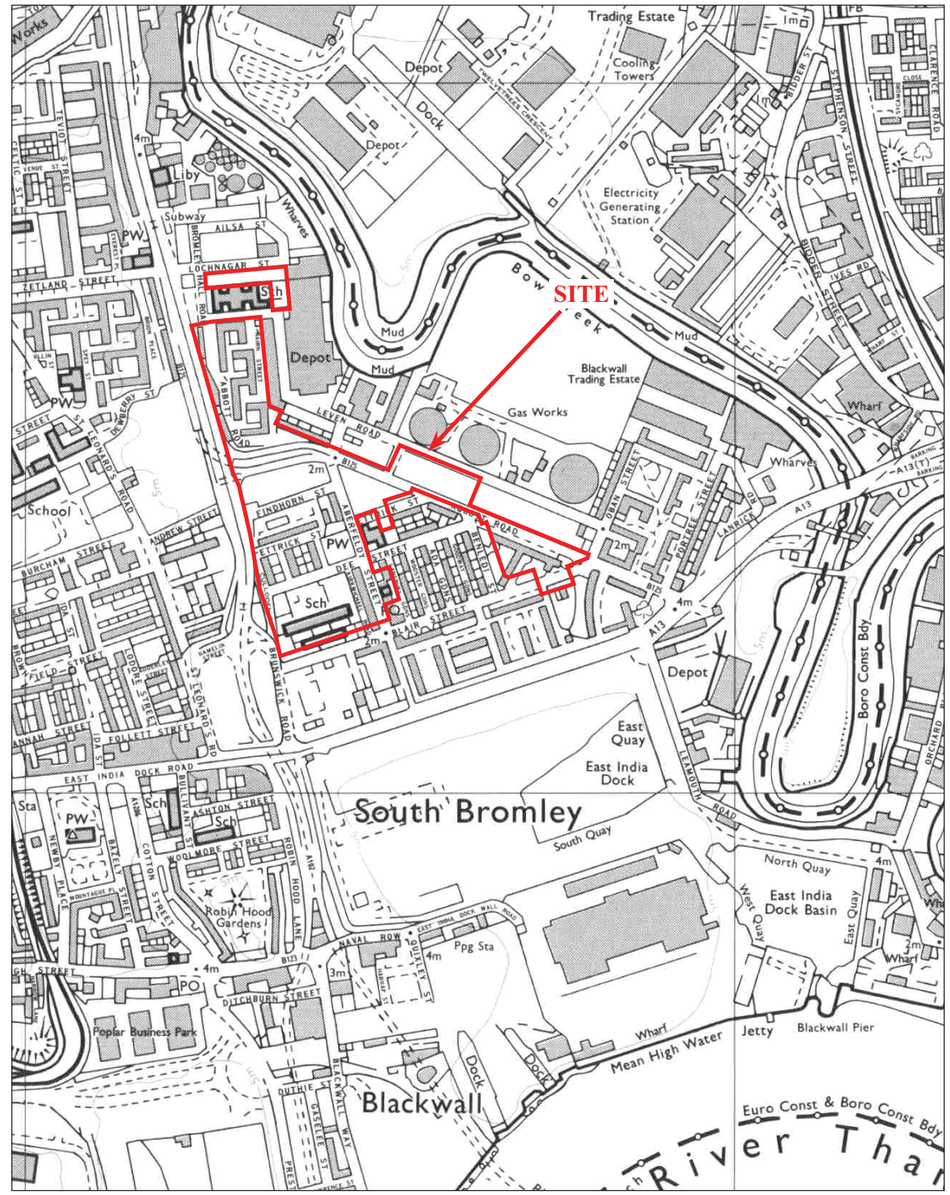


AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 15. Ordnance Survey, 1981.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

THAMES VALLEY ARCHAEOLOGICAL SERVICES

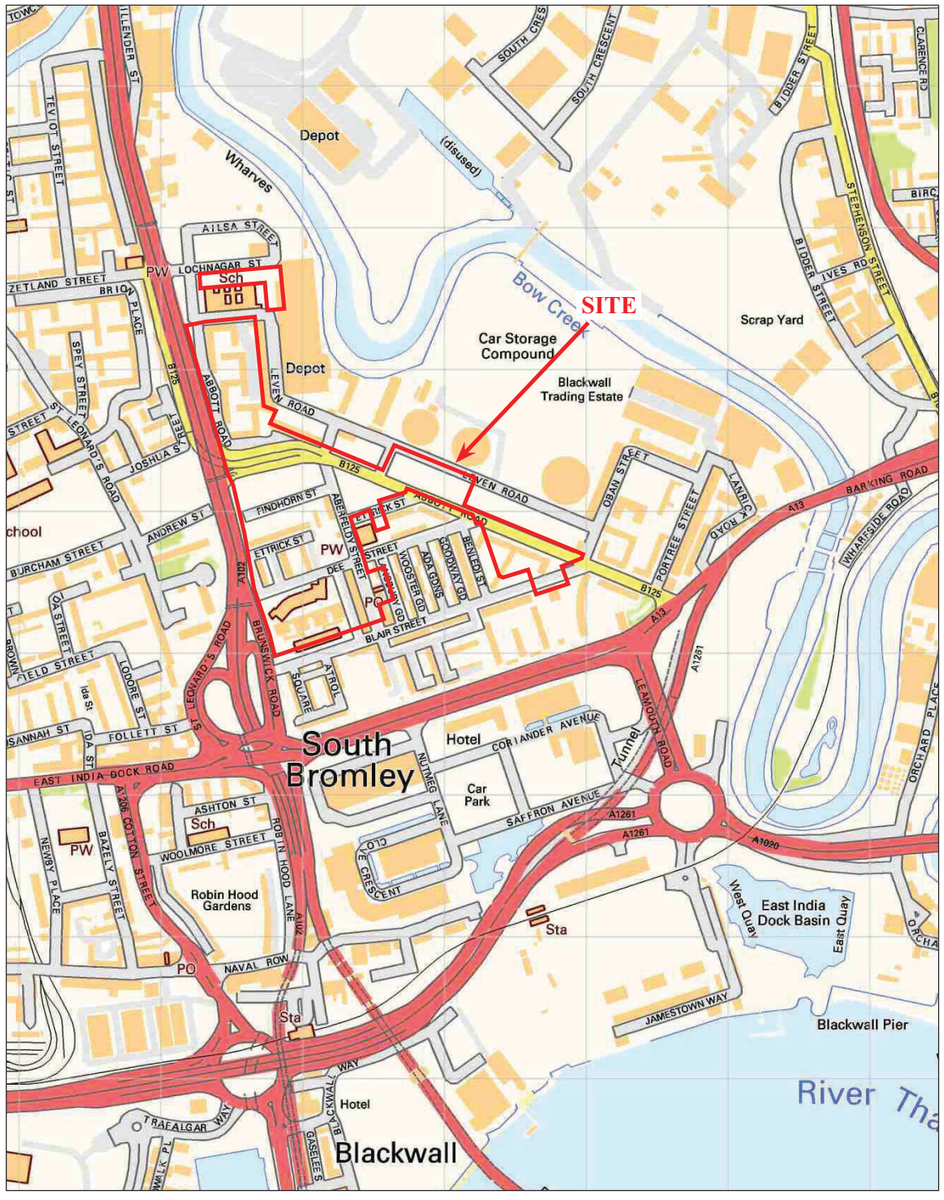


AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 16. Ordnance Survey, 1989.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

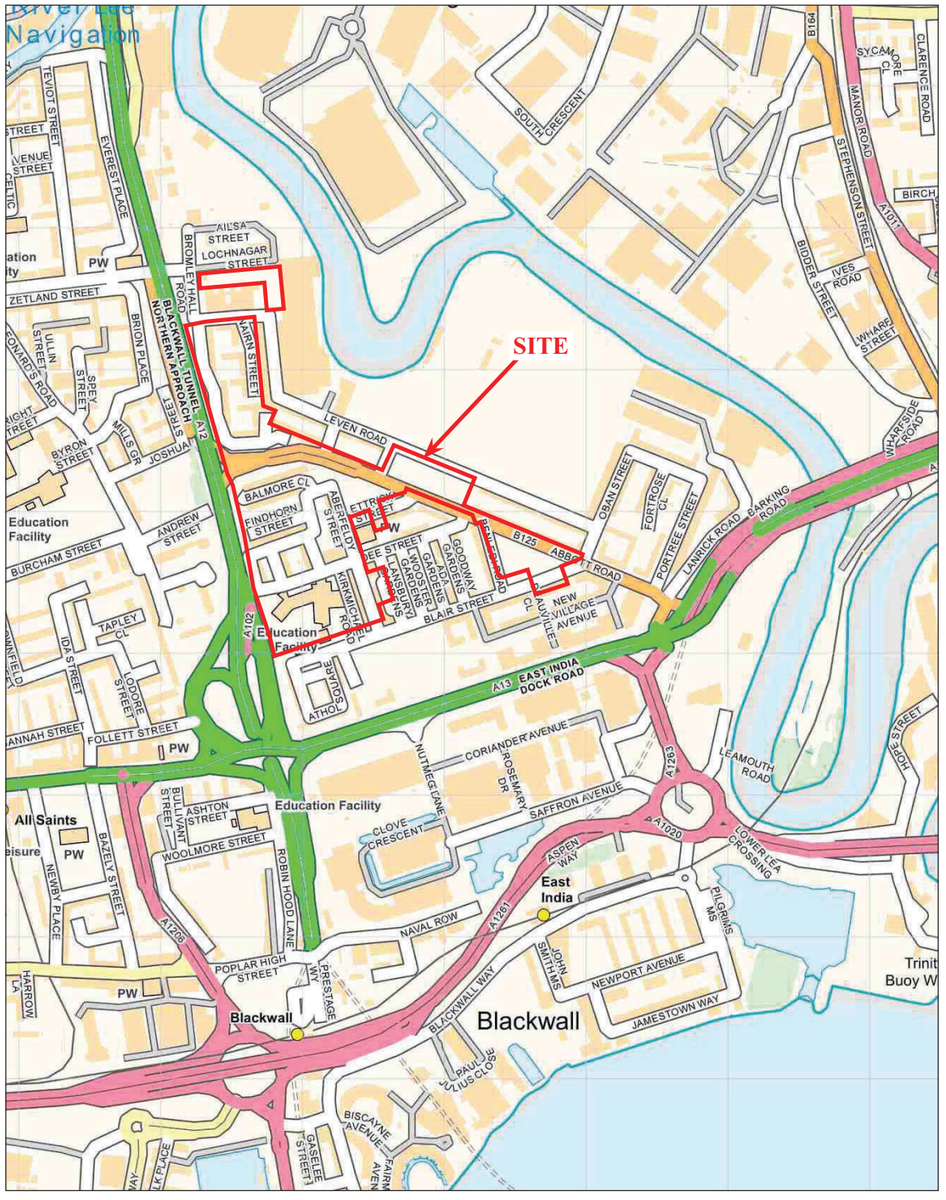
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 17. Ordnance Survey, 2001.

THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London, 2020
Archaeological Desk-based Assessment
Figure 18. Ordnance Survey, 2020.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

THAMES VALLEY ARCHAEOLOGICAL SERVICES

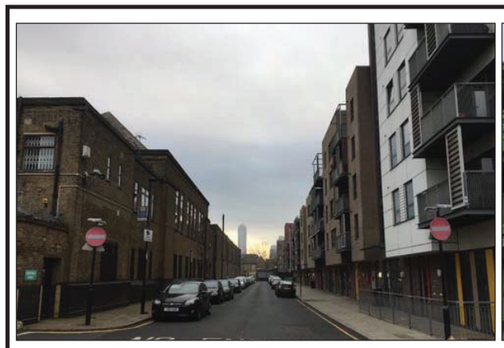


Plate 1. Leven Road, looking south.

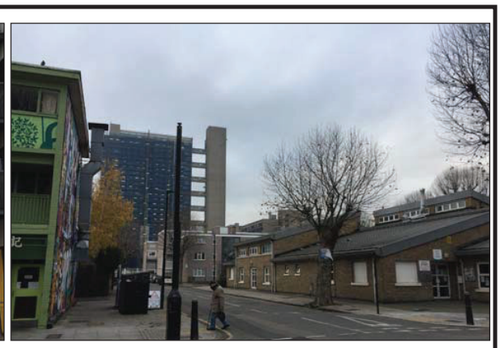


Plate 2. South-west of the site, looking north-west from Blair Street.



Plate 3. Dee Street, looking west.

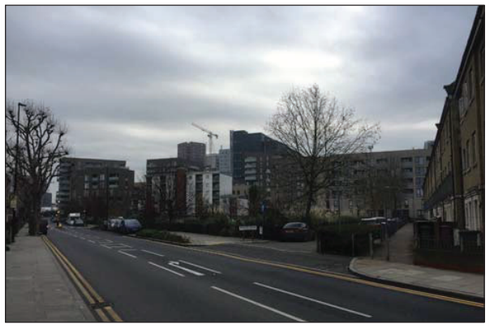


Plate 4. Brathewaite Park, looking south.



Plate 5. Looking south from Abbott Road towards Baltimore Close, Balfron Tower and Carradale House in background.



Plate 6. Nairn Street, looking south.

NMW 20/177

N

Aberfeldy Village, Lighterman Point, New Village Avenue, Poplar, London, 2020
Archaeological Desk-based Assessment
Plates 1 - 6.

THAMES VALLEY ARCHAEOLOGICAL SERVICES

TIME CHART

	Calendar Years
Modern	AD 1901
Victorian	AD 1837
Post Medieval	AD 1500
Medieval	AD 1066
Saxon	AD 410
Roman	AD 43
	AD 0 BC
Iron Age	750 BC
Bronze Age: Late	1300 BC
Bronze Age: Middle	1700 BC
Bronze Age: Early	2100 BC
Neolithic: Late	3300 BC
Neolithic: Early	4300 BC
Mesolithic: Late	6000 BC
Mesolithic: Early	10000 BC
Palaeolithic: Upper	30000 BC
Palaeolithic: Middle	70000 BC
Palaeolithic: Lower	2,000,000 BC

APPENDIX E - Preliminary Ecological Appraisal

Thames Valley Archaeological Services Ltd,
47-49 De Beauvoir Road,
Reading RG1 5NR

Tel: 0118 9260552
Email: tvas@tvas.co.uk
Web: www.tvas.co.uk

Offices in:
Brighton, Taunton, Stoke-on-Trent, Wellingborough
and Ennis (Ireland)

QA

Aberfeldy Village – Preliminary Ecological Appraisal

Issue/Revision:	Draft	Final
Date:	November 2020	November 2020
Comments:		
Prepared by:	Daniel Perlaki	Daniel Perlaki
Signature:		
Authorised by:	Mike Harris	Mike Harris
Signature:		
File Reference:	551566dpOct20DV01_PEA	551566dp05Nov20FV01_PEA

CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 3

SITE DESCRIPTION 3

3.0 METHODOLOGY 4

DESKTOP REVIEW 4

ON SITE SURVEYS 4

SURVEYORS 7

CONSTRAINTS 8

4.0 RESULTS 9

DESKTOP REVIEW 9

5.0 EVALUATION AND DISCUSSION 22

BASELINE SUMMARY 22

DISCUSSION AND RECOMMENDATIONS 23

ECOLOGICAL ENHANCEMENT OPPORTUNITIES 25

6.0 SUMMARY & CONCLUSION 27

FIGURE 1 SITE PLAN AND HABITAT MAP 28

FIGURE 2 POTENTIAL ROOSTING FEATURE PLAN 29

APPENDIX 1 RELEVANT LEGISLATION AND POLICY 30

LEGISLATION 30

PLANNING POLICY 33

REFERENCES 40

1.0 EXECUTIVE SUMMARY

1.1 Greengage Environmental Ltd was commissioned to undertake a Preliminary Ecological Appraisal by Aberfeldy New Village LLP of a site known as Aberfeldy Village in Poplar, London Borough of Tower Hamlets.

1.2 This document is a report of this survey and has been produced to support amendments to an existing planning submission for the site. The site benefits from a six-phase permission, initially granted in outline with all matters reserved, with phases 1 – 3 since granted full permission. Phases 1 – 3a are fully built out. Phase 3b is under construction, which is the last two blocks of Phase 3. Phases 1 + 2 are fully occupied. Phase 3a is partially occupied.

1.3 Proposals seek substantial changes to phases 4 – 6 to increase the density of residential, and to increase and change the character of the commercial and retail offer.

1.4 This survey aimed to establish the ecological value of this site and the presence/likely absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

1.5 The desk study has identified that the nearest statutory/non-statutory designated site is the River Lea Site of Importance for Nature Conservation (SINC), 100m from site. The closest statutory designated site is Tower Hamlets Cemetery Park LNR, 1.5km from the site. The site is also located approximately 6.4km from the Epping Forest Special Area of Conservation (SAC).

1.6 The site survey identified only common and widespread urban habitats of limited ecological value on site.

1.7 The site has potential to support the following notable and/or protected species:

- Low potential to support foraging and commuting bats;
- Low potential to support roosting bats;
- Moderate potential to support nesting birds; and
- Confirmed presence of invasive/non-native species.

1.8 In order to ensure there are no impacts upon the River Lea SINC, a Construction Environment Management Plan should be produced and adopted. All other designated sites are considered to be outside the zone of impact. To assess whether the proposed development is likely to have a significant effect on the Epping Forest SAC a stand-alone Habitat Regulations Assessment Likely Significant Effects Assessment should be undertaken.

1.9 Bat emergence/re-entry surveys are recommended of the buildings and trees which have potential to support roosting bats in order to identify an appropriate approach to mitigation. Recommendations relating to bat-sensitive lighting are outlined to mitigate any potential impacts associated with lighting upon foraging and commuting bats.

1.10 Timed clearance of vegetation with potential to support bird nests, or clearance only after an ecologist confirms the likely absence of nesting birds, is recommended to ensure there are no impacts upon nesting birds. Removal of invasive/non-native species is recommended. Soft landscaping is recommended to compensate for the loss of foraging habitat for bats and birds. This soft landscaping should avoid planting potentially invasive species as identified by the London Invasive Species Initiative.

1.11 Ecological enhancement recommendations are made with the intention of improving the ecological value of the site, including:

- Provision of living roofs designed to mimic brownfield site habitats;
- Wildlife friendly landscaping to provide foraging resources for local notable species. Proposals should utilise vertical spaces through provision of climbing plants on trellis systems; and
- Provision of bird and bat boxes within the built form of new buildings.

1.12 Should the recommendations within this report be followed, compliance with all relevant biodiversity protection legislation and planning policy can be achieved.

1.13 It is recommended that a Biodiversity Impact Assessment is undertaken to quantify the change in the ecological value of the site using the DEFRA Metric 2.0, to assess whether or not the site delivers biodiversity net gain.

Greengage
Aberfeldy New Village LLP
Aberfeldy Village

2.0 INTRODUCTION

2.1 Greengage was commissioned to undertake a Preliminary Ecological Appraisal (hereafter referred to as 'PEA') by Aberfeldy New Village LLP of a site known as Aberfeldy Village in Poplar, London Borough of Tower Hamlets.

2.2 This document is a report of this survey and has been produced to support amendments to an existing planning submission for the site. The site benefits from a six-phase permission, initially granted in outline with all matters reserved, with phases 1 – 3 since granted full permission. Phases 1 – 3a are fully built out. Phase 3b is under construction, which is the last two blocks of Phase 3. Phases 1 + 2 are fully occupied. Phase 3a is partially occupied.

2.3 Proposals seek substantial changes to phases 4 – 6 to increase the density of residential, and to increase and change the character of the commercial and retail offer.

2.4 This survey aimed to establish the ecological value of this site and the presence/likely absence of notable and/or legally protected species in order to inform appropriate mitigation, compensation and enhancement actions in light of proposed development works.

SITE DESCRIPTION

2.5 The survey area extends to approximately 7.35 hectares and is centred on National Grid Reference TQ383813, OS Co-ordinates 538392, 181361.

2.6 The site encompasses a number of plots which are separated by roads. It is located in Poplar in East London within a wider triangle shaped parcel bound by A13 East India Dock Road to the south, A12 Blackwall Tunnel Northern Approach to the west and Leven Road to the northeast. At its closest point, Bow Creek is 300m northeast of the site and the River Thames is ~700m south.

2.7 The site is located within a highly urbanised area of London and includes residential, commercial and educational buildings. Some plots also contain parks and recreational spaces, and other land use in the vicinity includes industrial (largely orientated around the River Thames). Transport infrastructure is the other major feature of the landscape within and surrounding the site, with major roads being present. Green infrastructure is somewhat limited, with pocket-parks and street trees making up the majority of greenspace, with the exception of the Thames and its associated habitats.

3.0 METHODOLOGY

3.1 The PEA (which included an Extended Ecological Phase 1 Survey) was undertaken in accordance with guidance in the Joint Nature Conservation Committee (JNCC) (2010) Handbook for Phase 1 Habitat Survey[1] and the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal[2], in accordance with BS42020:2013: Biodiversity[3]. The overall assessment consisted of:

- Site specific biological information gained from statutory and non-statutory consultation; and
- A site walkover, protected species scoping assessment and phase 1 habitat survey.

3.2 The site-specific consultation provided the ecological context for the site survey carried out on the 6th and 7th October 2020.

3.3 The survey boundary and existing site is shown at Figure 1.

3.4 Greengage undertook the site walkover during dry, overcast weather conditions. Features within the site boundary and accessible features immediately bordering it were evaluated and the extent and distribution of habitats and plant communities were recorded and supplemented with target notes on areas or species requiring further commentary. Fauna using the area were recorded and areas of habitat suitable for statutorily protected species were identified where present, with an active search carried out for evidence of such use.

DESKTOP REVIEW

3.5 A review of readily available ecological information and other relevant environmental databases (included Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website[4]) was undertaken for the site and its vicinity. In addition, a biological records search from Greenspace Information for Greater London (GiGL) was reviewed to identify the location and citations of local non-statutory designated sites and presence of records for notable and protected species. This provided the overall ecological context for the site, to better inform the Phase 1 Survey.

ON SITE SURVEYS

Flora

3.6 The extent and distribution of different habitats on site were identified and mapped according to the standard Phase 1 Survey methodologies, supplemented with target notes describing the dominant botanical species and any features of interest. Any present protected plant species and invasive/non-natives were also noted. A habitat map has been produced to illustrate the results, as shown at Figure 1.

Fauna

3.7 The Phase 1 Survey specifically included assessments to identify the potential value for notable, rare and protected species at site. This involved identifying potential habitats in terms of refugia, breeding sites and foraging areas in the context of species known to be present locally and regionally.

3.8 The likelihood of occurrence is ranked as follows:

- Negligible - While presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species. The site may also be outside the known national range for a species;
- Low - On-site habitat is poor to moderate quality for a given species, with few or no information about their presence from desk top study. However, presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats;
- Moderate - The on-site habitats are of moderate quality, providing most or all of the key requirements for a species. Several factors may limit the likelihood of occurrence, habitat severance, habitat disturbance and small habitat area;
- High - On-site habitat of high quality for given species. Site is within a regional or national stronghold for that particular species with good quality surroundings and good connectivity; and
- Present - Presence confirmed for the survey itself or recent, confirmed records from information gathered through desk top study.

3.9 The species surveyed for included:

Badger (Meles meles)

3.10 The potential for badger to inhabit or forage within the study area was assessed. Evidence of badger activity includes the identification of setts (a system of underground tunnels and nesting chambers), grubbed up grassland (caused by the animals digging for earthworms, slugs, beetles etc.), badger hairs, paths, latrines and paw prints.

Bat Species (Chiroptera)

3.11 The site visit was undertaken in daylight and the evaluation of bat potential comprised an assessment of natural features on site that aimed to identify characteristics suitable for bat roosts, foraging and commuting. In accordance with Bat Conservation Trust's *Good Practice Guidelines*[6] and methods given in English Nature's (now Natural England) *Bat Mitigation Guidelines*[6] consideration was given to:

- The availability of access to roosts for bats;
- The presence and suitability of crevices and other places as roosts; and

- Signs of bat activity or presence.

3.12 Definite signs of bat activity were taken to be:

- The bats themselves;
- Droppings;
- Grease marks;
- Scratch marks; and
- Urine spatter.

3.13 Signs of possible bat presence were taken to be:

- Stains; and
- Moth and butterfly wings.

3.14 Features with potential as roost sites include mature trees with holes, crevices or splits (the most utilised trees being oak, ash, beech, willow and Scots pine), caves, bridges, tunnels and buildings with cracks or gaps serving as possible access points to voids or crevices.

3.15 Additionally, linear natural features such as tree lines, hedgerows and river corridors are often considered valuable for commuting and semi-natural habitats such as woodland, meadows and waterbodies can provide important foraging resources. Consideration was given to the presence of these features both immediately within and adjacent to the assessment area.

Great Crested Newt (Triturus cristatus)

3.16 An assessment was carried out to identify any potential habitats that may support great crested newt (GCN) and other native amphibians. The aquatic and terrestrial habitats required generally include small, still ponds or water bodies suitable for breeding; and woodland or grassland areas where there is optimal invertebrate prey potential.

Reptiles

3.17 The potential for reptile species on site was assessed during the walkover survey. Possible species include grass snake (*Natrix natrix*), smooth snake (*Coronella austriaca*), adder (*Vipera berus*), common and sand lizard (*Lacerta vivipara* and *L. agilis*) and slow worm (*Anguis fragilis*). These native reptile species generally require open areas with low, mixed-height vegetation, such as heathland, rough grassland, and open scrub or,

in the case of grass snake, waterbody margins. Suitable well drained and frost-free areas are needed so they can survive the winter.

Dormouse (Muscardinus avellanarius)

3.18 During the walkover survey the potential for dormouse to be present on site was assessed. This included observations for suitable habitat such as well-layered woodland, scrub and linking hedgerows, particularly those comprised of species offering suitable food sources such as honeysuckle and hazel, in addition to direct evidence such as characteristically gnawed hazelnuts, chewed ash keys and honeysuckle flowers, or nests.

Water Vole (Arvicola terrestris)

3.19 Water vole potential was assessed during the walkover survey. The potential is identified by the presence of ditches, rivers, dykes and lakes with holes and runs along the banks. Latrines, footprints or piles of food can also be noted.

Otter (Lutra lutra)

3.20 Where desktop review or consultation indicates the presence of otter in a river catchment, the presence of water bodies with good cover and potential holt (den) sites would be noted. Spraint, footprints or food remains can also be noted.

Birds

3.21 During the walkover survey, the potential for breeding, wintering and migratory birds was assessed. In particular, this includes areas of trees, scrub, heathland and wetlands that could support nests for common or notable species.

Invertebrates

3.22 As part of the walkover survey the quality of invertebrate habitat and the potential for notable terrestrial and aquatic invertebrate species was considered. There is a wide variety of habitats suitable for invertebrates including wetland areas, heathland, areas of bare sandy soil, ephemeral brownfield vegetation and meadows.

Biodiversity Action Plan priority species/ Species of Principal Importance

3.23 Where consultation and desk-study indicates the presence of BAP priority species (Species of Principal Importance) not protected by statute, effort was made to establish the potential for the site to support these species.

SURVEYORS

3.24 Daniel Perlaki, who undertook the surveys at site and prepared this report, has an undergraduate degree in Ecology (BSc Hons), a Master's degree in Conservation Science

and Policy and is a Graduate member of CIEEM. Daniel has over 4 years' experience in the commercial ecology sector.

3.25 Mike Harris, who reviewed this report, has a Bachelor's degree in Environmental Biology (BSc Hons), a Natural England Great Crested Newt Licence (2015-17819-CLS-CLS) and Dormouse Licence (2016-21291-CLS-CLS), is a Chartered Environmentalist (CEnv) and is a Full member of CIEEM. Mike has over 17 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

3.26 This report was written by Daniel Perlaki and reviewed and verified by Mike Harris who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

CONSTRAINTS

3.27 The PEA was undertaken during a suitable time of year during suitable conditions by a qualified ecologist. Several areas of the site were not accessible during the survey including areas of private residential gardens, the school grounds and an area fenced off in the north of the site. However, habitats present within these inaccessible areas were assessed through the use of aerial photography and by viewing some of these areas from publicly accessible points. Therefore, despite these areas not being surveyed in full on site, the use of aerial photography has allowed a suitable assessment to be undertaken so that conclusions can be made accordingly.

3.28 The exception to the above is the assessment of bat potential in trees and buildings associated with the school. Given the restrictions associated with working in and around an active school, an assessment of the buildings and trees for bat potential could not be undertaken.

3.29 No further significant constraints that stand to impact conclusions drawn in this report therefore presented themselves.

4.0 RESULTS

DESKTOP REVIEW

Designations

4.1 Consultations with the local biological record centres (GiGL) and the MAGIC dataset have confirmed that there are no statutory designations of national or international importance within the boundary of the site.

4.2 There is however two Local Nature Reserves (LNRs) within a 2km radius. Additionally, the Epping Forest SAC lies within 6.4km of the site.

4.3 Records from GiGL also identified 24 non-statutory Sites of Importance of Nature Conservation (SINCs) within 2km of the site boundary. SINCs are recognised by LPAs as important wildlife sites.

4.4 Table 4.1 below gives the locations and descriptions of a selection of the nearest/most relevant local designations.

Table 4.1 Statutory and Non-Statutory Designated Sites within Search Radius

Site Name	Approximate Location	Description
Statutory Designations		
Epping Forest Special Area of Conservation (SAC)	6.4km north	A European designated site covering approximately 1630ha compromising areas of inland water bodies (Standing water, Running water) (6%), Bogs, Marshes, Water fringed vegetation, Fens (0.2%), Heath, Scrub, Maquis and Garrigue, Phygrana (3.8%), Dry grassland, Steppes (20%) and Broad-leaved deciduous woodland (70%). Primary reasons for its designation include the presence of Annex I habitat Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*) and Annex II species stag beetle (*Lucanus cervus*). The site also supports Annex I habitats Northern Atlantic wet heaths with *Erica tetralix* and European Dry Heaths, although these habitats are not primary reason for the selection of the site. Epping Forest represents Atlantic acidophilous beech forests in the north-eastern part of the habitat's UK range. Although the epiphytes at this site have declined, largely as a result of air pollution, it remains important for a range of rare species, including the moss *Zygodon forsteri*. The long history of pollarding, and resultant large number of veteran trees, ensures that the site is also rich in fungi and dead-wood invertebrates. Epping Forest is a large woodland area in which records of stag beetle are widespread and frequent; the site straddles the Essex and east London population centres. Epping Forest is a very important site for fauna associated with decaying timber and

Site Name	Approximate Location	Description
		supports many Red Data Book and Nationally Scarce invertebrate species.
Tower Hamlets Cemetery Park LNR	1.5km northwest	The site is a cemetery with habitats including wildflower sown grasslands and scattered trees, including lime (*Tilia spp.*), horse chestnut (*Aeseculus hippocastanum*), London plane (*Platanus x hispanica*) and ash (*Fraxinus excelsior*). The site supports 30 species of breeding bird and 18 species of butterfly. It is designated for its wildlife value and use by schools and community groups.
Ackroyd Drive LNR	1.5km west	There is no readily available information relating to the reason for designation. Ackroyd Drive Greenlink connects Tower Hamlets Cemetery Park LNR and Mile End Park LNR to the south. Habitats include woodland and wildflower meadows.
Non-Statutory		
Lea Valley SINC (Metropolitan importance)	100m east at closest point	This sprawling series of open spaces, in the valley of the River Lea, includes lakes, reservoirs, marshes and wet grassland. This large site includes the River Lee Navigation, River Lea and associated watercourses downstream to the tidal limit in Tower Hamlets.
Robin Hood Gardens SINC (Local importance)	300m south	The site is designated for habitats including grassland and woodland, and access to nature. Most of the site is occupied by grassland with wildflowers such as black knapweed (*Centaurea nigra*), common mallow (*Malvus sylvestris*), daisy (*Bellis perennis*) and blue eryngo (*Eryngium planum*).
Thames Wharf SINC (Borough Grade I)	600m east	No information relating to designation, however habitats include scattered trees, scrub, semi-improved grassland and tall herbs.

Biodiversity Action Plans

4.5 UK Biodiversity Action Plans (BAPs) have been developed which set priorities for nationally important habitats and species. To support the BAPs, Species/Habitat Statements (otherwise known as Species/Habitat Action Plans) were produced that provide an overview of the status of the species and set out the broad policies that can be developed to conserve them. A list of priority species of conservation importance was also developed.

4.6 The UK BAP was succeeded in 2012 by the *UK-Post 2012 Biodiversity Framework* which informed the creation of the *Biodiversity 2020* strategy; England's contribution towards the UK's commitments under the *United Nations Convention of Biological Diversity*.

4.7 Despite this, the UK BAP priority species lists and conservation objectives still remain valid through integration with local BAPs (which remain valid), and in the form of the

Habitats and Species of Principle Importance list (as required under section 41 of the Natural Environment and Rural Communities (NERC) Act).

4.8 There are no BAP priority habitats on site, however the River Lea (running water) runs 70m east of the site.

4.9 Local Biodiversity Action Plans (LBAPs) ensure that national action plans (the UK BAP/Biodiversity 2020) are translated into effective action at the local level and establish targets and actions for locally characteristic species and habitats.

Tower Hamlets BAP 2019-2024

4.10 The Tower Hamlets BAP is broadly split into Habitat and Species Action Plans (HAPs and SAPs) setting out actions to conserve habitats and species of conservation importance to the borough.

4.11 Of note to this assessment is:

- Bats SAP;
- Hedgehog SAP;
- Black redstart SAP;
- House sparrow SAP;
- Swift SAP; and
- Jersey cudweed SAP.

Species Record

4.12 The information provided in the biological data search from GiGL identified records of a number of protected and BAP priority species within 2km search radius of the site. Among others, these include the following species of relevance to the site:

- Amphibians including common frog (*Rana temporaria*) and common toad (*Bufo bufo*);
- Slow worm (Anguis fragilis);
- Birds including swift (*Apus apus*), house martin (*Delichon urbicum*), swallow (*Hirundo rustica*), herring gull (*Larus argentatus*), Mediterranean gull (*Larus melanocephalus*), house sparrow (*Passer domesticus*), black redstart (*Phoenicurus ochruros*), starling (*Sturnus vulgaris*) and song thrush (*Turdus philomelos*);
- Terrestrial mammals including hedgehog (*Erinaceus europaeus*);
- Bats including common noctule (*Nyctalus noctula*), lesser noctule (*Nyctalus leisleri*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*) and Nathusius' pipistrelle (*P. nathusii*); and
- Protected plant species including Jersey cudweed (*Gnaphalium luteoalbum*).

Greengage
Aberfeldy New Village LLP
Aberfeldy Village

4.13 The species listed above are primarily those known to be in the area that may be impacted by any proposals at the site, or that stand to benefit as a consequence of potential ecological enhancements at the site and inform site-specific mitigation and enhancement recommendations described in the following chapter.

Detailed Description of Site: Habitats

4.14 The habitats presented across the assessment site consist of the following Joint Nature Conservation Committee (JNCC) Phase 1 Habitat categories, as mapped at Figure 1:

- Scattered scrub (A2.2);
- Cultivated/disturbed land – Amenity grassland (J1.2) with scattered trees;
- Introduced shrub (J1.4);
- Wall (J2.5);
- Buildings/hardstanding (J3.6/J3.6.1) with street trees; and
- Bare ground (J4).

Scattered scrub

4.15 Scattered scrub is present in one distinct area of the site. The northern-most plot features scattered scrub almost exclusively composed of butterfly bush (*Buddleja davidii*) and bramble (*Rubus fructicosus agg.*) around the boundary of the rectangular plot.

Amenity grassland with scattered trees

4.16 There are several large areas of amenity grassland within the assessment area, including a number of parks in which amenity grassland is the sole habitat. In these areas the amenity grassland is actively managed for recreation and is relatively species-poor. These areas are uniform in structure and species composition in all areas of the site.

4.17 The habitat is dominated by ryegrass (*Lolium sp.*), with other herbs, typical of these high-nutrient, intensively managed environments including yarrow (*Achillea millefolium*), dwarf mallow (*Malva neglecta*), dandelion (*Taraxacum spp.*), black medick (*Medicago lupulina*), chickweed (*Stellaria media*), dock (*Rumex obtusifolius*), burdock (*Arctium minor*), nettles (*Urtica dioica*), dove's-foot cranesbill (*Geranium molle*), ribwort plantain (*Plantago lanceolata*), greater plantain (*Plantago major*), daisy (*Bellis perennis*), annual meadowgrass (*Poa annua*) and creeping buttercup (*Ranunculus repens*).

4.18 In a single location denoted by Target Note 1 on Figure 1, black horehound (*Ballota nigra*) and autumn hawkbit (*Scorzoneroides autumnalis*) were recorded.

4.19 Scattered trees are present in all examples of this habitat. Specimens vary in species and age across the site but include London plane (*Platanus x hispanica*), field maple (*Acer campestre*), lime (*Tilia cordata*), horse chestnut (*Aeseculus hippocastanum*), rowan (*Sorbus aucuparia*), oak (*Quercus robur*), willow (*Salix spp.*) and birch (*Betula pendula*).

Figure 4.1 Amenity grassland with scattered trees in park areas





Introduced shrub

4.20 Introduced shrub habitats vary greatly across the site, and this categorisation includes self-set patches of butterfly bush of insufficient height to be considered scrub (target note 2), soft landscaping beds formally planted with ornamental species and private residential gardens, the latter being more prevalent.

4.21 Species present within formally planted beds in parks include Yucca sp., blueblossom (*Ceanothus thyrsiflorus*), Mexican orange blossom (*Choisya ternata*), St. John's wort (*Hypericum sp.*), paperplant (*Fatsia japonica*), Japanese honeysuckle (*Lonicera japonica*), *Cotoneaster sp.*, cherry laurel (*Prunus laurocerasus*), rowan, *Euphorbia sp.*, pampas grass (*Cortaderia selloana*), birch, hazel (*Corylus avellana*), sage (*Salvia officinalis*), lavender (*Lavandula angustifolia*), firethorn (*Pyracantha sp.*) and *Clematis sp.*.

4.22 Species present within residential gardens include Virginia creeper (*Parthenocissus quinquefolia*), apple (*Malus domestica*), olive tree (*Olea europaea*), elder (*Sambucus nigra*), cherry (*Prunus avium*), whitebeam (*Sorbus aria*), rosemary (*Rosmarinus officinalis*), cucumber (*Cucumis sativus*), strawberries (*Fragaria x ananassa*), rose (*Rosa sp.*), tomatoes (*Solanum lycopersicum*), grape vines (*Vitis sp.*), false acacia (*Robinia pseudoacacia*) and squash (*Cucurbita sp.*).

4.23 These species lists are not considered exhaustive. Residential gardens were not able to be accessed therefore full species lists were not possible.

Figure 4.2 Introduced shrub



Wall

4.24 A wall measuring approximately 2m tall along Blackwall Tunnel Approach (A12) at the end of Baltimore Close is densely covered in ivy (*Hedera helix*).

Buildings

4.25 Buildings across the site are of varying type and include residential, commercial, educational and community uses. These vary from single- to six-storey buildings with a mixture of construction types. The northern section of the site features uniform three- to four-storey residential dwellings of brick construction with corrugated metal roofing.

Figure 4.3 Buildings in the northern section of the site off Leven Road



4.26 Buildings in the main body of the site are typically four-storey flats with pitched tile roofs and balconies, but also present are terraced and semi-detached houses of brick construction.

Figure 4.4 Residential flats in the main body of the site



4.27 Of note is the green roof present on the art studios off Abbot Road (target note 3). This was not inspected during the site visit but viewed from satellite images.

4.28 It was not possible to assess the buildings associated with the school as access was not possible to this area of the site.

Hardstanding with street trees

4.29 Hardstanding across the site includes asphalt roads, paving slabs, hard landscaping, bonded gravel play areas and brick paving. This is largely in good condition and has limited encroachment of ruderal/early colonising species.

4.30 There are numerous street trees present across the site. Most prominent are mature London planes. Also present are Swedish whitebeam (*Sorbus x intermedia*), sycamore (*Acer pseudoplatanus*) and tree-of-heaven (*Ailanthus altissima*).

Figure 4.5 Typical hard surfaces



Bare ground

4.31 The northernmost plot with scattered scrub habitat around the boundary is largely composed of bare ground. This has been colonised by species such as bramble, bristly oxtongue (*Helminthotheca echioides*) and Canadian fleabane (*Erigeron canadensis*).

Detailed description of Site: Species

Badger

4.32 The site is situated in an urban context which provides little value for badgers. There is insufficient foraging habitat and hardstanding/sealed surfaces are by far the most dominant habitat which is unsuitable for sett building. Additionally, there are no records for badgers within 2km of the site. As such, the site is considered to have **negligible potential** to support badgers.

Bats

Foraging and Commuting

4.33 There are records for five species of bat within 2km of the site. Additionally, the River Lea and Bow Creek, which run approximately 100m from the site at the closest point, connects the site to the wider landscape and provides a linear habitat feature which would allow bats to reach the site.

4.34 However, habitats present on site are of very limited value for foraging or commuting bats. The most common habitats on site are artificial and feature sealed surfaces with

no vegetation cover. As such they are unlikely to support invertebrate prey. The semi-natural habitats on site are all managed for amenity/recreational uses and are also unlikely to be of value for foraging or commuting. Additionally, the site is subject to high levels of disturbance associated with highly urbanised settings, such as noise, vibration and external lighting, all of which are likely to deter bats from using the site.

4.35 As such, the site is considered to have **low potential** to support foraging and commuting bats.

Roosting

4.36 An assessment of the trees on site identified numerous features which have the potential to support roosting bats:

Table 4.2 Trees with potential roosting features

Tree reference and species (See Figure 2 for location)	Potential roost feature(s)	Potential to support roosting bats
T1 London plane	Large rot hole on north side of main stem at 3m	Low
T2 London plane	Rot hole on southwest side of main stem at 3.5m and small rot hole at 4.5m on secondary branch	Low
T3 London plane	Rot hole at 6.5m on north side in canopy	Low
T4 London plan	Rot hole at 5m on southeast side of main stem	Low
T5 False acacia	Cavity at 6m in central canopy on south side, visible from public road	Low

Figure 4.6 Potential roosting features within trees



4.37 In addition, a number of features associated with the built form were identified as having potential to support roosting bats. These include:

- Gaps above garage doors leading to internal voids which were not accessible;
- Gap above soffit box and below roofing material on buildings;
- Crack between underside of slabs on balconies;
- Lifted flashing on bin stores;
- Missing/dislodged roof wiles; and
- Missing mortar/crack in brick wall.

4.38 The location of all potential roosting features identified is shown in Figure 2. The potential roosting features associated with the built form are all considered to have low potential to support summer feeding roosts of common crevice dwelling species such as common pipistrelle (Pipistrellus pipistrellus). None of the features identified have potential to support hibernation or maternity roosts.

Figure 4.7 Potential roosting features within the built form



Birds

4.39 There are records for numerous notable species within a 2km radius. During the site visit, goldfinch (*Carduelis carduelis*), carrion crow (*Corvus corone*), magpie (*Pica pica*), wood pigeon (*Columba palumbus*), rock dove (*Columba livia domsestica*), great tit (*Parus major*), lesser black-backed gulls (*Larus fuscus*) and a juvenile herring gull were recorded. Of particular note was the presence of approximately 50 crows present on Aberfeldy Millennium Green at any one time.

4.40 Habitats on site, however, provide limited value for foraging birds. They are largely species poor with a lack of native berry producing shrubs.

4.41 The mature street trees and scattered trees in parks offer nesting opportunities for passerine species, however only one old nest was identified in a tree (target note 4). Overall, the site is considered to have **moderate potential** to support nesting birds.

4.42 A specific assessment of the potential for the site to support black redstart was undertaken owing to the legislative protection afforded this species. There is no suitable foraging habitat on site (black redstart favour sparse vegetation with bare rock/ground). Additionally, no features associated with the buildings present on site were identified as having potential to support nesting black redstarts.

Protected Plant Species

4.43 The survey did not identify the presence of Jersey cudweed or any other protected plant species. As the survey was undertaken at a suitable time of year for botanical identification, protected plant species are **likely absent**.

Other Notable/Protected Species

4.44 Given the site's location, setting and habitats, it is considered to have negligible potential to support great crested newt, reptiles, dormouse, water vole and otter.

Invasive/Non-native species

4.45 Virginia creeper is an invasive/non-native species (INNS) listed on Schedule 9 of the Wildlife and Countryside Act (as amended) 1981. This makes it an offence to cause it to grow in the wild.

4.46 Additionally, *Buddleja davidii* is listed on the London Invasive Species Initiative (LISI) Species of Concern list.

4.47 Both of these species are **confirmed present**. No other INNS were recorded on site.

5.0 EVALUATION AND DISCUSSION

BASELINE SUMMARY

5.1 The assessment site and its surroundings have potential to support the following ecological receptors of note, which could therefore be impacted upon by any future prospective development proposals, as indicated in Table 5.2 below. Comment on further recommendations for each receptor is provided; further detail and discussion can be found at paragraph 5.2 onward:

Table 5.2 Baseline Summary

Receptor	Presence/Potential Presence	Comments
Designated Sites: Statutory	Present within 1.5km	Owing to the distance from the site and presence of significant geographical barriers, there are no predicted impacts during the construction phase. Potential impacts associated with operation include increased footfall/recreational pressure. In addition to the above, the impacts of the development, both during construction and operation, need to be assessed with regards to Epping Forest SAC which lies approximately 6.4km north of the site. The key potential impacts are here relate to recreational pressure, water resource and air quality.
Designated Sites: Non-Statutory	Present within 100m	As above with regards to construction impacts. Operational impacts upon the closest non-statutory designated site (Lea Valley SINC) include potential for increased litter, however increased recreational pressure is not relevant due to its inaccessibility. The banks of the river nearest to the site are canalised with industrial land uses along much of the river front limiting public access for recreation.
Foraging and commuting bats	Low potential	The site is considered to have low potential to support foraging and commuting bats owing to the common urban habitat types present. Impacts associated with site preparation/construction, in the absence of mitigation, include permanent loss of suboptimal foraging habitat.

Receptor	Presence/Potential Presence	Comments
Roosting bats	Low potential	To determine the likelihood of impacts associated with demolition/site clearance, roosting bats must be confirmed as presence or likely absent. This should be undertaken through bat emergence/re-entry surveys of features identified as having potential to support roosting bats.
Birds	Moderate potential	Site clearance has the potential to result in the destruction of active nests/killing of birds and loss of poor foraging habitat and nesting opportunities.
Invasive/Non-native species	Confirmed present	Through site clearance and preparation, all Virginia creeper and *Buddleja davidii* should be collected and removed from the site responsibly. Landscaping proposals should avoid planting species known to be INNS or those which have the potential to become invasive.

DISCUSSION AND RECOMMENDATIONS

5.2 Discussion is provided below on the key ecological receptors that stand to be impacted/benefit from proposed works; high level commentary on appropriate mitigation, compensation and enhancement actions is also provided.

5.3 An Ecological Management Plan (EMP) and Construction Environmental Management Plan (CEMP) should be produced and implemented for the site providing greater detail on the below, which should be secured through planning condition in accordance with BS 42020: 2013 Biodiversity.

Designated sites

Statutory – European Designated sites

5.4 To assess whether the proposed development is likely to have a significant effect on the Epping Forest SAC a stand-alone Habitat Regulations Assessment Likely Significant Effects Assessment should be undertaken. This assessment should assess, as a minimum, the potential effects of recreational pressure, air quality and water resources on the SAC.

Statutory – Local Designated sites

5.5 Potential operational impacts upon LNRs within 2km of the site are associated with increased footfall. However, the statutory designated sites identified are designated specifically for recreational/educational purposes and as such will be managed to tolerate high levels of visitation.

5.6 Additionally, the presence of existing and proposed publicly accessible parks and other outdoor spaces is likely to divert or at least dissipate visitors from the nearby LNRs.

5.7 It is therefore considered unlikely that the proposed development will result in significant adverse impacts upon local statutory designated sites.

Non-Statutory

5.8 Whilst construction phase impacts are considered to be unlikely, given the proximity of the northernmost section of the site to the River Lea, a CEMP should be produced to detail how pollution/runoff from the site during site preparation/construction is avoided and minimised.

5.9 As with statutory designated sites, publicly accessible SINCs within the vicinity of the site are specifically designated for access to nature. As such they will be managed for recreation and impacts associated with increased footfall/visitation are unlikely to be significantly adverse.

Bats

Foraging and Commuting

5.10 Site clearance has the potential to result in the loss of poor foraging/commuting habitat for bats. To avoid impacts associated with site clearance, site layout should avoid installation of hard surfaces in the parks/green spaces within the site. Additionally, retention of all mature street trees should be sought, where possible.

5.11 Compensatory soft landscaping should seek to provide foraging and commuting habitat for bats, following design recommendations discussed below.

Roosting

5.12 Potential impacts upon roosting bats cannot be assessed without confirmation of their presence/likely absence. As the site has potential to support roosting bats, site clearance/demolition has the potential to destroy roosts/kill or injure bats, therefore should only be undertaken once roosting bats are confirmed absent or a sufficient mitigation strategy is in place. Although it cannot be confirmed at this stage, given the habitats present on site, the type of access and egress points noted and the species records within 2km, if a roost is found to be present on site it is likely to be for a relatively common species and be of low conservation value e.g. a pipistrelle summer transitory roost for a low number of individuals. This, however, will need to be confirmed through further survey.

5.13 To confirm the presence/likely absence of roosting bats, bat emergence/re-entry surveys should be undertaken focussing upon the buildings and trees identified as having potential roosting features. In line with best practice guidelines[7], buildings with low potential to support roosting bats should be subject to a single emergence or return

survey between May and August. Trees with low potential do not require any further survey, instead, if they are to be lost, they should be section felled, with limbs lowered gently to the ground and left on the ground for 24hrs before being disposed of.

5.14 Results from these surveys will be used to identify a suitable approach to mitigation for roosting bats, should it be required.

Birds

5.15 The scrub, introduced shrub and scattered tree habitats across the site have potential to support nesting birds, however they are only likely to provide value for common species with no additional legislative protection over and above that provided to all nesting birds (see Appendix 1).

5.16 Should clearance of any of these habitats be required, it should be undertaken outside of the nesting bird season (taken to run from March to August inclusive). Should clearance be required within the nesting bird season, it should only be done so after an ecologist conducts a nesting bird check and confirms the likely absence of nesting birds.

5.17 Compensatory soft landscaping should be provided to compensate for the loss of foraging habitat, following design guidance below. Additionally, nest boxes should be incorporated within the built form of any new buildings on site and fitted to mature street trees retained within the scheme.

Invasive/Non-native species

5.18 Virginia creeper and *Buddleja davidii* should be removed from the site wherever they are encountered and disposed of responsibly.

5.19 Landscaping proposals should consult the LISI species of concern lists to ensure any planting does not include potential INNS.

ECOLOGICAL ENHANCEMENT OPPORTUNITIES

5.20 Habitats on site are of limited ecological value and are common and widespread within the immediate vicinity. As such, proposals have the opportunity to improve the ecological value of the site. The change in ecological value of the site, upon finalisation of proposals, should be assessed through a Biodiversity Impact Assessment (BIA) utilising the DEFRA Metric 2.0. The following recommendations are made for improving the ecological value of the site:

- Extensive, substrate-based biodiverse roofs should be provided on all suitable flat roof areas within the project, where possible. These should be designed with low-nutrient substrate and floral assemblages to mimic brownfield sites to provide foraging opportunities for black redstart as well as other species of bird, bats and invertebrates;

Aberfeldy New Village LLP
Aberfeldy Village

- Landscaping proposals should be wildlife friendly and be dominated by native species, with a wide flowering window. Vertical spaces should be utilised through incorporation of climbers on trellises featuring hops (*Humulus lupulus*), ivy (*Hedera helix*), clematis (*Clematis vitalba*) and passionflower (*Passiflora sp.*). In place of standard turf mixes, species-rich lawns or wildflower meadows should be created;
- The inclusion of rain gardens as part of a surface water drainage strategy which can then be planted with native species; and
- Bird nest boxes and bat boxes should be incorporated within the built form of all new buildings in suitable locations, providing value for house sparrow, swift, black redstart and pipistrelle species.

5.21 An EMP could be secured through planning condition to provide detail on all ecological mitigation and enhancement measures and actions for the site.

6.0 SUMMARY & CONCLUSION

6.1 Greengage was commissioned by Aberfeldy New Village LLP to undertake a PEA of a site known as the Aberfeldy Village in the London Borough of Tower Hamlets in order to establish the ecological value of this site and its potential to support notable and/or legally protected species.

6.2 The site lies within 6.4km of the European designated Epping Forest SAC and the effects of the development on this designated site should be assess in a stand-alone HRA Likely Significance Test document.

6.3 The PEA identified only common and widespread urban habitats of limited ecological value on site. The nearest statutory/non-statutory designated site is the River Lea SINC, 100m from site. The site has potential to support the following notable and/or protected species:

- Low potential to support foraging and commuting bats;
- Low potential to support roosting bats;
- Moderate potential to support nesting birds; and
- Confirmed presence of invasive/non-native species.

6.4 Key mitigation, compensation and enhancement actions are described to enable legislative and policy compliance (see context at Appendix 1), aiming to achieve net gains in biodiversity for the site.

6.5 Key actions should be included within EMP and CEMP documents for the site which could be secured through planning condition.

FIGURE 1 SITE PLAN AND HABITAT MAP

ABERFELDY VILLAGE

Approximate Site Boundary
Target Notes
Area not accessed

Habitats

A2.2 - Scrub - scattered
J1.2 - Cultivated/disturbed land - amenity grassland
J1.4 - Introduced shrub
J2.5 - Wall
J3.6 - Buildings
J4 - Bare ground
J3.6.1 - Hardstanding

0 100 200 300 400 500 m

N

Greengage

Greengage Environmental Ltd
9 Holyrood Street, London SE1 2EL

www.greengage-env.com

Fig 1.0 Site Plan and Habitat Map

Project Number 551566
November 2020
1 to 2,500 at A3
Basemap data: Carto DB

FIGURE 2 POTENTIAL ROOSTING FEATURE PLAN

ABERFELDY VILLAGE

Approximate Site Boundary

Potential Roosting Features

- Gap above garage door leading to cavity
- Gap above soffit and below roofing material
- Gap between balcony slabs on underside
- Gap in brick wall
- Lifted flashing at base of balcony
- Lifted flashing on bin store
- Missing/dislodged roof tiles

Tree with Potential Roosting Feature

- Low

0 100 200 300 400 500 m

N

Greengage Environmental Ltd
9 Holyrood Street, London SE1 2EL

www.greengage-env.com

Fig 2.0 Potential Roost Feature Plan

Project Number 551566
November 2020
1 to 2,000 at A3
Basemap data: Carto DB

APPENDIX 1 RELEVANT LEGISLATION AND POLICY

LEGISLATION

Current key legislation relating to ecology includes the Wildlife and Countryside Act 1981 (as amended)[8]; The Conservation of Habitats and Species Regulations 2017 ('Habitats & Species Regulations')[9], The Countryside and Rights of Way Act 2000 (CRoW Act)[10], and The Natural Environment and Rural Communities Act, 2006[11].

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)[12], and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')[13], and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')[14] into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which —

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats[15] (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CRoW Act. The CRoW Act amends the law relating to nature conservation and protection of wildlife. In relation to threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (*Erinaceus europaeus*), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan[16] (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework[17] (and Biodiversity 2020 strategy[18] in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020[19] and EU Biodiversity Strategy (EUBS)[20], this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of *Species of Principal Importance for Nature Conservation*.

Regional and local BAPs are still valid however and continue to be updated and produced.

Detail on the relevant BAPs for this site are provided in the main text of this report.

Legislation Relating to Nesting Birds

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March

to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

Legislation Relating to Bats

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

Although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas.

The Wildlife & Countryside Act 1981 (WCA) was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annexe IV of the Habitats Directive, 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 43 of the Conservation of Habitats and Species Regulations 2017, which transposes the Habitats Directive into UK law. Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

This legislation applies to all bat life stages.

The implications of the above in relation to the proposals are that where it is necessary during construction to remove trees, buildings or structures in which bats roost, it must first be determined that work is compulsory and if so, appropriate licenses must be obtained from Natural England.

Legislation Relating to Natura 2000 Sites and Habitats Directive Annex I/II Species

European Commission Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive'), and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive') form the cornerstones

of nature conservation legislation across EU member states. Priority species requiring protection across Europe are listed in the Annexes of these Directives. Regulation 63(1) of the Conservation of Habitats and Species Regulations 2017 and Offshore Marine Conservation Regulations, 2007 (as amended) transpose these directives into UK law and set the basis for the designations of protected sites (known as Natura 2000 sites; Special Areas of Conservation under the Habitat Directive and Special Areas of Protection under the Birds Directive) that are of importance for habitats, species or assemblages listed on the directive Annexes. In the UK Ramsar sites are also offered the same level of protection as SPAs and SACs however the qualifying species for the designation may differ; Ramsar sites being designated specifically as important wetland habitats.

Under article 6(3) of the Habitats Directive, where projects stand to have likely significant effect (in accordance with the European Court of Justice ruling of C-127/02 Waddenzee cockle fishing) upon the integrity of conservation objectives (i.e. conservation status of the qualifying species or habitats) within the designated sites then the Competent Authority must undertake an Appropriate Assessment.

PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2019[21] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

The London Plan: Spatial Development Strategy for Greater London[22]

The London Plan is comprised of separate chapters relating to a number of areas, including London's Places, People, Economy and Transport. The following policies have been identified within the London Plan, which relate specifically to ecology and this development.

Policy 2.18 Green Infrastructure

Policy 2.18 aims to protect, promote, expand and manage the extent and quality of, and access to, London's network of open and green spaces.

Policy 5.10 Urban Greening

This policy encourages the 'greening of London's buildings and spaces and specifically those in central London by including a target for increasing the area of green space (including green roofs etc) within the Central Activities Zone'.

Policy 5.11 Green Roofs and Development Site Environs

Policy 5.11 specifically supports the inclusion of planting within developments and encourages boroughs to support the inclusion of green roofs.

Policy 5.13 Sustainable Drainage

Policy 5.13 promotes the inclusion of sustainable urban drainage systems in developments and sets out a drainage hierarchy that developers should follow when designing their schemes.

Policy 7.19 Biodiversity and Access to Nature

'The Mayor will work with all the relevant partners to ensure a proactive approach to the protection, enhancement, creation, promotion and management of biodiversity in support of the Mayors Biodiversity Strategy.'

The Draft New London Plan (emerging)

Policy G1 Green infrastructure

A. London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.

B. Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.

C. Development Plans and Opportunity Area Planning Frameworks should:

    1. identify key green infrastructure assets, their function and their potential function

    2. identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.

Greengage
Aberfeldy New Village LLP
Aberfeldy Village

Policy G2 London's Green Belt

A. The Green Belt should be protected from inappropriate development:

    1. development proposals that would harm the Green Belt should be refused

    2. the enhancement of the Green Belt to provide appropriate multi-functional uses for Londoners should be supported.

Policy G5 Urban greening

A. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

B. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development.

Policy G6 Biodiversity and access to nature

C. Where harm to a SINC (other than a European (International) designated site) is unavoidable, the following approach should be applied to minimise development impacts:

    1. avoid adverse impact to the special biodiversity interest of the site

    2. minimise the spatial impact and mitigate it by improving the quality or management of the rest of the site

    3. seek appropriate off-site compensation only in exceptional cases where the benefits of the development proposal clearly outweigh the biodiversity impacts.

D. Biodiversity enhancement should be considered from the start of the development process.

E. Proposals which create new or improved habitats that result in positive gains for biodiversity should be considered positively, as should measures to reduce deficiencies in access to wildlife sites.

Policy G7 Trees and woodlands

C. Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If it is imperative that trees have to be

Preliminary Ecological Appraisal

removed, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

Supplementary Planning Guidance (SPG): Sustainable Design and Construction 2014

As part of the London Plan 2011 implementation framework, the SPG, relating to sustainable design and construction, was adopted in April 2014 and includes the following sections detailing Mayoral priorities in relation to biodiversity of relevance to The Site.

Nature conservation and biodiversity

The Mayor's priorities include ensuring 'developers make a contribution to biodiversity on their development Site'.

Overheating

Where priorities include the inclusions of 'measures, in the design of schemes, in line with the cooling hierarchy set out in London Plan policy 5.9 to prevent overheating over the scheme's lifetime'

Urban greening

A Priority is for developers to 'integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network'.

Use less energy

'The design of developments should prioritise passive measures' which can include 'green roofs, green walls and other green infrastructure which can keep buildings warm or cool and improve biodiversity and contribute to sustainable urban drainage'.

London Environment Strategy 2018[23]

The Mayor's Environment Strategy was published in May 2018. This document sets out the strategic vision for the environment throughout London. Although not primarily a planning guidance document, it does set strategic objectives, policies and proposals that are of relevance to the delivery of new development in a planning context, including:

Aberfeldy New Village LLP
Aberfeldy Village

Objective 5.1 Make more than half of London green by 2050

Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now.

This policy states:

"New development proposals should avoid reducing the overall amount of green cover and, where possible, seek to enhance the wider green infrastructure network to increase the benefits this provides. […] New developments should aim to avoid fragmentation of existing green space, reduce storm water run-off rates by using sustainable drainage, and include new tree planting, wildlife-friendly landscaping, or features such as green roofs to mitigate any unavoidable loss".

This supports the 'environmental net gain' approach promoted by government in the 25 Year Environment Plan.

Proposal 5.1.1.d The London Plan includes policies to green streets and buildings, including increasing the extent of green roofs, green walls and sustainable drainage.

Objective 5.2 conserving and enhancement wildlife and natural habitats

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

This policy requires new development to include new wildlife habitat, nesting and roosting sites, and ecologically appropriate landscaping will provide more resources for wildlife and help to strengthen ecological corridors. It states:

"*Opportunities should be sought to create or restore priority habitats (previously known as UK Biodiversity Action Plan habitats) that have been identified as conservation priorities in London [and] all land managers and landowners should take BAP priority species into account*".

Tower Hamlets Local Plan 2031 (adopted Jan 2020)

The Tower Hamlets Local Plan sets out how the LPA will manage growth in Tower Hamlets and ensure the benefits are shared with all the residents over the next 15 years.

Policy S.ES1 Protecting and enhancing our environment

This policy states:

1. Proposals will be supported which minimise the use of natural resources and work proactively to protect and enhance the quality of the natural environment, through:

A. reducing the areas of sub-standard air quality in the borough and,contributing towards delivering the objectives of the latest Tower Hamlets,Air Quality Action Plan

Preliminary Ecological Appraisal

B. protecting and enhancing biodiversity, with the aim of meeting the,objectives of the latest Tower Hamlets Local Biodiversity Action Plan and Thames River Basin Management Plan and improving opportunities to experience nature, in particular in deficient areas

C. using the sequential and exceptions tests to direct development away from high flood risk areas and reduce flood risk in the borough

D. reducing water use

E. following the energy hierarchy: be lean, be clean and be green

F. maximising climate change adaptation measures, and

G. improving water and land quality and mitigating the adverse effects of contaminated land on human health.

Policy D.ES3 Urban greening and biodiversity

1. Development is required to protect and enhance biodiversity, through:

A. maximising the provision of 'living building' elements

B. retaining existing habitats and features of biodiversity value or, if this is not possible, replacing them within the development, as well as incorporating additional measures to enhance biodiversity, proportionate to the development proposed, and

C. protecting and increasing the provision of trees, through:

i. protecting all trees, including street trees

ii. incorporating native trees, wherever possible

iii. providing replacement trees, including street trees, where the loss of or impact on trees in a development is considered acceptable.

2. Major development is required to submit an ecology assessment demonstrating biodiversity enhancements that contribute to the objectives of the latest Tower Hamlets Local Biodiversity Action Plan and the Thames River Basin Management Plan.

3. Planting and landscaping around developments must not include 'potentially invasive non-native species'. Invasive non-native species listed in Schedule 9 of the Wildlife and Countryside Act must be controlled, and eradicated where possible, as part of redevelopment.

4. Development must not negatively impact on any designated European site such as Special Protection Areas, Special Areas of Conservation or Ramsar sites. Developments which might have the potential to adversely impact a Special Protection Area or Special Area of Conservation outside the borough will be required to submit a Habitat Regulations Assessment.

5. Developments which affect a Site of Importance for Nature Conservation, or significantly harm the population or conservation status of a protected or priority species, are required to be managed in accordance with the following hierarchy:

Aberfeldy New Village LLP
Aberfeldy Village

A. Adverse impacts to the biodiversity interest should be avoided.

B. Where avoidance is not possible, proposals must minimise and mitigate the impact to the biodiversity interest.

C. As a last resort for exceptional cases where the benefits of the proposal clearly outweigh the biodiversity impacts, appropriate compensation will be sought.

D. Where appropriate compensation is not possible, planning permission will be refused.

Preliminary Ecological Appraisal

REFERENCES

[1] Joint Nature Conservation Committee (2010); Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. JNCC, Peterborough.

[2] CIEEM (2017); Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

[3] BSI (2013); British Standard 42020:2013: Biodiversity — Code of practice for planning and development, BSI Standards Publication

[4] MAGIC (2019); Interactive Map. (Partnership project involving six government organisations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.

[5] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

[6] English Nature, (2004); Bat Mitigation Guidelines. English Nature.

[7] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

[8] HM Government, (1981); Part I and Part II of Wildlife and Countryside Act (as amended). HMSO

[9] HM Government, (2017); The Conservation of Habitats and Species Regulations 2017. Statutory Instrument 2017 no. 490 Wildlife Countryside. OPSI

[10] HM Government, (2000); The Countryside and Rights of Way Act. HMSO

[11] HM Government, (2006); Natural Environment and Rural Communities Act 2006. HMSO

[12] HM Government, (1994); The Conservation (Natural Habitats, &c.) Regulations. HMSO

[13] CEC (Council of the European Communities), (1992); Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

[14] The European Parliament And Of The Council, (30 November 2009); Directive 2009/147/EC On The Conservation Of Wild Birds (Codified Version)

[15] CEC (Council of the European Communities), (1979); Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 19.IX.1979). EC

[16] UK Biodiversity Action Plan (2007). UKBAP Priority Species and Habitats. http://www.ukbap.org.uk/newprioritylist.aspx

[17] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012). UK Post-2010
Biodiversity Framework. July 2012. Available from: http://jncc.defra.gov.uk/page-6189

[18] Defra (2011). Biodiversity 2020: A strategy for England's wildlife and ecosystem services

[19] Convention on Biological Diversity (CBD) (2010). Decision X/2 Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets. Available at https://www.cbd.int/decision/cop/?id=12268

[20] European Commission (2012). Our life insurance, our natural capital: an EU biodiversity strategy to 2020 European Parliament resolution of 20 April 2012 on our life insurance, our natural capital: an EU biodiversity strategy to 2020 (2011/2307(INI))

[21] GOV.UK. (2019). *National Planning Policy Framework*. [online] Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2 [Accessed 13 June 2019].

[22] Greater London Authority (2016). The London Plan: The Spatial Development Strategy for London Consolidated with Alterations Since 2011. London: Greater London Authority.

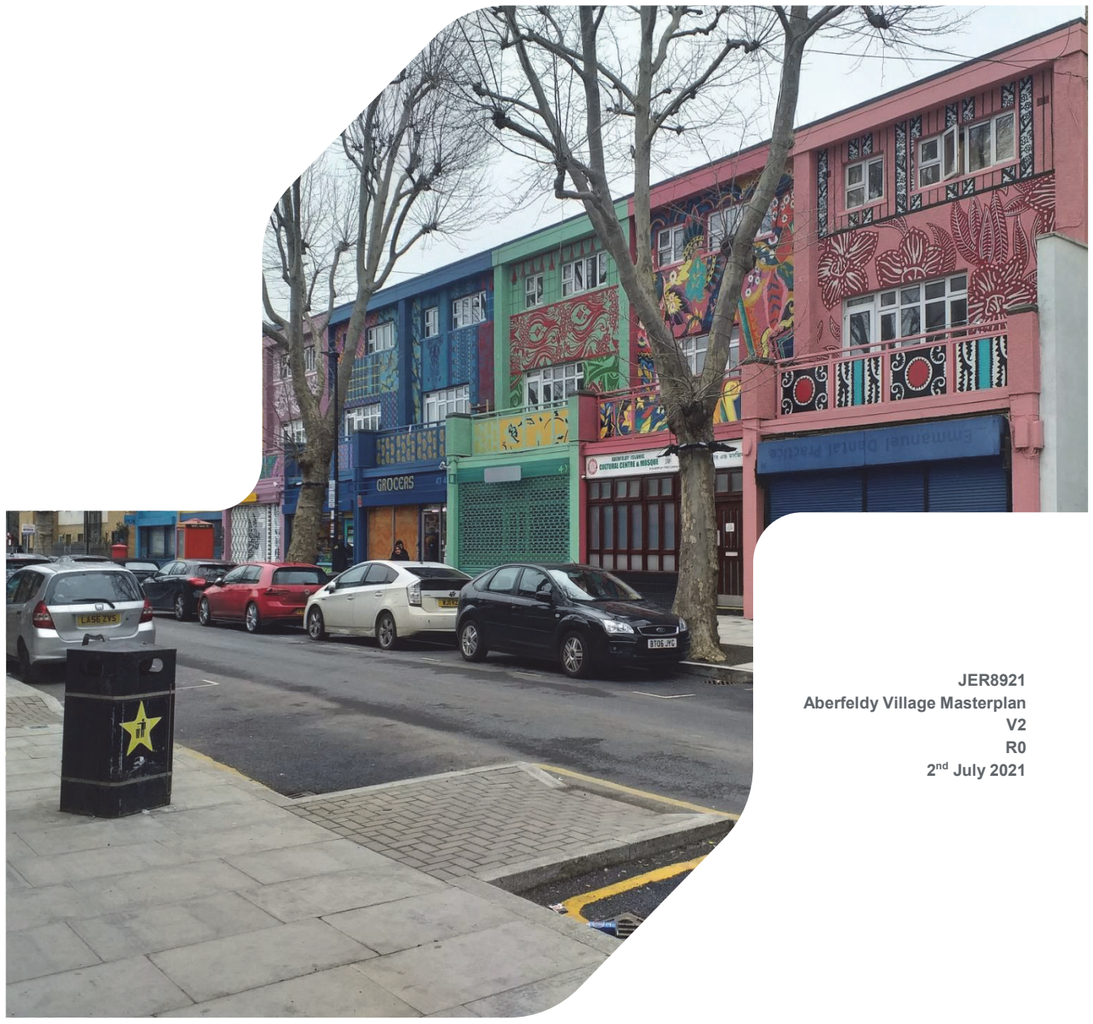
[23] Greater London Authority (2018). *London Environment Strategy 2018*. London: Greater London Authority.

Aberfeldy New Village LLP
Aberfeldy Village

Preliminary Ecological Appraisal

PHASE 1 PRELIMINARY GEO-ENVIRONMENTAL AND GEOTECHNICAL RISK ASSESSMENT

Aberfeldy Village Masterplan, Aberfeldy Street, London E14 0NU



JER8921
Aberfeldy Village Masterplan
V2
R0
2nd July 2021

Quality Management					
Version	**Revision**	**Authored by**	**Reviewed by**	**Approved by**	**Date**
V1	R0	Jonathan Griffiths	n/a	n/a	9 April 2021
V1	R1	Jonathan Griffiths	Jim Lightbown	n/a	20 April 2021
V1	R2	Jonathan Griffiths	Jim Lightbown	Jim Lightbown	21 April 2021
V2	R0	Jonathan Griffiths	Jim Lightbown	Jim Lightbown	2 July 2021

Approval for issue		
Jim Lightbown	Technical Director	2 July 2021

File Name
210421 R JER8921_Aberfeldy Village Master Plan Phase 1 Preliminary Risk Assessment V2 R0

The report has been prepared for the exclusive use and benefit of our client and solely for the purpose for which it is provided. Unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS') no part of this report should be reproduced, distributed or communicated to any third party. RPS does not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report.

The report has been prepared using the information provided to RPS by its client, or others on behalf of its client. To the fullest extent permitted by law, RPS shall not be liable for any loss or damage suffered by the client arising from fraud, misrepresentation, withholding of information material relevant to the report or required by RPS, or other default relating to such information, whether on the client's part or that of the other information sources, unless such fraud, misrepresentation, withholding or such other default is evident to RPS without further enquiry. It is expressly stated that no independent verification of any documents or information supplied by the client or others on behalf of the client has been made. The report shall be used for general information only.

Prepared by:

RPS

Jonathan Griffiths

Geo-Environmental Consultant

20 Farringdon Street
London, EC4A 4AB

T +44 20 72 803 240

E jonathan.griffiths@rpsgroup.com

Prepared for:

Aberfeldy New Village LLP

Contents

1 INTRODUCTION 1
1.1 Preamble 1
1.2 Proposed Development 1
1.3 Objectives 2
1.4 Legislation and Guidance 2

2 SITE RECONNAISSANCE AND DESK STUDY 3
2.1 Site Reconnaissance 3
The Site 3
The Surrounding Area 5
2.2 Site History 5
Historical Map Review 5
Site Planning History 7
2.3 Previous Reports 8
2.4 Environmental Setting 15
Geology 15
Hydrogeology 16
Surface Water 16
Ecologically Sensitive Sites 17
Radon 17
Coal Authority 17
BGS Ground Stability Hazard Ratings 17
2.5 Authorised Processes and Pollution Incidents 18
Landfills and Waste Sites 18
Environmental Permits 18
COMAH Sites 19
Pollution Incidents 19
2.6 Unexploded Ordnance 19
2.7 Regulatory Consultations 20

3 OUTLINE CONCEPTUAL SITE MODEL 21
3.1 Background 21
3.2 Potential Pollutant Linkages 21
Potential Contaminant Sources 21
Potential Pathways 23
Potential Receptors 23
3.3 Outline Conceptual Site Model 24

4 PRELIMINARY GEOTECHNICAL RISK ASSESSMENT 27
4.1 Preliminary Geotechnical Risk Register 27
4.2 Preliminary Geotechnical Assessment 28
Ground Conditions 28
Foundations 29
Floor Slabs 29
Buried Structures 29

5 CONCLUSIONS AND RECOMMENDATIONS 30
5.1 Geo-Environmental 30
5.2 Geotechnical 30
5.3 Additional Considerations 31

REFERENCES 32

Tables

Table 2-1 – Summary of on-site activities 3
Table 2-2 – Neighbouring Land Uses 5
Table 2-3 – Historical Site Uses 5
Table 2-4 – Historical Neighbouring Site Uses 6
Table 2-5 – Descriptions of Geological Strata 15
Table 2-6 – Potentially Potable Licensed Groundwater Abstractions 16
Table 2-7 – Nearby Watercourses and Water Bodies 16
Table 2-8 – Licensed Surface Water Abstractions 17
Table 2-9 – BGS Ground Stability Hazard Ratings 17
Table 2-10 – Landfill / Waste Transfer / Waste Treatment Sites 18
Table 2-11 – Environmental Permits 18
Table 2-12 – Recorded operations listed under COMAH within 500m 19
Table 2-13 – Pollution Incidents on site and significant incidents within 500m 19
Table 3-1 – Outline Conceptual Site Model 25
Table 4-1 – Preliminary Geotechnical Risk Register 27

Figures

Figure 1: Site Location Plan
Figure 2: Site Boundary and Desk Study Area Locations
Figure 3: Current on site Potential Sources of Contamination

Appendices

Appendix A Thames Water Asset Location Search
Appendix B Site Photographs
Appendix C Database information
Appendix D Part 2A (The Contaminated Land Regime)
Appendix E General Notes

1 INTRODUCTION

1.1 Preamble

1.1.1 RPS Consulting Services Ltd (RPS) was commissioned by Aberfeldy New Village LLP to undertake a Phase 1 Preliminary Geo-environmental and Geotechnical Risk Assessment for the scheme known as the Aberfeldy Village Masterplan, Aberfeldy Street, London E14 0NU, prior to the proposed redevelopment of the site. A site location plan is provided as Figure 1.

1.1.2 The site covers approximately 6.05 hectares and currently predominantly comprises low rise residential buildings, up to four storeys in height. The Aberfeldy Practice is located in the east of the site and Blairgowrie Court in the far east. A number of retail premises are located along the southern end of Aberfeldy Street. A site boundary plan is provided as Figure 2.

1.1.3 It is understood that the report has been produced to support the planning application for the proposed development as described below.

1.2 Proposed Development

1.2.1 The proposed development comprises detailed and outline parts, which will include the phased demolition of non-retained structures and clearance of the site. The proposed development is anticipated to provide:

Outline

1.2.2 Demolition of existing buildings and the provision of:

- Comprising approximately 1,330 units – Class C3.
- Approximately 5,000 m^2 GIA of Restaurant / Retail / Office – Class E(a),(b) and (g);
- Construction of new buildings up to 96m in height;
- Cycle and pedestrian routes through the site; and
- Provision of internal vehicle access routes.

Detailed

1.2.3 Demolition of existing buildings and the provision of 4 residential areas comprising:

- Comprising approximately 270 units – Class C3
- Approximately 2,500 m2 GIA of Restaurant / Retail / Office – Class E(a)(b); and
- Building heights ranging between approximately 7m to 42m in height.

1.2.4 A new access point is proposed to facilitate access to the proposed development from the A12 onto Abbott Road. In addition, the development seeks to pedestrianise the Abbott Road vehicular underpass at the existing Abbott Road junction to create a new walking and cycling route under the A12 and new public open space.

1.2.5 The Proposed Development intends to re-provide car parking provision onsite. It is envisaged this will be provided on street and within three podium car parks.

1.2.6 The landscape design intends to create a significant new public open space at the centre of the site.

1.3 Objectives

1.3.1 The principal objectives of this assessment were as follows:

- To assess potential sources of contamination at the site, associated with historical and current land uses both on site and in the surrounding area;
- To review the environmental setting to assess the sensitivity of the surrounding area to contamination/pollution;
- To produce an outline Conceptual Site Model (CSM) detailing how any contamination may impact the identified receptors via pollutant linkages;
- To review the ground conditions to determine potential engineering properties of the underlying soils to make provisional recommendations for the design and construction of foundations, floor slabs, road pavements, excavations and earthworks; and
- To conclude on the likely requirement for further geo-environmental and geotechnical assessment and investigation to support the detailed design for the scheme.

1.3.2 The Desk Study assessment is based upon a review of published information available from local, regional, and national agencies. The desk study information is derived from Envirocheck Reports provided by Landmark Information Group, Ref. 244333340_1_1 which is presented as Appendix C. Please note the terms and conditions attached to the supply of data from Landmark.

1.4 Legislation and Guidance

1.4.1 The assessment has been undertaken in general accordance with British Standard BS EN ISO 21365:2020 and is considered suitable to meet the initial requirements of planning as outlined within the National Planning Policy Framework (NPPF). The assessment also reflects the recommendations of Environmental Agency guidance, Land Contamination: Risk management, (LCRM 2020).

1.4.2 This report has been produced in general accordance with:

- Contaminated Land (England) Regulations 2006 (as amended);
- DEFRA Environmental Protection Act 1990: Part 2A - *Contaminated Land Statutory Guidance* (2012);
- Environment Agency (2020) Land Contaminated: Risk Management (LCRM 2020);
- National Planning Policy Framework (2019);
- CIRIA Document C665: *Assessing Risks Posed by Hazardous Ground Gases to Buildings*;
- British Standard requirements for the '*Investigation of potentially contaminated sites - Code of practice*' (ref. BS10175:2011+A1:2017);
- British Standard requirements for the '*Code of practice for ground investigations*' (ref. BS5930:2015+A1:2020); and,
- British Standard requirements for the '*Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings*' (ref BS8485:2015+A1:2019).

1.4.3 Details of the limitations of this type of assessment are described in Appendix E.

2 SITE RECONNAISSANCE AND DESK STUDY

2.1 Site Reconnaissance

2.1.1 This section of the report is based upon observations made during a site visit carried out on 17th March 2021. A site boundary plan is provided as Figure 2. Selected photographs are shown in Appendix B.

The Site

Table 2-1 – Summary of on-site activities

Section	Description
Background:	The site is located in the London Borough of Tower Hamlets and is bound in general terms by Leven Road to the North, the A12 to the west, Abbot Road to the east and Blair Street to the south. It also includes an area to the north of the main site area, south of Lochnager Street. The site is centred at approximate coordinates 538463, 181382. The site is irregular in shape and occupies an area of approximately 9ha.
Site Layout	For description purposes the site has been split into a number of areas which are detailed below and shown on Figure 2. **Blairgowrie Court** – Located in the far east of the site, to the south of Blair Street. **25-55 Aberfeldy Street –** Located in the south of the site, incorporating the retail premises and residential properties located along Aberfeldy Street. **The Aberfeldy Practice –** Located in the east of the site bound by Ettrick Street to the north and Dee Street to the south. **Aberfeldy Neighbourhood Centre –** Located in the approximate centre of the site with Aberfeldy Street to the east and Dee Street to the South. **Dee Street to Ettrick Street –** Four storey developments located in the west of the site bounded by Ettrick Street to the north and Dee Street to the South. **Ettrick Street to Abbot Road –** Includes flats and residential houses on Findhorn Street, Balmore Close and 57 to 67 Aberfeldy Street. **Between Abbot Road and Nairn Street –** The residential development located in the north of the site bounded by Leven Rd to the north, Abbot Road to the south and west and Nairn Street to the east. **Poplar Works –** New development located in the north west of the site running down the western boundary between Abbot Road and the A12. **Lochnager Street –** Located to the south of Lochnager Street and to the north of the former Bromley Hill School, this is a separate area to the main site.
Drainage:	Numerous surface water drainage features (manholes and drains) were observed across the site. Thames Water asset location plans indicate this drainage to discharge to local Thames Water sewers, which eventually join the main Thames Water sewer running under Abbot Road. A secondary Thames Water sewer runs along the western boundary of the site (beside the A12), encroaching the site and running under the Poplar Works area. No areas of flooding or standing water were observed during the walkover which may indicate poor drainage.
Bulk Storage / Tanks:	No evidence of bulk storage tanks was observed during the walkover. However, several warning signs for storage of petrol were noted on doors within the development between Abbot Road and Nain Street in the north of the site (example on Photo 01). Access into these areas was not possible at the time of the walkover to verify if/how the petrol was stored. It is suspected that these may make misrepresentative reference to the storage of diesel to fuel back-up generators in these areas.
Electricity Substations /Transformers:	One electricity substation was readily observed during the walkover. This was located in the far east of the site, in the south of the Blairgowrie Court area (Photo 02).
Visual Evidence of Contamination:	No visual evidence of contamination was noted at the time of the site walkover.

Section	Description
Other Geo-Environmental Issues:	Whilst no asbestos containing material was noted during the walkover, given the age of the buildings across the development it is highly likely that asbestos containing material may be present. In addition, the large amount of fly tipping around Lochnager Street may be a potential source of asbestos. (Photo 03)

2.1.2 Due to the size of the site it has been split into different sections to enable more detailed description of each part to be undertaken. The location of each area is presented on Figure 2. Summaries for each section on the activities/operations, building structures, surface coverage and waste are described below.

Blairgowrie Court

2.1.3 Located in the far east of the site, Blairgowrie Court comprises a five storey apartment complex to the south of Blair Street (Photo 04). The complex included an underground general and recycling refuse storage systems (Photo 05).

25 to 55 Aberfeldy Street

2.1.4 Located in the south of the site, this is formed of three storey brick built buildings on either side of Aberfeldy Street with retail premises at ground level and residential above (Photo 06). The retail premises were various and contained a number of takeaways, a pharmacy, general stores and an Islamic Cultural Centre. To the rear of these premises to the east, on Lansbury Gardens, is an area of hardstanding, which was being used for parking (Photo 07). To the rear of the shops to the west, on Kirkmichael Road, was a number of aircon units associated with the shops along with some cardboard recycling waste cages (Photo 08). A number of 1,000 litre wheeled recycling waste bins were located at the junction with Dee Street (Photo 09).

The Aberfeldy Practice

2.1.5 Located in the east of the site bound by Ettrick Street to the north and Dee Street to the South. The Aberfeldy Practice was a brick and steel built two storey structure. 1,000 litre wheeled general waste bins associated with the practice were located off Ettrick Street.

Aberfeldy Neighbourhood Centre

2.1.6 Located in the approximate centre of the site with Aberfeldy Street to the east and Dee Street to the south, this area of the site is occupied by the Aberfeldy Neighbourhood Centre (Photo 10). This includes a single storey brick built building, an area of hardstanding for ball games and a park/play area with soft landscaping (Photo 11). At the time of the walkover the park was closed due to Covid restrictions.

Dee Street to Ettrick Street

2.1.7 Located in the west of the site and bound by Ettrick Street to the north and Dee Street to the south, this area is formed of four storey residential flats with allotments/gardens in between (Photo 12). 1,000 litre wheeled general waste bins were located along Cullen Street (Photo 13).

Ettrick Street to Abbot Road

2.1.8 Located in the west of the site, this area is formed of four storey brick built flats along Findhorn Street (Photo 14), Two storey residential properties with gardens are present along Balmore Close (Photo 15) with recreation areas and soft landscaping (Photo 16) around the western end of Balmore Close and along Findhorn Street. Within the eastern part of this area are 57 to 67 Aberfeldy Street which are four storey structures containing flats. A large area of open green space is present to the rear of these properties along with a row of 10 domestic garages (Photo 17). A single storey brick rectangular building of unspecified use was also noted in the south east of this area *(identified within a previous assessment completed by Campbell Reith in 2011 as a flammable liquid store see Section 2.4 below)*.

Between Abbot Road and Nairn Street

2.1.9 Comprising residential development located in the north of the site bound by Leven Rd to the north, Abbot Road to the south and west and Nairn Street to the east. This is formed of four storey brick built structures (Photo 18) divided into flats with areas of soft landscaping and hardstanding for parking within the central courtyards (Photo 19).

Poplar Works

2.1.10 This is a new development located in the north west of the site running down the western boundary between Abbot Road and the A12. It comprises two storey brick built structures housing small commercial units (Photo 20).

Lochnager Street

2.1.11 Located to the south of Lochnager Street and to the north of the former Bromley Hill School, this is a separate area to the main site. The site is generally derelict land with fly tipping (Photo 21). A scaffolding company has set up a temporary storage area covering the majority of the site area.

The Surrounding Area

2.1.12 The site is located in an area of mixed commercial and residential land uses. At the time of the site inspection, neighbouring land generally consisted of the following:

Table 2-2 – Neighbouring Land Uses

Direction	Description
North:	Derelict land (partially associated with the former Bromley Hall School) labelled as a scrap yard and Tire Change on aerial mapping.
East:	Millenium Green, Leven Road Open Space with residential dwellings, a construction site (understood to comprise redevelopment of the former Poplar Gas Works) and the River Lea beyond.
South:	Residential dwellings and a construction site in relation to the earlier phase of the Aberfeldy Village Masterplan (Phases 1 to 3) with the East India Dock Road beyond. Braithwaite Park is located in to the immediate south east.
West:	A12 Blackwall Tunnel Northern approach with residential dwellings beyond.

2.2 Site History

Historical Map Review

2.2.1 The following review is based on past editions of readily available Ordnance Survey (OS) maps. These include scales of 1:1,250, 1:2,500 and 1:10,000 dated 1869 to 2021. Selected historical maps are provided in Appendix C.

Table 2-3 – Historical Site Uses

On-site Land Use and Features	Dates
Mostly comprised open land labelled Bromley Marsh.. Eight small rectangular buildings of unspecified use were present in the centre of the site **(in the current location of the Aberfeldy Neighbourhood Centre).**	1869 to c.1896
The site has been developed and now comprises mostly residential terraced housing. The area was labelled South Bromley as of c.1898 **(encompassing all site areas)**.	1896 to c.1916
The land portion in the far north **(Lochnager Street)** is indicated to partially comprise part of the adjacent school buildings labelled Bromley Hall School (c.1916 to c. 2006).	1916 to c.1946
The south west, central and south east of the site is indicated to be in ruin/ undeveloped **(25 to 55 Aberfeldy Street and Aberfeldy Neighbourhood Centre)**.	1946 to c.1954

On-site Land Use and Features	Dates
The northern and eastern portions of the site are now indicated to be vacant **(Between Abbot Road and Nairn Street and northern portion of Ettrick Street to Abbot Road)**.	1975 to c.1990
The central and eastern portion of the site now comprises vacant land. The north **(between Abbot Road and Nairn Street)** and far east **(Blairgowrie Court)** of the site has now been redeveloped with residential housing. The area of land in the far north of the site remains undeveloped (**Lochnager Street)**.	1990 to Present
The central portion of the site has now been developed to resemble the present day layout **(Ettrick Street to Abbot Road)**.	2006 to. Present

Table 2-4 – Historical Neighbouring Site Uses

Surrounding Land Uses (250m radius)	Orientation	Approximate Distance	Dates	
			From	To
Residential dwellings	West /South west	Adjacent	c.1869	Present
Macintosh's Farm	East	Adjacent	c.1869	c.1896
Clothing Works *Then* Factory	East	Adjacent	c.1947 c.1954	c.1954 c.1998
Islay Wharf *Then* potentially infilled	North east	Adjacent	c.1896	c.1982
Culloden Primary School (including electricity substation indicated to be present from c.1954)	South west	Adjacent	c.1916	Present
St. Nicholas Church	East	Adjacent	c.1954	Present
Braithwaite House *Then* Braithwaite Park	East	Adjacent	c.1949 c.2006	c.2006 Present
Garage	South	40m	c.1916	c. 1938
Car Shed *Then* Trolley Bus Depot *Then* Depot	East	40m	c.1916 c.1947 c.1965	c.1947 c.1965 Present
Ailsa Wharf With associated tanks	North east	50m	c.1896 c.1948	c.1948 c.1975
Electricity substation	South	50m	c.1947	c.2003
Devon Wharf	East	50m	c.1916	c.1955
Glaucus Works	East	50m	c.1947	c.1999
Timber Yard *Then* Timber Depot *Then* Depot	East	80m	c.1916 c.1955 c.1964	c.1954
Phoenix Sawmill	North west	90m	c.1896	c.1949
Rifle Range	East	90m	c.1954	c.1961
Open land labelled 'Bromley Marsh' *Then* Poplar Gas Works (including associated gasometers, tanks and infrastructure)	East/South east	95m	c.1869 c.1896	c.1896 c.2006
Poplar Hospital	South	100m	c.1920	c.1982
St Leonard's Warf comprising multiple tanks	North	100m	c.1896	c.1995
Bus Depot	South	100m	c.1947	c.1975
East India Dock with associated warehouses and infrastructure	South	120m	c.1869	c.1985
Warehouses *Then* Goods shed	South east	120m	c.1869 c.1947	c.1947 c.1948
Tramway	South	120m	c.1916	c.1947

Surrounding Land Uses (250m radius)	Orientation	Approximate Distance	Dates	
			From	To
G.E.R Wharf (with associated goods sheds, warehouses and infrastructure) *Then* Blackwall Goods Depot *Then* Salt depot *Then Depot* *Then* Tower Hamlets Vehicle Testing Station	South east	125m	c.1916 c.1947 c.1954 c.1969 Present	c.1947 c.1954 c.1969 c.1991
East India Dock North Quay *Then* potentially infilled	South	190m	c.1869	c.1985
Car Storage Yard	East	200m	c.1995	c.2006
Iron Bridge Wharf *Then* Waste Transfer Station labelled *Then* scaffolder's/pallet storage yard	East	230m	c.1896 c.1992 Present	c.1974 c.2020

Site Planning History

2.2.2 Relevant and readily available planning records for the site, as obtained from the planning portal on the London Borough of Tower Hamlets website are summarised as follows:

- Bromley Hall Road and Lochnagar Street: PA/00/00449- Temporary change of use (5 years) from vacant industrial use to open storage B8 use with ancillary carpark for use of Poplar Library Business Centre. Permit: 29th September 2000 **(Lochnagar Street)**.
- Bromley Hall Special School, Bromley Hall Road, London, E14 0LF: PA/02/00808- Change of use from school to office accommodation (B1) and storage (B8). Permit: 7th August 2002 **(Lochnagar Street)**.
- 229 Abbots Road: PA/00/01516- External refurbishment including communal areas and stairs, revised entrance, canopies, refuse arrangements, external works and parking arrangements. Permit: 21st December 2000 **(Between Abbot Road and Nairn Street)**.
- Former Site F Abbott Road, Aberfeldy Street, Findhorn Street, Aberfeldy Estate, E14 (East India Ward): PA/98/01436- Erection of two and three storey residential development comprising 41 houses and 2 flats with landscaping and car parking. Permit: 25th November 1999 **(Ettrick Street to Abbot Road)**.
  - PA/00/00886- Submission of details on: Elevational design and external appearance (condition 2a); Walls fencing and railings (condition 2b); Landscaping (condition 2c); Means of rubbish disposal (condition 2e); Means of sound insulation (condition 4); and Contamination survey and remedial works (condition 7). Permit: 6th March 2001. Reports relating to contamination surveys and remedial works were not available for review upon the Local Authority website.
- Aberfeldy Estate, Abbott Road, London, E14: PA/11/03548/P1- Erection of three blocks between 4 and 10 storeys on the corner of Abbott Road and East India Dock Road to provide 342 new residential units, 352 sq.m. new retail floorspace (Use Classes A1 and A3), a marketing suite of 407 sq.m. (Use Class A2), semi-basement and ground floor parking, cycle parking, landscaped public open space and private amenity space and other associated works. Permit: 20th June 2012 **(Entire site area excluding Lochnagar Street and addition land to the south of the current masterplan boundary)**.
  - PA/12/02713/S- Submission of Details pursuant to Conditions 14, (foul and surface water) and 15, (site investigation). Permit: 12th December 2012. Reference made to a Land Quality Statement completed by Campbell Reith dated October 2011 (ref: SRMsrm10620 181011-LQS-F1.docx) and Ground Gas Addendum Report issued by

Campbell Reith 20th September 2012 (JWCjap10620-200912-Gas Addendum Ltr v2.doc) – *reviewed under Section 2.4 below*.

- Heather House, Tartan House and Thistle House, Dee Street: PA/00/01518- Refurbishment of existing dwellings including new insulated over-cladding, refurbishment of communal areas and stairs, new glazed stair enclosure for Tartan House, revised entrance areas and refuse arrangements and external works and parking arrangements. Permit: 2nd January 2001 **(Dee Street to Ettrick Street)**.
- Kilbrennan House, Findhorn Street: PA/11/00635/NC- Proposed external and environmental works to include, - New canopies. - New railings to walkways and balconies. - Refurbishment and demolishing of existing pram stores. - New lighting strategy. - Proposed front and rear garden walls. Permit 15th June 2011 (**Ettrick Street to Abbot Road/ Dee Street to Ettrick Street)**.
- 25-47, 53-55 and 40-48 Aberfeldy Street: PA/19/02851/NC- Proposed externally illuminated fascia signs to 17 ground floor commercial units. Permit: 17th February 2020. **(25 to 55 Aberfeldy Street)**
- Former Site N Aberfeldy Estate, Blair Street, London, E14: PA/01/00878- Erection of a 3 & 6 storey residential development including residents off street parking and a communal garden area. Permit 22nd April 2002 (**Blairgowrie Court)**.
  - PA/02/00689- Approval of details pursuant to Condition 3 (contamination remediation detail) for the residential development of 30 flats. Permit: 29th June 2004. Reference made to a Site Investigation Report by AP Geotechnics dated December 2001 (ref: 1978) – *reviewed under Section 2.4 below*.

2.3 Previous Reports

2.3.1 A review of the existing environmental reports provided to RPS for review and those readily available on the London Borough of Tower Hamlets website is provided below.

2.3.2 RPS cannot vouch for the accuracy or validity of the information provided within third party reports and the following opinion is based solely upon the reports. Legal reliance should be sought from the original authors of these reports where their content is considered material to the characterisation of the site. RPS comments are provided in *italics*.

Aberfeldy Estate- Site N Blair Street London E3, AP Geotechnics (2001)

2.3.3 A Ground Investigation Report was completed by AP Geotechnics in December 2001 (ref: 1978). The report was undertaken in connection with the proposed housing redevelopment of the Former Site N, Aberfeldy Estate. *Located in the Braithwaite Park area of the site.*

2.3.4 The investigation was undertaken to confirm the ground conditions beneath the site and assess the potential for any pollutant linkages to be active upon the site.

2.3.5 The site investigation comprised the following: two cable percussion boreholes (BH1 and BH2) and six trial pits (TP1, TP2, TP3, TP4, TP5, TP6); installation of ground gas/groundwater monitoring wells in borehole BH2.

2.3.6 Chemical laboratory testing was undertaken eight soil samples. Samples were analysed for a range of contaminants of concern, including metals, speciated polycyclic aromatic hydrocarbons (PAH), total polycyclic aromatic hydrocarbons (TPH), monohydric phenol and cyanide. *Groundwater samples were not taken as part of the site investigation.*

2.3.7 Encountered ground conditions comprised Made Ground (ranging in thickness between approximately 0.50m to 1.40m); Alluvium (ranging in thickness between approximately 0.80m and

1.40m); The Kempton Park Gravel Member (ranging in thickness between approximately 3.30m to 2.10m); London Clay to a maximum unproven thickness of 20.00m was encountered.

2.3.8 During drilling groundwater was encountered at 5.00m rising to 4.10m bgl. During subsequent monitoring, groundwater levels ranged between approximately 3.30m and 3.60m bgl, within the Kempton Park Gravel Member.

2.3.9 Soil analytical results were compared to guideline values published by the ICRCL. Elevated concentrations of metals were recorded within soil samples of Made Ground. *Groundwater samples were not analysed as part of the site investigation report.*

2.3.10 Three ground gas monitoring visits were undertaken. Methane was not recorded above the instrument limit of detection. Carbon dioxide was recorded at a maximum concentration of 9.1 % v/v. Flow Rates were recorded at 0.3 l/hr.

2.3.11 Further monitoring was suggested to be undertaken due to the elevated levels of carbon dioxide. *No further reports have been made available for review regarding this issue upon the Tower Hamlets Council website.*

2.3.12 It was recommended shallow foundations should bear on the underlying Kempton Park Gravel Member based with a safe bearing capacity of 250kPa.

2.3.13 Due to the fill material (Made Ground) and Alluvium being variable, it was recommended suspended ground floor slabs be adopted for construction.

2.3.14 Groundwater observations made during the investigation suggest excavations should remain above the general groundwater level.

2.3.15 Chemical testing revealed Class 1 of BRE Digest 365 be applied in respect buried concrete classification.

Site Investigation- Culloden Primary School, Mayer Environmental (2004)

2.3.16 A Ground Investigation Report was completed by Mayer Environmental Ltd at Culloden Primary School, located to the immediate south west of the current masterplan boundary, in August 2004 (ref: ME/04/5175 KT). The report was undertaken in connection with the proposed redevelopment of external play areas and soft landscaping at the school.

2.3.17 The site was indicated to previously comprise a school building with associated floor slab with associated soft landscaping.

2.3.18 A site investigation was undertaken by Mayer Environmental Ltd to confirm ground conditions beneath the site and assess the potential for any pollutant linkages to be active upon redevelopment of the site.

2.3.19 The site investigation comprised the excavation of six hand excavated pits (A, B, C, D, E and F).

2.3.20 Chemical laboratory testing was undertaken on six soil samples. Samples were analysed for a range of contaminants of concern, including metals and speciated PAH.

2.3.21 Soil analytical results were compared to Soil Guideline Values (SGV) and elevated concentrations of metals were identified in several samples.

2.3.22 It was therefore recommended that the existing topsoil be removed to a depth of 300mm to 400m and replaced with a suitable clean cover system. *It is not clear whether the remediation recommendations were carried out or approved by the Council.*

Aberfeldy New Village, London, E14 Land Quality Statement, Campbell Reith (2011)

2.3.23 A Land Quality Statement was completed by Campbell Reith in October 2011 (ref: SRMsrm10620181011-LQS-F1.docx). The report was undertaken in connection with the proposed redevelopment of Aberfeldy New Village. The report comprised a Preliminary Phase 1 Desk Study report for the whole site, a detailed site investigation for Phase 1 and a preliminary site investigation with the area associated with Phases 2 to 6. *Phases 4 to 6 partially lie within the current masterplan boundary referenced within this report. Phases 1 to 3 are situated to the south of the current masterplan boundary referenced within the report.*

2.3.24 A historical map review identified the site to comprise housing, a hospital in the south west of the site, a church in the south east and a tramway depot, garage and omnibus depot in the centre of the Phase 1 site (*to the south of the current masterplan boundary*).

2.3.25 At the time of the site walkover the Phase 1 area of the site comprised a demolished area with an electricity substation situated in the far south western corner. Phases 2 to 6 comprised housing and commercial properties including a dry cleaners situated in the Phase 4 area in the centre of the site (*west of 25 to 55 Aberfeldy Street area*). An electricity substation was noted in the south western corner of the Phase 3 area. A row of domestic garages and flammable liquid store was noted in Phase 6 area of the site (*south east of Ettrick Street to Abbot Road area*). *N.B What were considered domestic garages by the Campbell Reith report are understood to actually comprise the rear access to retail properties along the eastern flank of Aberfeldy Street.*

2.3.26 Campbell Reith considered pollutant linkages could be active upon redevelopment of the site relating to former historical site uses including areas of infilling from historical demolition, the former tramway depot, garage and omnibus depot and off site uses relating to the Gas Works situated approximately 35m to the north of the site and an infilled dock located approximately 100m to the south. Current sources at the time of reporting included the dry cleaners, electricity sub stations, domestic garages, flammable liquid store and possible boiler rooms/ oil storage tanks with existing site buildings.

2.3.27 It was also noted the site underwent significant bomb damage during the Second World War. A detailed UXO Risk Assessment for the site was undertaken and was classified as having low to medium of medium to high risk of encountering UXO (*an updated Detailed UXO Assessment for the site was completed in February 2021 – see Section 2.7 below)*.

2.3.28 The Building Control Department at Tower Hamlets Council indicated some sites within the area may have minor ground gas issues.

2.3.29 It was noted that a COMAH registered Gas Works was located approximately 35m from the site. Campbell Reith state 'The presence of a COMAH site in such close proximity may result in the presence of constraints on redevelopment for any sites within restricted zones associated with this entry. It is recommended that the COMAH Controlling Authorities of the Health and Safety Executive, the Environment Agency and Local Authority are involved in discussions with respect to this registration'. *It is understood that this related to the former Gas Works to the east of the current masterplan area, observed during the recent site walkover to be undergoing redevelopment.*

2.3.30 A site investigation was undertaken by Campbell Reith to confirm the ground conditions beneath the site and assess the potential for any pollutant linkages to be active upon completion of the proposed redevelopment.

2.3.31 The detailed site investigation across Phase 1 and preliminary investigations across Phases 2 to 6 comprised the following: eleven cable percussion boreholes, eight windowless sample boreholes, ten trial pits, eleven variable head permeability tests and seven soakaway tests. *The majority of the intrusive exploratory locations were located to the south and east of the current masterplan redline boundary*.

2.3.32 Two cable percussion boreholes (BH201 and BH202) and two trial pits (TP201 and TP202) were undertaken within the current masterplan boundary. BH201 was located in the north western portion of Ettrick Street to Abbot Road; BH202 was located in the eastern portion of Ettrick Street to Abbot Road. TP201 was located in the north eastern portion of Ettrick Street to Abbot Road. TP202 was located in the south western portion of Ettrick Street to Abbot Road.

2.3.33 Chemical laboratory testing was undertaken on up to eleven soil samples and two groundwater samples. Samples were analysed for a range of contaminants of concern, including asbestos screen, metals, speciated polycyclic aromatic hydrocarbons, and speciated total petroleum hydrocarbons (TPH CWG). Waste Acceptance Criteria (WAC) analysis was undertaken on soil samples from the Phase 1 area of the site.

2.3.34 Encountered ground conditions comprised Made Ground (ranging in thickness between approximately 0.75m to 3.10m); Alluvium (ranging in thickness between approximately 1.20m and 2.30m); Kempton Park Gravel Member (ranging in thickness between approximately 2.40m to 5.10m); London Clay (ranging in thickness between approximately 11.30m to 16.40m) and then the Lambeth Group (a maximum unproven thickness of 11.30m being encountered).

2.3.35 It was noted that an hour was spent chiselling in the Lambeth Group between depths of 18.90m and 19.30m below ground level (bgl).

2.3.36 During subsequent monitoring, groundwater levels ranged between approximately 4.46m and 4.96m bgl, within the Kempton Park Gravel Member .

2.3.37 Soil analytical results were compared to Generic Assessment Criteria (GAC) derived using the CLEA framework and the Soil Guideline Value (SGV) for lead, based on a residential use without gardens. Within the Phase 1 area, elevated concentrations of lead, benzo(a)pryrene, dibenzo(ah)anthracene and asbestos were recorded in samples of Made Ground. Within the Phase 2 to 6 area, elevated concentrations of lead, benzo(a)pyrene and asbestos were recorded in samples of Made Ground from BH201 (located in the north western portion of Ettrick Street to Abbot Road) with PAH compounds recorded in a sample of Made Ground in BH204 (*located outside the current master plan boundary*). Concentrations of contaminants of concern within samples of natural strata were all recorded below their GAC.

2.3.38 Analytical results for groundwater samples were compared to Environmental Quality Standards (EQS), and where no EQS values were available, the UK Drinking Water Standards (DWS). Within the Phase 1 area of the site elevated concentrations of TPH and PAH were found to exceed the adopted Screening Criteria. Within the Phase 2 to 6 area of the site, elevated concentrations of PAHs, TPH in both BH201 and BH202. A single nominally elevated concentration of Arsenic Was found to exceed the adopted Screening Criteria within BH202. During the subsequent monitoring visits, groundwater samples obtained from BH201 and BH202 located in north western and eastern portion of Ettrick Street to Abbot Road were described as having a 'sulphurous' and 'rotten' odour. Organic odours were noted from boreholes located on the Phase 1 area.

2.3.39 Two ground gas monitoring visits were undertaken. Within the Phase 1 area, Methane was recorded at a maximum concentration of 1.2% v/v. Carbon dioxide was recorded at a maximum concentration of 8.7% v/v. Flow rates were recorded at -0.2l/hr. Within the Phase 2 to 6 area, Methane was not recorded above the instrument limit of detection. Carbon dioxide was recorded at a maximum concentration of 3.8% v/v. Flow rates were recorded at -0.2 l/hr. *A Ground Gas Addendum Report was issued by Campbell Reith 20th September 2012 (JWCjap10620-200912-Gas Addendum Ltr v2.doc), detailing the findings of an additional six rounds of ground gas monitoring to the site investigation. The addendum report concluded that gas protection measures were not specifically required for the Phase 1 development as a whole. However, it was recommended that a 1,200g DPM material be installed in a fashion so as to function as a gas barrier in the western portion of Block C (where no car/park basement was proposed).*

2.3.40 It was concluded that the removal and validation of identified hotspots with the Phase 1 area and recommended that a suitable clean cover system be installed within all areas of soft landscaping that directly overlie impacted soils. It was concluded additional investigation was required for Phases 2 to 6 to confirm conclusions made on sites pollutant linkages.

2.3.41 A geotechnical assessment of the site was undertaken as part of the report and included undertaking laboratory testing on samples from the encountered strata. The recommendations from the reports indicated the Made Ground and Alluvium was not suitable as a founding strata unless subject to ground improvement. Block A was not suitable for shallow foundations bearing on the Kempton Park Gravel Member, however ground improvement would allow a raft design to be adopted with a safe bearing capacity of 125kPa. Piled foundations are recommended for all other blocks due to ground conditions or high water table.

2.3.42 The retaining wall to form the basement for block C was recommended as being embedded subject to further groundwater monitoring. If the basement area was dewatered then pad foundations could be adopted founded on the Kempton Park Gravel Member with a safe bearing capacity of 250kPa. Otherwise piling is recommended with suspended floor slabs.

2.3.43 An ACEC class of AC-3 should be adopted for buried concrete in the Phase 1 area and an ACEC Class of AC-4 should be adopted in the Phase 2 to 6 area. It was suggested that this could be reduced through further testing.

2.3.44 Further works were recommended to establish the groundwater regime and confirm the preliminary findings of the site investigation for Phases 2 to 6.

Aberfeldy New Village Phase 3, Land Quality Statement, Campbell Reith (2015)

2.3.45 A Land Quality Statement was completed by Campbell Reith in November 2015 (ref: LIjb12004-050815-LQS F1. Doc). The report was undertaken in connection with the proposed redevelopment of Phase 3 of Aberfeldy New Village located to the immediate south of the current masterplan redline boundary. The report comprised a Preliminary Phase 1 Desk Study report and Site Investigation Report for the Phase 3 area.

2.3.46 A historical map review identified previous site uses to comprise an omnibus depot (demolished c. 1970) and a garage (demolished c. 1953). At the time of the walkover the site comprised seven blocks of flats (five storeys in height) and domestic garages situated along the southern boundary. An electricity substation was noted in the south west of the site.

2.3.47 A site investigation was undertaken by Campbell Reith to confirm the ground conditions beneath the site and assess the potential for any pollutant linkages to be active upon the site. The site investigation comprised the following: nine cable percussion boreholes, thirteen dynamic continuous sampling holes, four machine dug trial pits, five hand dug trial pits and five hand dug inspection pits.

2.3.48 Soil analytical results were compared to Generic Assessment Criteria (GAC) derived using the CLEA framework and the Soil Guideline Value (SGV) for lead, based on a 'purposed end use a four residential blocks'. *RPS interprets this screening criteria as residential without homegrown produce.* Elevated concentrations of lead, PAH compounds and a hotspot of arsenic was identified. Asbestos was encountered within samples of Made Ground from across the Phase 3 area. Six samples were sent for Waste Acceptance Criteria (WAC) analysis.

2.3.49 Analytical results for groundwater samples were compared to Environmental Quality Standards (EQS), and where no EQS values were available, the UK Drinking Water Standards (DWS). Elevated concentrations of TPH were identified in samples of groundwater with visual and olfactory evidence of hydrocarbon contamination noted.

2.3.50 Nine ground gas monitoring visits were undertaken. Methane was not recorded above instrument limit of detection. Carbon dioxide was recorded at a maximum concentration of 12.0% v/v. Maximum flow rates were recorded at 0.3l/hr.

2.3.51 It was recommended a detailed qualitative risk assessment and additional site investigation be undertaken to address elevated hydrocarbon concentrations within groundwater in the north east of the area and that suitable clean cover system be installed within all areas of soft landscaping that directly overlie impacted soils.

2.3.52 Installation of gas protection measures were recommended in the residential units of Block J.

2.3.53 The report identified a number of geotechnical hazards for the site, including, soft and compressible Made Ground and Alluvium, the potential for obstructions associated with historical developments, shallow groundwater, the potential for the Made Ground and London Clay Formation to be aggressive to buried concrete and groundwater under significant sub-artesian pressure within the Lambeth Group.

2.3.54 A piled foundation solution was recommended for all four blocks on the site (blocks F to H and J). The single storey basement beneath block G was proposed to be constructed using sheet piles. Floor slabs were proposed to be suspended with a long term soil heave pressure of up to 30kPa in relation to the block G basement floor slab.

2.3.55 An ACEC Class of AC-3 was recommended for buried concrete, increasing to AC-4 for any concrete in contact with the London Clay Formation that had the potential to be oxidised.

Aberfeldy New Village Phase 3, Additional Ground Investigation, Campbell Reith (2016)

2.3.56 A letter report was completed by Campbell Reith in March 2016 (ref: SRBpmb010317- 12004-GI Letter Report.doc.). The report documented additional ground investigation that was undertaken in connection with recommendations made in the above report and to provide further information on the following: the depth of the Kempton Park Gravel Member adjacent to Sam March House; additional soil sampling with screening and quantification for asbestos; and additional soil sampling and analysis for waste classification.

2.3.57 Depths to the base of the Kempton Park Gravel Member within the area surrounding Sam March House varied between 8.30m and 10.20m bgl. Asbestos was encountered at five out of nine exploratory locations with concentrations ranging from <0.001% to 0.003%.

2.3.58 It was also stated in the letter repot that additional groundwater monitoring will also be undertaken of part of the works to establish the extent of hydrocarbon contamination in groundwater in the east of the site, and results will be provided under a separate cover. *RPS has not been provided with the results from the additional groundwater monitoring undertaken as part of these works.*

Aberfeldy New Village Phase 3a, Verification Report, Campbell Reith (2020)

2.3.59 A Verification report was completed by Campbell Reith in August 2020 (ref: SRB 12004 070820 Verf Report F1). The report was undertaken in connection with the development of Phase 3a and requirement to discharge condition 25(d) of the planning application PA/15/00002.

2.3.60 The report detailed the findings of the watching brief carried out during the redevelopment of Phase 3a, along with verification of imported clean cover in areas of soft landscaping. The submission was approved on 14th September 2020. *N.B this submission does not cover the Phase 3b area, which was also included under the planning permission and required verification.*

Ground Investigation Report at Leven Road, South Bromley, London, E14 Structural Soils (2007)

2.3.61 The following site investigation report was undertaken adjacent to the eastern boundary of the site area between Abbot Road and Nairn Street.

2.3.62 A Ground Investigation Report was completed by Structural Soils in March 2007 (ref: 61610). The report was undertaken in connection with the proposed housing redevelopment of North End 84 Leven Road.

2.3.63 The site was indicated to formerly comprise a 'lolly pop stick manufacturing facility, which is noted to include a basement or basements in the sites southern portion and a bunded oil tank at an undisclosed location.

2.3.64 A site investigation was undertaken by Structural Soils to confirm ground conditions beneath the site and assess the potential for any pollutant linkages to be active upon redevelopment of the site.

2.3.65 The site investigation comprised the following: three cable percussion boreholes (BH1, BH2 and BH3) and five window sample boreholes (WS1, WS2, WS3, WS4 and WS5); installation of ground gas/groundwater monitoring wells in boreholes BH1, BH2 and BH3.

2.3.66 Chemical laboratory testing was undertaken on up to 20 soil samples and 2 groundwater samples. Samples were analysed for a range of contaminants of concern, including: asbestos screen, metals, speciated polycyclic aromatic hydrocarbons (PAH), extractable petroleum hydrocarbons (EPH), speciated total petroleum hydrocarbons (TPH) and petrol range hydrocarbons (PRH). *RPS considers these analysis out of date given the time period of the investigation.*

2.3.67 Geotechnical testing was undertaken on nineteen soil samples for a range of testing including moisture content, liquid limit, plastic limit and plasticity index, particle size distribution, triaxial compression, pH and sulphate and BRE SD1 suite.

2.3.68 Encountered ground conditions comprised Made Ground (ranging in thickness between approximately 1.40m and 3.10m); the Alluvium (proven to depths between 2.70m and 3.70m); the Kempton Park Gravel Member (proven to depths between ranging in thickness between 7.30m and 10.40); and then The London Clay Formation including the Harwich Formation (a maximum unproven thickness of 20.0m was encountered). *The base of the London Clay Formation is indicated to be present between depths of 19.30m and 19.50m.*

2.3.69 A strong hydrocarbon odour was noted in BH2 between 3.10m and 4.70m bgl and in WS4 between 3.60m and 4.00m bgl. Between 19.30m and 19.50m very dense silty very sandy gravel was encountered in all cable percussion holes. This is considered to be part of the Harwich Formation.

2.3.70 During subsequent monitoring, groundwater levels were recorded at 5.60m within the Kempton Park Gravel Member.

2.3.71 Soil analytical results were compared to Soil Guideline Values (SGV) and the derived vales using the early CLEA model based on a residential use with and without gardens. In absence to CLEA guidelines ATRISK soil screening values were used. Elevated concentrations of PAHs, TPHs were recorded within soil samples of Made Ground. Elevated concentrations of TPHs were identified in a sample of Kempton Park Gravel Member. *RPS considers this screening criteria outdated.*

2.3.72 Analytical results for groundwater samples were compared to Environmental Quality Standards (EQS), and the UK Drinking Water Supply Regulations 2000 guidelines where no EQS values were available the 'Dutch' guideline values were used. All concentrations of contaminants of concern were recorded below their assessment criteria. *RPS considers this screening criteria outdated.*

2.3.73 Three ground gas monitoring visits were undertaken. Methane was not recorded above the instrument limit of detection. Carbon dioxide was recorded at a maximum concentration of 1.8% v/v. Flow rates were not recorded at 0.6l/hr.

2.3.74 It was considered WAC testing indicated material across the site would be unlikely to be classified as non-hazardous waste except one sample which was classed as hazardous deriving from WS3.

2.3.75 It was recommended bored pile foundations be bored into the London Clay Formation and ground floor slab be suspended.

2.3.76 Chemical testing revealed AC-2 be applied in Made Ground soils and AC-1 conditions be applied in natural soils with respect to buried concrete classification.

2.3.77 Recommendations were made for further investigation and desk top study regarding the location of the former fuel tank and notification upon contamination discovery by site workers. *Further documentation is not available for review upon the Local Authority Planning website.*

2.4 Environmental Setting

Geology

2.4.1 Based on British Geological Survey (BGS) mapping (1:50,000-scale) and the Environment Agency (EA) Groundwater Vulnerability mapping (1:100,000-scale), the stratigraphic sequence and aquifer classifications beneath the site are indicated to be as follows:

Table 2-5 – Descriptions of Geological Strata

Strata	Description & approximate thickness	Aquifer Classification
Alluvium	This stratum comprises clay, silt, sand and peat. Likely to be a couple approximately 1m in thickness beneath the site.	Secondary Undifferentiated
Kempton Park Gravel Member	Comprising orange brown sandy gravel, up to 5m in thickness beneath the site.	Secondary A Aquifer
London Clay Formation	This stratum comprises clay, silt and sand. Likely to be between approximately 11.00m and 16.50m in thickness beneath the site.	Unproductive Stratum
Lambeth Group	This stratum comprises clay, silt, sand and gravel and is likely to be approximately 15m in thickness beneath the site.	Secondary A Aquifer
Thanet Formation	Comprising fine-grained sand that can be clayey and glauconitic. Likely to be approximately 10m in thickness beneath the site.	Secondary A Aquifer
White Chalk Subgroup	White Chalk with flints to depth.	Principal Aquifer

2.4.2 Made Ground is likely to be present across the site as a result of past construction/demolition activities and potentially also from bomb damage sustained during WWII.

2.4.3 Ground conditions encountered within the boundary of the current masterplan as part of the 2011 Campbell Reith site investigation, as detailed in Section 2.4 above, comprised the following:

- Made Ground: Approximately 0.75m to 3.10m in thickness, generally comprising silty gravelly sand/ slightly gravelly clay;
- Alluvium: Approximately 1.20m to 2.30m in thickness, generally comprising soft or soft to firm clay with discrete lenses of peat and occasional plant remains. Localised varying proportions of sand and gravel were also observed;
- Kempton Park Gravel Member: Approximately 2.40m to 5.10m in thickness, generally comprising sand and gravel;
- London Clay Formation: Approximately 11.30m to 16.40m in thickness, generally comprising stiff laminated clay with calcite fragments and bands; and
- The Lambeth Group: Comprising an upper granular layer comprising very dense sand with varying proportions of gravel, a middle layer comprising very stiff, locally very stiff to hard clay/ silt and a lower granular layer (to depths of up to 30.00m bgl).

Hydrogeology

2.4.4 The site is located above a Secondary Undifferentiated Aquifer relating to the Alluvium. These formations have varying characteristics in different locations.

2.4.5 The Kempton Park Gravel Member, underlying the Alluvium, is classified by the EA as a Secondary A Aquifer. These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.

2.4.6 The Kempton Park Gravel Member is underlain by an Unproductive Stratum, which relates to the London Clay Formation. These formations have a low permeability and have negligible significance for water supply or base flow.

2.4.7 Underlying the London Clay formation at depth are Secondary A Aquifers relating to the Lambeth Group and Thanet Formation.

2.4.8 The White Chalk Subgroup at depth is classified as a Principal Aquifer. These formations comprise rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.

2.4.9 Groundwater was encountered within monitoring wells BH201 and BH202 (installed within Ettrick Street to Abbot Road area of the site) at depths ranging between 4.96mbgl and 4.99m bgl; and 4.46m bgl and 4.96m bgl, respectively during the 2011 Campbell Reith site investigation. The installation for BH201 was screened across the Alluvium, Kempton Park Gravel Member and London Clay Formation. The installation for BH202 was screened across the Made Ground, Kempton Park Gravel Member and London Clay Formation.

2.4.10 Based on the above, there is considered likely to be three distinct types of groundwater body beneath the site. ***Perched groundwater*** is likely to be present within granular Made Ground and shallow Alluvium deposits. A continuous ***shallow groundwater*** body is likely to be present within the Kempton Park Gravel Member. A continuous ***deep groundwater*** body is likely to be present within the more permeable lower layers of the Lambeth Group, the Thanet Formation and White Chalk Subgroup. There is potential for the deep groundwater body to be under artesian type conditions, where being confined by the more cohesive upper layers of the Lambeth Group.

2.4.11 According to EA data, the site is not located in a groundwater Source Protection Zone (SPZ).

2.4.12 Information provided by the EA indicates that there are records of twenty active licensed groundwater abstractions within 2km of the site. Those that may potentially be abstracted for potable use are detailed in the table below:

Table 2-6 – Potentially Potable Licensed Groundwater Abstractions

Licence Holder	Approx. Distance and Direction from Site	Source	Use
Britannia Hotels Limited	1600m South west	Not specified	Drinking, cooking, sanitary and washing
The Mile End Park Partnership	1785m West	Not specified	Drinking, cooking, sanitary and washing

Surface Water

2.4.13 There are two watercourses within 1km of the site which are classified within a River Basin Management Plan published by the EA under the European Water Framework Directive (2000). A list of readily identifiable nearby watercourses and water bodies is as follows:

Table 2-7 – Nearby Watercourses and Water Bodies

Watercourse / Body	Quality	Approximate Distance

	Classification	and Direction from Site
The River Lea (Part of Thames Middle)	Chemical Quality- Fail Ecological Quality- Moderate	100m East
The River Thames (Thames Middle)	Chemical Quality- Fail Ecological Quality- Moderate	700m South
Limehouse Cut	Not classified	400m North west

2.4.14 Information provided by the EA indicates seven records of active licensed surface water abstractions within 2km of the site. The details of these are as follows:

Table 2-8 – Licensed Surface Water Abstractions

Licence Holder	Use	Approximate Distance and Direction from Site
Pura Foods Limited	Non- evaporative cooling	410m East
Blackwall Aggregates Limited	Mineral Washing	1470m South
Canal and River Trust	Heat Pump	1605m South west
Price Waterhouse	Non- evaporative cooling	1610m South west
Canal and River Trust	Non- evaporative cooling	1620m South west
Canal and River Trust	Heat Pump	1740m South
Canal and River Trust	Heat Pump	1870m South

Ecologically Sensitive Sites

2.4.15 Natural England data indicates that there are no ecologically sensitive sites that constitute environmental receptors as defined within Table 1 of the DEFRA Environmental Protection Act 1990: Part 2A - Contaminated Land Statutory Guidance (2012), located within a 1km radius of the site.

Radon

2.4.16 According to the Indicative Atlas of Radon in England and Wales published by the Health Protection Agency (part of Public Health England) and the BGS, the site is not located in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).

Coal Authority

2.4.17 The Interactive Map Viewer on the Coal Authority website indicates that the site is not located in a coal mining reporting area.

BGS Ground Stability Hazard Ratings

2.4.18 BGS Ground Stability Hazard ratings for the site are summarised as follows

Table 2-9 – BGS Ground Stability Hazard Ratings

Ground Stability Hazard	BGS Risk rating
Collapsible ground	Very Low
Compressible ground	No Hazard
Ground dissolution	No Hazard
Landslide	Very Low
Running sand	Low

Shrinking or swelling clay	Low to Moderate

2.5 Authorised Processes and Pollution Incidents

Landfills and Waste Sites

2.5.1 Information provided by a number of sources (detailed below) shows that there are two recorded licensed or known historical landfill sites and two waste treatment / transfer sites recorded within 250m of the site. These are described within the following table.

Table 2-10 – Landfill / Waste Transfer / Waste Treatment Sites

Source of Record	Approx. Distance and Direction	Licence Details	Waste Type and Details
Landfill Sites (Historical)			
Landmark	155m South	Not supplied	Not supplied
Landmark	245m East	Not supplied	Not supplied
Scrap Yards & Waste Transfer / Treatment Sites			
Landmark	80m North west	Blackwall Marine Diesel Limited	Vehicle depollution facility
Landmark	100m North	Quick Skips London Recycling Ltd	HCI Waste TS and treatment
Landmark	110m North west	Huckles Transport Ltd	Construction, Demolition, household and communal untreated waste
Landmark	110m South east	Wells Haulage	Commercial and construction waste
Landmark	116m South east	Blackwall Transfer Station	Commercial and construction waste
Landmark	117m South east	R. S Contractors Ltd	Construction, demolition, household and commercial waste.
Landmark	201m North west	Cleanaway Ltd	Inert waste, Gen. Non-Putresc Waste
Landmark	238m East	Erith Haulage Co Ltd/ Shanks & Mc Ewan (Southern) Ltd	Inert waste, Gen. Non-Putresc Waste/ Commercial and construction waste.

Environmental Permits

2.5.2 EA and Local Authority data indicates that there are nine processes regulated by an Environmental Permit (under the Environmental Permitting Regulations 2010) within 500m of the subject site. These are outlined in the table below:

Table 2-11 – Environmental Permits

Licence Holder	Approx. Distance and Direction from Site	Permitted Activity
J Ash and Sons	75m North	Hot dip galvanising
Telehouse International Corporation of Europe Limited	150m South east	Combustion of any fuel greater of equal to 50Mw
Global Switch Limited	185m South	Combustion of any fuel greater of equal to 50Mw

Licence Holder	Approx. Distance and Direction from Site	Permitted Activity
Lowe Furniture Services Ltd.	235m East	Manufacture of wood based products
Orchard Wharf Service Station	270m South east	Petrol filling station
Star Cotton Street	310m South west	Petrol filling station
Cemex UK Materials Ltd	365m North	Blending, packing, loading and use of bulk cement
Bright Clean Dry Cleaners	500m South west	Dry cleaning
Modern Mix Concrete	500m North west	Blending, packing, loading and use of bulk cement

2.5.3 The dry cleaners, understood to be present in the west of 25 to 55 Aberfeldy Street area, is not recorded within the Envirocheck report obtained for the site.

COMAH Sites

2.5.4 There are three records of operations under the Control of Major Accident Hazards (COMAH) Regulations 1999, located within 500m of the site.

Table 2-12 – Recorded operations listed under COMAH within 500m

Company name	Approx. Distance and Direction from Site	Type	Status
National Grid Gas Plc (Poplar Holder Station)	35m North east	Upper tier	Active
Transco Plc (Leven Road)	40m North east	Upper tier	Active
Transco Plc (Twelvetrees Crescent)	360m North	Upper tier	Active

2.5.5 The operations listed above relating to National Grid Gas Plc and Transco Plc are considered likely to relate to operations of the former Poplar Gas Works, now undergoing redevelopment.

Pollution Incidents

2.5.6 Environment Agency data indicates that there is one record of 'major' or 'significant' pollution incidents within 500m of the site. This is outlined in the following table:

Table 2-13 – Pollution Incidents on site and significant incidents within 500m

Location/Address	Approx. Distance and Direction from Site	Receiving Medium and Date	Severity of Incident and Type
Bow	150m North	River Thames 6th December 1994	Significant Incident/ Oils- unknown

2.6 Unexploded Ordnance

2.6.1 CIRIA Report C681 (Stone *et al* 2009) outlines recommendations for dealing with the potential risk associated with the legacy of Unexploded Ordnance Risk, largely relating the WWII bombing and military sites.

2.6.2 Reference to the bombsight mapping indicates high explosive bombs were dropped in the south east of the site at Blair Street, in the centre of the site at Abbott Road, Nairn Street and to the south of Lochnagar Street in the northern portion of the site.

2.6.3 The historical maps dating from between c.1946 to c.1954 indicate buildings in the centre, southwest and southeast of the site to be in ruin, potentially indicating WWII bomb damage.

2.6.4 Reference to the Zetica Unexploded Bomb Risk mapping indicates that the site is in an area of high potential risk from Unexploded Bombs. The Risk map indicates a Luftwaffe target was located approximately 200m to the east of the site. The site is in an area of known military history, in general accordance with CIRIA Report consideration of undertaking further risk assessment in the form of a Desk Based Threat Assessment should be considered.

2.6.5 A Detailed Unexploded Ordnance (UXO) Threat and Risk Assessment Report was completed by Alpha Associates in February 2021 (ref:8557). The report concluded the risk level given to the site is high and recommends that a UXO Emergency Response Plan, UXO safety awareness briefing and intrusive magnetometer survey are undertaken for 'blind' intrusive works such as borehole drilling. It was recommended that, in addition to the above, non-intrusive survey and UXO Watching Brief are undertaken for 'open' intrusive works such as excavations and trenching.

2.7 Regulatory Consultations

2.7.1 The Environmental Health Department at Tower Hamlets Borough Council was consulted regarding any known contamination issues at the site. The Council website states, '*currently no sites within the London Borough of Tower Hamlets have been determined as contaminated land as defined under Part 2a of the Environmental Protection Act 1990*'.

3 OUTLINE CONCEPTUAL SITE MODEL

3.1 Background

3.1.1 An outline conceptual site model (CSM) consists of an appraisal of the *source-pathway-receptor* 'contaminant linkages' which is central to the approach used to determine the existence of 'contaminated land' according to the definition set out under Part 2A of the Environmental Protection Act 1990. For a risk to exist (under Part 2A), all three of the following components must be present to facilitate a potential 'pollutant linkage'.

- **Source** referring to the source of contamination (Hazard).
- **Pathway** for the contaminant to move/migrate to receptor(s).
- **Receptor** (Target) that could be affected by the contaminant(s).

3.1.2 Receptors include human beings, controlled waters and buildings / structures. The National Planning Policy Framework, used to address contaminated land through the planning process, follows the same principles as those set out under Part 2A. Further details on the Part 2A regime are presented within Appendix E.

3.1.3 As part of the assessment the potential risks to receptors for potential source is given one of the following classification:

- **Low risk** - it is considered unlikely that issues within the category will give rise to significant harm to identified receptors
- **Moderate risk** - it is possible, but not certain that issues within the category will give rise to significant harm to receptors
- **High risk** - there is a high potential that issues within the category will give rise to significant harm to identified receptors

3.2 Potential Pollutant Linkages

3.2.1 Each stage of the potential pollutant linkage sequence has been assessed individually on the basis of information obtained during the site reconnaissance, review of previous Phase 1/Phase 2 reports and this desk study exercise and are discussed in the following section.

Potential Contaminant Sources

On Site – Current

3.2.2 Previous site investigation has identified Made Ground to be present beneath the site and this is considered likely to be widespread owing to historical construction/demolition activities and potentially also from bomb damage sustained during WWII. Where present, this could represent a potential sources of contaminants of concern and/or ground gas.

3.2.3 Current on site potential sources of contaminants of concern include:

- A dry cleaners located in the west of 25 to 55 Aberfeldy Street area;
- Domestic garages located in the south east of the Ettrick Street to Abbot Road area;
- Electricity substation located in the south of the Blairgowrie Court area;
- Flammable liquid store in the south east of the Ettrick Street to Abbot Road area as identified in the 2011 Campbell Reith report; and
- Petroleum storage indicated at the base of residential blocks in the area between Abbot Road and Nairn Street.

3.2.4 There may also be potential for plant rooms (including oil storage tanks) to be present within properties that were not accessible at the time of the site walkover.

3.2.5 The locations of readily identifiable current on site potential sources of contamination are indicated on Figure 3.

3.2.6 Organic rich natural superficial Alluvium deposits may also represent a potential source of ground gas generation.

On Site – Historical

3.2.7 Historical maps indicate an electricity substation located in the centre of the site from c.1954 to c.1975.

3.2.8 Macintosh's Farm was present in the Braithwaite Park area of the site between c.1869 to c.1896, however, given the time elapsed since this land use, it is not considered a potentially significant source of contamination.

3.2.9 No further significant historical on site potential sources of contamination have been identified.

Off Site – Current

3.2.10 Current off-site potential sources of contaminants of concern include the derelict area to the immediate north of the site (labelled as a scrap yard and Tire Change on aerial mapping).

3.2.11 An electricity substation was observed to be present in the south of Culloden Primary School, located to the south west of the site, during the site walkover.

3.2.12 The former Poplar Gas Works was located approximately 95m to the east of the site. During the walkover the site was under construction and therefore it is considered the site has either been/or will be undergoing remediation to the satisfaction of the London Borough of Tower Hamlets. However, there is potential that residual contamination relating to this previous land use may still be present.

3.2.13 Active petrol filling station entries are recorded approximately 270m to the south east and 310m to the south west of the site. Given their distance, these potential source of contaminants of concern are not deemed to present a significant risk to the site.

Off-Site – Historical

3.2.14 Historical maps indicate off-site significant potentially contaminative land uses to include: a former clothing factory (subsequently of unspecified use), located adjacent to the site from c.1947 to c.1998; Islay Wharf (subsequently infilled), located adjacent from c.1896 to c.1982; Poplar Gas Works located approximately 95m to the east of the site from c.1896 to c.2006; a garage located approximately 40m to the south of the site from c.1916 to c.1938; a car shed (subsequently a trolley bus depot, then depot) located approximately 40m to the east of the site from c.1916 to present; Ailsa Wharf (with associated tanks) located approximately 50m to the north east from c.1896 to c.1975; Devon Wharf located approximately 50m to the east from c.1916 to c.1955; Glaucus Works located approximately 50m to the east from c.1947 to c.1999; a rifle range located approximately 90m to the north west from c.1954 to c. 1961; a sawmill located approximately 100m to the north west from c. 1896 to c.1949; Poplar Hospital located approximately 100m to the south from c. 1920 to c.1982; St Leonards Warf (comprising multiple cylindrical tanks) located approximately 100m north from c.1896 to c.1995; a bus depot located approximately 100m south from c.1947 to c.1975; East India Dock with associated warehouses located approximately 120m south from c.1869 to c.1985; warehouses then goods shed located approximately 120m south east from c.1869 to c.1948; East India Dock Quay (subsequently infilled) located approximately 190m south from c.1869 to c.1985; and GER Wharf then Blackwall Goods Depot then Depot located approximately 125m to the south east from c.1916 to c.1991.

3.2.15 Historical landfills are indicated approximately 155m to the south (associated with infilling of the former East India Dock) and 245m to the east of the site (potentially associated with a former waste transfer station in this area).

3.2.16 The 2011 site investigation completed by Campbell Reith on the Phase 1 area of the previous masterplan (located to the south of the existing masterplan area) identified elevated concentrations of lead, benzo(a)pryrene, dibenzo(ah)anthracene and asbestos in samples of Made Ground and elevated concentrations of TPH and PAH within groundwater samples.

3.2.17 Further investigation of Phase 3 (comprising Phase 3a and Phase 3b) of the previous masterplan (also located to the south of the existing masterplan area) identified elevated concentrations of lead, PAHs, a hotspot of arsenic and asbestos within samples of Made Ground and elevated concentrations of TPH within groundwater samples. Remedial works have been completed with a verification report produced for the Phase 3a area. However, details regarding remedial works and a verification report for the both the Phase 1 and Phase 3b area have not been made available for review. It is likely that these sources of contaminants of concern have been removed as part of remediation works. However, residual contamination relation to these contaminants of concern may still be present.

3.2.18 A site investigation report by Structural Soils in March 2007 (ref: 61610) make recommendations for further investigation to location of a former fuel tank within North End, 84 Leven Road (located to the east of the area between Abbot Road and Nairn Road). No further information was available upon the Local Authorities Planning website.

Potential Pathways

3.2.19 In areas of the site covered by buildings or hardstanding the risks to future on site human health receptors via the pathways of dermal contact and ingestion will be mitigated. However, in areas of soft landscaping, the pathways of dermal contact and ingestion could still be active. In addition, there would be potential for the airborne migration of soil/dust from these areas.

3.2.20 There is the potential for ground gas and volatile contaminants of concern in soil and/or groundwater (if present) beneath the site to impact future site users via the inhalation pathway in indoor areas.

3.2.21 There is the potential for contaminants of concern (if present) beneath the site to migrate on or off-site via granular horizons of the Made Ground (if present) and the Kempton Park Gravel Member (if present). These may impact controlled waters receptors or on/off-site human heath receptors via the dermal contact, ingestion and vapour inhalation pathways.

Potential Receptors

3.2.22 Potential post development human health receptors include future site users and off-site human health receptors.

3.2.23 Providing construction workers adopt appropriate levels of hygiene and personal protective equipment, they are not considered to be at significant risk from potential contaminants of concern and have not been considered further as part of this assessment.

3.2.24 The Secondary A Aquifer relating to the Kempton Park Gravel Member beneath the site is considered to represent a sensitive receptor.

3.2.25 The nearest surface water feature is the River Lea, which is located approximately 100m to the east of the site.

3.2.26 The Lambeth Group and Thanet Formation (both classified as Secondary A Aquifers) and the White Chalk Subgroup (classified as a Principal Aquifer) are present beneath the site at depth. However, these are not considered potential receptors due to the protection they are likely to be afforded by a significant thickness of the overlying London Clay Formation.

3.3 Outline Conceptual Site Model

3.3.1 An outline CSM has been developed on the basis of the site reconnaissance and desk study. The CSM is used to identify potential sources, pathways and receptors (i.e. potential pollutant linkages) on site post development and is summarised in the table below.

Table 3-1 – Outline Conceptual Site Model

Potential Source	Contaminants of Concern	Via	Potential Pathways	Linkage Potentially Active?	Receptors	Qualitative Risk Rating	Notes
On site – current: Made Ground, dry cleaners, flammable liquid store, domestic garages, petroleum storage and electricity substation Contaminants of concern identified by previous on site investigations **On site – historical:** N/A	Metals, hydrocarbons, polychlorinated biphenyls (PCBs) and asbestos	Soil	Direct contact/ingestion	✓	Future site users	Low to moderate	Inactive in areas of building or hardstanding. Residual risk in areas of soft landscaping, particularly if soils are exposed or disturbed.
			Inhalation of volatiles	✓		Low to Moderate	Inhalation pathway potentially remains active in internal areas.
			Airborne migration of soil or dust	✓	Off-site users	Low to Moderate	Inactive in areas of building or hardstanding. Residual risk in areas of soft landscaping, particularly if soils are exposed or disturbed.
			Leaching of mobile contaminants	✓	Kempton Park Gravel Member (Secondary A Aquifer)	Low to Moderate	Potential for leaching of contaminants within shallow soils or perched, discontinuous groundwater.
		Groundwater	Direct contact/ingestion	✓ ✓	Future site users Off-site users	Low to Moderate	Inactive in areas of building or hardstanding. Residual risk in areas of soft landscaping that can be readily disturbed.
			Inhalation of volatiles	✓ ✓	Future site users Off-site users	Low to Moderate	Potential for inhalation of groundwater contaminant vapours, particularly in internal areas.
			Vertical and lateral migration in permeable strata	✓ ✓	Kempton Park Gravel Member (Secondary A Aquifer) The River Lea	Low Low	Potential for vertical and lateral migration of contaminants in continuous groundwater body within the Kempton Park Gravel Member.

Potential Source	Contaminants of Concern	Via	Potential Pathways	Linkage Potentially Active?	Receptors	Qualitative Risk Rating	Notes
Off-site – current: Scrap yard/Tire Change, electricity substation **Off site – historical:** Poplar Gas Works, garage, sawmill, wharves (with associated tanks), East India Dock, works, warehouses, depots Contaminants of concern identified by previous off-site investigations	Metals, hydrocarbons, solvents and PCBs	Groundwater	Direct contact/ingestion	✓	Future site users	Low to moderate	Inactive in areas of building or hardstanding. Residual risk in areas of soft landscaping that can be readily disturbed.
			Inhalation of volatiles	✓	Future site users	Moderate	Potential for on site migration of significant concentrations of contaminants of concern from off-site sources with inhalation of volatiles, particularly in internal areas.
On and off-site – Made Ground, natural Alluvium deposits, landfills or bio-degradation of contamination	Carbon dioxide and methane	Ground Gas	Inhalation of ground gas	✓	Future site users	Low to moderate	Previous investigations identified limited gas risk.
			Explosive risks	✓ ✓	Future site users Future and off-site Structures	Low to moderate	Previous investigations identified limited gas risk.

Note The Qualitative Risk Rating does not consider the potential for the pathway to be active. In the event that a Moderate or High Qualitative Risk Rating is identified further assessment is recommended.

4 PRELIMINARY GEOTECHNICAL RISK ASSESSMENT

4.1 Preliminary Geotechnical Risk Register

4.1.1 The following table summarises the potential geotechnical hazards associated with the proposed development based on previous site investigations and freely available published information. Preliminary information relating to the hazards and associated engineering considerations are provided.

4.1.2 The potential risks are given one of the following classifications:

- **Low risk** - it is considered unlikely that issues within the category will give rise to significant damage in relation to the proposed development.
- **Moderate risk** - it is possible, but not certain that issues within the category will give rise to significant damage in relation to the proposed development.
- **High risk** - there is a high potential that issues within the category will give rise to significant damage in relation to the proposed development.
- **N/A -** The anticipated ground conditions are not consistent with this hazard.

Table 4-1 – Preliminary Geotechnical Risk Register

Hazard Description	Potential for Hazard	Comments / Possible Engineering Requirements
Sudden lateral / vertical changes in ground conditions	Moderate	Previous site investigations undertaken within the area indicate ground conditions from existing ground level are generally consistent but variable in thickness with Made Ground (0.75m to 3.10m) overlying Alluvium (0.20m to 2.30m), overlying the Kempton Park Gravel Member (2.40m to 9.10m) which is underlain by the London Clay Formation (8.60m to 16.40m) followed by the Lambeth Group (unproven thickness of 11m). Published information in the area indicates the Lambeth Group to be approximately 15m thick and overlying the Thanet Formation approximately 10m thick which is underlain by the White Chalk Subgroup to depth. Where encountered at shallow depths the Kempton Park Gravel Member should provide a suitable bearing stratum for shallow spread foundations supporting lightly to moderately loaded structures. If shallow foundations are not applicable or high loads anticipated, then Piled foundations extending into the London Clay Formation, Lambeth Group or other deeper formations may be required.
Highly compressible / low bearing capacity soils, (including peat and soft clay)	Moderate/ High	The BGS database indicated a high risk for compressible ground on the site. Based on previous site investigation undertaken, a significant and variable thickness of Made Ground and Alluvium is expected to be present across the site. These soils are likely to be un suitable as founding strata unless ground improvement is undertaken. Alternatively deeper foundations may be required.
Ground dissolution features / natural cavities	N/A	Ground conditions beneath the site are not consistent with this hazard.
Shrinking and swelling clays	Moderate	Previous site investigation undertaken across the site and surrounding area indicates the Made Ground to be cohesive in its low layers and to be of a low volume change potential. The underlying Alluvium was indicated as having a high volume change potential. The London Clay Formation is considered a material subject to high volume change potential. Any basements which are excavated into moderate or high volume change soil may need suitable heave protection measures incorporated.
Slope stability/retaining wall issues	Low/ Moderate	Whilst no significant slopes are present on site, any temporary slopes created as part of the development should be subject to appropriate geotechnical design based on site-specific site investigation information. Any works close to the retaining walls forming the underpasses for the A12 should be subject to appropriate geotechnical based design to ensure the integrity of the structures are not compromised.
High groundwater table (including waterlogged ground)	Moderate	The River Lee is located approximately 100m to the east of the site and is tidal. Previous investigations have encountered a variable groundwater level within the Made Ground, Alluvium and Kempton Park Gravel member ranging from -0.5m AOD to -3.50m AOD. Deeper groundwater strikes at the boundary between the London Clay Formation and Lambeth Group were also recorded. These were under sub artesian pressure rising up between 2m to 6m within 20mins. Excavations below these depth may be unstable and excavation support as well as groundwater control measures may be required. Whilst the previous reports do not indicate this, the shallow groundwater body may be tidally influenced and this should be considered while undertaking groundwater monitoring and geotechnical design.
Filled and Made Ground (including embankments)	Moderate	Made Ground of variable thickness is likely to be present across the site as a result of past construction/demolition activities and potentially also from bomb damage sustained during WWII. Previous site investigations undertaken across the site and in the surrounding area encountered Made Ground to a maximum depth of up to 3.10m bgl. As a result, buried obstructions may be present.
Obstructions (including foundations, services, basements, tunnels and adjacent sub-structures)	Moderate/ High	The site has had significant development history. Relic structures are likely to be encountered within the footprint of current structures, which may require removal to enable the construction of the proposed development. It is likely these obstructions, if encountered may be removed using standard construction plant, unless any former basements of piled foundations are encountered. The main Thames Water Sewer runs across the site following the alignment of Abbot Road, along with a secondary sewer along the western boundary of the site. (See section 4.3 for more detail). The impact of the works on this infrastructure may need to be assessed if any development is to take place in close proximity.
Underground mining	Low	The site is not located in an area of known underground mining.
Concrete classification	Moderate	Previous site investigations undertake on and around the site have indicated an Aggressive Chemical Environment for Concrete (ACEC) Classification of AC-3 to AC-4. Specific site based testing will be required to confirm this for each development phase.
Seismic Activity	Low	The Eurocode 8 seismic hazard zoning maps for the UK (Musson and Sargeant, 2007) indicate that horizontal Peak Ground Acceleration (PGA) values with 10% probability of being exceeded in 50 years (475 year return period) are between 0.00 and 0.02g, which is considered very low.

4.2 Preliminary Geotechnical Assessment

Ground Conditions

4.2.1 The ground conditions at the site are anticipated to comprise Made Ground, associated with historical development of the site, overlying Alluvium, overlying the Kempton Park Gravel Member which, in turn, is underlain by the London Clay Formation, Lambeth Group, Thanet Formation and White Chalk Subgroup at depth.

4.2.2 The Made Ground and Alluvium are likely to be of low strength, high compressibility and volume change and as such would comprise an unsuitable bearing stratum for shallow foundations.

4.2.3 A site-specific detailed ground investigation will be required to determine the geotechnical characteristics of the soils present on site, to inform any mitigation measures required and to confirm groundwater levels which may be tidally influenced.

Foundations

4.2.4 For lightly to moderately loaded structures, it is anticipated that shallow foundations in the Kempton Park Gravels will be suitable, subject to confirmation of the depth to the stratum. For moderately to highly loaded structures, piled foundations extending into the London Clay Formation, Lambeth Group or deeper strata will be required. It is likely that Continuous Flight Auger (CFA) or bored piles will be most suitable based on the site setting and anticipated ground conditions.

4.2.5 The guidance set out in NHBC Chapter 4.2 Building Near Trees will need to be adhered to in relation to specifying minimum foundation depths and any heave precautions required for basements within soils with a medium or high volume change potential.

4.2.6 Subject to confirmation of proposed loading, it is considered likely that a combination of foundation solutions will be used across the site depending on the type and size of the buildings and if basements are present.

4.2.7 In areas were the buildings are developed above or near the existing Thames Water Sewers, an impact assessment will need to be undertaken to determine any affects and mitigation measures to protect these assets.

Floor Slabs

4.2.8 Suspended floor slabs are likely to be required based on the anticipated ground conditions on site. If appropriate, ground improvement techniques maybe used to facilitate ground bearing floor slabs subject to site specific ground investigation.

Buried Structures

4.2.9 Given the significant development history of the site and the presence of a number of buildings, there is the potential for buried structures to be present. Buried/ relict structures will most likely need to be removed to enable the construction of the proposed development. It is likely these obstructions, if encountered, may be removed using conventional earth moving plant unless any former basement or piled foundations are encountered.

4.2.10 In the areas were underpasses are present beneath the A12 care should be taken to avoid damaging the structures. Appropriate geotechnical assessment and design should be undertaken for any temporary or permeant retaining wall or slopes constructed with the vicinity of these structures.

4.2.11 The main Thames Water Sewer runs across the site following the alignment of Abbot Road, along with a secondary sewer along the western boundary of the site. The Thames Water Asset Location Search report is provided within Appendix A. Where buildings are proposed in close proximity to these assets, a build over agreement and impact assessment will be required with Thames Water to enable works to be undertaken. As part of this agreement a Ground Movement Assessment (GMA) will be likely required for all Thames Water Assets which may be influenced by the proposed development.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Geo-Environmental

5.1.1 The outline CSM produced upon completion of the desk study assessment has identified a number of potential pollutant linkages that may be active upon the redevelopment of the site. These are predominantly associated with the following potential pollutant pathways:

- Dermal contact and ingestion of contaminants of concern present within shallow Made Ground and perched groundwater by future site users upon completion of the development; and
- Potential risk to future site users from volatile contaminants of concern in groundwater migrating beneath the site from significant off-site sources to impact future site users via the inhalation pathway in indoor areas.

5.1.2 It is therefore recommended that the potential for pollutant linkages identified by the CSM to be active upon completion of the redevelopment is assessed through development specific geo-environmental site investigation. The scope of this investigation should include the following:

- Drilling of a number of boreholes across the site targeting identified potential sources and pollutant linkages;
- Collection of soil and groundwater samples with chemical analysis of these samples for contaminants of concern;
- Installation and monitoring of groundwater and gas monitoring wells;
- Assessment of ground conditions and generic quantitative risk assessment of soil and groundwater chemical analysis results to determine the potential for the identified potential pollutant linkages to remain active upon redevelopment of the site;
- Assessment of the ground gas regime within shallow soils beneath the site; and
- Provision of recommendations (where necessary) for remediation/mitigation measures to ensure that any identified potential pollutant linkages are not active upon redevelopment of the site.

5.2 Geotechnical

5.2.1 The Made Ground and Alluvium present beneath the site are likely to be of low strength, high compressibility and volume change and as such would comprise an unsuitable bearing stratum for shallow foundations.

5.2.2 For lightly to moderately loaded structures, it is anticipated that shallow foundations in the Kempton Park Gravels will be suitable, subject to confirmation of the depth to the stratum. For moderately to highly loaded structures, piled foundations extending into the London Clay Formation, Lambeth Group or deeper strata will be required.

5.2.3 Previous site investigations undertake on and around the site have indicated an Aggressive Chemical Environment for Concrete (ACEC) Classification of AC-3 to AC-4.

5.2.4 The main Thames Water Sewer runs across the site following the alignment of Abbot Road, along with a secondary sewer along the western boundary of the site. The Thames Water Asset Location Search report is provided within Appendix A. Where buildings are proposed in close proximity to these assets, a build over agreement and impact assessment will be required with Thames Water to enable works to be undertaken. As part of this agreement a Ground Movement Assessment (GMA) will be likely required for all Thames Water Assets which may be influenced by the proposed development.

5.2.5 Development specific geotechnical investigation will be required to inform preliminary foundation, floor slab, basement and pavement design as part of the redevelopment.

5.3 Additional Considerations

5.3.1 Whilst no asbestos containing material was noted during the walkover, given the age of the buildings across the development it is highly likely that asbestos containing material may be present. In addition, the large amount of fly tipping around Lochnager Street may be a potential source of asbestos.

5.3.2 A Detailed UXO Threat and Risk Assessment Report for the site has been completed by Alpha Associates in February 2021 (ref:8557). The report concluded the risk level given to the site is high and recommends that a UXO Emergency Response Plan, UXO safety awareness briefing and intrusive magnetometer survey are undertaken for 'blind' intrusive works such as borehole drilling. It was recommended that, in addition to the above, non-intrusive survey and UXO Watching Brief are undertaken for 'open' intrusive works such as excavations and trenching.

REFERENCES

BGS. British Geological Survey Onshore GeoIndex. [online] Available at: http://www.bgs.ac.uk/geoindex/ [Accessed 22nd June 2020].

Building Research Establishment (2008): Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66.

British Standards Institution (2019): Soil quality — Conceptual site models for potentially contaminated sites. BS EN ISO 21365:2019.

Environment Agency 2020): Land Contamination: Risk Management (LCRM 2020).

https://magic.defra.gov.uk/

https://zeticauxo.com/downloads-and-resources/risk-maps/

Figures

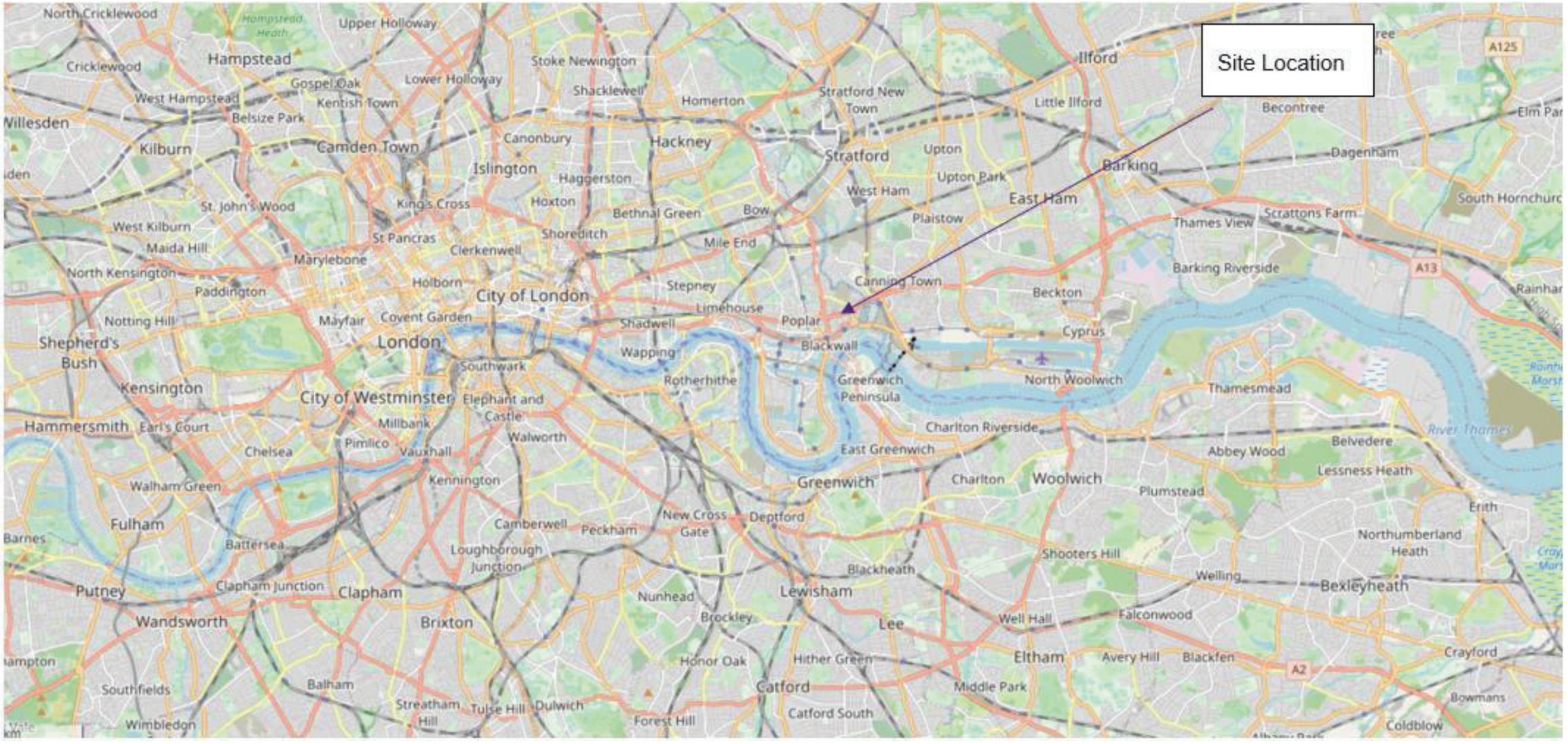
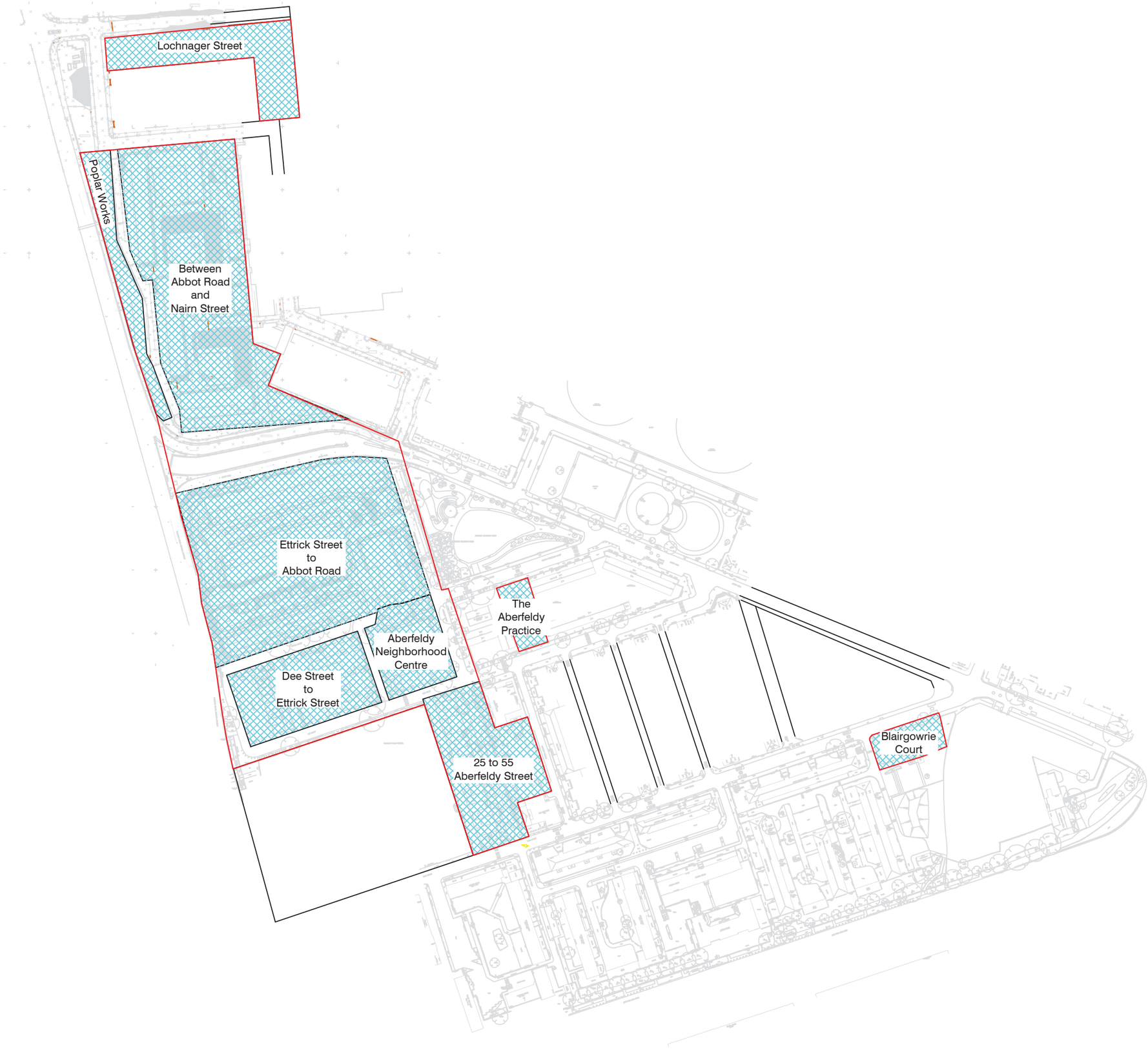


Figure 1: Site Location Plan.

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4BL
United Kingdom
rpsgroup.com

Client:	Aberfeldy New Village LLP		
Project:	Aberfeldy Village Masterplan		
Checked By:	JL		
Job Ref:	JER8921	**Date:**	April 2021



©2019 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. Where applicable Ordnance Survey (c) Crown Copyright 2019
   All rights reserved. Licence number 0100031673

Key

Site Boundary

Desk Study Area

N

MAKING COMPLEX EASY

260 Park Avenue, Aztec West, Almondsbury,
Bristol BS32 4SY
T: 01454 853 000 **E:** rpssw@rpsgroup.com

Client: Aberfeldy New Village LLP

Project: Aberfeldy Village Master Plan

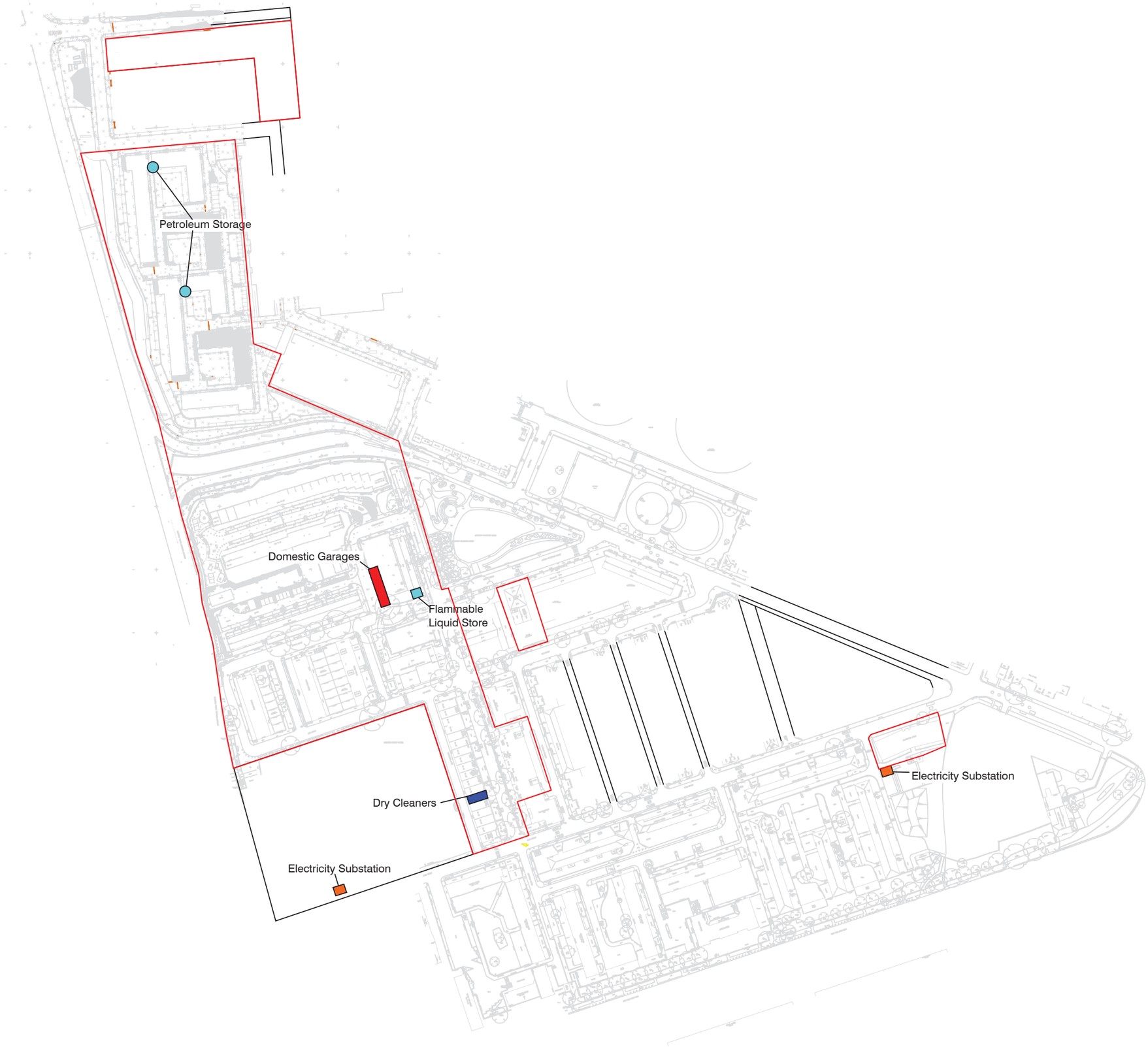
Title: Site Boundary and Desk Study Area Locations

Status	Drawn By	PM/Checked by
FINAL	MH	JL

Job Ref	Scale @ A3	Date Created
JER8921	NTS	July 2021

RPS Drawing / Figure Number	Rev
2	02

rpsgroup.com



©2019 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. Where applicable Ordnance Survey (c) Crown Copyright 2019
   All rights reserved. Licence number 0100031673

Key

Site Boundary

N

MAKING COMPLEX EASY

260 Park Avenue, Aztec West, Almondsbury,
Bristol BS32 4SY
T: 01454 853 000 **E:** rpssw@rpsgroup.com

Client: Aberfeldy New Village LLP

Project: Aberfeldy Village Master Plan

Title: Current on Site Potential Sources of Contamination

Status	Drawn By	PM/Checked by
FINAL	MH	JL

Job Ref	Scale @ A3	Date Created
JER8921	NTS	July 2021

RPS Drawing / Figure Number	Rev
3	03

rpsgroup.com

Appendices

Appendix A

Thames Water Asset Location Search

JER8921 | Aberfeldy Village Masterplan | V2 | R0 | 2nd July 2021
rpsgroup.com

Asset location search

Property Searches

Meinhardt (UK) Ltd
10

LONDON
EC1A 4HJ

Search address supplied	Aberfeldy Village Aberfeldy Street London London UK
Your reference	Aberfeldy Street Aberfeldy Village E14 0NU
Our reference	ALS/ALS Standard/2020_4292429
Search date	5 November 2020

Knowledge of features below the surface is essential for every development

The benefits of this knowledge not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility of any development.

Did you know that Thames Water Property Searches can also provide a variety of utility searches including a more comprehensive view of utility providers' assets (across up to 35-45 different providers), as well as more focused searches relating to specific major utility companies such as National Grid (gas and electric).

Contact us to find out more.

Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0845 070 9148

Property Searches

Search address supplied: Aberfeldy Village, Aberfeldy Street, London, London, UK,

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This searchprovides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Waste Water Services

Please provide a copy extract from the public sewer map.

The following quartiles have been printed as they fall within Thames' sewerage area:

TQ3881NE
TQ3881SW
TQ3881NW
TQ3881SE

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

The following quartiles have been printed as they fall within Thames' water area:

TQ3881NE
TQ3881SW

TQ3881NW
TQ3881SE

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Property Searches

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

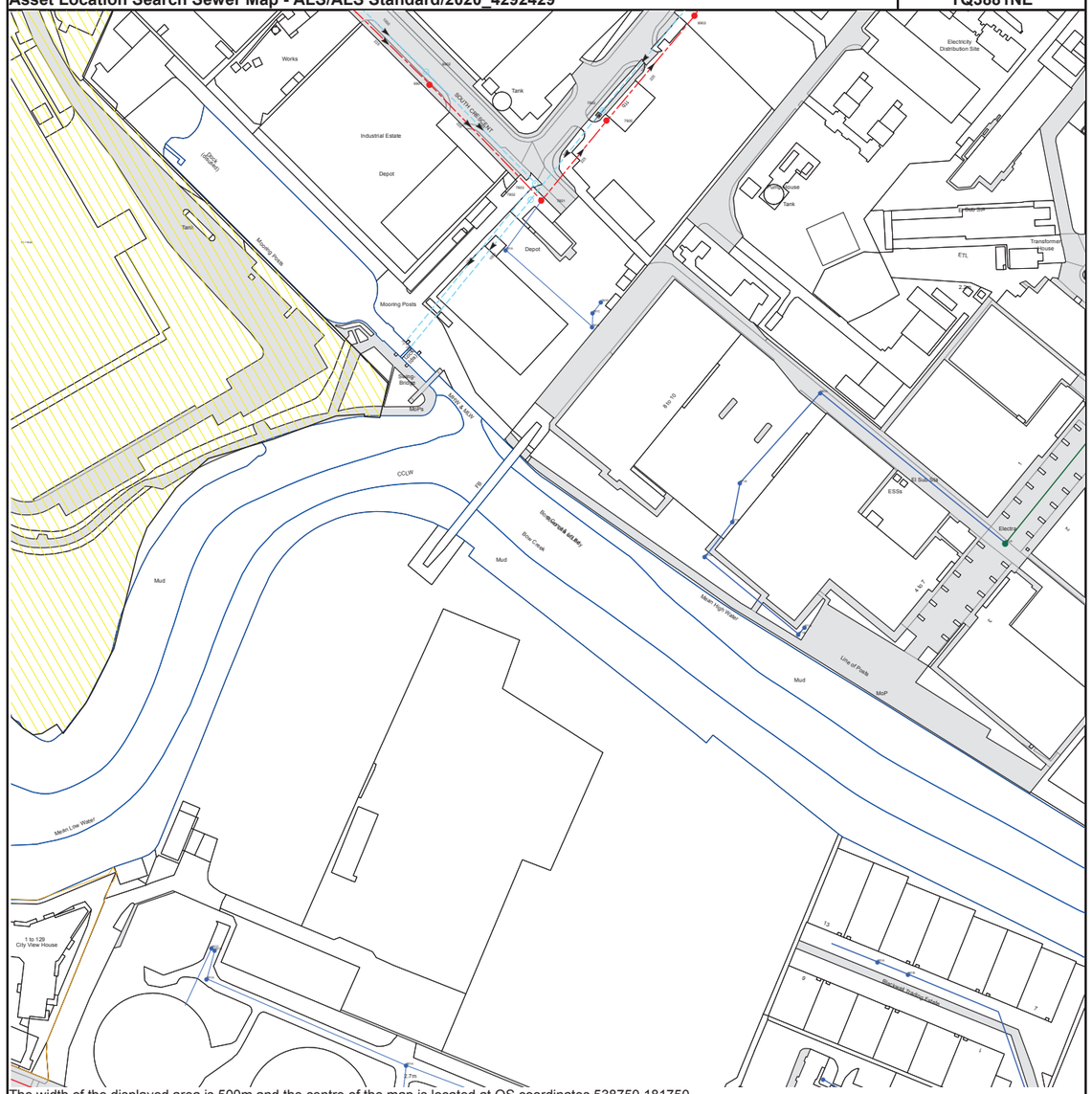
Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881NE**


Works
Industrial Estate
Depot
Tank
Depot
Mooring Posts
Mooring Posts
Depot
Tank
Electricity Distribution Site
Transformer House
ETL
Tank
Mud
Mud
Mud
Mean High Water
Mean Low Water
Line of Posts
MoP
CCLW
Slow C Hulk
Shoreham Old Mill
1 to 129
City View House
Pavement Level Under
ESSs
Electricity Substation
4 ALT
Sluice Gate
Sluice Gate
Sluice Gate

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
85AB	n/a	n/a
85AC	n/a	n/a
951A	n/a	n/a
951B	n/a	n/a
8904	n/a	n/a
8903	n/a	n/a
781A	n/a	n/a
7802	n/a	n/a
7803	n/a	n/a
7801	n/a	n/a
781B	n/a	n/a
781C	n/a	n/a
781D	n/a	n/a
871C	n/a	n/a
871D	n/a	n/a
871E	n/a	n/a
871B	n/a	n/a
871A	n/a	n/a
881A	n/a	n/a
971A	n/a	n/a
651A	n/a	n/a
6902	n/a	n/a
6901	n/a	n/a
7902	n/a	n/a
7905	n/a	n/a
551A	n/a	n/a
551C	n/a	n/a
551B	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881SW**



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538250,181250

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3407	2.25	.86
3402	1.92	-3.79
3403	1.94	-.54
2417	3	1.5
141A	n/a	n/a
2424	2.32	n/a
141G	n/a	n/a
411H	n/a	n/a
4203	1.7	-.48
4204	1.79	-.7
4202	1.71	-.9
4201	1.7	-.94
42DH	n/a	n/a
42DI	n/a	n/a
42DJ	n/a	n/a
42EA	n/a	n/a
4216	1.57	-1.33
42EE	n/a	n/a
4215	1.61	-2.24
42EG	n/a	n/a
42ED	n/a	n/a
43DB	n/a	n/a
33CH	n/a	n/a
4301A	1.77	-2.82
43DE	n/a	n/a
431E	n/a	n/a
43DD	n/a	n/a
43DF	n/a	n/a
4319	1.76	-1.28
43DG	n/a	n/a
44DB	n/a	n/a
44DA	n/a	n/a
44CI	n/a	n/a
44DC	n/a	n/a
44DD	n/a	n/a
44CH	n/a	n/a
44CJ	n/a	n/a
3432	1.68	-1.72
4420	1.59	-3.16
4419	1.7	-3.27
4408	1.75	-3.45
3405	1.72	.13
4407	1.97	-3.55
4401	1.76	-.05
3404	1.67	-.33
3222	2.36	.55
32CG	n/a	n/a
42EC	n/a	n/a
33EE	n/a	n/a
4313	2.04	-1.04
43DI	n/a	n/a
33ED	n/a	n/a
33EC	n/a	n/a
33EB	n/a	n/a
4312	1.73	-2.54
33EA	n/a	n/a
33DJ	n/a	n/a
431D	n/a	n/a
431C	n/a	n/a
33CE	n/a	n/a
4303	n/a	n/a
4302	n/a	n/a
431B	n/a	n/a
33DB	n/a	n/a
33DC	n/a	n/a
431A	n/a	n/a
33DD	n/a	n/a
3016	4.41	-1.42
3015	4.08	-1.55
3014	3.45	-1.74
3010	n/a	n/a
3023	4.25	1.24
3005	n/a	n/a
3009	3.98	1.27
3008	4.06	2.68
3007	4.16	-1.23
3006	6.19	2.89
2422	2.26	-4.27
2406	2.7	1.83
2409	2.99	2.3
2408	n/a	n/a
2304	2.49	1.07
2420	3.36	1.54
2303	2.35	.8
2305	2.66	1.02
2301	2.38	.73
3306	2.49	1.72
3310	2.57	.74
3406	2.76	1.11
3401	3.04	-8.94

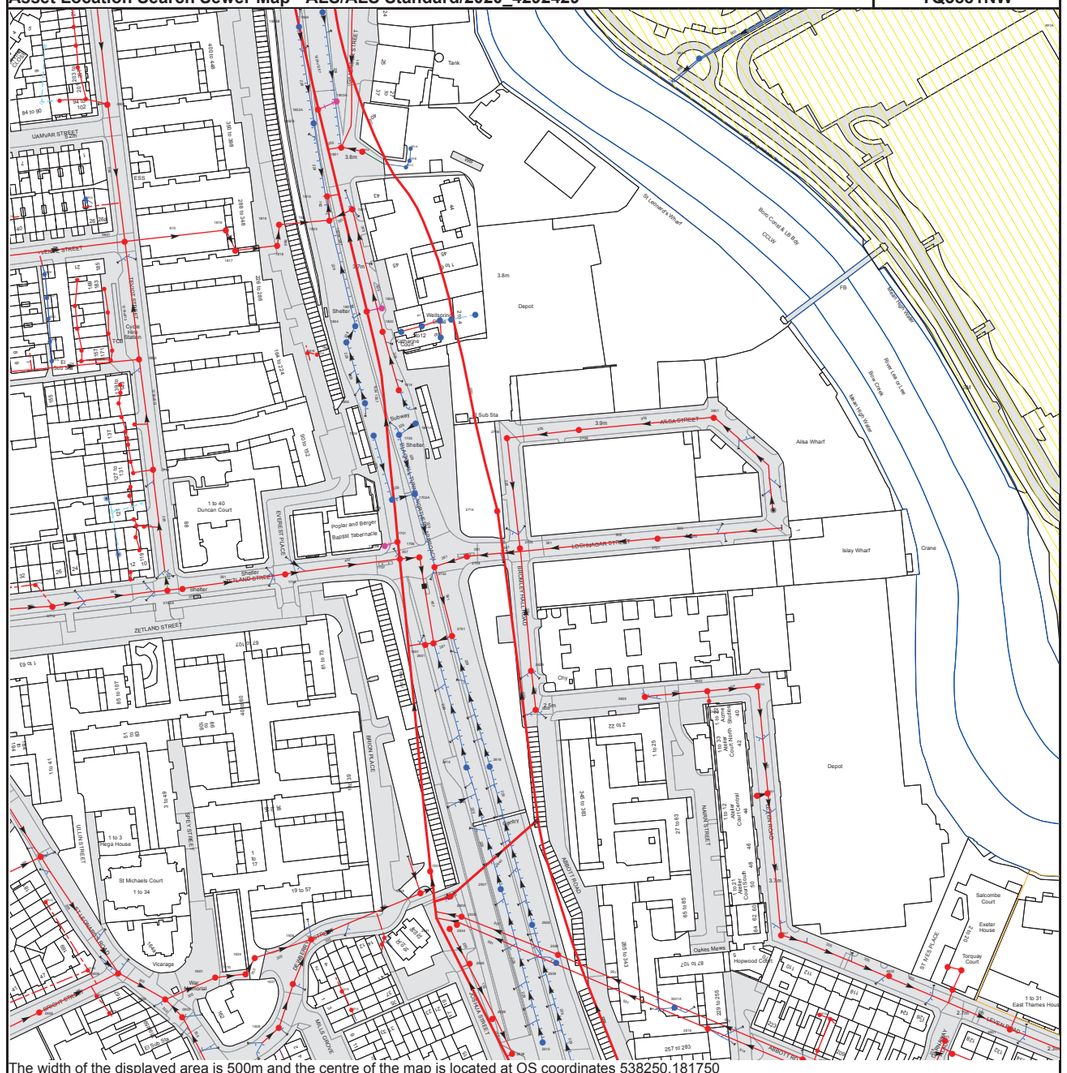
Manhole Reference	Manhole Cover Level	Manhole Invert Level
3302	2.7	.54
3301B	2.29	-1.11
33CI	n/a	n/a
3205	2.35	-4.07
33CD	n/a	n/a
3202	n/a	n/a
33CJ	n/a	n/a
33DE	n/a	n/a
33DF	n/a	n/a
33DG	n/a	n/a
33DH	n/a	n/a
33DA	n/a	n/a
33DI	n/a	n/a
3316	n/a	n/a
2102	4.37	1.67
2012	4.38	1.37
2112	4.66	-8.47
3112	n/a	n/a
3101	n/a	n/a
3102	n/a	n/a
3103	n/a	n/a
3106	n/a	n/a
311C	n/a	n/a
311B	n/a	n/a
311A	n/a	n/a
4104	1.72	-.02
411E	n/a	n/a
411A	n/a	n/a
411J	n/a	n/a
411F	n/a	n/a
411B	n/a	n/a
411I	n/a	n/a
411G	n/a	n/a
411C	n/a	n/a
4103	1.85	-.11
411D	n/a	n/a
4011	4.17	1.55
4102	1.93	-.22
4101	1.93	-.49
12BD	n/a	n/a
12BE	n/a	n/a
2208	5.19	2.74
22CE	n/a	n/a
22CD	n/a	n/a
12BF	n/a	n/a
22BH	n/a	n/a
22BI	n/a	n/a
22BJ	n/a	n/a
22CA	n/a	n/a
22CB	n/a	n/a
22CC	n/a	n/a
2207	5.18	2.47
21CE	n/a	n/a
21CD	n/a	n/a
2203	5.2	2.35
21CC	n/a	n/a
2202	3.7	1.85
2204	3.93	2.12
2201	2.97	.77
2212	2.64	1.93
3218	2.85	1.21
3217	2.94	.53
3219	2.74	1.64
3201	2.44	-8.63
3204	2.34	-.83
3203	2.47	-1.25
12EB	n/a	n/a
12EA	n/a	n/a
121I	n/a	n/a
121F	5.7	4.88
121K	5.65	4.88
121T	5.98	3.89
121J	n/a	n/a
121G	5.7	4.55
12DJ	n/a	n/a
121E	n/a	n/a
121H	n/a	n/a
121D	5.7	3.04
121O	6.31	4.9
12DI	n/a	n/a
121C	5.99	3.08
121R	6.17	4.07
12DH	n/a	n/a
12FH	n/a	n/a
12FI	n/a	n/a
12BJ	n/a	n/a
12CA	n/a	n/a
12CB	n/a	n/a
12AI	n/a	n/a
12AJ	n/a	n/a
12BA	n/a	n/a
12BB	n/a	n/a
12BC	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
11ED	n/a	n/a
11EC	n/a	n/a
11EB	n/a	n/a
21BE	n/a	n/a
11CG	n/a	n/a
11EA	n/a	n/a
21CH	n/a	n/a
21BF	n/a	n/a
11CH	n/a	n/a
11DJ	n/a	n/a
11CI	n/a	n/a
11CJ	n/a	n/a
21BG	n/a	n/a
11DA	n/a	n/a
11DB	n/a	n/a
11DI	n/a	n/a
21BH	n/a	n/a
11DC	n/a	n/a
11DH	n/a	n/a
21BI	n/a	n/a
11DF	n/a	n/a
11DG	n/a	n/a
21BJ	n/a	n/a
2110	5.27	3.03
21CA	n/a	n/a
21CB	n/a	n/a
2109	4.66	2.72
10DF	n/a	n/a
20DC	n/a	n/a
101A	n/a	n/a
20CD	n/a	n/a
10CC	n/a	n/a
10CI	n/a	n/a
20CI	n/a	n/a
1017	5.67	2.64
10CD	n/a	n/a
1016	5.23	2.03
10FD	n/a	n/a
20CJ	n/a	n/a
2019	4.77	1.79
10FE	n/a	n/a
11EI	n/a	n/a
11EJ	n/a	n/a
11FA	n/a	n/a
11FB	n/a	n/a
11FC	n/a	n/a
11FE	n/a	n/a
11FH	n/a	n/a
1102B	5.81	2.58
11EG	n/a	n/a
11EF	n/a	n/a
1101A	5.8	2.17
11EE	n/a	n/a
2103	4.5	2.19
02CH	n/a	n/a
12GD	n/a	n/a
12DG	n/a	n/a
12BI	n/a	n/a
12DF	n/a	n/a
12DD	n/a	n/a
12DC	n/a	n/a
12BH	n/a	n/a
12DB	n/a	n/a
12DA	n/a	n/a
12CJ	n/a	n/a
12GF	n/a	n/a
1205	n/a	n/a
12CI	n/a	n/a
12BG	n/a	n/a
12CH	n/a	n/a
12CC	n/a	n/a
13DH	n/a	n/a
13DE	n/a	n/a
13DG	n/a	n/a
13DF	n/a	n/a
13DD	n/a	n/a
13DI	n/a	n/a
13DC	n/a	n/a
13DB	n/a	n/a
1303	n/a	n/a
1301	5.33	3.16
1004	n/a	n/a
1009	n/a	n/a
1003	n/a	n/a
1001A	n/a	n/a
1010	5.03	1.14
2004	5.3	2.58
1013	5.52	1.82
2005	4.86	3.56
2006	4.74	3.75
1011	5.33	1.55
001D	n/a	n/a
10DH	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
2011	4.53	1.22
10FA	n/a	n/a
10EJ	n/a	n/a
10DG	n/a	n/a
10DE	n/a	n/a
10DB	n/a	n/a
101B	n/a	n/a
10DD	n/a	n/a
20DB	n/a	n/a
01FD	n/a	n/a
0102A	6.44	3.38
01FG	n/a	n/a
01FH	n/a	n/a
01FI	n/a	n/a
01FJ	n/a	n/a
01FF	n/a	n/a
01GA	n/a	n/a
01GB	n/a	n/a
01GC	n/a	n/a
01BE	n/a	n/a
01BF	n/a	n/a
0003	6.02	2.89
11CB	n/a	n/a
11GI	n/a	n/a
11GA	n/a	n/a
11CC	n/a	n/a
11GB	n/a	n/a
11GC	n/a	n/a
11GD	n/a	n/a
11GE	n/a	n/a
11GF	n/a	n/a
11GG	n/a	n/a
10FC	n/a	n/a
11HC	n/a	n/a
11HA	n/a	n/a
11HD	n/a	n/a
0302	5.99	3.98
0312	n/a	2.95
0402	5.17	2.45
0301	5.75	3.69
0311	5.81	2.78
1410	5.02	1.25
141E	n/a	n/a
1411	5.23	1.47
141D	n/a	n/a
1404	5.25	1.53
141C	n/a	n/a
1312	5.55	3.33
1405	5.47	2.46
1415	n/a	n/a
1311	5.43	2.97
1403	4.55	1.3
1414	n/a	n/a
1310	5.38	3.07
1302	n/a	n/a
141H	n/a	n/a
131A	n/a	n/a
1402	4.17	1.17
141B	n/a	n/a
1401	3.58	1.08
2315	4.46	1.69
2314	3.26	1.25
2403	2.27	-5.19
2407	2.81	2.25
0212	n/a	n/a
0201B	6.49	3.67
02CI	n/a	n/a
0202	6.24	3.38
12FD	n/a	n/a
1103B	5.94	3.13
12FC	n/a	n/a
11CD	n/a	n/a
121S	6.11	5.25
12FB	n/a	n/a
12FA	n/a	n/a
12EJ	n/a	n/a
12EI	n/a	n/a
12EH	n/a	n/a
12EG	n/a	n/a
121L	5.71	4.55
12EF	n/a	n/a
121M	5.73	4.28
121A	5.6	3.17
12EE	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881NW**



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538250,181750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

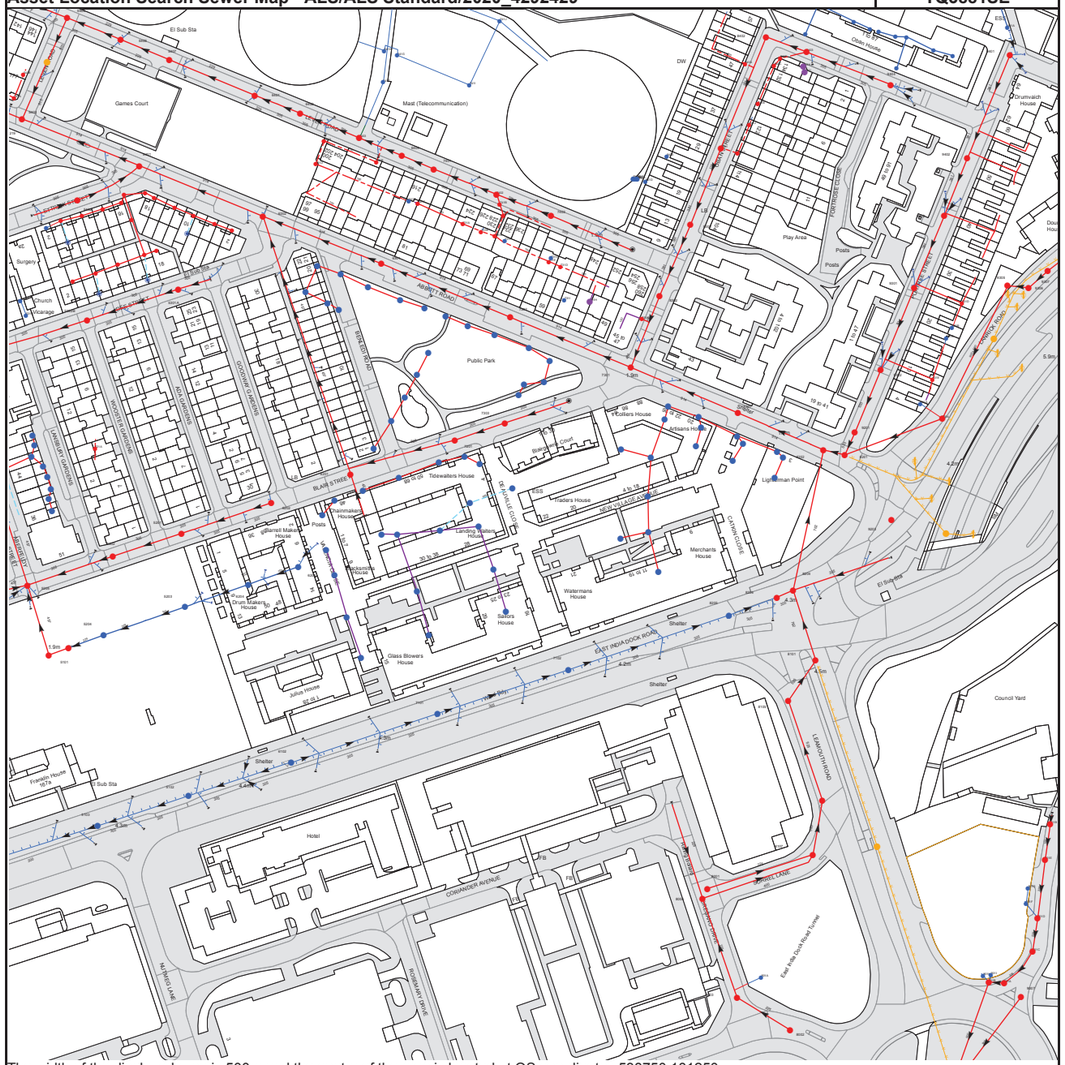
NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3701	n/a	n/a
3501A	n/a	n/a
3603	3.19	1.1
3516	n/a	n/a
3604	3.24	n/a
361A	3.5	.4
3602	3.75	.78
3601	3.55	.29
3507	3.39	n/a
3517	n/a	n/a
35CH	n/a	n/a
351A	n/a	n/a
35CG	n/a	n/a
4502	n/a	n/a
4511	n/a	n/a
45BF	n/a	n/a
45CB	n/a	n/a
45BH	n/a	n/a
45BG	n/a	n/a
4501	n/a	n/a
1705	n/a	n/a
2709	n/a	n/a
1801A	n/a	n/a
3801	n/a	n/a
1806	n/a	n/a
1814	n/a	n/a
181A	n/a	n/a
181B	n/a	n/a
1805	n/a	n/a
28AB	n/a	n/a
18CI	n/a	n/a
1820	n/a	n/a
18CH	n/a	n/a
1804	n/a	n/a
28AC	n/a	n/a
28AE	n/a	n/a
28AD	n/a	n/a
1801B	n/a	n/a
1802	n/a	n/a
1817	n/a	n/a
1818	n/a	n/a
1816	n/a	n/a
1819	n/a	n/a
1803	n/a	n/a
1917	n/a	n/a
1915	n/a	n/a
191C	n/a	n/a
191B	n/a	n/a
1914	n/a	n/a
191A	n/a	n/a
1901	n/a	n/a
1902B	n/a	n/a
1902A	n/a	n/a
1903A	n/a	n/a
391A	n/a	n/a
1903B	n/a	n/a
491A	n/a	n/a
1904	n/a	n/a
391B	n/a	n/a
2538	n/a	n/a
2510	n/a	n/a
1508	n/a	n/a
2539	n/a	n/a
0503	n/a	n/a
151A	n/a	n/a
0502	n/a	n/a
151B	n/a	n/a
1507	n/a	n/a
0501	n/a	n/a
1510	n/a	n/a
2540	n/a	n/a
2509	n/a	n/a
1509	n/a	n/a
2536	n/a	n/a
151D	n/a	n/a
1506	n/a	n/a
151C	n/a	n/a
2541	n/a	n/a
2534	n/a	n/a
2508	n/a	n/a
2535	n/a	n/a
2505	2.25	-8.8
1505	n/a	n/a
2507	n/a	n/a
1501	2.32	-5.24
2614	n/a	n/a
2615	n/a	n/a
2630	n/a	n/a
3605	n/a	n/a
2629	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
1601	n/a	n/a
2601	n/a	n/a
2701	n/a	n/a
0702A	n/a	n/a
0701B	n/a	n/a
1708	n/a	n/a
2702	n/a	n/a
1707	n/a	n/a
1706	n/a	n/a
2704	n/a	n/a
2705	n/a	n/a
1702B	n/a	n/a
1701	n/a	n/a
2714	3.24	-9.46
1703	n/a	n/a
1702A	n/a	n/a
0713	n/a	n/a
2708	n/a	n/a
1704	n/a	n/a
07CH	n/a	n/a
07DB	n/a	n/a
07DD	n/a	n/a
07DE	n/a	n/a
07DJ	n/a	n/a
07EA	n/a	n/a
07EB	n/a	n/a
07DI	n/a	n/a
07DH	n/a	n/a
08BJ	n/a	n/a
08CA	n/a	n/a
08CB	n/a	n/a
08CC	n/a	n/a
08AH	n/a	n/a
081A	n/a	n/a
08EE	n/a	n/a
08DI	n/a	n/a
0802	n/a	n/a
08DH	n/a	n/a
08ED	n/a	n/a
081B	n/a	n/a
08DG	n/a	n/a
08EC	n/a	n/a
081C	n/a	n/a
08DF	n/a	n/a
08EB	n/a	n/a
081D	n/a	n/a
08DE	n/a	n/a
08EA	n/a	n/a
081E	n/a	n/a
0801	n/a	n/a
091A	n/a	n/a
0901	n/a	n/a
09BD	n/a	n/a
09BE	n/a	n/a
09BF	n/a	n/a
09CA	n/a	n/a
09BJ	n/a	n/a
09BC	n/a	n/a
09BI	n/a	n/a
09BH	n/a	n/a
071A	n/a	n/a
0506	n/a	n/a
051C	n/a	n/a
0712	n/a	n/a
051D	n/a	n/a
07CI	n/a	n/a
0504	n/a	n/a
07AH	n/a	n/a
07BJ	n/a	n/a
07CE	n/a	n/a
07CF	n/a	n/a
07CD	n/a	n/a
07CG	n/a	n/a
07CC	n/a	n/a
051B	n/a	n/a
0505	n/a	n/a
051A	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881SE**



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538750,181250

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
8401	n/a	n/a
841G	n/a	n/a
841A	n/a	n/a
841J	n/a	n/a
841B	n/a	n/a
8402	n/a	n/a
841C	n/a	n/a
841F	n/a	n/a
841H	n/a	n/a
841I	n/a	n/a
84DH	n/a	n/a
8403	n/a	n/a
94CI	n/a	n/a
94CH	n/a	n/a
94CJ	n/a	n/a
9404	n/a	n/a
94DA	n/a	n/a
94DC	n/a	n/a
94DB	n/a	n/a
9402	n/a	n/a
9401	n/a	n/a
7403	n/a	n/a
741A	n/a	n/a
741B	n/a	n/a
641C	n/a	n/a
641E	n/a	n/a
7402	n/a	n/a
841D	n/a	n/a
741E	n/a	n/a
741D	n/a	n/a
741H	n/a	n/a
741C	n/a	n/a
741G	n/a	n/a
741F	n/a	n/a
7401	n/a	n/a
641D	n/a	n/a
641B	n/a	n/a
841E	n/a	n/a
6404	n/a	n/a
641A	n/a	n/a
6403	n/a	n/a
6402	n/a	n/a
741I	n/a	n/a
641F	n/a	n/a
641G	n/a	n/a
641H	n/a	n/a
741J	n/a	n/a
5405	n/a	n/a
9203	n/a	n/a
82CD	n/a	n/a
82CH	n/a	n/a
82CE	n/a	n/a
8201	n/a	n/a
82CF	n/a	n/a
8202	n/a	n/a
82CJ	n/a	n/a
82CI	n/a	n/a
82CG	n/a	n/a
9201	n/a	n/a
83CF	n/a	n/a
9304	n/a	n/a
83CE	n/a	n/a
8301	n/a	n/a
931A	n/a	n/a
931E	n/a	n/a
9302	n/a	n/a
931C	n/a	n/a
931B	n/a	n/a
931D	n/a	n/a
9301	n/a	n/a
9306	n/a	n/a
9305	n/a	n/a
9307	n/a	n/a
9403	n/a	n/a
72AI	n/a	n/a
731B	n/a	n/a
73CI	n/a	n/a
731C	n/a	n/a
731F	n/a	n/a
7303	n/a	n/a
7302	n/a	n/a
72CD	n/a	n/a
73DD	n/a	n/a
73DB	n/a	n/a
73CG	n/a	n/a
73DA	n/a	n/a
731E	n/a	n/a
73CJ	n/a	n/a
731G	n/a	n/a
731D	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
731I	n/a	n/a
731H	n/a	n/a
72AH	n/a	n/a
7301	n/a	n/a
831A	n/a	n/a
82CB	n/a	n/a
82CC	n/a	n/a
8302	n/a	n/a
83CB	n/a	n/a
83CC	n/a	n/a
8303	n/a	n/a
8004	n/a	n/a
8003	n/a	n/a
801A	6.29	5.79
8002	n/a	n/a
9007	n/a	n/a
8001	n/a	n/a
8107	n/a	n/a
8106	n/a	n/a
6102	n/a	n/a
7101	n/a	n/a
8105	n/a	n/a
7102	n/a	n/a
8101	n/a	n/a
61BC	n/a	n/a
62DF	n/a	n/a
62CJ	n/a	n/a
8205	n/a	n/a
72CB	n/a	n/a
8206	n/a	n/a
62DE	n/a	n/a
8204	n/a	n/a
62DA	n/a	n/a
82BJ	n/a	n/a
72CA	n/a	n/a
6203	n/a	n/a
62DB	n/a	n/a
72AG	n/a	n/a
62DD	n/a	n/a
62DC	n/a	n/a
82CA	n/a	n/a
72BJ	n/a	n/a
72BI	n/a	n/a
6202	n/a	n/a
63DI	n/a	n/a
63DJ	n/a	n/a
62CA	n/a	n/a
63EI	n/a	n/a
62CB	n/a	n/a
63FA	n/a	n/a
63EA	n/a	n/a
6201	n/a	n/a
62CE	n/a	n/a
63ED	n/a	n/a
62EF	n/a	n/a
6301	n/a	n/a
63EG	n/a	n/a
62CD	n/a	n/a
63EC	n/a	n/a
63EF	n/a	n/a
63EH	n/a	n/a
63EB	n/a	n/a
63EE	n/a	n/a
72BA	n/a	n/a
73CF	n/a	n/a
7201	n/a	n/a
731A	n/a	n/a
72AJ	n/a	n/a
73CH	n/a	n/a
72CC	n/a	n/a
53AE	n/a	n/a
53BG	n/a	n/a
53BH	n/a	n/a
5402	n/a	n/a
54DI	n/a	n/a
5302B	n/a	n/a
521A	n/a	n/a
53BI	n/a	n/a
54BH	n/a	n/a
53BJ	n/a	n/a
5406	n/a	n/a
54DH	n/a	n/a
54DJ	n/a	n/a
53CC	n/a	n/a
5401	n/a	n/a
53CA	n/a	n/a
54EA	n/a	n/a
54EB	n/a	n/a
53CB	n/a	n/a
5407	n/a	n/a
54EC	n/a	n/a
5301A	n/a	n/a
54ED	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
53CD	n/a	n/a
63CF	n/a	n/a
6401	n/a	n/a
6302	n/a	n/a
5101	n/a	n/a
511B	n/a	n/a
5204	n/a	n/a
5203	n/a	n/a
5205	n/a	n/a
6204	n/a	n/a
5202	n/a	n/a
5201	n/a	n/a
52CH	n/a	n/a
52CI	n/a	n/a
52CJ	n/a	n/a
52DA	n/a	n/a
52DB	n/a	n/a
5403	n/a	n/a
541A	n/a	n/a
541B	n/a	n/a
52DC	n/a	n/a
52DE	n/a	n/a
52DD	n/a	n/a
531B	n/a	n/a
531A	n/a	n/a
5103	n/a	n/a
5102	n/a	n/a
901H	5.1	4.21
901B	5.1	2.1
901I	5.1	4.39
901A	4.91	2.2
901F	5.59	4.52
901G	5.59	2.97
901C	4.96	2.37
901D	4.82	2.43
901E	4.68	2.58
911B	4.6	3.15
94DF	n/a	n/a
94DE	n/a	n/a
941A	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

Air Valve

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

Control Valve

Drop Pipe

Ancillary

Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

Outfall

Undefined End

Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

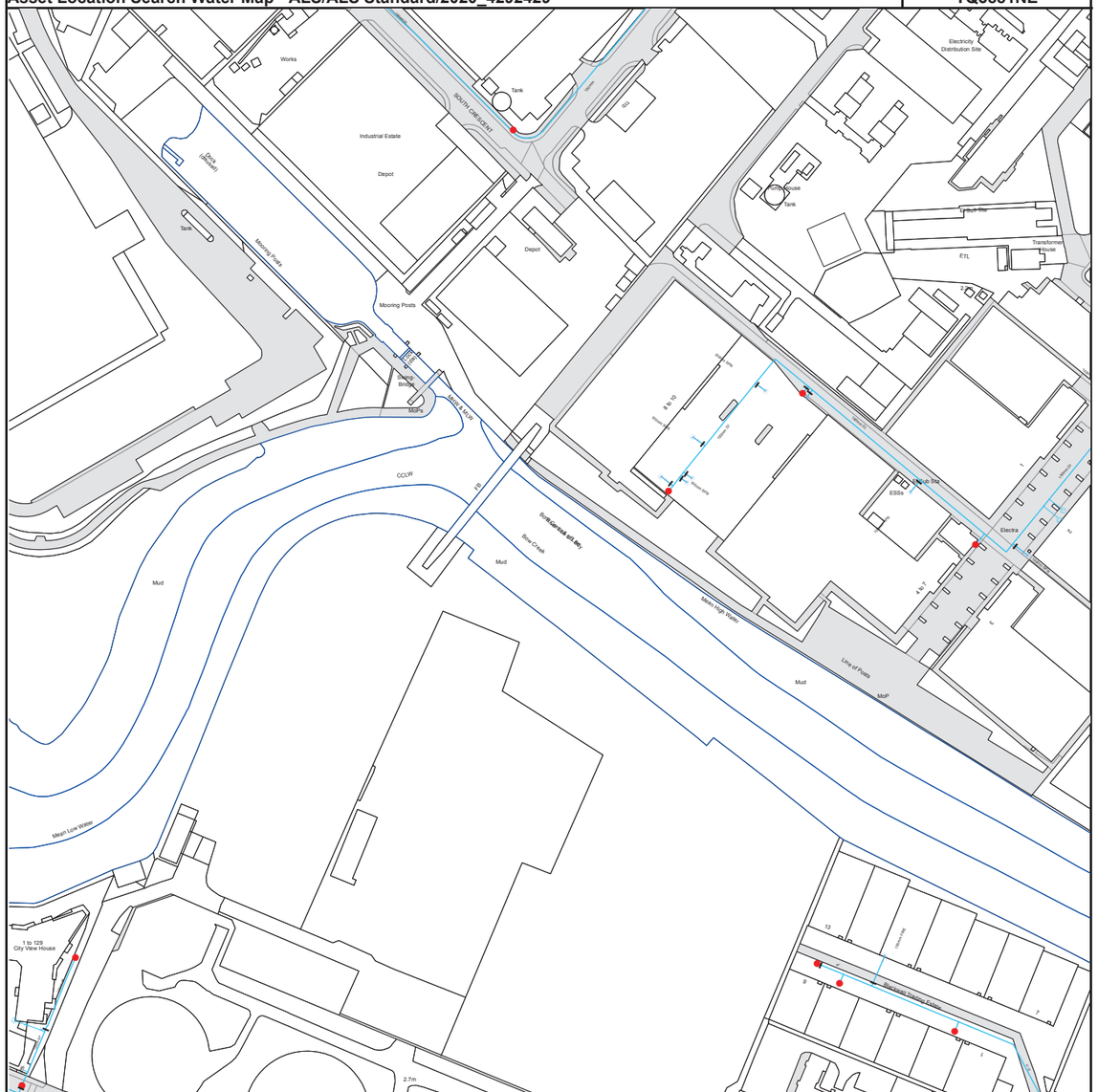
Proposed

Abandoned Sewer

Notes:

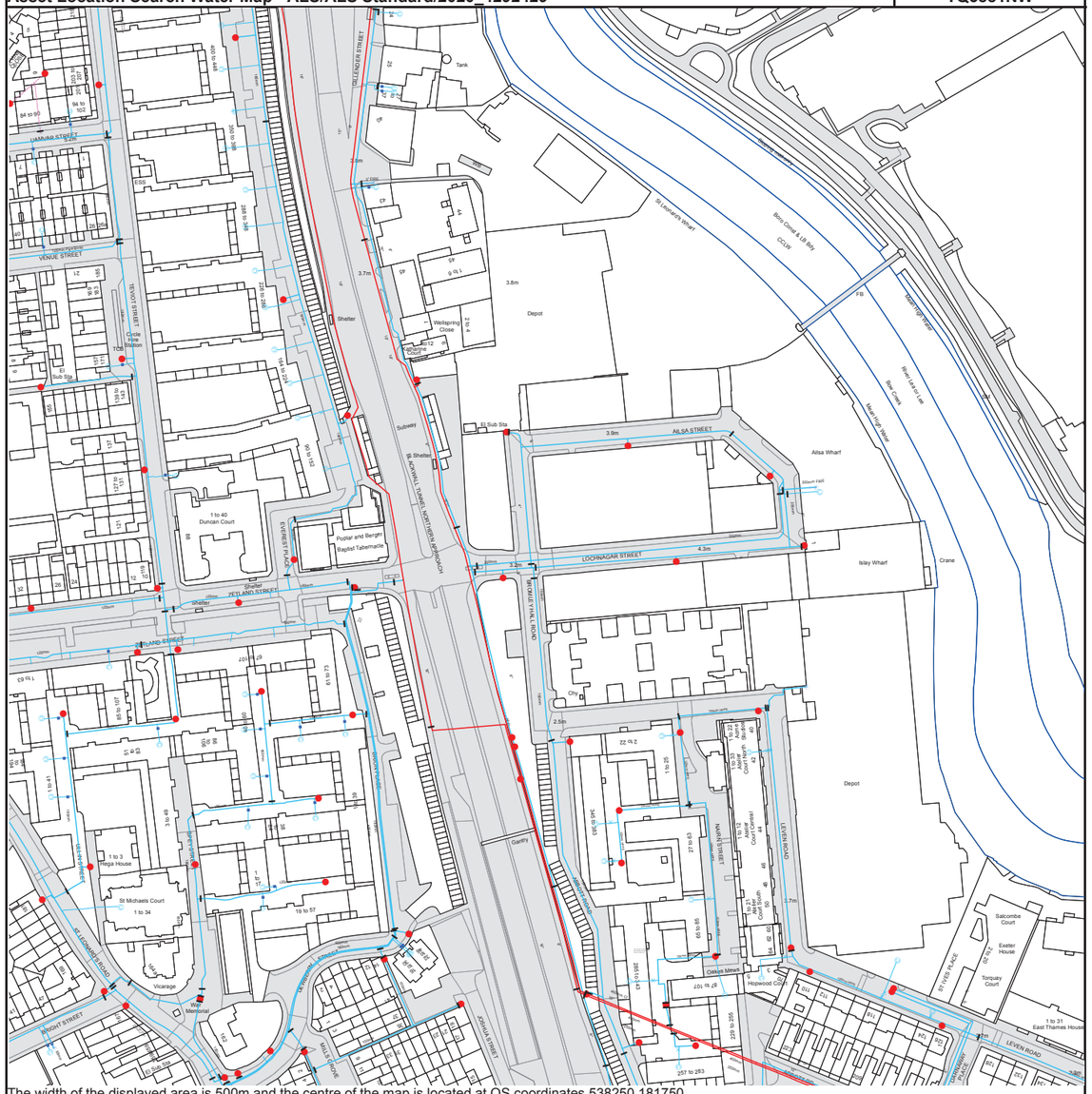
1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plans are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
5) 'na' or '0' on a manhole level indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429 | TQ3881NE


Works
Industrial Estate
Depot
Depot
Tank
SOUTH GREENWAY
Electricity Distribution Site
Tank
Transformer House
ETL
Mooring Posts
Mooring Posts
Jetty
Mooring Posts
Jetty
Jetty
Jetty

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429

TQ3881NW



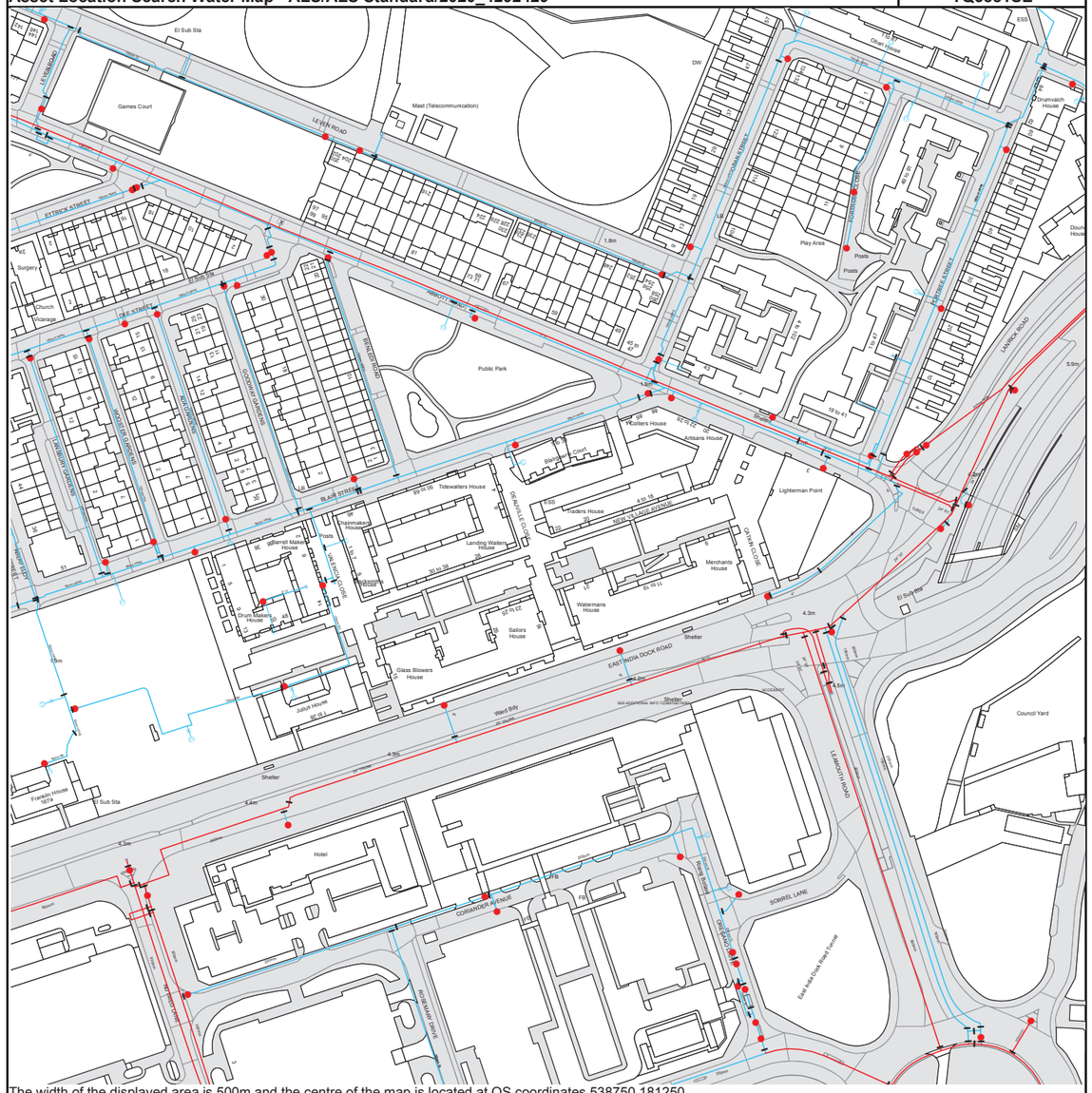
The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538250,181750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429

TQ3881SE



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538750,181250

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger

Other Water Pipes (Not Operated or Maintained by Thames Water)

Other Water Company Main: Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

Private Main: Indiates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL`s terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to her at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking	Cheque
Call **0845 070 9148** quoting your invoice number starting CBA or ADS / OSS	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number	Made payable to '**Thames Water Utilities Ltd**' Write your Thames Water account number on the back. Send to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW** or by DX to **151280 Slough 13**

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.

Appendix B

Site Photographs



Photo 01: Petrol warning signs on areas present between Abbot Road and Nairn Street (north of site)



Photo 02: Electricity substation in development next to Braithwaite Park



Photo 03: Fly tipping off Lochnager Road



Photo 04: Blairgowrie Court

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4AB, United Kingdom

Client: Aberfeldy New Village LLP
Project: Aberfeldy Village Masterplan Job ref JER8921
Checked By: JL Date: July 2021



Photo 05: Blairgowrie Park underground waste storage system



Photo 06: Aberfeldy Street



Photo 07: Area of hardstanding on Lansbury Gardens

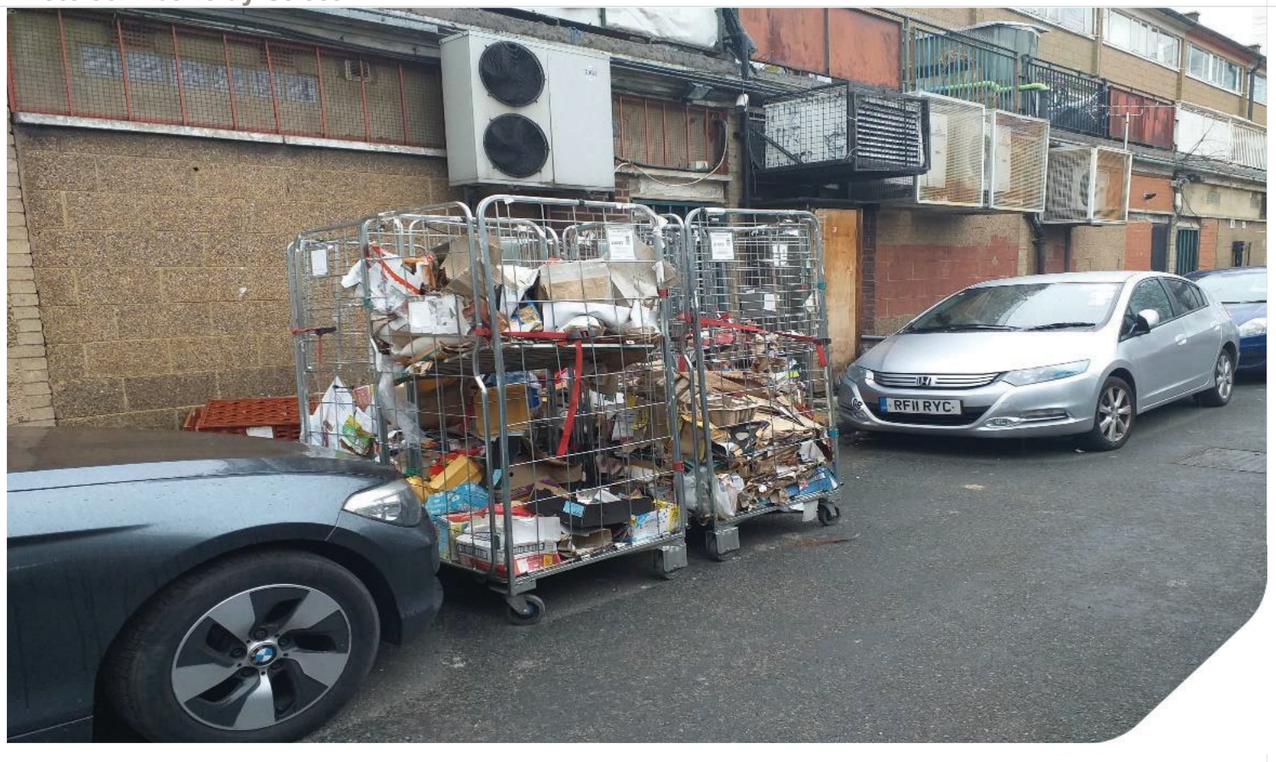


Photo 08: Aircon units and waste on Kirkmichael Road

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4AB, United Kingdom

Client:	Aberfeldy New Village LLP		
Project:	Aberfeldy Village Masterplan	Job ref	JER8921
Checked By:	JL	Date:	July 2021



Photo 09: Wheeled waste bins at junction of Aberfeldy Road and Dee Street



Photo 10: Aberfeldy Neighbourhood Centre



Photo 11: Park associated with Aberfeldy Neighbourhood Centre



Plate 12: Gardens in the development between Dee Street and Ettrick Street

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4AB, United Kingdom

Client:	Aberfeldy New Village LLP		
Project:	Aberfeldy Village Masterplan	Job ref	JER8921
Checked By:	JL	Date:	July 2021



Photo 13: Wheeled general waste bins on Cullen Street



Photo 14: Flats off Findhorn Street



Photo 15: Residential Properties along Balmore Close



Photo 16: Play parks at the end of Balmore Close

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4AB, United Kingdom

Client: Aberfeldy New Village LLP
Project: Aberfeldy Village Masterplan Job ref JER8921
Checked By: JL Date: July 2021



Photo 17: Row of domestic garages off Ettrick Street



Photo 18: Four storey flats of the development between Abbot Road and Nairn Street



Photo 19: Soft landscaping and parking within the site between Abbot Road and Nairn Street



Photo 20: Poplar Works small commercial units

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4AB, United Kingdom

Client: Aberfeldy New Village LLP
Project: Aberfeldy Village Masterplan Job ref JER8921
Checked By: JL Date: July 2021



Photo 21: Lochnager Road

RPS | Consulting UK & Ireland
20 Farringdon Street
London
EC4A 4AB, United Kingdom

Appendix C

Database information

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
275057609_1_1

Customer Reference:
216161

National Grid Reference:
538470, 181440

Slice:
A

Site Area (Ha):
8.99

Search Buffer (m):
1000

Site Details:

Aberfeldy Village
Aberfeldy Street
LONDON
E14 0NU

Client Details:

Mr G Chapman
RPS Consulting Services Ltd
260 Park Avenue
Aztec West
Almondsbury
Bristol
BS32 4SY

Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	58
Hazardous Substances	75
Geological	77
Industrial Land Use	85
Sensitive Land Use	158
Data Currency	159
Data Suppliers	167
Useful Contacts	168

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Copyright Notice

© Landmark Information Group Limited 2021. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer.
A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report.
© Environment Agency & United Kingdom Research and Innovation 2021. © Natural Resources Wales & United Kingdom Research and Innovation 2021.

Natural England Copyright Notice

Site of Special Scientific Interest, National Nature Reserve, Ramsar, Special Protection Area, Special Conservation Area, Marine Nature Reserve data (derived from Ordnance Survey 1:10000 raster) is provided by, and used with the permission of, Natural England who retain the copyright and Intellectual Property Rights for the data.

Scottish Natural Heritage Copyright

Contains SNH information licensed under the Open Government Licence v3.0.

Ove Arup Copyright Notice

The Mining Instability data was obtained on licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The supplied Mining Instability data is derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Stantec Copyright Notice

The cavity data presented has been extracted from the PBA (now Stantec UK Ltd) enhanced version of the original DEFRA national cavity databases. Stantec UK Ltd retain the copyright & intellectual property rights in the data. Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warrant that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated by Stantec UK Ltd. In no event shall Stantec UK Ltd or Landmark be liable for any loss or damage including, without limitation, indirect or consequential loss or damage arising from the use of this data.

Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Natural Resources Wales Copyright Notice

Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number 100019741. Crown Copyright and Database Right. Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Some features of this information are based on digital spatial data licensed from the Centre for Ecology & Hydrology © NERC (CEH). Defra, Met Office and DARD Rivers Agency © Crown copyright. © Cranfield University. © James Hutton Institute. Contains OS data © Crown copyright and database right 2021. Land & Property Services © Crown copyright and database right.

Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 3			14	14
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 10		2		4
Local Authority Integrated Pollution Prevention And Control	pg 11		1		
Local Authority Pollution Prevention and Controls	pg 11		3	7	12
Local Authority Pollution Prevention and Control Enforcements	pg 14			1	
Nearest Surface Water Feature	pg 14		Yes		
Pollution Incidents to Controlled Waters	pg 14		5	18	12
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 20				6
River Quality	pg 21	1			
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 22			1	
Substantiated Pollution Incident Register	pg 22		7	3	5
Water Abstractions	pg 25		1	4	12 (*68)
Water Industry Act Referrals	pg 46				2
Groundwater Vulnerability Map	pg 46	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 46	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 47	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 47	Yes	Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 50	Yes	Yes	n/a	n/a
Areas Benefiting from Flood Defences	pg 52	Yes	Yes	n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences	pg 53		Yes	n/a	n/a
OS Water Network Lines	pg 53		1	10	26

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 58		2	1	1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 58		4	4	8
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 62		1	1	1
Potentially Infilled Land (Non-Water)	pg 62			1	1
Potentially Infilled Land (Water)	pg 62	6	4	4	25
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 65		7	3	13
Registered Waste Treatment or Disposal Sites	pg 73			2	
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 75		2	1	3
Explosive Sites	pg 75				1
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 75		2	1	2
Planning Hazardous Substance Consents	pg 76		2		4
Planning Hazardous Substance Enforcements					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 77	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry					
BGS Recorded Mineral Sites	pg 77			1	
BGS Urban Soil Chemistry	pg 77		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 81	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities	pg 81				6
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 82	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 82	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 82	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 83	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 83	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 85	4	43	96	325
Fuel Station Entries	pg 124		1	2	3
Points of Interest - Commercial Services	pg 124		6	26	86
Points of Interest - Education and Health	pg 134				1
Points of Interest - Manufacturing and Production	pg 134		7	36	92
Points of Interest - Public Infrastructure	pg 146		3	20	22
Points of Interest - Recreational and Environmental	pg 149	2	4	14	49
Gas Pipelines					
Underground Electrical Cables	pg 155			9	15

Order Number: 275057609_1_1 Date: 16-Mar-2021 rpr_ec_datasheet v53.0 A Landmark Information Group Service

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 158		1		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6NE (W)	0	1	538350 181445
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10SE (NE)	13	1	538500 181500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NW (E)	47	1	538700 181450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A6NE (SW)	65	1	538250 181250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A6NE (W)	80	1	538200 181445
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10SW (NW)	87	1	538150 181700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A6NE (SW)	111	1	538250 181150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SW (NE)	117	1	538550 181600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NW (SE)	132	1	538800 181150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE (N)	146	1	538500 181800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (SE)	167	1	538650 181100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A6SE (S)	168	1	538500 181050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (SE)	179	1	538800 181100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (SE)	195	1	538850 181100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SW (NE)	226	1	538600 181700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NW (NW)	236	1	538150 181950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (S)	248	1	538600 181000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (SE)	275	1	538800 181000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NE (N)	304	1	538474 182050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (SE)	306	1	538900 181000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6SE (S)	332	1	538450 180850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6NW (W)	336	1	537900 181450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6NW (W)	353	1	537950 181350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10NW (NW)	363	1	538000 182000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10NW (NW)	367	1	537950 181950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NW (NW)	372	1	538050 182050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A11SW (NE)	372	1	538850 181750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (SE)	373	1	538800 180900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6SW (SW)	380	1	538000 181050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SW (W)	381	1	537850 181700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6SE (S)	394	1	538250 180800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SE (SE)	396	1	539000 180950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7SW (SE)	417	1	538850 180850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14SW (NW)	426	1	538150 182150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A10NW (NW)	431	1	537850 181900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A6SW (SW)	451	1	538050 180850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NW (NW)	452	1	537850 181950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (NW)	460	1	538050 182150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A9NE (NW)	463	1	537800 181850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A9NE (NW)	478	1	537800 181900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7SE (SE)	495	1	538900 180800

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: London Docklands Development Corporation Property Type: SPORT, AMUSEMENT+RECREATION/GOLF CLUB/GYM/THEME PK/SPA Location: Ecostation Visitor Centre, Limmo Peninsula, Wharfside Road, Canning Town, Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Cntm.2217 Permit Version: 1 Effective Date: 29th March 1996 Issued Date: 29th March 1996 Revocation Date: 1st October 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Lee (Bow Creek) **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A7NE (E)	302	2	539100 181400
2	**Discharge Consents** Operator: Schroder Exempt Property Unit Trust Property Type: REAL ESTATE ACTIVITIES/BUYING/SELLING/RENTING Location: The Electra Project Bidder Street, West Ham, London, E16 4st Authority: Environment Agency, Thames Region Catchment Area: Lee-Stort / Thames Reference: Canm.0205 Permit Version: 1 Effective Date: 23rd March 2001 Issued Date: 27th March 2001 Revocation Date: 5th January 2005 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Bow Creek (River Lee) **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A11SW (NE)	339	2	538800 181740
3	**Discharge Consents** Operator: London Docklands Development Corp. Property Type: Undefined Or Other Location: Cody Road Business Centre, Codyroad, London, E16 Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Ctwc.0822 Permit Version: 1 Effective Date: 28th April 1986 Issued Date: 28th April 1986 Revocation Date: 21st January 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Bow Creek /River Lee **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A11SW (NE)	340	2	538700 181800
3	**Discharge Consents** Operator: National Grid Company Property Type: SUB-STATION/ELECTRICITY/GAS/AIR CONDITIONING SUPPLY Location: West Ham Substation, Cody Road,Canning Town, West Ham, London Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CATM.3135 Permit Version: 1 Effective Date: 6th February 1998 Issued Date: 6th February 1998 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Saline Estuary Receiving Water: Bow Creek **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 10m	A11SW (NE)	358	2	538730 181790

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: The National Grid Group Plc. Property Type: SUB-STATION/ELECTRICITY/GAS/AIR CONDITIONING SUPPLY Location: West Ham Power Station, Newham,London Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CLCR.0275 Permit Version: 1 Effective Date: 28th July 1980 Issued Date: 28th July 1980 Revocation Date: 6th February 1998 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Lee (Bow Creek) **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A11SW (NE)	358	2	538730 181790
4	**Discharge Consents** Operator: C E G B Property Type: SUB-STATION/ELECTRICITY/GAS/AIR CONDITIONING SUPPLY Location: West Ham Generating Station, Bidder Street, London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Clcr.0160 Permit Version: 1 Effective Date: 13th November 1964 Issued Date: 13th November 1964 Revocation Date: 30th June 1991 Discharge Type: Trade Effluent Discharge Environment: Freshwater Stream/River Receiving Water: Bow Creek **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A11SE (NE)	342	2	538890 181680
5	**Discharge Consents** Operator: W.W. Howard Bros. Ltd Property Type: Undefined Or Other Location: Crown Wharf, Wharfside Road, Canning Town, London, E16 4tb Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0192 Permit Version: 1 Effective Date: 17th July 1985 Issued Date: 17th July 1985 Revocation Date: 4th November 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Lea **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A11SE (E)	351	2	539060 181570
6	**Discharge Consents** Operator: Docklands Light Railway Ltd. Property Type: LAND TRANSPORT + VIA PIPELINES/FREIGHT Location: Docklands Light Railway, Beckton Extension, London Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Cntw.0097 Permit Version: 1 Effective Date: 10th October 1989 Issued Date: 10th October 1989 Revocation Date: 8th April 1998 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Saline Estuary Receiving Water: Bow Creek, River Lee **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A7SE (SE)	354	2	539000 181000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Discharge Consents** Operator: Pura Foods (London) Ltd Property Type: MAKING OF FOOD PRODUCTS/DAIRY Location: Orchard Place, Canning Town, London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.1396 Permit Version: 1 Effective Date: 13th January 1987 Issued Date: 13th January 1987 Revocation Date: 27th June 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Saline Estuary Receiving Water: River Lea (Bow Creek) **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A8NW (E)	413	2	539200 181200
8	**Discharge Consents** Operator: W.W. Howard Bros. Ltd Property Type: Undefined Or Other Location: Crown Wharf, Wharfside Road, Canning Town, London, E16 4tb Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0193 Permit Version: 1 Effective Date: 17th July 1985 Issued Date: 17th July 1985 Revocation Date: 4th November 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Lea **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A11SE (E)	421	2	539190 181500
9	**Discharge Consents** Operator: Pura Foods Ltd Property Type: MAKING OF FOOD PRODUCTS/DAIRY Location: Pura Foods, Orchard Place, London Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CNTM.1680 Permit Version: 1 Effective Date: 19th December 1994 Issued Date: 19th December 1994 Revocation Date: 20th September 2005 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Saline Estuary Receiving Water: Bow Creek **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	450	2	539250 181250
10	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Canning Town, Abbey Mills Grp.Canning Townabbey Mills Grp. Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.0598 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Bow Creek **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A12SW (E)	479	2	539200 181600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Canning Town, Abbey Mills Grp.Canning Townabbey Mills Grp. Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.0598 Permit Version: 1 Effective Date: 2nd November 1989 Issued Date: 2nd November 1989 Revocation Date: 2nd September 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Bow Creek **Status: Temporary Consents (Water Act 1989, Section 113)** Positional Accuracy: Located by supplier to within 100m	A12SW (E)	479	2	539200 181600
11	**Discharge Consents** Operator: Gleb Investments Ltd Property Type: Undefined Or Other Location: Devons Road Goods Yard Site, Bromley By Bow, London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.1804 Permit Version: 1 Effective Date: 6th August 1987 Issued Date: 6th August 1987 Revocation Date: 4th December 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Limehouse Cut **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A9NE (NW)	481	2	537800 181910
12	**Discharge Consents** Operator: Pure Lard Ltd Property Type: Undefined Or Other Location: Orchard Place, London E14 0jh Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctmr.0180 Permit Version: 1 Effective Date: 1st April 1981 Issued Date: 30th April 1975 Revocation Date: 18th December 1994 Discharge Type: Unknown Discharge Environment: Saline Estuary Receiving Water: Bow Creek (Tidal Thames **Status: Authorisation revoked** Positional Accuracy: Manually corrected supplier location	A8SW (SE)	543	2	539300 181100
13	**Discharge Consents** Operator: Costain Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Limmo Crossrail Shaft Site Lower Lea Crossing London E16 1dn Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Eprnp3220xq Permit Version: 2 Effective Date: 22nd October 2012 Issued Date: 22nd October 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Saline Estuary Receiving Water: Tidal Stretch Of River Lee **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	649	2	539451 181246

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Discharge Consents** Operator: Skanska Construction Uk Ltd Property Type: CONSTRUCTION OF BUILDINGS Location: Limmo Crossrail Shaft Site Lower Lea Crossing London E16 1dn Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Eprnp3220xq Permit Version: 2 Effective Date: 22nd October 2012 Issued Date: 22nd October 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Saline Estuary Receiving Water: Tidal Stretch Of River Lee **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	649	2	539451 181246
14	**Discharge Consents** Operator: Pura Packing Ltd. Property Type: Undefined Or Other Location: Orchard Place, London E14 0jh Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0617 Permit Version: 1 Effective Date: 6th February 1986 Issued Date: 6th February 1986 Revocation Date: 27th June 1991 Discharge Type: Unknown Discharge Environment: Saline Estuary Receiving Water: River Lee (Bow Creek) **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	653	2	539460 181320
15	**Discharge Consents** Operator: Costain Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Limmo Crossrail Shaft Site Lower Lea Crossing London E16 1dn Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Eprnp3220xq Permit Version: 2 Effective Date: 22nd October 2012 Issued Date: 22nd October 2012 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge Environment: Saline Estuary Receiving Water: Tidal Stretch Of River Lee **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	659	2	539440 181145
15	**Discharge Consents** Operator: Skanska Construction Uk Ltd Property Type: CONSTRUCTION OF BUILDINGS Location: Limmo Crossrail Shaft Site Lower Lea Crossing London E16 1dn Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Eprnp3220xq Permit Version: 2 Effective Date: 22nd October 2012 Issued Date: 22nd October 2012 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge Environment: Saline Estuary Receiving Water: Tidal Stretch Of River Lee **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	659	2	539440 181145

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Discharge Consents** Operator: John Sisk & Son (Holdings) Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Limmo Crossrail Shaft Site Lower Lea Crossing London E16 1dn Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Eprnp3220xq Permit Version: 1 Effective Date: 13th February 2012 Issued Date: 13th February 2012 Revocation Date: 21st October 2012 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Saline Estuary Receiving Water: Bow Creek Tidal **Status:** **New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SW (E)	660	2	539432 181117
15	**Discharge Consents** Operator: Dragados Sociedad Anonima Property Type: CONSTRUCTION OF BUILDINGS Location: Limmo Crossrail Shaft Site Lower Lea Crossing London E16 1dn Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Eprnp3220xq Permit Version: 1 Effective Date: 13th February 2012 Issued Date: 13th February 2012 Revocation Date: 21st October 2012 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Saline Estuary Receiving Water: Bow Creek Tidal **Status:** **New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8SW (E)	660	2	539432 181117
16	**Discharge Consents** Operator: South Coast Shipping Company Ltd Property Type: WATER TRANSPORT/SEA + INLAND Location: East India Dock, East India Road, Blackwall, London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.1950 Permit Version: 1 Effective Date: 20th October 1987 Issued Date: 20th October 1987 Revocation Date: 8th May 1990 Discharge Type: Unknown Discharge Environment: Saline Estuary Receiving Water: River Thames **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A4NW (SE)	715	2	539200 180700
17	**Discharge Consents** Operator: Rosehaugh Stanhope Developments Plc Property Type: Undefined Or Other Location: Blackwall Engineering Yard, Blackwall Way, Poplar, London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.2441 Permit Version: 1 Effective Date: 16th May 1988 Issued Date: 16th May 1988 Revocation Date: 17th September 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Saline Estuary Receiving Water: River Thames **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A3SW (S)	817	2	538600 180400

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Discharge Consents** Operator: Canary Whalf Contractors (Crossrail) Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Canary Wharf, Isle Of Dogs, ., London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Npswqd005586 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 1st April 2009 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Blackwell Basin,Wst India Dk N **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	835	2	538003 180424
19	**Discharge Consents** Operator: London Borough Of Tower Hamlets Property Type: Undefined Or Other Location: Northumberland Wharf Waste Transfer Station, Yabsley St., Poplar, London Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CTWC.1718 Permit Version: 1 Effective Date: 10th July 1987 Issued Date: 10th July 1987 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Saline Estuary Receiving Water: River Thames(Tidal) **Status:** **Transferred from COPA 1974** Positional Accuracy: Located by supplier to within 100m	A2SE (S)	907	2	538470 180280
20	**Discharge Consents** Operator: Canary Whalf Contractors (Crossrail) Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Canary Wharf, Isle Of Dogs, ., London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Npswqd005586 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 1st April 2009 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Blackwell Basin,Wst India Dk N **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A1NE (SW)	951	2	537728 180467
21	**Discharge Consents** Operator: Canary Whalf Contractors (Crossrail) Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Canary Wharf, Isle Of Dogs, ., London Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Npswqd005586 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 1st April 2009 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Blackwell Basin,Wst India Dk N **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A2SW (S)	976	2	538057 180251

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**Integrated Pollution Prevention And Control** Name: Telehouse International Corporation Of Europe Limited Location: Telehouse Docklands Datacentre, Telehouse Europe Ltd,Telehouse, Coriander Avenue,,, London, Tower Hamlets, E14 2AA Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: SP3237JU Original Permit Ref: Sp3237ju Effective Date: 24th April 2019 **Status:** **Effective** Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 10m Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A7NW (SE)	144	2	538780 181130
23	**Integrated Pollution Prevention And Control** Name: Global Switch Limited Location: East India Dock Road, East India Dock House,240,East India Dock Road, ,, London, E14 9YY Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: BP3530YR Original Permit Ref: Bp3530yr Effective Date: 25th June 2019 **Status:** **Effective** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A6SE (S)	185	2	538464 181020
24	**Integrated Pollution Prevention And Control** Name: Telehouse International Corporation Of Europe Limited Location: Thomson Reuters Docklands Technical Centre - Epr/Cp3339dz, Thomson Reuters Docklands Technical Centre, 1 Paul Julius Close,Blackwall Way Poplar,, London, E14 2EH Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: EP3507SL Original Permit Ref: Ep3507sl Effective Date: 13th October 2020 **Status:** **Effective** Application Type: Transfer App. Sub Type: Whole limited change in management Positional Accuracy: Located by supplier to within 10m Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A3NW (S)	604	2	538620 180630
24	**Integrated Pollution Prevention And Control** Name: Thomson Reuters Group Limited Location: Thomson Reuters Docklands Technical Centre - Epr/Cp3339dz, Thomson Reuters Docklands Technical Centre, 1 Paul Julius Close,Blackwall Way, Poplar,, London, E14 2EH Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: CP3339DZ Original Permit Ref: Cp3339dz Effective Date: 11th January 2019 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: Y	A3NW (S)	645	2	538639 180593
25	**Integrated Pollution Prevention And Control** Name: Pura Foods Ltd Location: Pura Foods Poplar, Orchard Place, Poplar,,, LONDON, E14 0JH Authority: Environment Agency, Thames Region Permit Reference: Bx3333iy Original Permit Ref: Bx3333iy Effective Date: Not Supplied **Status:** **Valid** Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 6.8 A(1) (D) (I) Activity Description: Animal Vegetable & Food; Treating Etc Animal Raw Materials (Not Milk) For Food >75T/D Primary Activity: Y	A8SW (SE)	673	2	539266 180810

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**Integrated Pollution Prevention And Control** Name: Greencore Food To Go Limited Location: Greencore Food To Go Limited, Pro-Logis Park, Twelvetrees Crescent,,, London, E3 3JG Authority: Environment Agency - South East Region, North East Thames Area Permit Reference: FP3839YQ Original Permit Ref: Fp3839yq Effective Date: Not Supplied **Status:** **Valid** Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 10m Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N Activity Code: 6.8 A(1) d) (iii) Activity Description: CREATED BY IED - TREATMENT AND PROCESSING (OTHER THAN PACKAGING) OF ANIMAL OR VEGETABLE RAW MATERIALS (OTHER THAN MILK ONLY) WITH FINISHED PRODUCT CAPACITY GREATER THAN FORMULA SHOWN IN REGS Primary Activity: Y	A15SW (N)	695	2	538670 182370
27	**Local Authority Integrated Pollution Prevention And Control** Name: J Ash & Sons Location: Leven Road, London, E14 0LP Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_A2_001_02 Dated: Not Supplied Process Type: Production and Processing of Metals Description: Hot dip galvanising **Status:** **Permit Issued** Positional Accuracy: Located by supplier to within 10m	A10SE (N)	73	3	538503 181552
28	**Local Authority Pollution Prevention and Controls** Name: London Galvanisers Ltd Location: Laven Road, LONDON, E14 0LP Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: Not Given Dated: 20th November 1997 Process Type: Local Authority Air Pollution Control Description: PG2/2 Hot dip galvanising processes **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A11SW (NE)	65	3	538521 181549
29	**Local Authority Pollution Prevention and Controls** Name: J Ash & SonsLondon Galvanisers Location: Leven Road, LONDON, E14 0LP Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_A2_001_02 Dated: 30th July 2002 Process Type: Local Authority Pollution Prevention and Control Description: PG2/2 Hot dip galvanising processes **Status:** **Transferred to LAIPPC** Positional Accuracy: Located by supplier to within 10m	A10SE (N)	73	3	538503 181552
30	**Local Authority Pollution Prevention and Controls** Name: Lowe Furniture Services Ltd Location: Lanrick Road, LONDON, E14 0JF Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: NOT GIVEN Dated: 6th February 1993 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status:** **Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A11SE (E)	236	3	538996 181467
31	**Local Authority Pollution Prevention and Controls** Name: Orchard Wharf Service Station Location: Orchard Wharf, Leamouth Road, Isle of Dogs, LONDON, E14 0JG Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_1(14)_009_02 Dated: 3rd September 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A7SE (SE)	268	3	538960 181079

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**Local Authority Pollution Prevention and Controls** Name: Star Cotton Street Location: 40 Cotton Street, Isle Of Dogs, LONDON, E14 0EL Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_1(14)_012_02 Dated: 23rd October 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status:** **Authorised** Positional Accuracy: Manually positioned to the address or location	A6SW (SW)	310	3	538132 180967
33	**Local Authority Pollution Prevention and Controls** Name: Cemex Uk Materials Ltd (South East) Location: Site 10a Cody Business Centre, Off Manor Road, East Ham, London, E16 3JR Authority: London Borough of Newham, Environmental Health Department Permit Reference: LA-PPC 047/06 Dated: 27th February 1992 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A11NW (N)	364	4	538632 181993
34	**Local Authority Pollution Prevention and Controls** Name: M & J Reuben Location: Essex Wharf, Barking Road, London, E16 Authority: London Borough of Newham, Environmental Health Department Permit Reference: Not Supplied Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/33 Wood coating **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A8NW (E)	392	4	539194 181387
35	**Local Authority Pollution Prevention and Controls** Name: Westmoor Concrete Ltd Location: 11a South Crescent, Cody Road, Canning Town, London, E16 4sr Authority: London Borough of Newham, Environmental Health Department Permit Reference: LA-PPC 116/10 Dated: 26th August 2010 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned to the road within the address or location	A11NW (NE)	420	4	538741 181931
36	**Local Authority Pollution Prevention and Controls** Name: Bright Clean Dry Cleaners Location: 7 Vesey Path, Chrisp Street Market, London, E14 6BT Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_6(46)_008_01 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A6SW (SW)	499	3	537869 181073
37	**Local Authority Pollution Prevention and Controls** Name: Modern Mix Concrete (Mix It) Location: Unit 1 Lusty Industrial Estate, Empson Street, LONDON, E3 3LT Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: Ppc_3(1)_002_02 Dated: 4th October 2002 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A14SW (NW)	500	3	538050 182194
38	**Local Authority Pollution Prevention and Controls** Name: Pura Food Products Ltd Location: 30 Orchard Place, LONDON, E14 0JH Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: Mcr/V3/057/E1 Dated: 17th November 1994 Process Type: Local Authority Air Pollution Control Description: PG6/25 Vegetable oil extraction and fat and oil refining **Status:** **Authorisation has varied** Positional Accuracy: Manually positioned to the address or location	A8NW (E)	503	3	539286 181175

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	**Local Authority Pollution Prevention and Controls** Name: Professional Dry Cleaners Location: 21 Market Way, Chrisp Street Market, London, E14 6AH Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_6(46)_009_01 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A5NE (W)	538	3	537787 181248
40	**Local Authority Pollution Prevention and Controls** Name: Clifford Devlin Ltd Location: Clifford House, Towcester Road, LONDON, E3 Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_3(16)_004_02 Dated: 26th July 2002 Process Type: Local Authority Pollution Prevention and Control Description: PG3/16 Mobile screening and crushing processes **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A14SW (NW)	562	3	537905 182180
40	**Local Authority Pollution Prevention and Controls** Name: Jim'll Mix It Location: Empson Street, London, E3 3LT Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: NOT GIVEN Dated: 11th February 1998 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	3	537882 182213
41	**Local Authority Pollution Prevention and Controls** Name: P J Lowe Reproduction Furniture Location: Bowood House, Empsom Street, LONDON, E3 3LT Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: NOT GIVEN Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	568	3	537990 182241
42	**Local Authority Pollution Prevention and Controls** Name: Strong Packaging Cases Ltd Location: Caspian Wharf, Violet Road, London, E3 3QQ Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: NOT GIVEN Dated: 18th February 1998 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status:** **Authorised** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	597	3	537716 182005
43	**Local Authority Pollution Prevention and Controls** Name: Car Body Shop Location: Unit 6 Bow Enterprise Park, Cranwell Close, LONDON, E3 3 Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A9NE (NW)	683	3	537655 182074
44	**Local Authority Pollution Prevention and Controls** Name: Save Service Station Location: 95-97 Barking Road, LONDON, E16 4HB Authority: London Borough of Newham, Environmental Health Department Permit Reference: Not Given Dated: 30th March 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status:** **Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A12SE (E)	860	4	539577 181710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	**Local Authority Pollution Prevention and Controls** Name: Mid-Car Ltd Location: 34 Bow Common Lane, LONDON, E3 4AX Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: Ppc_6(34)_001_01 Dated: 14th August 1998 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles **Status: Permitted** Positional Accuracy: Automatically positioned to the address	A9SW (W)	904	3	537327 181722
46	**Local Authority Pollution Prevention and Controls** Name: Allway Car Care Location: 33-39 Shirley Street, LONDON, E16 1HU Authority: London Borough of Newham, Environmental Health Department Permit Reference: LA-IPPC 044/05 Dated: 12th December 1992 Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status: Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A8NE (E)	952	4	539744 181161
47	**Local Authority Pollution Prevention and Controls** Name: Tesco Stores Ltd Location: Three Mill Lane / Hancock Road, London, E3 3DA Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: NOT GIVEN Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Application Not Yet Authorised** Positional Accuracy: Automatically positioned to the address	A14NW (N)	995	3	538166 182727
47	**Local Authority Pollution Prevention and Controls** Name: Tesco Filling Station Location: Hancock Road, Bow, LONDON, E3 3DA Authority: London Borough of Tower Hamlets, Environmental Health Department Permit Reference: PPC_1(14)_013_02 Dated: 21st September 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Automatically positioned to the address	A14NW (N)	1000	3	538166 182732
48	**Local Authority Pollution Prevention and Control Enforcements** Location: Unit 1, Lusty Industrial Estate, Empson Street Type: Air Pollution Control Enforcement Notice Reference: PPC_3(1)_002_02 Date Issued: Not Supplied Enforcement Date: Not Supplied Details: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (NW)	500	3	538050 182194
	Nearest Surface Water Feature	A10SE (N)	59	-	538423 181761
49	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Leven Road, POPLAR Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Urban Runoff Note: Confirmed As A Pollution Incident Incident Date: 3rd July 1995 Incident Reference: NE950389 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10SE (NE)	36	2	538500 181500
50	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Leven Road, POPLAR Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Urban Runoff Note: Confirmed As A Pollution Incident Incident Date: 16th September 1991 Incident Reference: NE910463 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10SE (NW)	65	2	538400 181600

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: BOW Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th December 1994 Incident Reference: SE940412 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A10SE (N)	146	2	538500 181800
52	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CANNING TOWN Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: No Incident Date: 22nd November 1995 Incident Reference: SE950552 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11SW (N)	242	2	538600 181800
52	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CANNING TOWN Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Fire water / Foam Note: Not Supplied Incident Date: 26th March 1996 Incident Reference: SE960128 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NW (N)	258	2	538600 181850
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Cody Road, LONDON, E16 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 1st November 1997 Incident Reference: THSE1997030129 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10NE (N)	245	2	538500 181950
54	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: BOW Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Yes Incident Date: 16th January 1993 Incident Reference: NE930041 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10NW (NW)	343	2	538030 182000
55	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: BOW Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: Not Supplied Incident Reference: NE910032 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SE)	358	2	539000 180995

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: A13 At Canning Town Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th June 1990 Incident Reference: NE900216 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	394	2	539200 181300
56	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Orchard Place, LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 14th October 1997 Incident Reference: THSE1997030550 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	401	2	539200 181250
56	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Orchard Place, LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 11th September 1997 Incident Reference: THSE1997029563 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	444	2	539250 181300
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Canning Town Flyover Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th October 1993 Incident Reference: SE930332 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	400	2	539200 181400
58	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Mayer Parry Recycling Centre Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: Not Supplied Incident Reference: SE930221 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A11SE (E)	401	2	539100 181600
59	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Pura Foods, LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 21st September 1998 Incident Reference: THSE1998040638 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	402	2	539200 181245

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Waterside Road, CANNING TOWN, E16 Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 3rd October 1998 Incident Reference: THSE1998041108 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (E)	428	2	539200 181495
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Waterside Road, CANNING TOWN, E16 Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 30th October 1998 Incident Reference: THSE1998041111 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (E)	430	2	539200 181500
61	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: LIMEHOUSE Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th April 1990 Incident Reference: NE900145 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A9SE (NW)	451	2	537800 181800
62	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Bidder Street Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th July 1993 Incident Reference: SE930230 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (E)	479	2	539200 181600
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 13th May 1996 Incident Reference: SE960205 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	494	2	539300 181295
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Orchard Place, Leamouth Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 18th November 1991 Incident Reference: SE910314 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	494	2	539300 181300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 4th January 1998 Incident Reference: 36406 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	499	2	539305 181300
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 13th May 1996 Incident Reference: SE960206 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	499	2	539305 181295
64	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Orchard Place, LONDON, E14 Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 8th July 1998 Incident Reference: THSE1998039642 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (E)	496	2	539300 181380
65	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Twelve Trees Crescent Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: Not Supplied Incident Reference: SE940179 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (N)	558	2	538300 182300
66	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: BLACKWALL Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 24th January 1992 Incident Reference: SE920019 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3NW (SE)	571	2	538800 180700
67	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Leamouth Road, Canning To Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed incident Incident Date: 22nd February 1999 Incident Reference: THSE1999042078 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3NE (SE)	622	2	539000 180700

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: BLACKWELL Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Yes Incident Date: 29th July 1992 Incident Reference: SE920236 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3NW (S)	626	2	538600 180600
69	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Bow Locks, BOW Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 11th December 1989 Incident Reference: NE890517 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (N)	657	2	538300 182400
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Trafalgar Way Authority: Environment Agency, Thames Region Pollutant: General Note: No Pollution Found Incident Date: 28th April 1998 Incident Reference: 38552 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A2SE (S)	790	2	538230 180400
71	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: North Dock, West India Dock, KINGS SUTTON Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 15th December 1998 Incident Reference: THSE1998041413 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A2SW (SW)	866	2	537980 180400
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Northumberland Wharf Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th March 1991 Incident Reference: SE910057 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A2SE (S)	881	2	538400 180300
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: GREENWICH Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 12th February 1997 Incident Reference: THSE1997031848 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A3SW (S)	924	2	538850 180350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Blackwall Yard Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th April 1992 Incident Reference: SE920105 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A2SE (S)	981	2	538400 180200
75	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Canary Wharf, LONDON Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: No Pollution Found Incident Date: 2nd April 1998 Incident Reference: 38172 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	999	2	537800 180350
76	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Canning Town, BOW Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 10th August 1989 Incident Reference: NE890347 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A4NE (SE)	1000	2	539600 180700
77	**Registered Radioactive Substances** Name: Newham Healthcare Nhs Trust Location: St Andrews Hospital, Devas Road, Bromley By Bow, LONDON, E3 3NT Authority: Environment Agency, Thames Region Permit Reference: BC2491 Dated: 23rd November 1998 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	787	2	537916 182449
77	**Registered Radioactive Substances** Name: Newham Healthcare NHS Trust Location: Devas Street, LONDON, Greater London, E3 3NT Authority: Environment Agency, Thames Region Permit Reference: BB9091 Dated: 25th September 1998 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation either revoked or cancelled** Positional Accuracy: Unknown	A14SW (NW)	788	2	537916 182449
77	**Registered Radioactive Substances** Name: Newham Healthcare Nhs Trust Location: Devas Street, Bromley By Bow, London, E3 3NT Authority: Environment Agency, Thames Region Permit Reference: Bw7481 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	792	2	537916 182454

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	**Registered Radioactive Substances** Name: Newham Healthcare Nhs Trust Location: St Andrews Hospital, Devons Road, Bromley By Bow, LONDON, E3 3NT Authority: Environment Agency, Thames Region Permit Reference: AA9091 Dated: 24th October 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	792	2	537916 182454
78	**Registered Radioactive Substances** Name: Hsbc Bank Plc Location: Thomas Road Industrial Estate, Thomas Road, Limehouse, London, E14 7bn Authority: Environment Agency, Thames Region Permit Reference: VB3998DD Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Automatically positioned to the address	A9SW (W)	984	2	537252 181555
78	**Registered Radioactive Substances** Name: Galliard Homes Limited Location: Thomas Road Industrial Estate, Thomas Road, Limehouse, London, E14 7bn Authority: Environment Agency, Thames Region Permit Reference: NB3835DJ Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Authorisation certificate surrendered by operator** Positional Accuracy: Automatically positioned to the address	A9SW (W)	984	2	537252 181555
	River Quality Name: Lee GQA Grade: River Quality D Reach: Carpenters Road - Thames Estimated Distance (km): 6.8 Flow Rate: Flow less than 5 cumecs Flow Type: River Year: 2000	A10SE (NW)	0	2	538386 181647

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	**River Quality Chemistry Sampling Points** Name: Lee Reach: Carpenters Road To Thames Estimated Distance: 6.80 Objective: Not Supplied Positional Accuracy: Located by supplier to within 100m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied	A12SW (E)	430	2	539200 181500
80	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 23rd October 2006 Incident Reference: 446766 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils And Fuel: Mixed/Waste Oils Pollutant: Specific Waste Materials: Batteries Pollutant: Specific Waste Materials: Tyres Pollutant: Specific Waste Materials: Vehicles And Vehicle Parts	A10SE (N)	24	2	538377 181767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
81	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 23rd October 2006 Incident Reference: 445640 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inert : Construction / Demolition Material Pollutant: Oils And Fuel: Mixed/Waste Oils Pollutant: Specific Waste Materials: Batteries Pollutant: Specific Waste Materials: Metal Wastes Pollutant: Specific Waste Materials: Tyres Pollutant: Specific Waste Materials: Vehicles And Vehicle Parts	A10SE (NW)	44	2	538315 181786
82	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 18th November 2013 Incident Reference: 1177082 Water Impact: Category 3 - Minor Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Agricultural Materials And Wastes: Other Agricultural Material Or Waste Pollutant: General Biodegradable Materials And Wastes: Food And Drink	A10SE (N)	67	2	538495 181541
83	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 23rd October 2006 Incident Reference: 446533 Water Impact: Category 3 - Minor Incident Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Batteries Pollutant: Specific Waste Materials: Metal Wastes Pollutant: Specific Waste Materials: Tyres Pollutant: Specific Waste Materials: Vehicles And Vehicle Parts	A10NE (N)	106	2	538328 181849
83	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 2nd February 2006 Incident Reference: 374860 Water Impact: Category 4 - No Impact Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants and Effects: Smoke Pollutant: Specific Waste Materials: Metal Wastes Pollutant: Specific Waste Materials: Vehicles And Vehicle Parts	A10NE (NW)	120	2	538299 181860
83	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 13th June 2005 Incident Reference: 320083 Water Impact: Category 3 - Minor Incident Air Impact: Category 2 - Significant Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants and Effects: Smoke Pollutant: Contaminated Water: Firefighting Run-Off Pollutant: Oils And Fuel: Mixed/Waste Oils Pollutant: Specific Waste Materials: Batteries Pollutant: Specific Waste Materials: Metal Wastes Pollutant: Specific Waste Materials: Tyres Pollutant: Specific Waste Materials: Vehicles And Vehicle Parts	A10NE (N)	126	2	538304 181867
84	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 20th March 2014 Incident Reference: 1219761 Water Impact: Category 3 - Minor Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Household Waste Pollutant: Specific Waste Materials: Tyres	A10NE (NW)	146	2	538245 181882

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 1st August 2018 Incident Reference: 1639430 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Dust	A11NW (NE)	379	2	538729 181851
85	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 16th April 2015 Incident Reference: 1329501 Water Impact: Category 3 - Minor Incident Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Dust	A11NW (NE)	379	2	538725 181861
85	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 5th July 2018 Incident Reference: 1629555 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Dust	A11NW (NE)	389	2	538736 181861
86	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 14th February 2020 Incident Reference: 1781394 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inert Materials And Wastes: Soils And Clay	A11NW (NE)	514	2	538798 182022
87	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 5th April 2012 Incident Reference: 978629 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants and Effects: Smoke	A11SE (NE)	547	2	539156 181747
88	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 27th July 2004 Incident Reference: 254455 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Dust	A11NE (NE)	570	2	539114 181807
88	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 27th July 2004 Incident Reference: 254128 Water Impact: Category 4 - No Impact Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Dust	A11NE (NE)	591	2	539123 181826
89	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, North East Area Incident Date: 11th July 2014 Incident Reference: 1254918 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Other Pollutant	A14NE (N)	931	2	538363 182677

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**Water Abstractions** Operator: Celtic Technologies Ltd Licence Number: 28/39/39/0187 Permit Version: Not Supplied Location: East India Dock, LONDON Authority: Environment Agency, Thames Region Abstraction: Groundwater Remediation Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 90 Yearly Rate (m3): 6000 Details: Alluvium Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SW (SE)	179	2	538800 181100
91	**Water Abstractions** Operator: Lee Valley Regional Park Authority Licence Number: 29/38/09/0162 Permit Version: 101 Location: Limmo Peninsula Authority: Environment Agency, Thames Region Abstraction: Environmental: Non-remedial River/Wetland Support: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Limmo Peninsula, Canning Town, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th August 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SE)	359	2	539130 181170
91	**Water Abstractions** Operator: Lee Valley Regional Park Authority Licence Number: 29/38/09/0162 Permit Version: 100 Location: Limmo Peninsula Authority: Environment Agency, Thames Region Abstraction: Environmental: Non-remedial River/Wetland Support: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 146 Yearly Rate (m3): 30000 Details: Limmo Peninsula, Canning Town, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7NE (SE)	359	2	539130 181170
92	**Water Abstractions** Operator: Lee Valley Regional Park Licence Number: 29/38/9/0162 Permit Version: Not Supplied Location: Limmo Peninsula, CANNING TOWN Authority: Environment Agency, Thames Region Abstraction: Wildlife Pond/Lake Transfer Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 152 Yearly Rate (m3): 30000 Details: River Gravel Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7SE (SE)	364	2	539100 181095

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
93	**Water Abstractions** Operator: Pura Foods Limited Licence Number: 29/38/09/0138 Permit Version: 101 Location: Bow Creek Authority: Environment Agency, Thames Region Abstraction: Food And Drink: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): 982 Yearly Rate (m3): 240938 Details: Glasshouse Wharf, Orchard Place, Blackwall, Tower Hamlets, London, E14 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th June 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8NW (E)	413	2	539200 181200
94	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 12 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	689	2	539317 180842
94	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 10 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	704	2	539312 180813
94	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 1 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	716	2	539340 180828

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 9 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	721	2	539332 180810
94	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 8 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	751	2	539353 180788
95	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 2 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	760	2	539391 180821
95	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 7 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	784	2	539389 180780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
95	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 3 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	786	2	539417 180811
95	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 6 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	795	2	539401 180777
96	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 4 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	820	2	539454 180805
96	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 5 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	836	2	539445 180766

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
97	**Water Abstractions** Operator: Ballymore Construction Services Limited Licence Number: Th/038/0009/055 Permit Version: 1 Location: Trinity Buoy Wharf 11 Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 05 August Authorised End: 31 December Permit Start Date: 5th August 2019 Permit End Date: Not Supplied Positional Accuracy: Manually positioned within the geographical locality	A4NW (SE)	930	2	539471 180653
	Water Abstractions Operator: English Partnerships Licence Number: 28/39/44/0042 Permit Version: 2 Location: The Millennium Dome Borehole Authority: Environment Agency, Thames Region Abstraction: Private Water Supply: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The Millennium Dome Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st July 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1228	2	538900 180050
	Water Abstractions Operator: The New Millennium Experience Company Licence Number: 28/39/44/0042 Permit Version: 1 Location: The Millennium Dome Borehole Authority: Environment Agency, Thames Region Abstraction: Private Water Supply: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The Millennium Dome Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th November 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1228	2	538900 180050
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/096 Permit Version: 1 Location: Dollar Bay, South Dock - A Authority: Environment Agency, Thames Region Abstraction: Production of Energy: Electricity: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 30th September 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1341	2	538198 179848

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Anjuman-E-Iscahul-Muslimeen Of Uk Licence Number: 29/38/09/0149 Permit Version: 100 Location: Canning Road - Borehole A Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 1964 Yearly Rate (m3): 107000 Details: Canning Road, Stratford, London, E15 3nx Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 5th November 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1364	2	538900 183000
	Water Abstractions Operator: Pioneer Willment Concrete Ltd Licence Number: 28/39/44/0025 Permit Version: 100 Location: 303 Tunnel Avenue, Greenwich, - Borehole 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 436 Yearly Rate (m3): 86376 Details: 303 Tunnel Avenue, Greenwich, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th June 1991 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1377	2	538900 179900
	Water Abstractions Operator: Hanson Quarry Prod Europe Ltd Licence Number: 28/39/44/0046 Permit Version: 1 Location: 303 Tunnel Avenue, Greenwich. Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 303 Tunnel Avenue, Greenwich. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1447	2	538900 179830
	Water Abstractions Operator: Blackwall Aggregates Limited Licence Number: 28/39/44/0024 Permit Version: 101 Location: 303 Tunnel Avenue, Greenwich. Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 400 Yearly Rate (m3): 70000 Details: 303 Tunnel Avenue, Greenwich Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th January 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1447	2	538900 179830

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Anjuman-E-Iscahul-Muslimeen Of Uk Licence Number: 29/38/09/0149 Permit Version: 100 Location: Canning Road - Borehole B Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 1964 Yearly Rate (m3): 107000 Details: Canning Road, Stratford, London, E15 3nx Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 5th November 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1454	2	539100 183000
	Water Abstractions Operator: Blackwall Aggregates Limited Licence Number: 28/39/44/0023 Permit Version: 101 Location: Tunnel Avenue, Greenwich - River Thames At Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): 1000 Yearly Rate (m3): 343200 Details: Tunnel Avenue, Greenwich, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st November 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1468	2	538730 179760
	Water Abstractions Operator: Westinvest Gesellschaft Fur Investmentfonds Mbh Licence Number: Th/039/0044/013 Permit Version: 1 Location: Borehole B - Greenwich Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 11th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1489	2	539311 179891
	Water Abstractions Operator: Greenwich Peninsula N0204 Block A Nominee 1 & 2 Limited Licence Number: 28/39/44/0051 Permit Version: 1 Location: Abstraction Point 'B' - Chalk, Green Place, Greenwich Authority: Environment Agency, Thames Region Abstraction: Business Parks: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Green Place, Greenwich Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 6th April 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1489	2	539311 179891

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: British Waterways Board Licence Number: 29/38/09/0147 Permit Version: 100 Location: Bow Back River Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 182 Yearly Rate (m3): 45460 Details: 26 High Street, Stratford, London, E15 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 4th July 1986 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1506	2	537900 183200
	Water Abstractions Operator: Westinvest Gesellschaft Fur Investmentfonds Mbh Licence Number: Th/039/0044/013 Permit Version: 1 Location: Borehole A - Greenwich Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 11th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1518	2	539329 179866
	Water Abstractions Operator: Greenwich Peninsula N0204 Block A Nominee 1 & 2 Limited Licence Number: 28/39/44/0051 Permit Version: 1 Location: Abstraction Point 'A' - Chalk, Green Place, Greenwich Authority: Environment Agency, Thames Region Abstraction: Business Parks: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Green Place, Greenwich Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 6th April 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1518	2	539329 179866
	Water Abstractions Operator: Oxygen Property Management Limited Licence Number: Th/037/0054/014/R01 Permit Version: 1 Location: 18 Western Gateway, Royal Victoria Dock, London Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1556	2	540248 180741

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Oxygen Property Management Limited Licence Number: Th/037/0054/014 Permit Version: 2 Location: 18 Western Gateway, Royal Victoria Dock, London Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 19th January 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1556	2	540248 180741
	Water Abstractions Operator: Meadowshire Ltd Licence Number: Th/037/0054/014 Permit Version: 1 Location: 18 Western Gateway, Royal Victoria Dock, London Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th May 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1556	2	540248 180741
	Water Abstractions Operator: Meadowshire Ltd Licence Number: Th/037/0054/001 Permit Version: 1 Location: 18 Western Gateway, Royal Victoria Dock, London Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 7th May 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1586	2	540280 180740
	Water Abstractions Operator: Canal And River Trust Licence Number: 28/39/39/0204/R01 Permit Version: 1 Location: West India Dock, Marsh Wall, London-Point A Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, Marsh Wall, London Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1605	2	537294 179977

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Britannia Hotels Limited Licence Number: 28/39/39/0234 Permit Version: 1 Location: Britannia International Hotel, Isle Of Dogs E14- Borehole Authority: Environment Agency, Thames Region Abstraction: Hotels; Public Houses And Conference Centres: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, E14 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 30th April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1605	2	537350 179930
	Water Abstractions Operator: Britannia Hotels Limited Licence Number: 28/39/39/0220 Permit Version: 1 Location: The International Hotel, Isle Of Dogs - Borehole Authority: Environment Agency, Thames Region Abstraction: Hotels; Public Houses And Conference Centres: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The International Hotel, Marsh Wall, Isle Of Dogs, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th October 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1605	2	537350 179930
	Water Abstractions Operator: Brittania International Hotels Ltd Licence Number: 28/39/39/0179 Permit Version: 100 Location: The International Hotel, Isle Of Dogs - Borehole Authority: Environment Agency, Thames Region Abstraction: Hotels; Public Houses And Conference Centres: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 264 Yearly Rate (m3): 96624 Details: The International Hotel, Marsh Wall, Isle Of Dogs, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th January 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1605	2	537350 179930
	Water Abstractions Operator: Price Waterhouse Licence Number: 28/39/39/0181 Permit Version: 100 Location: Scandanavia Centre, Isle Of Dogs - West India Dock Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): 4680 Yearly Rate (m3): 1712880 Details: Scandanavia Centre, Marsh Wall, Isle Of Dogs, London, E14 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th October 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1611	2	537260 180000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Canal And River Trust Licence Number: 28/39/39/0204 Permit Version: 3 Location: West India Dock, Marsh Wall, London-Point A Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, Marsh Wall, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th December 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1620	2	537280 179970
	Water Abstractions Operator: British Waterways Board Licence Number: 28/39/39/0204 Permit Version: 2 Location: West India Dock, Marsh Wall, London-Point A Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, Marsh Wall, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 3rd November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1620	2	537280 179970
	Water Abstractions Operator: British Waterways Board Licence Number: 28/39/39/0204 Permit Version: 1 Location: West India Dock, Marsh Wall, London-Point A Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, Marsh Wall, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 18th November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1620	2	537280 179970
	Water Abstractions Operator: W J Groundwater Limited Licence Number: Th/039/0039/143 Permit Version: 1 Location: Borehole A At Westferry Road, Canary Wharf Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 30th September 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1628	2	536981 180310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: W J Groundwater Limited Licence Number: Th/039/0039/143 Permit Version: 1 Location: Borehole B At Westferry Road, Canary Wharf Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 30th September 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1630	2	537114 180125
	Water Abstractions Operator: Britannia Hotels Limited Licence Number: Th/039/0039/077/R01 Permit Version: 1 Location: Britannia International Hotel, Isle Of Dogs E14- Borehole Authority: Environment Agency, Thames Region Abstraction: Hotels; Public Houses And Conference Centres: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, E14 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1637	2	537313 179919
	Water Abstractions Operator: Britannia Hotels Limited Licence Number: Th/039/0039/077 Permit Version: 1 Location: Britannia International Hotel, Isle Of Dogs E14- Borehole Authority: Environment Agency, Thames Region Abstraction: Hotels; Public Houses And Conference Centres: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Britannia International Hotel, E14 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 14th October 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1637	2	537313 179919
	Water Abstractions Operator: Radiant Metal Finishing Co Ltd Licence Number: 29/38/09/0142 Permit Version: 100 Location: 69 Fairfield Road, Bow Authority: Environment Agency, Thames Region Abstraction: Metal: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 546 Yearly Rate (m3): 90920 Details: 69 Fairfield Road, Bow, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 15th May 1979 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(NW)	1662	2	537300 183100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: W J Groundwater Limited Licence Number: Th/039/0039/143 Permit Version: 1 Location: Borehole C At Westferry Road, Canary Wharf Authority: Environment Agency, Thames Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 30th September 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1676	2	537051 180129
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/102 Permit Version: 1 Location: Millwall Inner Dock - A Authority: Environment Agency, Thames Region Abstraction: Production of Energy: Electricity: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 8th March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1740	2	537817 179526
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/102 Permit Version: 1 Location: Millwall Inner Dock - B Authority: Environment Agency, Thames Region Abstraction: Production of Energy: Electricity: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 8th March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1741	2	537817 179525
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/102 Permit Version: 1 Location: Millwall Inner Dock - C Authority: Environment Agency, Thames Region Abstraction: Production of Energy: Electricity: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 8th March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1742	2	537817 179524

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: London Borough Of Tower Hamlets Licence Number: 28/39/39/0214 Permit Version: 1 Location: Mile End Park-Borehole Authority: Environment Agency, Thames Region Abstraction: Municipal Grounds: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park,. Mile End Road, London E1 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1774	2	536510 182100
	Water Abstractions Operator: London Borough Of Tower Hamlets Licence Number: 28/39/39/0214 Permit Version: 1 Location: Mile End Park-Borehole Authority: Environment Agency, Thames Region Abstraction: Municipal Grounds: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, Mile End Road, London E14 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1774	2	536510 182100
	Water Abstractions Operator: London Borough Of Tower Hamlets Licence Number: 28/39/39/0214 Permit Version: 2 Location: Mile End Park- Borehole Authority: Environment Agency, Thames Region Abstraction: Municipal Grounds: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, Mile End Road, London E14 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1776	2	536508 182100
	Water Abstractions Operator: London Borough Of Tower Hamlets Licence Number: 28/39/39/0214 Permit Version: 2 Location: Mile End Park- Borehole Authority: Environment Agency, Thames Region Abstraction: Municipal Grounds: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, Mile End Road, London E14 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1776	2	536508 182100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: London Borough Of Tower Hamlets Licence Number: Th/039/0039/063 Permit Version: 2 Location: Mile End Park-Borehole Authority: Environment Agency, Thames Region Abstraction: Municipal Grounds: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, Mile End Road, London E14 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1776	2	536508 182100
	Water Abstractions Operator: London Borough Of Tower Hamlets Licence Number: Th/039/0039/063 Permit Version: 2 Location: Mile End Park-Borehole Authority: Environment Agency, Thames Region Abstraction: Municipal Grounds: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, Mile End Road, London E14 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1776	2	536508 182100
	Water Abstractions Operator: The Mile End Park Partnership Licence Number: 28/39/39/0191 Permit Version: 100 Location: Borehole B At Mile End Park, London Authority: Environment Agency, Thames Region Abstraction: Commercial Private Water Undertaking: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd June 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1784	2	536500 182100
	Water Abstractions Operator: The Mile End Park Partnership Licence Number: 28/39/39/0191 Permit Version: 100 Location: Borehole B At Mile End Park, London Authority: Environment Agency, Thames Region Abstraction: Private Water Undertaking: Water Bottling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Mile End Park, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd June 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1784	2	536500 182100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: Th/038/0009/032/R01 Permit Version: 1 Location: Wick Lane, Bow, London - Borehole Authority: Environment Agency, Thames Region Abstraction: Extractive: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wick Lane, Bow, London, E3 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th December 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1811	2	537543 183403
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: Th/038/0009/032/R01 Permit Version: 1 Location: Wick Lane, Bow, London - Borehole Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th December 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1811	2	537543 183403
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: Th/038/0009/032 Permit Version: 2 Location: Wick Lane, Bow, London - Borehole Authority: Environment Agency, Thames Region Abstraction: Extractive: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wick Lane, Bow, London, E3 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 31st July 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1811	2	537543 183403
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: Th/038/0009/032 Permit Version: 1 Location: Wick Lane, Bow, London - Borehole Authority: Environment Agency, Thames Region Abstraction: Extractive: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wick Lane, Bow, London, E3 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1811	2	537543 183403

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: 29/38/09/0177 Permit Version: 2 Location: Wick Lane, Bow, London - Borehole Authority: Environment Agency, Thames Region Abstraction: Extractive: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wick Lane, Bow, London, E3 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th June 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1831	2	537530 183420
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: 29/38/09/0177 Permit Version: 2 Location: Wick Lane, Bow, London - Borehole Authority: Environment Agency, Thames Region Abstraction: Extractive: Process water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wick Lane, Bow, London, E3 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th June 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1831	2	537530 183420
	Water Abstractions Operator: Aggregate Industries Uk Ltd Licence Number: 29/38/09/0177 Permit Version: 1 Location: Borehole 'A' At Wick Lane, Bow, London. Authority: Environment Agency, Thames Region Abstraction: Extractive: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Wick Lane, Bow. London. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 5th February 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1831	2	537530 183420
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1870	2	537709 179426

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock - Point A Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1870	2	537709 179426
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1871	2	537709 179424
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock - Point B Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1871	2	537709 179424
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1872	2	537709 179423

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock - Point C Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1872	2	537709 179423
	Water Abstractions Operator: Urs Corporation Limited Licence Number: 29/38/09/0197 Permit Version: 1 Location: Bow Midland, Stratford- Borehole C Authority: Environment Agency, Thames Region Abstraction: Environmental: Pump & Treat: Pollution Remediation Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Bow Midland Maintenance Depot, Pudding Mill Lane, Stratford. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th September 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1876	2	537670 183520
	Water Abstractions Operator: Urs Corporation Limited Licence Number: 29/38/09/0197 Permit Version: 1 Location: Bow Midland, Stratford-Borehole A Authority: Environment Agency, Thames Region Abstraction: Environmental: Pump & Treat: Pollution Remediation Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Bow Midland Maintenance Depot, Pudding Mill Lane, Stratford. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th September 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NW)	1887	2	537580 183500
	Water Abstractions Operator: Urs Corporation Limited Licence Number: 29/38/09/0197 Permit Version: 1 Location: Bow Midland, Stratford- Borehole B Authority: Environment Agency, Thames Region Abstraction: Environmental: Pump & Treat: Pollution Remediation Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Bow Midland Maintenance Depot, Pudding Mill Lane, Stratford. Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th September 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1892	2	537650 183530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1910	2	537706 179384
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock - Point D Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1910	2	537706 179384
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock Authority: Environment Agency, Thames Region Abstraction: Hotels, Public Houses and Conference centres: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1912	2	537706 179382
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock - Point E Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1912	2	537706 179382

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Canal And River Trust Licence Number: Th/039/0039/144 Permit Version: 1 Location: 6 Pumps At Points At Millwall Dock - Point F Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 26th November 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1914	2	537706 179380
	Water Abstractions Operator: Hanson Quarry Products Europe Ltd Licence Number: 28/39/44/0047/R01 Permit Version: 1 Location: Victoria Deep Water Terminal Greenwich Se10- Borehole Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Victoria Deep Water Terminal Tunnel Ave Greemwich Se10 Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 25th April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1926	2	538997 179359
	Water Abstractions Operator: Hanson Quarry Products Europe Ltd Licence Number: 28/39/44/0047 Permit Version: 2 Location: Victoria Deep Water Terminal Greenwich Se10- Borehole Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Victoria Deep Water Terminal Tunnel Ave Greemwich Se10 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th July 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1935	2	539000 179350
	Water Abstractions Operator: Hanson Quarry Prod Europe Ltd Licence Number: 28/39/44/0047 Permit Version: 1 Location: Victoria Deep Water Terminal Greenwich Se10- Borehole Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Victoria Deep Water Terminal Tunnel Ave Greemwich Se10 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 2nd September 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1935	2	539000 179350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Port Nelson Ltd Licence Number: 28/39/42/0047 Permit Version: 100 Location: River Thames (Tidal) At Columbia Wharf, Rotherhithe Street Authority: Environment Agency, Thames Region Abstraction: Amenity: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Tidal Daily Rate (m3): 582 Yearly Rate (m3): 212394 Details: Columbia Wharf, Rotherhithe Street, London Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th July 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1978	2	536650 180180
98	**Water Industry Act Referrals** Name: Greencore Cp (Uk) Ltd Location: GREENCORE CP (UK) LTD, UNIT F PRO-LOGIS PARK, TWELVETREES CRESCENT, LONDON, LONDON, E3 3JG Authority: Environment Agency, Thames Region Permit Reference: CC0493 Dated: 14th December 2007 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations **Status: Application received by the EA but is not yet authorised** Positional Accuracy: Manually positioned to the address or location	A15SW (N)	567	2	538621 182252
99	**Water Industry Act Referrals** Name: John Mowlem Construction Plc Location: JOHN MOWLEM CONSTRUCTION PLC, CANNING TOWN STATION, CANNING TOWN STATION, SILVERTOWN, LONDON, E16 1DQ Authority: Environment Agency, Thames Region Permit Reference: AQ1331 Dated: 14th February 1995 Process Type: Permissions or amendments to discharge under the Water Industry Act 1991 Description: Processes which result in the discharge of Special Category effluents under The Trade Effluents (Prescribed Processes and Substances) Regulations **Status: Application cancelled** Positional Accuracy: Manually positioned to the address or location	A8NW (E)	656	2	539460 181386
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: 3-10m Superficial Recharge: Low	A6NE (E)	0	5	538474 181445
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: 3-10m Superficial Recharge: Low	A6NE (W)	0	5	538355 181432
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A6NE (E)	0	5	538474 181445

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A6NE (W)	0	5	538355 181432
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A6NE (E)	0	5	538474 181445
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (W)	0	2	538293 181474
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	0	2	538310 181401
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SW)	0	2	538317 181364
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SW)	0	2	538327 181298
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A6NE (E)	0	2	538474 181445
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial / Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A10SE (N)	0	2	538474 181587
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	7	2	538408 181614
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (NW)	7	2	538256 181743
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	10	2	538287 181374
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (NW)	19	2	538235 181749
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (W)	23	2	538252 181496
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	30	2	538257 181406
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	55	2	538422 181721
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (NE)	58	2	538540 181542
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	59	2	538422 181762

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	61	2	538403 181793
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (E)	62	2	538688 181521
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A10NE (N)	76	2	538394 181816
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	84	2	538482 181553
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A7NW (E)	85	2	538791 181425
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	88	2	538210 181814
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SW (NW)	97	2	538175 181799
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	98	2	538472 181786
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A6NE (W)	101	2	538209 181362
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NW (NW)	106	2	538175 181812
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial / Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A7SW (S)	109	2	538572 181063
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	113	2	538478 181774
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A10SE (N)	115	2	538478 181784
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A10SE (N)	123	2	538505 181735
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A7NE (SE)	124	2	538895 181221
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	128	2	538190 181849

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	128	2	538220 181862
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	137	2	538195 181862
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A11SW (NE)	151	2	538696 181584
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A6SE (S)	152	2	538395 181032
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A7SW (SE)	153	2	538712 181110
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A7NE (E)	159	2	538965 181344
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A7NE (SE)	163	2	538946 181241
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A7NE (E)	180	2	538984 181297
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NW (NW)	192	2	538178 181914
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A10NE (NW)	211	2	538240 181947
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A11SE (E)	217	2	538962 181484
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	228	2	538183 181954
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models and Fluvial Events Boundary Accuracy: As Supplied	A6SE (S)	230	2	538452 180968
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (N)	232	2	538592 181793
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A7NE (E)	236	2	539036 181381
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A11SW (N)	241	2	538600 181797

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A6NE (E)	0	2	538474 181445
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	0	2	538399 181451
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	0	2	538408 181614
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (NW)	0	2	538264 181654
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (W)	0	2	538322 181484
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SW)	0	2	538360 181283
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SW)	0	2	538327 181298
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	0	2	538364 181416
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SE)	0	2	538506 181419
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	0	2	538374 181424
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SW)	0	2	538474 181444
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A7NW (E)	0	2	538576 181441
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (SW)	0	2	538317 181364
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (NW)	2	2	538415 181514
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	10	2	538287 181374
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A7NW (SE)	13	2	538751 181254

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (NW)	19	2	538235 181749
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (W)	23	2	538252 181496
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A6NE (W)	30	2	538257 181406
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	56	2	538463 181529
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (NE)	58	2	538540 181542
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A10SE (N)	75	2	538489 181560
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	88	2	538210 181814
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A6NE (W)	94	2	538215 181365
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SW (NW)	97	2	538175 181799
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NW (NW)	106	2	538175 181812
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	113	2	538503 181724
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	128	2	538190 181849
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	128	2	538220 181862
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	137	2	538195 181862
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A10SE (N)	144	2	538511 181728
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10SE (N)	144	2	538513 181724

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A11SW (N)	148	2	538522 181715
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (N)	158	2	538525 181724
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A11SW (N)	180	2	538544 181754
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (N)	181	2	538545 181754
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NW (NW)	192	2	538178 181914
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A10NE (NW)	194	2	538250 181930
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A11SW (N)	197	2	538559 181771
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (N)	198	2	538569 181768
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	202	2	538233 181937
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A10NE (NW)	228	2	538183 181954
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (NE)	235	2	538653 181689
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A10NE (NW)	238	2	538198 181968
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A11SW (NE)	238	2	538609 181710
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A6NE (E)	0	2	538474 181445
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A7SW (SE)	149	2	538743 181119
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A7SW (SE)	172	2	538653 181104
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A6SE (SW)	191	2	538241 181029

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Areas Benefiting from Flood Defences Type: Area Benefiting from Flood Defences Boundary Accuracy: As Supplied	A10NE (N)	238	2	538295 181979
	Flood Water Storage Areas None				
	Flood Defences Type: Flood Defences Reference: Not Supplied	A10SE (N)	59	2	538489 181588
	Flood Defences Type: Flood Defences Reference: Not Supplied	A11SW (N)	118	2	538529 181744
100	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 1066.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 1	A10SE (N)	81	6	538501 181626
101	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 357.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 1	A7NE (E)	305	6	539100 181245
102	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 683.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 1	A11SW (NE)	313	6	538743 181761
103	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 5.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 1	A7NE (E)	321	6	539127 181313
104	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 4.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 1	A11SW (NE)	344	6	538724 181777
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 49.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7NE (SE)	352	6	539119 181160
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 58.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7SE (SE)	357	6	539097 181103

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 14.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7SE (SE)	357	6	539097 181103
108	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 1478.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lee Navigation Catchment Name: Thames Primacy: 2	A10NW (NW)	388	6	538041 182064
109	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 3.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A7SE (SE)	401	6	539120 181057
110	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 1658.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 1	A7SE (SE)	404	6	539064 180979
111	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 413.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bow Creek Catchment Name: Not Supplied Primacy: 1	A14SE (N)	526	6	538297 182268
112	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 54.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	526	6	538297 182268
113	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 58.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	526	6	538297 182268
114	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 31.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	580	6	538292 182322
115	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 23.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	581	6	538279 182322

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 39.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	605	6	538279 182346
117	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 36.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	612	6	538292 182354
118	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 561.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Lea or Lee Catchment Name: Thames Primacy: 2	A14SE (N)	644	6	538277 182385
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 2	A3NW (S)	726	6	538566 180485
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NW (S)	737	6	538544 180467
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 71.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NW (S)	739	6	538547 180466
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 2	A3SW (S)	770	6	538602 180450
123	**OS Water Network Lines** Watercourse Form: Foreshore Watercourse Length: 4.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 2	A3SW (S)	779	6	538608 180442
124	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 134.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 2	A3SW (S)	783	6	538611 180438

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
125	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 820.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Thames Catchment Name: Thames Primacy: 1	A3NE (SE)	790	6	538918 180476
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A3SW (S)	809	6	538557 180396
127	**OS Water Network Lines** Watercourse Form: Foreshore Watercourse Length: 6.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A3SW (S)	822	6	538562 180384
128	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 136.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A3SW (S)	827	6	538568 180380
129	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 10.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A2SE (S)	860	6	538295 180322
130	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 64.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Poplar Dock Cut Catchment Name: Thames Primacy: 1	A2SE (S)	866	6	538285 180317
131	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 190.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Thames Catchment Name: Thames Primacy: 1	A3SW (S)	909	6	538696 180334
132	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 163.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bow Creek Catchment Name: Thames Primacy: 1	A14NE (N)	922	6	538372 182667
133	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 18.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Channelsea River Catchment Name: Thames Primacy: 1	A14NE (N)	922	6	538372 182667

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
134	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 202.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Channelsea River Catchment Name: Thames Primacy: 1	A14NE (N)	925	6	538390 182671
135	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 198.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A2SE (S)	927	6	538261 180257
136	**OS Water Network Lines** Watercourse Form: Tidal river Watercourse Length: 196.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Not Supplied Primacy: 1	A2SE (S)	978	6	538434 180205

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**Historical Landfill Sites** Licence Holder: Not Supplied Location: South Bromley, Tower Hamlets, London Name: Eastern Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD11239 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 5900/0006 BGS Ref: Not Supplied Other Ref: 8TH002, TOW002	A7SW (S)	155	2	538600 181060
138	**Historical Landfill Sites** Licence Holder: Not Supplied Location: London E14 Name: Lanrick Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD12117 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: SHA046	A7NE (E)	243	2	539019 181446
139	**Historical Landfill Sites** Licence Holder: Not Supplied Location: London E14 Name: East India Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD11428 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 5900/0003 BGS Ref: Not Supplied Other Ref: 8TH005, TOW005	A7SW (S)	365	2	538720 180815
140	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Blackwall, Tower Hamlets, London Name: Poplar Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD11429 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 5900/0004 BGS Ref: Not Supplied Other Ref: 8TH004, TOW004	A2NE (S)	644	2	538335 180536
141	**Licensed Waste Management Facilities (Locations)** Licence Number: 104013 Location: Unit 2, Ailsa Street, London, E14 0LE Operator Name: Blackwall Marine Diesel Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Vehicle depollution facility **Licence Status: Issued** Issued: 20th April 2012 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NE (NW)	79	2	538263 181816

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
142	**Licensed Waste Management Facilities (Locations)** Licence Number: 104011 Location: Unit 3, Ailsa Street, London, E14 0NE Operator Name: Quick Skips London Recycling Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: HCI Waste TS + treatment **Licence Status: Transferred** Issued: 27th March 2012 Last Modified: 27th May 2015 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NE (N)	99	2	538316 181841
143	**Licensed Waste Management Facilities (Locations)** Licence Number: 80132 Location: 40 Gillender Street, London, E14 6RH Operator Name: Veolia E S Cleanaway (U K) Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Surrendered** Issued: 2nd February 1990 Last Modified: 21st April 1997 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 6th June 2016 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NE (NW)	190	2	538234 181925
144	**Licensed Waste Management Facilities (Locations)** Licence Number: 80138 Location: Moody Wharf, Lanrick Road, Canning Town, London, E14 0JF Operator Name: Erith Haulage Company Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Surrendered** Issued: 18th October 1994 Last Modified: 19th March 1999 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 6th January 2003 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (E)	241	2	539030 181418
145	**Licensed Waste Management Facilities (Locations)** Licence Number: 80115 Location: 9a Cody Business Centre South Crescent, London, E16 4TL Operator Name: The Remet Company Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Metal Recycling Sites (Mixed) **Licence Status: Modified** Issued: 13th October 1992 Last Modified: 5th February 2019 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NW (N)	357	2	538595 182018
146	**Licensed Waste Management Facilities (Locations)** Licence Number: 404568 Location: Soil Management Facility, Bidder Street, Canning Town, London, E16 4SH Operator Name: P M C Soil Solutions Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Inert & Excavation WTS with treatment **Licence Status: Issued** Issued: 12th March 2018 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (E)	391	2	539135 181539

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
147	**Licensed Waste Management Facilities (Locations)** Licence Number: 80125 Location: 29 Bidder Street, Canning Town, London, E16 4SZ Operator Name: Mayer Parry Recycling Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Metal Recycling Sites (Mixed) **Licence Status: Modified** Issued: 5th November 1996 Last Modified: 11th December 2009 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (E)	432	2	539075 181665
148	**Licensed Waste Management Facilities (Locations)** Licence Number: 401256 Location: 11a Cody Road Business Centre, South Crescent, Canning T, London, E16 4TL Operator Name: G B N Services Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Physical Treatment Facilities **Licence Status: Transferred** Issued: 19th March 2014 Last Modified: 1st June 2017 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NW (NE)	450	2	538785 181905
149	**Licensed Waste Management Facilities (Locations)** Licence Number: 80134 Location: Clifford House, Towcester Road, Bow, London, E3 3ND Operator Name: Clifford Devlin Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Special Waste Transfer Stations **Licence Status: Issued** Issued: 20th December 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (NW)	505	2	537949 182142
150	**Licensed Waste Management Facilities (Locations)** Licence Number: 80744 Location: Unit J Prologis Park, Twelvetrees Crescent, Bow, London, E3 3JG Operator Name: Bywaters (Leyton) Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Special Waste Transfer Stations **Licence Status: Modified** Issued: 19th June 2006 Last Modified: 10th September 2012 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (N)	510	2	538416 182253

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
151	**Licensed Waste Management Facilities (Locations)** Licence Number: 402266 Location: 7c South Crescent, London, E16 4TL Operator Name: Mcfen Plant Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: HCI Waste TS + treatment **Licence Status: Issued** Issued: 1st April 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NW (NE)	544	2	538844 182003
152	**Licensed Waste Management Facilities (Locations)** Licence Number: 80515 Location: 32 Stephenson Street, Canning Town, London, E16 4SA Operator Name: IOD Skip Hire Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Modified** Issued: 11th August 2000 Last Modified: 11th December 2015 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (NE)	606	2	539132 181838
153	**Licensed Waste Management Facilities (Locations)** Licence Number: 80133 Location: Northumberland Wharf T S, Yabsley Street, Poplar, London, E14 9RG Operator Name: Cory Environmental Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household Waste Amenity Sites **Licence Status: Modified** Issued: 23rd September 1994 Last Modified: 2nd June 2020 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SE (S)	849	2	538488 180341
154	**Licensed Waste Management Facilities (Locations)** Licence Number: 104101 Location: Northumberland Wharf, Yabsley Street, Poplar, London Operator Name: Cory Environmental Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Modified** Issued: 1st June 2012 Last Modified: 2nd June 2020 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SE (S)	891	2	538459 180294
155	**Licensed Waste Management Facilities (Locations)** Licence Number: 80130 Location: Unit 5c, Thames Road, Silvertown, London, E16 2EZ Operator Name: Wakelands Ltd Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Revoked** Issued: 2nd November 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: 5th December 2014 Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (E)	908	2	539708 181215

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
156	**Licensed Waste Management Facilities (Locations)** Licence Number: 105516 Location: Not Supplied Operator Name: Balfour Beatty Civil Engineering Limited Operator Location: Not Supplied Authority: Environment Agency - Thames Region, North East Area Site Category: Mobile plant treatment for soil <75,000 tpd **Licence Status: Modified** Issued: 10th December 2013 Last Modified: 25th August 2016 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2SW (SW)	979	2	537964 180283
	Local Authority Landfill Coverage Name: London Borough of Tower Hamlets - Has supplied landfill data		0	3	538474 181445
	Local Authority Landfill Coverage Name: London Borough of Newham - Has supplied landfill data		79	7	538504 181625
	Local Authority Landfill Coverage Name: London Borough of Greenwich - Has supplied landfill data		927	8	538811 180323
157	**Local Authority Recorded Landfill Sites** Location: East India Dock Reference: 1 Authority: London Borough of Tower Hamlets, Environmental Health Department **Last Reported Status: Closed** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A7SW (S)	186	3	538616 181030
158	**Local Authority Recorded Landfill Sites** Location: Twelvetrees Crescent Reference: Not Supplied Authority: London Borough of Newham **Last Reported Status: Closed** Types of Waste: Docks Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 10m Boundary Quality: Not Applicable	A15SW (N)	455	7	538524 182172
159	**Local Authority Recorded Landfill Sites** Location: Poplar Basin Reference: 4 Authority: London Borough of Tower Hamlets, Environmental Health Department **Last Reported Status: Closed** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good	A2NE (S)	679	3	538338 180501
160	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1995	A10NW (NW)	401	13	537984 182037
161	**Potentially Infilled Land (Non-Water)** Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1995	A12SE (E)	992	13	539740 181680
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11SW (NE)	0	13	538553 181489
163	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A10SE (N)	0	13	538457 181495
164	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A6NE (S)	0	13	538495 181383

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
165	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A6NE (W)	0	13	538402 181447
166	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A6NE (SW)	0	13	538416 181351
167	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A10SE (NW)	0	13	538434 181542
168	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11SW (E)	56	13	538743 181493
169	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11SW (NE)	70	13	538526 181555
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A10NE (NW)	138	13	538257 181875
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A7SW (S)	155	13	538603 181060
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11NW (N)	256	13	538519 181950
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11NW (NE)	260	13	538678 181894
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11NW (NE)	365	13	538701 181885
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A7SW (S)	426	13	538732 180815
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A14SE (N)	518	13	538357 182263
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A11NW (NE)	523	13	538786 182055
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A15SW (N)	550	13	538712 182188
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A12SW (E)	568	13	539289 181626
180	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A12SW (E)	569	13	539238 181739
181	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A15SW (N)	573	13	538752 182168
182	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A14SE (N)	588	13	538445 182329
183	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A15SW (NE)	591	13	538793 182153
184	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A12SW (E)	598	13	539230 181749
185	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A11NE (NE)	656	13	539192 181881

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
186	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A15SE (NE)	670	13	538858 182213
187	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A15SE (NE)	705	13	538933 182163
188	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A15SE (NE)	724	13	538866 182269
189	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A15NW (N)	753	13	538542 182478
190	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A11NE (NE)	844	13	539177 182096
191	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A15NW (N)	904	13	538748 182577
192	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A12NW (NE)	915	13	539518 181904
193	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A15NE (NE)	924	13	538931 182476
194	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A2SW (SW)	933	13	537848 180397
195	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1951	A16SW (NE)	965	13	539294 182159
196	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1899	A15SE (NE)	973	13	539039 182448
197	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A15NW (N)	974	13	538765 182633
198	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1920	A2SW (S)	987	13	538051 180241
199	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A12NW (NE)	992	13	539513 182024
200	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1882	A12NE (E)	999	13	539622 181903

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
201	**Registered Waste Transfer Sites** Licence Holder: Huckles Transport Ltd Licence Reference: DL220 Site Location: St Leonards Wharf, Gillender Street, BROMLEY BY BOW, London, E14 Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st November 1985 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Construction And Demolition Wastes House. + Com. Untreated Waste Prohibited Waste: Clinical Wastes Notifiable Wastes Putrescible Waste Special Wastes	A10NE (NW)	110	2	538300 181850
202	**Registered Waste Transfer Sites** Licence Holder: Wells Haulage Licence Reference: DL099 Site Location: Blackwall Goods Yard, East India Dock Road, BLACKWALL, London, E14 Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1982 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Commercial Waste Construction And Demolition Wastes Prohibited Waste: Biodegradable/Putrescible Waste Clinical Wastes Notifiable Wastes Special Wastes	A7NW (SE)	111	2	538825 181180
202	**Registered Waste Transfer Sites** Licence Holder: Blackwall Transfer Station Licence Reference: DL194 Site Location: Blackwall Goods Yard, East India Dock Road, Blackwall, London Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st December 1984 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Commercial Waste Construction And Demolition Wastes Prohibited Waste: Biodegradable/Putrescible Waste Clinical Wastes Notifiable Wastes Special Wastes	A7NW (SE)	116	2	538825 181175

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
202	**Registered Waste Transfer Sites** Licence Holder: R.S. Contractors Ltd Licence Reference: DL205 Site Location: Unit 92 East India Dock, Blackwall, LONDON, Greater London, E14 Operator Location: 2A Denmark Road, SOUTHWARK, London, SE5 Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st May 1985 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Construction And Demolition Wastes Household + Commercial Waste Prohibited Waste: Biodegradable/Putrescible Waste Clinical Wastes Notifiable Wastes Special Wastes	A7NW (SE)	117	2	538830 181175
203	**Registered Waste Transfer Sites** Licence Holder: Cleanaway Ltd Licence Reference: DL308 Site Location: Tunnel Approach Transfer Station, 40 Gillender Street, BROMLEY BY BOW, London, E14 6RH Operator Location: The Drive, Warley, BRENTWOOD, Essex, CM13 3BE Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 2nd February 1990 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: L.W.R.A. Cat. A = Inert Wastes L.W.R.A. Cat. Bi Gen.Non-Putresc Waste Lwra Cat. A = Inert Wastes Max.Waste Permitted By Licence-Stated Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes Waste N.O.S.	A10NE (NW)	201	2	538200 181930
204	**Registered Waste Transfer Sites** Licence Holder: Erith Haulage Co Ltd Licence Reference: DL288 Site Location: Moody Wharf, Lanrick Road, Canning Town, London, E14 0jf Operator Location: Riverside House, Maypole Crescent, Darent Industrial Estate, ERITH, Kent, DA8 2JZ Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 18th October 1994 Preceded By Licence: DL288 Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Lwra Cat. A = Inert Wastes Lwra Cat. Bi Gen.Non-Putresc Some Lwra Cat. E = Difficult Gen.W Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes Waste N.O.S.	A7NE (E)	238	2	539030 181410

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
204	**Registered Waste Transfer Sites** Licence Holder: Shanks & Mc Ewan (Southern) Ltd Licence Reference: DL288 Site Location: Moody Wharf, Lanrick Road, Canning Town, London, E14 0jf Operator Location: Woodside House, Church Road, WOBURN SANDS, Buckinghamshire, MK17 8TA Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st September 1988 Preceded By Licence: Not Given Superseded By Licence: DL288 Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Commercial Waste Construction Ind. Wastes Prohibited Waste: Clinical Wastes Notifiable Wastes Putrescible Waste Special Wastes	A7NE (E)	238	2	539030 181410
205	**Registered Waste Transfer Sites** Licence Holder: W Kavanagh Licence Reference: DL091 Site Location: Site A Scouler Street, BLACKWALL, London, E14 Operator Location: 16 Valleyfield Road, NEWHAM, London, E16 Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st December 1984 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Commercial Waste Construction And Demolition Wastes Prohibited Waste: Biodegradable/Putrescible Waste Clinical Wastes Notifiable Wastes Special Wastes	A3NW (S)	468	2	538550 180750
205	**Registered Waste Transfer Sites** Licence Holder: B Brewster Licence Reference: DL104 Site Location: Site A Quixley Street, BLACKWALL, London, E14 Operator Location: 1 Dove House Gardens, Chingford, Waltham Forest, London Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st July 1982 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Construction And Demolition Wastes Household + Commercial Waste Prohibited Waste: Biodegradable/Putrescible Waste Clinical Wastes Notifiable Wastes Special Wastes	A3NW (S)	468	2	538550 180750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	**Registered Waste Transfer Sites** Licence Holder: F J Harris Licence Reference: DL088 Site Location: Site B Scouler Street, BLACKWALL, London, E14 Operator Location: 11 St.Quintin Road, Plaistow, NEWHAM, London, E13 Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st October 1981 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Commercial Waste Construction And Demolition Wastes Prohibited Waste: Biodegradable/Putrescible Waste Clinical Wastes Notifiable Wastes Special Wastes	A3NW (S)	468	2	538550 180750
206	**Registered Waste Transfer Sites** Licence Holder: Clifford Devlin Transport Ltd Licence Reference: DL291 Site Location: Clifford House, Towcester Road, BOW, London, E3 3ND Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st January 1989 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Asbestos Asbestos Cement Sheet/Bonded Prods Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes N.O.S. Waste N.O.S.	A10NW (NW)	506	2	537920 182120
207	**Registered Waste Transfer Sites** Licence Holder: I.O.D Skip Hire Ltd Licence Reference: WML80515 Site Location: Oasis Park, 32 Stephenson Street, CANNING TOWN, London, E11 4ST Operator Location: Cambridge House, 27 Cambridge Road, WANSTEAD, London, E11 2PU Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 16th October 2001 Preceded By Licence: WML80515 Superseded By Licence: Not Given Positional Accuracy: Positioned by the supplier Boundary Quality: Good Authorised Waste: Degradable Commercial Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.02) Degradable Industrial Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.03) Inert Materials (As In Post'98 E.A.Lics And Equivalent To 21.00.00) Maximum Daily Waste Permitted By Licence Metal Waste/Scrap Metal (As In Post'98 E.A.Lics And Equivalent To 23.00.00) With Annual Maximum Waste Prohibited Waste: Degradable Household Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.01) Other Waste/Waste Not Otherwise Specified Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A11SE (NE)	549	2	539102 181789

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
208	**Registered Waste Transfer Sites** Licence Holder: J B Riney & Co Ltd Licence Reference: DL425 Site Location: Blewetts Wharf, Violet Road, Bromley By Bow, London, E3 3qq Operator Location: 38/40 Sydenham Road, CROYDON, Surrey, CR0 2EF Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st January 1993 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Lwra Cat. A = Inert Wastes Prohibited Waste: Clinical - As In Control.Waste Regs'92 Special Wastes Waste N.O.S.	A9NE (NW)	560	2	537700 181850
209	**Registered Waste Transfer Sites** Licence Holder: East London Recycling (London) Ltd Licence Reference: DL336 Site Location: 30 Stephenson Street, CANNING TOWN, London, E16 4NE Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st March 1991 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Cardboard, Fibreboard Cement Decontam. Empty Used Containers Electric Cable/Wire Electric/Electronic Comp/Fixt/Fit/Appl Empty Used Containers Floor Sweepings Household Waste Iron,Steel,Alum.,Brass,Copper,Tin,Zinc Leather Lighting Lamps, Tubes, Flourescents Lwra Cat. A = Inert Wastes Lwra Cat. Bi Gen.Non-Putresc - Only As Lwra Cat. C 'Putresc.' - But Only Lwra Cat. E = Difficult W. - But Only Max.Waste Permitted By Licence-Stated Paper Incl. Oiled Or Tarred Plasterboard Plastics As Finished Products/Scrap Rubber/Latex (Including Tyres) Solidified Paint Waste String,Rope,Natural Or Man-Made Fibre Synthetic Adhesive/Other Solid Resins Tar, Pitch, Bitumen Trees,Bushes,Garden/Horticult. Waste Vegetable Matter Waste Food & Veg.Matter Wood Incl. Sawdust/Sanderdust Wood Prods Incl. Hardboard, Chipboard Wool,Cotton,Linen,Hemp,Sisal,Hessian Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes Waste N.O.S.	A12SW (E)	563	2	539200 181730

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
210	**Registered Waste Transfer Sites** Licence Holder: I.O.D Skip Hire Ltd Licence Reference: WML80515 Site Location: Oasis Park, 32 Stephenson Street, CANNING TOWN, London, E11 4ST Operator Location: Cambridge House, 27 Cambridge Road, WANSTEAD, London, E11 2PU Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 11th August 2000 Preceded By Licence: Not Given Superseded By Licence: WML80515 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Degradable Commercial Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.02) Degradable Industrial Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.03) Inert Materials (As In Post'98 E.A.Lics And Equivalent To 21.00.00) Maximum Daily Waste Permitted By Licence Metal Waste/Scrap Metal (As In Post'98 E.A.Lics And Equivalent To 23.00.00) With Annual Maximum Waste Prohibited Waste: Degradable Household Waste (As In Post'98 E.A.Lics & Equivalent To 22.09.01) Other Waste/Waste Not Otherwise Specified Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A11NE (NE)	601	2	539120 181840
211	**Registered Waste Transfer Sites** Licence Holder: S & M Skips Ltd Licence Reference: DL221 Site Location: 29A Broomfield Street, POPLAR, London, E14 Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st November 1985 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Construction And Demolition Wastes House. + Com. Untreated Waste Prohibited Waste: Clinical Wastes Notifiable Wastes Putrescible Waste Special Wastes	A9SE (W)	640	2	537590 181680

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
212	**Registered Waste Transfer Sites** Licence Holder: Cleanaway Ltd Licence Reference: DL279 Site Location: Northumberland Wharf, Yabsley Street, POPLAR, London, E14 9RG Operator Location: The Drive, Warley, BRENTWOOD, Essex, CM13 3BE Authority: Environment Agency - Thames Region, North East Area Site Category: Civic Amenity - with transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 23rd September 1994 Preceded By Licence: DL279 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Civic Amenity Lead/Acid Batteries Civic Amenity Waste Cats A,Bi,Bii,C Civic Amenitylwra Cat. E Difficult General Waste Lwra Cat Bii Gen. Scrap Metal Some Of Lwra Cat. A = Inert Wastes Lwra Cat. Bi Gen.Non-Putresc Lwra Cat. C 'Putresc' Lwra Cat. E = Diff.Gen.Waste Some Of Max.Waste Permitted By Licence Mineral Oils (Wmp.26 - Gp M10) Waste Vegetable Oil Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes Waste N.O.S.	A2SE (S)	890	2	538450 180295
212	**Registered Waste Transfer Sites** Licence Holder: Cleanaway Ltd Licence Reference: DL279 Site Location: Northumberland Wharf R.T.S., Yabsley Street, BLACKWALL, London, E14 Operator Location: The Drive, Warley, BRENTWOOD, Essex, CM13 3BE Authority: Environment Agency - Thames Region, North East Area Site Category: Civic Amenity - with transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st October 1991 Preceded By Licence: DL279 Superseded By Licence: DL279 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Lwra Cat. A = Inert Wastes Lwra Cat. Bi Gen.Non-Putresc Lwra Cat. C 'Putresc.' Lwra Cat. E = Difficult Gen.W Max.Waste Permitted By Licence-Stated Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes Waste N.O.S.	A2SE (S)	894	2	538450 180290
212	**Registered Waste Transfer Sites** Licence Holder: L.B. of Tower Hamlets Licence Reference: DL279 Site Location: Northumberland Wharf R.T.S., Yabsley Street, BLACKWALL, London, E14 Operator Location: Town Hall, Bow Road, TOWER HAMLETS, London, E3 2SE Authority: Environment Agency - Thames Region, North East Area Site Category: Civic Amenity - with transfer Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st March 1988 Preceded By Licence: DL246 Superseded By Licence: DL279 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Construction Ind. Wastes Household + Commercial Waste Mineral Oils Prohibited Waste: Clinical Waste -Clause 2 & 4 Hsc 1982 Notifiable Wastes Special Wastes	A2SE (S)	894	2	538450 180290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
212	**Registered Waste Transfer Sites** Licence Holder: L.B. of Tower Hamlets Licence Reference: DL246 Site Location: Northumberland Wharf R.T.S., Yabsley Street, BLACKWALL, London, E14 Operator Location: Town Hall, Bow Road, TOWER HAMLETS, London, E3 2SE Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer - River Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st February 1987 Preceded By Licence: CR/014 Superseded By Licence: DL279 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Construction Ind. Wastes Household + Commercial Waste Prohibited Waste: Clinical Wastes Notifiable Wastes Special Wastes	A2SE (S)	894	2	538450 180290
212	**Registered Waste Transfer Sites** Licence Holder: L.B. of Tower Hamlets Licence Reference: CR/014 Site Location: Northumberland Wharf, Raleana Road, BLACKWALL, London, E14 9RH Operator Location: Town Hall, Bow Road, TOWER HAMLETS, London, E3 2SE Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer - River Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st October 1979 Preceded By Licence: Not Given Superseded By Licence: DL246 Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: House, Com + Ind.Waste Prohibited Waste: Clinical Wastes Difficult Wastes Notifiable Wastes	A2SE (S)	894	2	538450 180290
213	**Registered Waste Transfer Sites** Licence Holder: Wakelands Ltd Licence Reference: DL287 Site Location: Shirley Street, CANNING TOWN, London, E16 1HU Operator Location: Johnston House, Johnston Road, Woodford Green, Essex, Ig8 0xa Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Site dormant (licence suspended)Site Dormant Dated: 2nd November 1994 Preceded By Licence: DL287 Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Lwra Cat. A = Inert Wastes Some Lwra Cat. E = Difficult Gen.W Some Lwra Cat. Bi Gen.Non-Putresc Prohibited Waste: Clinical - As In Coll/Disp.Regs Of '88 Special Wastes Waste N.O.S.	A8NE (E)	921	2	539720 181210

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
213	**Registered Waste Transfer Sites** Licence Holder: Wakelands Ltd Licence Reference: DL287 Site Location: Shirley Street, CANNING TOWN, London, E16 1HU Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Record supersededSuperseded Dated: 1st September 1988 Preceded By Licence: Not Given Superseded By Licence: DL287 Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Commercial Waste Construction Ind. Wastes Ind. Non-Haz. Inert, Non-Flammable Ind. Non-Haz. Potentially Combustible Prohibited Waste: Clinical Wastes Notifiable Wastes Putrescible Waste Special Wastes	A8NE (E)	921	2	539720 181210
214	**Registered Waste Treatment or Disposal Sites** Licence Holder: The Remet Co Ltd Licence Reference: DL409 Site Location: 9A Cody Business Centre, Cody Road, WEST HAM, London, E16 4SR Operator Location: As Site Address Authority: Environment Agency - Thames Region, North East Area Site Category: Scrapyard Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 13th October 1992 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Lwra Cat Bii Gen. Scrap Metal (Some) Prohibited Waste: Clinical - As In Control.Waste Regs'92 Special Wastes Waste N.O.S.	A11NW (N)	389	2	538630 182030

Waste

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
215	**Registered Waste Treatment or Disposal Sites** Licence Holder: Mayer Parry Recycling Ltd Licence Reference: T/NE/MAY043 Site Location: 29 Bidder Street, CANNING TOWN, London, E16 4SZ Operator Location: Sovereign House, Manor Road, Erith, Kent, Da8 2ad Authority: Environment Agency - Thames Region, North East Area Site Category: Scrapyard Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 5th November 1996 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Car Fragmentiser Waste; Cfcs Contained In Appliances; Electric Cable/Wire; Electric/Electronic Compt/Fit/Fix/Apps; Lead/Acid Batteries; Lighting Lamps/Tubes/Fluorescents; Liquid Special Waste Comprising; Lwra Cat Bii Gen. Scrap Metal Waste; Machinery; Motor Oils As Part Of Vehicles; Photocopiers; Tyres Prohibited Waste: Contam.Demol.Mat'(Unless By Prior App); Contam.Soil (Unless By Prior App); Special Wastes N.O.S.; Waste N.O.S.	A11SE (E)	437	2	539100 181650

Hazardous Substances

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
216	**Control of Major Accident Hazards Sites (COMAH)** Name: National Grid Gas Plc Location: Poplar Holder Station, Leven Road, Poplar, Greater London, E14 0LL Reference: Not Supplied Type: Upper Tier **Status:** **Active** Positional Accuracy: Manually positioned to the address or location	A11SW (NE)	36	9	538566 181509
216	**Control of Major Accident Hazards Sites (COMAH)** Name: Transco Plc Location: Leven Road, Poplar, LONDON, E14 0LL Reference: Not Supplied Type: Upper Tier **Status:** **Active** Positional Accuracy: Located by supplier to within 100m	A11SW (NE)	40	9	538600 181500
217	**Control of Major Accident Hazards Sites (COMAH)** Name: Transco Plc Location: Twelvetrees Crescent, LONDON, E3 3JH Reference: 1023575 Type: Upper Tier **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A10NE (N)	360	9	538405 182104
218	**Control of Major Accident Hazards Sites (COMAH)** Name: Southern Gas Networks Plc Location: Bromley-By-Bow Holder Station, Twelve Trees Crescent , Bromley-By-Bow, Greater London, E3 3jl Reference: Not Supplied Type: Lower Tier **Status:** **Active** Positional Accuracy: Manually positioned to the address or location	A15NW (N)	878	9	538643 182579
218	**Control of Major Accident Hazards Sites (COMAH)** Name: Transco Plc Location: Bromley-By-Bow Holder Station, Twelve Trees Crescent,Bromley-By-Bow, Greater London, E3 3JL Reference: Not Supplied Type: Upper Tier **Status:** **Active** Positional Accuracy: Manually positioned to the address or location	A15NW (N)	880	9	538640 182582
219	**Control of Major Accident Hazards Sites (COMAH)** Name: National Grid Gas Plc Location: Bromley-By-Bow Holder Station, Twelve Trees Crescent , Bromley-By-Bow, Greater London, E3 3jl Reference: Not Supplied Type: Upper Tier **Status:** **Active** Positional Accuracy: Manually positioned to the address or location	A15NW (N)	961	9	538643 182666
220	**Explosive Sites** Name: Viking Life Saving Equipment Ltd Location: Ocean House, Caxton Street North, London, E16 1JL **Status:** **Not Active** Positional Accuracy: Automatically positioned to the address	A8SE (E)	980	9	539745 181043
221	**Notification of Installations Handling Hazardous Substances (NIHHS)** Name: Transco Location: Poplar Holder Station, Leven Road, Poplar, LONDON, E14 0LL **Status:** **Not Active** Positional Accuracy: Located by supplier to within 100m	A11SW (E)	37	9	538605 181495
222	**Notification of Installations Handling Hazardous Substances (NIHHS)** Name: L P G Holdings Limited Location: Ailsa Wharf, Ailsa Street, Poplar, LONDON, E14 0LE **Status:** **Not Active** Positional Accuracy: Automatically positioned to the address	A10NE (N)	84	9	538340 181828
223	**Notification of Installations Handling Hazardous Substances (NIHHS)** Name: British Gas TransCo Location: Bromley Holder Station, Twelve Trees Crescent, Bromley-By-Bow, LONDON, E3 3JH **Status:** **Not Active** Positional Accuracy: Automatically positioned to the address	A10NE (N)	355	9	538405 182099
224	**Notification of Installations Handling Hazardous Substances (NIHHS)** Name: A W Phillips & Son (Upton Park) Ltd Location: Plot 1D, Cody Business Centre, Cody Road, LONDON, E3 **Status:** **Not Active** Positional Accuracy: Manually positioned to the road within the address or location	A11NE (NE)	788	9	539058 182120

Hazardous Substances

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
225	**Notification of Installations Handling Hazardous Substances (NIHHS)** Name: Bow Calor Location: Bow Calor Centre, Bow Bridge ; Bow Wharf, Hancock Road ; Bow, LONDON, E3 3DA **Status: Not Active** Positional Accuracy: Manually positioned to the address or location	A15NW (N)	848	9	538597 182562
226	**Planning Hazardous Substance Consents** Name: British Gas Plc Location: North Thames, Poplar Holder Station, Leven Road, Poplar, Greater London, E14 0LL Authority: London Borough of Tower Hamlets Application Ref: HS/2 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 492.8 Application date: 16th November 1992 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Manually positioned to the address or location	A11SW (NE)	45	10	538574 181516
227	**Planning Hazardous Substance Consents** Name: Esso Gas Ltd Location: Ailsa Wharf Depot, Ailsa Street, POPLAR, Greater London, E14 0LE Authority: London Borough of Tower Hamlets Application Ref: HS/4 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 398 Application date: 11th November 1992 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Automatically positioned to the address	A10NE (N)	84	10	538340 181828
228	**Planning Hazardous Substance Consents** Name: Aw Phillips & Son Ltd Location: Cody Road Site 1d, Cody Road Business Centre, Canning Town, London, E16 Authority: London Borough of Newham Application Ref: 93/0868 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 24th September 1993 **Decision: Unknown at time of reportUnknown** Positional Accuracy: Manually positioned to the road within the address or location	A15SE (NE)	661	7	538883 182156
228	**Planning Hazardous Substance Consents** Name: Aw Phillips & Son Ltd Location: 1d Cody Road, Canning Town, London, E16 Authority: London Borough of Newham Application Ref: 92/0840 Hazardous Substance: Unknown at time of report Maximum Quantity: 0 Application date: 9th September 1992 **Decision: New application refusedRefused** Positional Accuracy: Manually positioned to the road within the address or location	A15SE (NE)	661	7	538883 182156
229	**Planning Hazardous Substance Consents** Name: British Gas Plc Location: Bromley Holder Station, Twelvetrees Crescent, LONDON, E3 3JH Authority: London Borough of Newham Application Ref: 92/1011 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 662.7 Application date: 16th November 1992 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Manually positioned to the address or location	A14NE (N)	784	7	538500 182518
230	**Planning Hazardous Substance Consents** Name: Calor Gas Ltd Location: Bow Wharf, Bow Bridge, Hancock Road, Bow, Greater London, E3 3DA Authority: London Borough of Tower Hamlets Application Ref: HS/1 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 60 Application date: 26th August 1992 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Manually positioned within the geographical locality	A14NW (N)	861	10	538096 182583

Geological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Thames Group	A6NE (E)	0	1	538474 181445
	BGS Estimated Soil Chemistry No data available				
231	**BGS Recorded Mineral Sites** Site Name: Orchard Wharf Location: Poplar, London, Greater London Source: British Geological Survey, National Geoscience Information Service Reference: 10814 Type: Wharf **Status: Ceased** Operator: Rmc Aggregates (Greater London) Ltd. Operator Location: Not Supplied Periodic Type: Not Available Geology: Quarry (Hard Rock) Commodity: Crushed Rock Positional Accuracy: Located by supplier to within 10m	A7NE (SE)	258	1	539025 181180
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538148, 181725 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 27.90 mg/kg Cadmium Measured Concentration: 3.70 mg/kg Chromium Measured Concentration: 186.00 mg/kg Lead Measured Concentration: 240.30 mg/kg Nickel Measured Concentration: 52.40 mg/kg	A10SW (NW)	101	1	538148 181725
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538839, 181184 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 17.80 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 70.80 mg/kg Lead Measured Concentration: 272.70 mg/kg Nickel Measured Concentration: 30.20 mg/kg	A7NW (SE)	113	1	538839 181184
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538180, 181390 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 16.00 mg/kg Cadmium Measured Concentration: 0.40 mg/kg Chromium Measured Concentration: 66.40 mg/kg Lead Measured Concentration: 227.90 mg/kg Nickel Measured Concentration: 27.50 mg/kg	A6NW (W)	123	1	538180 181390

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538861, 181533 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 18.70 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 72.30 mg/kg Lead Measured Concentration: 643.70 mg/kg Nickel Measured Concentration: 27.30 mg/kg	A11SE (E)	212	1	538861 181533
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538272, 180891 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 13.70 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 52.70 mg/kg Lead Measured Concentration: 160.80 mg/kg Nickel Measured Concentration: 18.70 mg/kg	A6SE (S)	301	1	538272 180891
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 539124, 181168 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 27.40 mg/kg Cadmium Measured Concentration: 0.80 mg/kg Chromium Measured Concentration: 68.30 mg/kg Lead Measured Concentration: 1047.90 mg/kg Nickel Measured Concentration: 32.40 mg/kg	A7NE (SE)	354	1	539124 181168
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538726, 180793 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 18.10 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 53.50 mg/kg Lead Measured Concentration: 349.30 mg/kg Nickel Measured Concentration: 23.30 mg/kg	A7SW (S)	474	1	538726 180793
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 537723, 181732 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 13.00 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 63.20 mg/kg Lead Measured Concentration: 79.10 mg/kg Nickel Measured Concentration: 15.70 mg/kg	A9SE (W)	511	1	537723 181732

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538817, 182189 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 20.10 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 64.40 mg/kg Lead Measured Concentration: 205.40 mg/kg Nickel Measured Concentration: 31.20 mg/kg	A15SW (NE)	633	1	538817 182189
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 539256, 180835 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 13.90 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 65.70 mg/kg Lead Measured Concentration: 85.80 mg/kg Nickel Measured Concentration: 22.10 mg/kg	A8SW (SE)	648	1	539256 180835
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538356, 182401 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 29.90 mg/kg Cadmium Measured Concentration: 1.20 mg/kg Chromium Measured Concentration: 69.60 mg/kg Lead Measured Concentration: 550.10 mg/kg Nickel Measured Concentration: 38.40 mg/kg	A14SE (N)	655	1	538356 182401
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 537600, 181315 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 17.00 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 69.30 mg/kg Lead Measured Concentration: 359.10 mg/kg Nickel Measured Concentration: 31.30 mg/kg	A5NE (W)	700	1	537600 181315
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 539433, 181704 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 21.40 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 73.20 mg/kg Lead Measured Concentration: 388.50 mg/kg Nickel Measured Concentration: 28.70 mg/kg	A12SW (E)	731	1	539433 181704

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 537786, 182347 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 18.90 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 66.60 mg/kg Lead Measured Concentration: 406.70 mg/kg Nickel Measured Concentration: 29.60 mg/kg	A13SE (NW)	767	1	537786 182347
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 538528, 180386 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 16.20 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 66.00 mg/kg Lead Measured Concentration: 306.10 mg/kg Nickel Measured Concentration: 24.90 mg/kg	A3SW (S)	812	1	538528 180386
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 537625, 180742 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 12.70 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 64.20 mg/kg Lead Measured Concentration: 123.80 mg/kg Nickel Measured Concentration: 17.60 mg/kg	A1NE (SW)	853	1	537625 180742
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 539317, 182039 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 26.40 mg/kg Cadmium Measured Concentration: 2.70 mg/kg Chromium Measured Concentration: 87.70 mg/kg Lead Measured Concentration: 227.50 mg/kg Nickel Measured Concentration: 42.30 mg/kg	A12NW (NE)	876	1	539317 182039
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 537314, 181802 Soil Sample Type: Topsoil Sample Area: London Arsenic Measured Concentration: 20.70 mg/kg Cadmium Measured Concentration: 2.70 mg/kg Chromium Measured Concentration: 89.10 mg/kg Lead Measured Concentration: 624.90 mg/kg Nickel Measured Concentration: 34.60 mg/kg	A9NW (W)	926	1	537314 181802

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: London Count Id: 7209 Arsenic Minimum Concentration: 1.00 mg/kg Arsenic Average Concentration: 17.00 mg/kg Arsenic Maximum Concentration: 161.00 mg/kg Cadmium Minimum Concentration: 0.10 mg/kg Cadmium Average Concentration: 0.90 mg/kg Cadmium Maximum Concentration: 165.20 mg/kg Chromium Minimum Concentration: 13.00 mg/kg Chromium Average Concentration: 79.00 mg/kg Chromium Maximum Concentration: 2094.00 mg/kg Lead Minimum Concentration: 11.00 mg/kg Lead Average Concentration: 280.00 mg/kg Lead Maximum Concentration: 10000.00 mg/kg Nickel Minimum Concentration: 2.00 mg/kg Nickel Average Concentration: 28.00 mg/kg Nickel Maximum Concentration: 506.00 mg/kg	A6NE (E)	0	1	538474 181445
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Natural Cavities Easting: 538700 Northing: 180400 Distance: 848 Quadrant Reference: A3 Quadrant Reference: SW Bearing Ref: S Cavity Type: Scour Hollows x 1 Solid Geology Detail: Lambeth Group Superficial Geology Detail: Alluvium	A3SW (S)	848	11	538700 180400
	Natural Cavities Easting: 539480 Northing: 180680 Distance: 918 Quadrant Reference: A4 Quadrant Reference: NW Bearing Ref: SE Cavity Type: Scour Hollows x 1 Solid Geology Detail: Chalk Group, Lambeth Group, London Clay Formation Superficial Geology Detail: Alluvium	A4NW (SE)	918	11	539480 180680
	Natural Cavities Easting: 538400 Northing: 180250 Distance: 931 Quadrant Reference: A2 Quadrant Reference: SE Bearing Ref: S Cavity Type: Scour Hollows x 1 Solid Geology Detail: Chalk Group, Lambeth Group Superficial Geology Detail: Alluvium	A2SE (S)	931	11	538400 180250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Natural Cavities Easting: 539490 Northing: 180670 Distance: 932 Quadrant Reference: A4 Quadrant Reference: NW Bearing Ref: SE Cavity Type: Scour Hollows x 1 Solid Geology Detail: Lambeth Group Superficial Geology Detail: Alluvium	A4NW (SE)	932	11	539490 180670
	Natural Cavities Easting: 537900 Northing: 180330 Distance: 965 Quadrant Reference: A2 Quadrant Reference: SW Bearing Ref: SW Cavity Type: Scour Hollows x 1 Solid Geology Detail: Chalk Group, Lambeth Group Superficial Geology Detail: Alluvium	A2SW (SW)	965	11	537900 180330
	Natural Cavities Easting: 538500 Northing: 180200 Distance: 990 Quadrant Reference: A2 Quadrant Reference: SE Bearing Ref: S Cavity Type: Scour Hollows x 1 Solid Geology Detail: Lambeth Group Superficial Geology Detail: Alluvium	A2SE (S)	990	11	538500 180200
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A6NE (W)	0	1	538355 181432
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (W)	0	1	538355 181432
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	28	1	538518 181522
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	118	1	538486 181763
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A7SW (S)	147	1	538599 181062
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	61	1	538493 181701
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A6SE (SW)	78	1	538323 181110

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	83	1	538389 181826
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	116	1	538490 181593
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	142	1	538400 181884
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SW (N)	160	1	538538 181695
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A6SE (S)	167	1	538391 181016
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A7NE (SE)	183	1	538952 181201
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	200	1	538582 181679
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A7NE (E)	233	1	539026 181249
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	238	1	538606 181721
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A6NE (W)	0	1	538355 181432
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	28	1	538518 181522
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (SW)	65	1	538251 181345
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	118	1	538486 181763
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7SW (S)	147	1	538599 181062
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	0	1	538567 181363
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (W)	0	1	538355 181432
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A6NE (SW)	12	1	538352 181168
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A6NE (SW)	65	1	538251 181345
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A6SE (S)	238	1	538345 180942

Geological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A6NE (E)	0	1	538474 181445

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
232	**Contemporary Trade Directory Entries** Name: Eurasia Location: 29, Aberfeldy Street, London, E14 0NU Classification: Frozen Food Processors & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NE (S)	0	-	538485 181240
232	**Contemporary Trade Directory Entries** Name: Betta Press Location: 33, Aberfeldy Street, London, E14 0NU Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NE (S)	0	-	538482 181250
232	**Contemporary Trade Directory Entries** Name: Lime House Dry Cleaning & Laundry Co Location: 33, Aberfeldy Street, London, E14 0NU Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NE (S)	0	-	538482 181250
232	**Contemporary Trade Directory Entries** Name: Busy Bees Location: Flat 14, Trident House, Blair Street, London, E14 0NX Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NE (S)	18	-	538468 181197
233	**Contemporary Trade Directory Entries** Name: K D T Cleaners Ltd Location: 4, Leven Road, London, E14 0LJ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (NW)	0	-	538296 181659
234	**Contemporary Trade Directory Entries** Name: L & T Commercials Location: Bromley Hall Rd, London, E14 0LF Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SE (NW)	7	-	538242 181724
235	**Contemporary Trade Directory Entries** Name: Ashwood Timber & Plastics Ltd Location: Leven Road, London, E14 0LN Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (NW)	10	-	538346 181593
235	**Contemporary Trade Directory Entries** Name: Fast Form Structures Location: Longstone House,Leven Rd, London, E14 0LL Classification: Concrete Contractors **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10SE (NW)	25	-	538365 181560
236	**Contemporary Trade Directory Entries** Name: Nexgor Location: 19, Benledi Road, London, E14 0NR Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SE)	11	-	538641 181369
237	**Contemporary Trade Directory Entries** Name: Jacks Tyres Location: 1, Ailsa Street, London, E14 0LE Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (N)	16	-	538379 181752
237	**Contemporary Trade Directory Entries** Name: Da Silva Location: Lochnagar, London, E14 0LE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10SE (NW)	24	-	538340 181768
237	**Contemporary Trade Directory Entries** Name: Just Spears Location: Ailsa Wharf,Ailsa St, London, E14 0LE Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10SE (NW)	24	-	538340 181768

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
237	**Contemporary Trade Directory Entries** Name: Ailsa Commercials Location: Ailsa Wharf, Ailsa Street, London, E14 0LE Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (NW)	25	-	538340 181768
237	**Contemporary Trade Directory Entries** Name: Blackwall Commercials Location: Ailsa Wharf, Ailsa Street, London, E14 0LE Classification: Commercial Vehicle Bodybuilders & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (NW)	25	-	538340 181768
237	**Contemporary Trade Directory Entries** Name: Remarkable Recycling Solutions Ltd Location: Ailsa Wharf, Ailsa Street, London, E14 0LE Classification: Recycling Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (NW)	25	-	538340 181768
238	**Contemporary Trade Directory Entries** Name: City Wood Co Location: Islay Wharf,Lochnagar St, London, E14 0LA Classification: Wood Recycling **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10SE (N)	30	-	538394 181746
238	**Contemporary Trade Directory Entries** Name: Leaside Wood Recycling Project Location: Islay Wharf, Lochnagar Street, London, E14 0LA Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (N)	31	-	538395 181747
239	**Contemporary Trade Directory Entries** Name: Arin Garage Location: Leven Rd, London, E14 0LL Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10SE (N)	58	-	538444 181539
239	**Contemporary Trade Directory Entries** Name: Chilton Transport Ltd Location: Devon Cottage, Leven Road, London, E14 0LL Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (N)	58	-	538438 181541
239	**Contemporary Trade Directory Entries** Name: N & F Scaffolding London Location: Cornwall Cottage, Leven Road, London, E14 0LL Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SE (N)	58	-	538444 181539
239	**Contemporary Trade Directory Entries** Name: A M G Tipper & Grab Hire Ltd Location: Leven Road, London, E14 0LL Classification: Crane Hire, Sales & Service **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10SE (N)	58	-	538444 181539
240	**Contemporary Trade Directory Entries** Name: City Rubbish Clearance Location: Unit 1 Ailsa Street, London, E14 0LE Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A10NE (NW)	62	-	538302 181802
240	**Contemporary Trade Directory Entries** Name: Quick Skips Location: Unit 3, Ailsa Street, London, E14 0LE Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (NW)	81	-	538298 181822
241	**Contemporary Trade Directory Entries** Name: Joseph Ash Location: Glaucus Works, Leven Road, London, E14 0LP Classification: Corrosion Prevention & Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SW (NE)	65	-	538521 181549

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
242	**Contemporary Trade Directory Entries** Name: James Of Docklands Location: 2, Portree Street, London, E14 0HT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A7NE (E)	114	-	538919 181310
243	**Contemporary Trade Directory Entries** Name: Fridgehire.Co.Uk Location: 1, WELLSPRING CLOSE, LONDON, E14 6FB Classification: Refrigeration Equipment - Commercial **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NE (NW)	131	-	538189 181852
243	**Contemporary Trade Directory Entries** Name: Motor Show Planet Ltd Location: 44 Gillender St, London, E14 6RN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (NW)	151	-	538193 181876
243	**Contemporary Trade Directory Entries** Name: Repro Image Location: 44 Gillender St, London, E14 6RN Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (NW)	151	-	538193 181876
244	**Contemporary Trade Directory Entries** Name: Trans T Transport Ltd Location: St Leonards Wharf,Bromley Hall Rd, London, E14 0LF Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A10NE (NW)	146	-	538290 181886
245	**Contemporary Trade Directory Entries** Name: Domestic Appliance Repairs Location: 34, Spey Street, London, E14 6PZ Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	148	-	538105 181562
245	**Contemporary Trade Directory Entries** Name: Jyps & Co Ltd Location: Flat 24, St. Michael's Court, St. Leonards Road, London, E14 6PS Classification: Printers Textile **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (W)	176	-	538067 181591
246	**Contemporary Trade Directory Entries** Name: Star Wish Laundrette Location: 100, Burcham Street, London, E14 0SH Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	167	-	538148 181332
247	**Contemporary Trade Directory Entries** Name: Rock Uk Ltd Location: Leamouth Road, London, E14 0JG Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SE)	184	-	538891 181132
248	**Contemporary Trade Directory Entries** Name: Jacobs Docklands Ltd Location: 26-32, Follett Street, London, E14 6LX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SE (SW)	186	-	538210 181067
248	**Contemporary Trade Directory Entries** Name: Mixamate Location: 247-251, East India Dock Road, London, E14 0EG Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	216	-	538175 181065
249	**Contemporary Trade Directory Entries** Name: Dynamic Cleaning Services Location: Flat 3, Oban House, Oban Street, London, E14 0JB Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	187	-	538915 181479

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
250	**Contemporary Trade Directory Entries** Name: O'Grady Plant & Haulage Ltd Location: East London Mail Centre, Twelvetrees Crescent, London, E3 3TT Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NE (N)	189	-	538467 181905
251	**Contemporary Trade Directory Entries** Name: M K Recovery Services Location: 37 Lanrick Road, London, E14 0FE Classification: Car Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A7NE (E)	197	-	538992 181394
251	**Contemporary Trade Directory Entries** Name: M K Recovery Services Location: Glencoe House, 37, Lanrick Road, London, E14 0FE Classification: Car Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (E)	220	-	539009 181412
252	**Contemporary Trade Directory Entries** Name: Cleaning Experts Location: 37, Ullin Street, London, E14 6PN Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10SW (NW)	214	-	538016 181658
253	**Contemporary Trade Directory Entries** Name: Satellite Graphics Ltd Location: Unit 6, Blackwall Trading Estate, Portree Street, London, E14 0JP Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	215	-	538861 181537
254	**Contemporary Trade Directory Entries** Name: Veolia Environmental Services Location: Tunnel Approach Transfer Station, 40, Gillender Street, London, E14 6RH Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	218	-	538180 181943
254	**Contemporary Trade Directory Entries** Name: B M W Spare Parts Location: 52 Gillender Street, London, E14 6RN Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10NW (NW)	225	-	538160 181942
254	**Contemporary Trade Directory Entries** Name: Mr Beamer'S Location: 52 Gillender St, London, E14 6RN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A10NW (NW)	241	-	538160 181960
255	**Contemporary Trade Directory Entries** Name: Four Be Two Ltd Location: 14 Lanrick Road, London, E14 0JF Classification: Pallets, Crates & Packing Cases **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (E)	238	-	539005 181459
256	**Contemporary Trade Directory Entries** Name: Shun Cheong Lung Ltd Location: Unit 18, Blackwall Trading Estate, Portree Street, London, E14 0JP Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A11SE (E)	248	-	538917 181549
256	**Contemporary Trade Directory Entries** Name: Shun Cheong Lung Ltd Location: Unit 18, Blackwall Trading Estate, Portree Street, London, E14 0JP Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A11SE (E)	248	-	538917 181549
256	**Contemporary Trade Directory Entries** Name: Jumbo Uk Ltd Location: Unit 9, Blackwall Trading Estate, Lanrick Road, London, E14 0JP Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	279	-	538950 181566

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
257	**Contemporary Trade Directory Entries** Name: Esso Location: Leamouth Road, London, E14 0JG Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SE)	258	-	538960 181091
258	**Contemporary Trade Directory Entries** Name: Hays Secure Distruction Location: 24-26 Gillender St, London, E3 3LB Classification: Shredding Equipment & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NE (NW)	265	-	538192 181994
259	**Contemporary Trade Directory Entries** Name: Shah Jalal Express Ltd Location: 231 East India Dock Road, London, E14 0EG Classification: Freight Forwarders **Status: Active** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	273	-	538120 181044
259	**Contemporary Trade Directory Entries** Name: Waste Removals Location: Flat 1-6, 223, East India Dock Road, London, E14 0ED Classification: Rubbish Clearance **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	296	-	538094 181045
259	**Contemporary Trade Directory Entries** Name: Single Source Binding Machines Ltd Location: 223, East India Dock Road, London, E14 0ED Classification: Bookbinding & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	296	-	538094 181045
260	**Contemporary Trade Directory Entries** Name: Tata Shoes Location: Unit 18, Blackwall Trading Estate, Portree Street, London, E14 0JP Classification: Footwear - Manufacturers and Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	276	-	538885 181593
261	**Contemporary Trade Directory Entries** Name: Speedy Lifting Ltd Location: Unit 7, Blackwall Trading Estate, Portree Street, London, E14 0JP Classification: Lifting Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	286	-	538981 181553
262	**Contemporary Trade Directory Entries** Name: Texaco Location: 19, Cotton Street, London, E14 0EJ Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SE (SW)	289	-	538185 180948
263	**Contemporary Trade Directory Entries** Name: B & S Cleaning Location: Flat 16, Anderson House, Woolmore Street, London, E14 0EP Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SE (S)	299	-	538253 180899
264	**Contemporary Trade Directory Entries** Name: Excelent Cleaning Location: 86, Brownfield Street, London, E14 6NF Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (SW)	308	-	538041 181160
265	**Contemporary Trade Directory Entries** Name: Cotton Street Service Station Location: 40, Cotton Street, London, E14 0EL Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	309	-	538133 180967
265	**Contemporary Trade Directory Entries** Name: Texaco Location: 40, Cotton Street, London, E14 0EL Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	309	-	538133 180967

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
265	**Contemporary Trade Directory Entries** Name: Texaco Location: 40, Cotton Street, London, E14 0EL Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	309	-	538133 180967
266	**Contemporary Trade Directory Entries** Name: Gallivant Perfumes Ltd Location: The Trampery Republic,First Floor Anchorage House, London, E14 2BE Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (S)	310	-	538552 180917
267	**Contemporary Trade Directory Entries** Name: The Remet Co Ltd Location: 9a, South Crescent, London, E16 4TL Classification: Non-Ferrous Metals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (N)	361	-	538609 182012
268	**Contemporary Trade Directory Entries** Name: Keyline Civils Specialist. Location: 10b, South Crescent, London, E16 4TL Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	371	-	538698 181909
268	**Contemporary Trade Directory Entries** Name: Orion Location: 11a, South Crescent, London, E16 4TL Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	372	-	538698 181909
269	**Contemporary Trade Directory Entries** Name: Sparkling Cleaning Poplar Location: 189, East India Dock Road, London, E14 0EA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	374	-	538012 181036
270	**Contemporary Trade Directory Entries** Name: Uni-Wise Graphics Location: 8 Barrats Industrial Park,L,Gillender St, London, E3 3JW Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NE (NW)	380	-	538189 182111
270	**Contemporary Trade Directory Entries** Name: Screenwise Productions Ltd Location: Unit 8 Barratt Indust Est,Gillender St, London, E3 3JW Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NE (NW)	380	-	538189 182111
271	**Contemporary Trade Directory Entries** Name: Planner Catering Location: Unit 9, Barratt Industrial Park, Gillender Street, London, E3 3JX Classification: Catering Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	392	-	538172 182120
271	**Contemporary Trade Directory Entries** Name: Lift Building Co Ltd Location: Unit 3, Barratt Industrial Park, Gillender Street, London, E3 3JX Classification: Lift Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (N)	436	-	538177 182165
271	**Contemporary Trade Directory Entries** Name: Kieser (Uk) Ltd Location: Unit 1/2, Barratt Industrial Park, Gillender Street, London, E3 3JX Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	436	-	538166 182163
271	**Contemporary Trade Directory Entries** Name: Essential Rubber Location: Unit 3, Barratt Industrial Park, Gillender Street, London, E3 3JX Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (N)	436	-	538177 182165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
271	**Contemporary Trade Directory Entries** Name: Essential Rubber Location: Unit 3, Barratt Industrial Park, Gillender Street, London, E3 3JX Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (N)	436	-	538177 182165
271	**Contemporary Trade Directory Entries** Name: Solar Marine Services Location: Unit 4, Barratt Industrial Park, Gillender Street, London, E3 3JX Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (N)	437	-	538186 182167
272	**Contemporary Trade Directory Entries** Name: Mitsubishi Electric Europe Location: Unit 8, Electra Business Park, 160, Bidder Street, London, E16 4ES Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	395	-	538780 181809
273	**Contemporary Trade Directory Entries** Name: Reliance Freight Services Location: 71, Carmen Street, London, E14 6NW Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	396	-	537874 181462
274	**Contemporary Trade Directory Entries** Name: Cranfield Paper Recycling Ltd Location: 18a Cording Street, Tower Hamlets, London, E14 6NR Classification: Recycling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10SW (W)	400	-	537849 181540
274	**Contemporary Trade Directory Entries** Name: Lanham Print Finishers Location: 156 Chrisp St, London, E14 6NL Classification: Print Finishers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SE (W)	433	-	537826 181498
274	**Contemporary Trade Directory Entries** Name: Contrast Ltd Location: 160, Chrisp Street, London, E14 6NL Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SE (W)	440	-	537810 181529
274	**Contemporary Trade Directory Entries** Name: V & N Print Finishers Ltd Location: 1, Cording Street, London, E14 6NR Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	441	-	537810 181529
274	**Contemporary Trade Directory Entries** Name: Mainstore Ltd Location: 156-160, Chrisp Street, London, E14 6NL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A9SE (W)	458	-	537795 181515
274	**Contemporary Trade Directory Entries** Name: D K Print & Design Location: 156-160, Chrisp Street, London, E14 6NL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A9SE (W)	458	-	537795 181515
275	**Contemporary Trade Directory Entries** Name: Ats Euromaster Ltd Location: 118-118a, Chrisp Street, London, E14 6NL Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	405	-	537886 181384
275	**Contemporary Trade Directory Entries** Name: Parker Dairies Location: 120-132, Chrisp Street, London, E14 6NL Classification: Dairies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	424	-	537862 181403

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
275	**Contemporary Trade Directory Entries** Name: Sage Dairies Location: 120-132, Chrisp Street, London, E14 6NL Classification: Dairies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6NW (W)	424	-	537862 181403
276	**Contemporary Trade Directory Entries** Name: C Aiano & Sons Ltd Location: 64-70, Chrisp Street, London, E14 6LR Classification: Wire Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NW (W)	416	-	537909 181259
277	**Contemporary Trade Directory Entries** Name: Kilnbridge Construction Services Ltd Location: 9b, South Crescent, London, E16 4TL Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (N)	417	-	538655 182045
277	**Contemporary Trade Directory Entries** Name: The Remet Company Ltd Location: 9A, SOUTH CRESCENT, CANNING TOWN, LONDON, E16 4TL Classification: Scrap Metal Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NW (N)	418	-	538620 182077
278	**Contemporary Trade Directory Entries** Name: Grand Luxury Autos Ltd Location: 17, Towcester Road, London, E3 3ND Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	417	-	538041 182098
278	**Contemporary Trade Directory Entries** Name: Sunrise Office Cleaning Location: Unit 3,17 Towcester Rd, London, E3 3ND Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A10NW (NW)	418	-	538041 182098
279	**Contemporary Trade Directory Entries** Name: E M R Location: 29, Bidder Street, London, E16 4ST Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	420	-	539065 181659
280	**Contemporary Trade Directory Entries** Name: Encore Reclamation Location: Unit 4, Block B, 2, Fawe Street, London, E14 6PD Classification: Reclamation Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SE (NW)	421	-	537813 181725
280	**Contemporary Trade Directory Entries** Name: Rupert Harris Conservation Location: STUDIO 5C, 1, FAWE STREET, LONDON, E14 6PD Classification: Antiques - Repairing & Restoring **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SE (W)	449	-	537784 181724
280	**Contemporary Trade Directory Entries** Name: A B Fine Art Foundry Ltd Location: 1, Fawe Street, London, E14 6PD Classification: Foundries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (NW)	451	-	537784 181735
280	**Contemporary Trade Directory Entries** Name: Tudor Thomas Design Location: 1, Fawe Street, London, E14 6PD Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (NW)	451	-	537784 181735
280	**Contemporary Trade Directory Entries** Name: Scarlet Ink Printing Co Ltd Location: 1, Fawe Street, London, E14 6PD Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (NW)	451	-	537784 181735

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
281	**Contemporary Trade Directory Entries** Name: H Vaughan Ltd Location: 26, Naval Row, London, E14 9PS Classification: Seating Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	425	-	538515 180784
281	**Contemporary Trade Directory Entries** Name: Docklands Minibuses Location: Quixley Street, London, E14 9PU Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A3NW (S)	438	-	538535 180777
281	**Contemporary Trade Directory Entries** Name: Scaramal Motorcycles Location: London, E14 9PU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A3NW (S)	441	-	538528 180772
282	**Contemporary Trade Directory Entries** Name: Jaycee Vac Services Location: 17 Chrisp St, London, E14 6LL Classification: Washing Machines - Servicing & Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A6NW (SW)	430	-	537924 181126
282	**Contemporary Trade Directory Entries** Name: Best Sellers Location: 29-34, Market Square, London, E14 6BU Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	463	-	537892 181116
283	**Contemporary Trade Directory Entries** Name: Docklands Self Drive Hire Ltd Location: 314, Poplar High Street, London, E14 0BB Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	437	-	538325 180744
283	**Contemporary Trade Directory Entries** Name: J M Ahluwalia & Sons Ltd Location: 304 Poplar High St, London, E14 0BB Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A2NE (S)	452	-	538304 180731
284	**Contemporary Trade Directory Entries** Name: Benchmark Innovations Location: Flat 8, Lawless House, Bazely Street, London, E14 0ET Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	440	-	538118 180811
285	**Contemporary Trade Directory Entries** Name: Orion Location: 11a, South Crescent, London, E16 4TL Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	449	-	538784 181906
285	**Contemporary Trade Directory Entries** Name: Recycle (London) Location: 11b, South Crescent, London, E16 4TL Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	472	-	538789 181951
286	**Contemporary Trade Directory Entries** Name: Bill'S Household D I Y Location: 247-249 Poplar High Street, London, E14 0BE Classification: Hardware **Status: Active** Positional Accuracy: Automatically positioned to the address	A2NE (SW)	451	-	538183 180764
286	**Contemporary Trade Directory Entries** Name: Blackwall Carpet Cleaners Location: 260, Poplar High Street, London, E14 0BB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	475	-	538187 180737

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
286	**Contemporary Trade Directory Entries** Name: Cleaners Leamouth Location: 256, Poplar High Street, London, E14 0BB Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	486	-	538167 180733
286	**Contemporary Trade Directory Entries** Name: L V Tyres Ltd Location: 256, Poplar High Street, London, E14 0BB Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	486	-	538167 180733
287	**Contemporary Trade Directory Entries** Name: Sun Chemical Gibbons Inks & Coatings Ltd Location: 21, St. Andrews Way, London, E3 3PA Classification: Printing Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	452	-	537869 181982
287	**Contemporary Trade Directory Entries** Name: Centrol Location: 19, St. Andrews Way, London, E3 3PA Classification: Printing Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	482	-	537857 182017
287	**Contemporary Trade Directory Entries** Name: Centrol Office Supplies Location: 19, St. Andrews Way, London, E3 3PA Classification: Printing Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	482	-	537857 182017
288	**Contemporary Trade Directory Entries** Name: The Swallow Box Co (London) Ltd Location: Rifle Street, London, E14 6PB Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	453	-	537777 181649
289	**Contemporary Trade Directory Entries** Name: Starline Print Finishers Ltd Location: Tower Ho,4 Towcester Rd, London, E3 3ND Classification: Print Finishers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	454	-	538042 182140
289	**Contemporary Trade Directory Entries** Name: Crown Veneering Location: 4 Towcester Rd, London, E3 3ND Classification: Veneer Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (NW)	456	-	538079 182159
289	**Contemporary Trade Directory Entries** Name: Orion Waste Location: 4a, Towcester Road, London, E3 3ND Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	456	-	538080 182159
289	**Contemporary Trade Directory Entries** Name: German New Spares Location: 5 Towcester Rd, London, E3 3ND Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	461	-	538052 182152
289	**Contemporary Trade Directory Entries** Name: C & N Panelcraft Location: 2a Towcester Road, London, E3 3ND Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	463	-	538024 182140
289	**Contemporary Trade Directory Entries** Name: Pan African Freight Ltd Location: 5 Towcester Rd, London, E3 3ND Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	470	-	538060 182166

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
289	**Contemporary Trade Directory Entries** Name: Lawrence Motors Location: 5 Towcester Rd, London, E3 3ND Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	472	-	538064 182170
289	**Contemporary Trade Directory Entries** Name: Crawford Loughlin Print Location: 3, Towcester Road, London, E3 3ND Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	473	-	538036 182158
289	**Contemporary Trade Directory Entries** Name: Taikens F Ltd Location: 3, Towcester Road, London, E3 3ND Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	473	-	538036 182158
289	**Contemporary Trade Directory Entries** Name: Lawrence Autos Location: 5 Towcester Rd, London, E3 3ND Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	474	-	538065 182172
290	**Contemporary Trade Directory Entries** Name: Karol Supplies Location: 12-14, Vesey Path, London, E14 6BT Classification: Cleaning Materials & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	462	-	537905 181081
290	**Contemporary Trade Directory Entries** Name: Dallys Ltd Location: 6, Vesey Path, London, E14 6BT Classification: Wallpapers & Wall Coverings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	466	-	537909 181052
290	**Contemporary Trade Directory Entries** Name: Market Lock & Safe Location: 9, Vesey Path, London, E14 6BT Classification: Safes & Vaults - Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	498	-	537868 181078
290	**Contemporary Trade Directory Entries** Name: Market Lock & Safe Location: 9, Vesey Path, London, E14 6BT Classification: Safes & Vaults - Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	498	-	537868 181078
290	**Contemporary Trade Directory Entries** Name: Market Lock & Safe Location: 9, Vesey Path, London, E14 6BT Classification: Safes & Vaults - Suppliers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	498	-	537868 181078
290	**Contemporary Trade Directory Entries** Name: Bright Cleaners Location: 7, Vesey Path, London, E14 6BT Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	499	-	537869 181073
291	**Contemporary Trade Directory Entries** Name: European Metal Recycling Ltd Location: Coborn Works, Bidder Street, London, E16 4SZ Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	468	-	539148 181647
291	**Contemporary Trade Directory Entries** Name: Di-Axis Ltd Location: 29, Bidder Street, London, E16 4ST Classification: Ornamental Metalwork **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (E)	478	-	539135 181675

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	**Contemporary Trade Directory Entries** Name: U 4 Print Services Location: 16a, Bidder Street, London, E16 4ST Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	489	-	539174 181650
291	**Contemporary Trade Directory Entries** Name: Hamar Acrylic Fabrications Ltd Location: 16A, BIDDER STREET, CANNING TOWN, LONDON, E16 4ST Classification: Machine Shops **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (E)	491	-	539176 181651
291	**Contemporary Trade Directory Entries** Name: Icedene Ltd Location: 28, Bidder Street, London, E16 4ST Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	500	-	539162 181678
291	**Contemporary Trade Directory Entries** Name: E U R Transport Location: 28, Bidder Street, London, E16 4ST Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (E)	500	-	539162 181678
291	**Contemporary Trade Directory Entries** Name: Solu4ions Location: 2, Wharf Street, London, E16 4BS Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (E)	510	-	539193 181660
292	**Contemporary Trade Directory Entries** Name: Rockar Jaguar Land Rover Location: UNIT C, TWELVETREES CRESCENT, BROMLEY BY BOW, LONDON, E3 3JG Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (N)	470	-	538586 182161
292	**Contemporary Trade Directory Entries** Name: Maas International Location: Unit C, Twelvetrees Crescent, LONDON, E3 3JG Classification: Vending Machine Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	470	-	538587 182160
293	**Contemporary Trade Directory Entries** Name: C C F Location: Unit 1, Electra Business Park, 160, Bidder Street, London, E16 4ES Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	471	-	538947 181802
294	**Contemporary Trade Directory Entries** Name: F D M Location: Unit 7, Electra Business Park, 160, Bidder Street, London, E16 4ES Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	477	-	539019 181754
295	**Contemporary Trade Directory Entries** Name: Pura Foods Ltd Location: 30, Orchard Place, London, E14 0JH Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (E)	485	-	539272 181188
295	**Contemporary Trade Directory Entries** Name: Pura Foods Ltd Location: 30, Orchard Place, London, E14 0JH Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (E)	485	-	539272 181188

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
295	**Contemporary Trade Directory Entries** Name: Keywise Group Location: Orchard Pl, London, E14 0JH Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (E)	517	-	539300 181172
296	**Contemporary Trade Directory Entries** Name: C & S Digital Ltd Location: Studio 41, 46, Morris Road, London, E14 6NQ Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	496	-	537763 181840
296	**Contemporary Trade Directory Entries** Name: South Key Travel Location: 20-21 Colmans Wharf, 45, Morris Road, London, E14 6PA Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	513	-	537737 181807
297	**Contemporary Trade Directory Entries** Name: Future Designs Location: Flat 401, Wharfside Point South, 4, Prestons Road, London, E14 9EL Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	502	-	538256 180688
298	**Contemporary Trade Directory Entries** Name: Panic Button Press Ltd Location: Unit C2, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	514	-	538204 180689
298	**Contemporary Trade Directory Entries** Name: W G & R Location: Unit C15, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	514	-	538204 180689
298	**Contemporary Trade Directory Entries** Name: Pixel Colour Imaging Ltd Location: Unit C3, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A2NE (S)	520	-	538206 180682
298	**Contemporary Trade Directory Entries** Name: Pixel Colour Imaging Location: Unit C16,Poplar Business Pk,Prestons Rd, London, E14 9RL Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A2NE (S)	521	-	538206 180681
298	**Contemporary Trade Directory Entries** Name: Profile Office Systems Location: Unit C24, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	522	-	538223 180676
298	**Contemporary Trade Directory Entries** Name: Quadtronix Business Systems Ltd Location: Unit C24, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Photocopiers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	522	-	538223 180676
298	**Contemporary Trade Directory Entries** Name: P G M Property Management Ltd Location: Unit B12, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A2NW (S)	537	-	538169 180677
298	**Contemporary Trade Directory Entries** Name: 24 Hour Pest Control Location: Unit C8, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	537	-	538226 180659

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
299	**Contemporary Trade Directory Entries** Name: Solar Offset Ltd Location: Unit 7, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	521	-	538763 182082
299	**Contemporary Trade Directory Entries** Name: Cemex Uk Location: Unit 10a Cody Business Centre,Cody Road, London, E16 4TL Classification: Concrete & Mortar Ready Mixed **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A11NW (NE)	527	-	538792 182054
299	**Contemporary Trade Directory Entries** Name: M & M Print Location: Unit 5/6, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	527	-	538792 182054
299	**Contemporary Trade Directory Entries** Name: M & M Print Ltd Location: Unit 5/6, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	527	-	538792 182054
299	**Contemporary Trade Directory Entries** Name: Surreal Finishing Studio Ltd Location: Unit 5/6, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NW (NE)	527	-	538792 182054
299	**Contemporary Trade Directory Entries** Name: Avalon Print Services Ltd Location: Unit 5/6, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A11NW (NE)	527	-	538792 182054
299	**Contemporary Trade Directory Entries** Name: Fleet Finishing Location: Unit 5/6, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Print Finishers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A11NW (NE)	527	-	538792 182054
299	**Contemporary Trade Directory Entries** Name: Aquarius Print Finishers Location: Unit 5/6, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Print Finishers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A11NW (NE)	527	-	538792 182054
300	**Contemporary Trade Directory Entries** Name: Tera Constructions Ltd Location: Unit 6, Hillstone Court, Empson Street, London, E3 3LT Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	522	-	537948 182163
300	**Contemporary Trade Directory Entries** Name: H M S Location: Unit 9, Hillstone Court, Empson Street, London, E3 3LT Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	540	-	537946 182183
300	**Contemporary Trade Directory Entries** Name: The Printing Pirate Location: Unit 10 Hillstone Ct,Empson St, London, E3 3LT Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (NW)	547	-	537944 182190
300	**Contemporary Trade Directory Entries** Name: Mix It Location: Unit A, 4, Empson Street, London, E3 3LT Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	555	-	537905 182171

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
300	**Contemporary Trade Directory Entries** Name: Modern Mix Concrete Ltd Location: Unit A, 4, Empson Street, London, E3 3LT Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	555	-	537905 182171
301	**Contemporary Trade Directory Entries** Name: East End Offset Ltd Location: Unit 7, Empson Street, London, E3 3LT Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	522	-	537855 182079
301	**Contemporary Trade Directory Entries** Name: Ali Assist Ltd Location: UNIT 8A, EMPSON STREET, LONDON, E3 3LT Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	544	-	537845 182100
301	**Contemporary Trade Directory Entries** Name: Imperials Location: UNIT 8A, EMPSON STREET, LONDON, E3 3LT Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	544	-	537845 182100
301	**Contemporary Trade Directory Entries** Name: C F R Giesler Ltd Location: Empson Street, London, E3 3LT Classification: Machine Shops **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A10NW (NW)	545	-	537845 182102
301	**Contemporary Trade Directory Entries** Name: Docklands Vehicle Centre Location: UNIT B, 9, EMPSON STREET, LONDON, E3 3LT Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	560	-	537840 182118
302	**Contemporary Trade Directory Entries** Name: Greener Than Green Recycling Ltd Location: Empson Street, London, E3 3LT Classification: Recycling Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A14SW (NW)	524	-	537992 182193
302	**Contemporary Trade Directory Entries** Name: Jim'Ll Mix It Location: Unit 1 1 Empson Street, London, E3 3LT Classification: Concrete & Mortar Ready Mixed **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	557	-	537976 182221
302	**Contemporary Trade Directory Entries** Name: Pentagon Litho Ltd Location: 1, Empson Street, London, E3 3LT Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	557	-	537976 182221
302	**Contemporary Trade Directory Entries** Name: The Faculty Group Location: Ground Floor, 1, Empson Street, London, E3 3LT Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	557	-	537976 182221
303	**Contemporary Trade Directory Entries** Name: Jaycee Vac Services Location: 17, Market Square, London, E14 6AQ Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A5NE (W)	525	-	537812 181177
304	**Contemporary Trade Directory Entries** Name: Bywaters Ltd Location: Unit J, Twelvetrees Crescent, London, E3 3JG Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (N)	528	-	538432 182269

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
304	**Contemporary Trade Directory Entries** Name: Bywaters (Leyton) Ltd Location: Unit J, Twelvetrees Crescent, London, E3 3JG Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (N)	528	-	538432 182269
304	**Contemporary Trade Directory Entries** Name: Bywaters Location: Unit J, Twelvetrees Crescent, London, E3 3JG Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (N)	528	-	538432 182269
305	**Contemporary Trade Directory Entries** Name: Clothes Care , Dry Cleaning Location: 21, Market Way, London, E14 6AH Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A5NE (W)	537	-	537787 181248
305	**Contemporary Trade Directory Entries** Name: Photo Genisis 2 Location: 19, Market Way, London, E14 6AH Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A5NE (W)	537	-	537787 181248
305	**Contemporary Trade Directory Entries** Name: Clothes Care Dry Cleaning Location: 21, Market Way, London, E14 6AH Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A5NE (W)	537	-	537787 181248
306	**Contemporary Trade Directory Entries** Name: Creative Distributions Uk Ltd Location: 24, Stephenson Street, London, E16 4SA Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (E)	539	-	539229 181662
307	**Contemporary Trade Directory Entries** Name: Eagles Shirtmakers Ltd Location: 22, Market Square, London, E14 6AB Classification: Shirt Makers **Status: Active** Positional Accuracy: Automatically positioned to the address	A5SE (SW)	540	-	537814 181107
308	**Contemporary Trade Directory Entries** Name: Glentex Litho Ltd Location: Unit 2 South Cres, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A11NW (N)	541	-	538738 182137
308	**Contemporary Trade Directory Entries** Name: Altitec Location: UNIT 4, DATAPOINT BUSINESS CENTRE, 6, SOUTH CRESCENT, CANNING TOWN, LONDON, E16 4TL Classification: Turbine Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	570	-	538774 182142
308	**Contemporary Trade Directory Entries** Name: Viridor London Recycling Ltd Location: Unit 4, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Waste Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	570	-	538774 182142
309	**Contemporary Trade Directory Entries** Name: Screensports Location: Bidder Street, London, E16 4ST Classification: T-Shirts **Status: Inactive** Positional Accuracy: Manually positioned to an adjacent address or location	A11SE (NE)	549	-	539113 181782

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
309	**Contemporary Trade Directory Entries** Name: R & N Metal Recycling Ltd Location: 1, IVES ROAD, CANNING TOWN, LONDON, E16 4SH Classification: Recycling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	550	-	539155 181752
309	**Contemporary Trade Directory Entries** Name: Blue Horizon Location: 9, BIDDER STREET, CANNING TOWN, LONDON, E16 4ST Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	553	-	539127 181777
309	**Contemporary Trade Directory Entries** Name: M V Motor Repairs Location: 7, Bidder Street, London, E16 4ST Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	578	-	539141 181799
309	**Contemporary Trade Directory Entries** Name: Bidder St Motors Location: 7, Bidder Street, London, E16 4ST Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	578	-	539141 181799
309	**Contemporary Trade Directory Entries** Name: Lo Cost Location: 32, Stephenson Street, London, E16 4SA Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	578	-	539164 181781
309	**Contemporary Trade Directory Entries** Name: Cory Environmental Location: 32, Stephenson Street, London, E16 4SA Classification: Recycling Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (NE)	578	-	539164 181781
309	**Contemporary Trade Directory Entries** Name: M V Motor Repairs Location: London, E16 4st Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A11SE (NE)	579	-	539141 181799
310	**Contemporary Trade Directory Entries** Name: Courtleigh Ltd Location: Cody Road, London, E16 4SR Classification: Linen Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	551	-	538969 181885
311	**Contemporary Trade Directory Entries** Name: Charles Kendall Freight Ltd Location: Stephenson Street, London, E16 4SA Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (E)	551	-	539214 181697
311	**Contemporary Trade Directory Entries** Name: Always Recycling Location: 29, Stephenson Street, London, E16 4SA Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (E)	551	-	539214 181697
311	**Contemporary Trade Directory Entries** Name: East London Services Location: 30, Stephenson Street, London, E16 4SA Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (E)	563	-	539203 181727
311	**Contemporary Trade Directory Entries** Name: Lo-Cost Packaging Ltd Location: 32 Stephenson St, London, E16 4SA Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SW (E)	580	-	539206 181748

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
311	**Contemporary Trade Directory Entries** Name: East London Buses Location: Stephenson St, London, E16 4SA Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SW (E)	580	-	539207 181746
312	**Contemporary Trade Directory Entries** Name: Coutts Retail Communications Ltd Location: Violet Road, London, E3 3QL Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	552	-	537737 181944
312	**Contemporary Trade Directory Entries** Name: Coutts Retail Communications Location: Violet Road, London, E3 3QL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	552	-	537737 181944
312	**Contemporary Trade Directory Entries** Name: Coutts Location: Violet Road, London, E3 3QL Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	552	-	537737 181944
313	**Contemporary Trade Directory Entries** Name: Cars 4 Life 4 Less Location: Unit 11 Hillstone Court, Empson Street, London, E3 3LT Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14SW (NW)	555	-	537888 182158
314	**Contemporary Trade Directory Entries** Name: Small Products Ltd Location: 20, St. Andrews Way, London, E3 3PA Classification: Chemical Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	556	-	537769 182018
315	**Contemporary Trade Directory Entries** Name: Service Point Plc Location: Unit A2, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	557	-	538104 180684
315	**Contemporary Trade Directory Entries** Name: Two Cleaning & Maintenance Location: Unit B1, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A2NW (S)	562	-	538153 180656
315	**Contemporary Trade Directory Entries** Name: Insa Bv Location: POPLAR BUSINESS PK,PRESTONS RD, London, E14 9RL Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A2NW (SW)	562	-	538120 180670
315	**Contemporary Trade Directory Entries** Name: Rutland Print Ltd Location: A5-7, Unit, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	577	-	538107 180660
315	**Contemporary Trade Directory Entries** Name: C F (London) Ltd Location: A5-7, Unit, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	577	-	538107 180660
315	**Contemporary Trade Directory Entries** Name: London Drawing Office Location: A5-7, Unit, Poplar Business Park, Prestons Road, London, E14 9RL Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	577	-	538107 180660

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
316	**Contemporary Trade Directory Entries** Name: Scrap Yard In Bromley Htt Location: 2 Twelvetrees Crescent, London, e3 3jg Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A15SW (N)	567	-	538620 182252
316	**Contemporary Trade Directory Entries** Name: Greencore Group Location: Unit E-f, Twelvetrees Crescent, London, E3 3JG Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (N)	569	-	538619 182255
317	**Contemporary Trade Directory Entries** Name: Brunel Carriage Plc Location: 5, Twelvetrees Business Park, Twelvetrees Crescent, London, E3 3JQ Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	570	-	538531 182291
317	**Contemporary Trade Directory Entries** Name: The Leather Workshop Location: 2a, Twelvetrees Business Park, Twelvetrees Crescent, London, E3 3JQ Classification: Leather Merchants & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	602	-	538577 182309
317	**Contemporary Trade Directory Entries** Name: Indigo Trading London Ltd Location: 2, Twelvetrees Business Park, Twelvetrees Crescent, London, E3 3JQ Classification: Leather Garments & Products **Status: Active** Positional Accuracy: Manually positioned to the address or location	A15SW (N)	602	-	538577 182309
317	**Contemporary Trade Directory Entries** Name: Kaizen Location: 2a, Twelvetrees Business Park, Twelvetrees Crescent, London, E3 3JQ Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	602	-	538577 182309
317	**Contemporary Trade Directory Entries** Name: Riviera Fashions (Uk) Ltd Location: 2 Twelvetrees Business Pk,Twelvetrees Cr, London, E3 3JQ Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	605	-	538555 182320
317	**Contemporary Trade Directory Entries** Name: J Y L Location: 8, Twelvetrees Business Park, Twelvetrees Crescent, London, E3 3JQ Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (N)	624	-	538553 182341
318	**Contemporary Trade Directory Entries** Name: J T Motors Location: Unit A, 9, Empson Street, London, E3 3LT Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (NW)	580	-	537835 182142
318	**Contemporary Trade Directory Entries** Name: J T Motors Location: Unit A, 9, Empson Street, London, E3 3LT Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (NW)	580	-	537835 182142
319	**Contemporary Trade Directory Entries** Name: Monday Location: 33, Jamestown Way, London, E14 2DE Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A3NE (SE)	585	-	538918 180711
320	**Contemporary Trade Directory Entries** Name: Excel Furniture Sales Ltd Location: Bowood House, Empson Street, London, E3 3LT Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	590	-	537897 182210

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
320	**Contemporary Trade Directory Entries** Name: Savile Furniture Location: Bowood Ho,Empson St, London, E3 3LT Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	590	-	537897 182210
320	**Contemporary Trade Directory Entries** Name: N T S Beneers Location: Empson Street, LONDON, E3 3LT Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (NW)	600	-	537902 182226
320	**Contemporary Trade Directory Entries** Name: Panache Outerwear Ltd Location: Bowood House, Empson Street, London, E3 3LT Classification: Clothing & Fabrics - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: Jim'LI Mix It Location: Empson Street, London, E3 3LT Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: Print Processes Ltd Location: Empson Street, London, E3 3NE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: London Litho Location: Empson Street, London, E3 3NE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: Screen Print City Ltd Location: Bowood House, Empson Street, London, E3 3LT Classification: Screen Process Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: Modern Mix Concrete Supplies Ltd Location: Unit 1, Empson Street, LONDON, E3 3LT Classification: Concrete & Mortar Ready Mixed **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: Savage Art & Design Location: Unit 3, Empson Street, London, E3 3LT Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	602	-	537882 182213
320	**Contemporary Trade Directory Entries** Name: Kestrel M O T & Service Centre Location: Unit A, 10, Empson Street, London, E3 3LT Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	616	-	537840 182197
321	**Contemporary Trade Directory Entries** Name: Indigo Design Location: Twelvetrees Cr, London, E3 3JQ Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SE (N)	596	-	538496 182327
322	**Contemporary Trade Directory Entries** Name: Strong Packing Cases Ltd Location: Caspian Wharf, Violet Road, London, E3 3QQ Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	597	-	537716 182005

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
322	**Contemporary Trade Directory Entries** Name: Strong Packing Cases Location: Caspian Wharf, Violet Road, London, E3 3QQ Classification: Case Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	597	-	537716 182005
322	**Contemporary Trade Directory Entries** Name: Taylor & Sons Refrigeration Ltd Location: 16, Cranwell Close, London, E3 3QY Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	609	-	537714 182027
323	**Contemporary Trade Directory Entries** Name: Web Xtras Location: Unit 1, Datapoint Business Centre, 6, South Crescent, London, E16 4TL Classification: Printing Equipment Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A11NW (NE)	600	-	538825 182131
323	**Contemporary Trade Directory Entries** Name: Quddos Location: Unit 2 South Cres, London, E16 4TL Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A11NW (NE)	602	-	538842 182112
323	**Contemporary Trade Directory Entries** Name: Scaffolding Access Ltd Location: Unit 1,7c South Cr, London, E16 4TL Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A11NW (NE)	602	-	538842 182112
324	**Contemporary Trade Directory Entries** Name: Victoria Cleaning Tower Hamlets Location: 23, Cottage Street, London, E14 0AA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A6SW (SW)	611	-	537861 180824
325	**Contemporary Trade Directory Entries** Name: Lightning Office Supplies Ltd Location: 300, Manor Road, London, E16 4PA Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (E)	612	-	539343 181622
326	**Contemporary Trade Directory Entries** Name: Blue Bridge Cleaning Services Ltd Location: Apartment 803, Jessop Building, 14, Dominion Walk, London, E14 9FN Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A2NE (S)	613	-	538489 180581
327	**Contemporary Trade Directory Entries** Name: Zaman Refrigeration Location: 15, Cranwell Close, London, E3 3QY Classification: Refrigeration Equipment - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	613	-	537708 182025
327	**Contemporary Trade Directory Entries** Name: Langston Engineering Location: 13, Cranwell Close, London, E3 3QY Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	620	-	537698 182021
327	**Contemporary Trade Directory Entries** Name: Starcom Networks Location: 11, Cranwell Close, London, E3 3QY Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	626	-	537690 182017
327	**Contemporary Trade Directory Entries** Name: Seba Logistics Ltd Location: 15-17 St. Andrews Way, London, E3 3PB Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (NW)	638	-	537698 182058

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
327	**Contemporary Trade Directory Entries** Name: Eales Shutters Location: 37, Violet Road, LONDON, E3 3QQ Classification: Shutters - Internal **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	641	-	537669 182011
327	**Contemporary Trade Directory Entries** Name: 24-7 Bindery Services Location: 18, Cranwell Close, London, E3 3QY Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	646	-	537693 182064
327	**Contemporary Trade Directory Entries** Name: Violet Road Tyres Location: 39a, Violet Road, London, E3 3QQ Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9NE (NW)	650	-	537664 182021
327	**Contemporary Trade Directory Entries** Name: Spares & Repairs Location: 39, Violet Road, London, E3 3QQ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	651	-	537664 182021
327	**Contemporary Trade Directory Entries** Name: Augustus Martin Ltd Location: 8, St. Andrews Way, London, E3 3PB Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	659	-	537666 182043
327	**Contemporary Trade Directory Entries** Name: Augustus Martin Group Location: 8, ST. ANDREWS WAY, LONDON, E3 3PB Classification: Print Finishers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	659	-	537666 182043
327	**Contemporary Trade Directory Entries** Name: Billboard Posters Ltd Location: 8, St. Andrews Way, London, E3 3PB Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	659	-	537666 182043
327	**Contemporary Trade Directory Entries** Name: 3 D Print Uk Location: 17, Fittleton Gardens, London, E3 3TZ Classification: Printers - Glass, Metal, Plastics Etc. **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	661	-	537684 182079
327	**Contemporary Trade Directory Entries** Name: Loop Management Services Location: 19, Cranwell Close, London, E3 3QY Classification: Reclaiming - Waste Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	665	-	537684 182088
327	**Contemporary Trade Directory Entries** Name: Artquarters Press Location: 20, Cranwell Close, London, E3 3QY Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	665	-	537684 182088
327	**Contemporary Trade Directory Entries** Name: Focus International Foods Ltd Location: Unit 7-8,Bow Enterprise Court,Cranwell Cl, London, E3 3QY Classification: Meat Product Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (NW)	669	-	537660 182053
327	**Contemporary Trade Directory Entries** Name: D P V Autos Location: 25-31, Violet Road, London, E3 3QQ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	691	-	537640 182065

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
328	**Contemporary Trade Directory Entries** Name: Wickes Location: 300 Manor Road, London, E16 4PA Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (E)	624	-	539327 181671
329	**Contemporary Trade Directory Entries** Name: Servicing2you Location: Unit 6 The Exchange, London, E3 3QP Classification: Garage Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A9NE (NW)	629	-	537622 181827
329	**Contemporary Trade Directory Entries** Name: Central Business Machines Ltd Location: Bow Exchange,Yeo St, London, E3 3QP Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (NW)	636	-	537612 181816
329	**Contemporary Trade Directory Entries** Name: Tideside Ltd Location: Unit 8, Bow Exchange, 5, Yeo Street, London, E3 3QP Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	636	-	537612 181816
329	**Contemporary Trade Directory Entries** Name: Omm Location: Bow Exchange,Yeo St, London, E3 3QP Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (NW)	636	-	537612 181815
329	**Contemporary Trade Directory Entries** Name: Diamond Waste Ltd Location: Unit 1, Bow Exchange, 5, Yeo Street, London, E3 3QP Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	636	-	537612 181816
329	**Contemporary Trade Directory Entries** Name: Uniq Clothing Location: Unit 4, Bow Exchange, 5, Yeo Street, London, E3 3QP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	636	-	537612 181816
329	**Contemporary Trade Directory Entries** Name: Diamond Waste Location: Unit 1, Bow Exchange, 5, Yeo Street, London, E3 3QP Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	636	-	537612 181816
329	**Contemporary Trade Directory Entries** Name: Renocon Ltd Location: Unit 2, Anchor Wharf, Yeo Street, London, E3 3QR Classification: Concrete Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (W)	640	-	537605 181803
329	**Contemporary Trade Directory Entries** Name: Goddard And Gibbs Studios Ltd Location: Unit 3, Anchor Wharf, Yeo Street, London, E3 3QR Classification: Stained Glass Designers & Producers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (W)	640	-	537605 181803
330	**Contemporary Trade Directory Entries** Name: Consolidated Freightways Location: Stephenson St, London, E16 4SA Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A11NE (NE)	629	-	539179 181834
330	**Contemporary Trade Directory Entries** Name: Cory Enviromental Location: Oasis Park, Stephenson Street, London, E16 4SA Classification: Recycling Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	632	-	539154 181855

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
331	**Contemporary Trade Directory Entries** Name: Odyssey Publisher Services Location: 7, St. Andrews Way, London, E3 3PA Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	632	-	537794 182174
331	**Contemporary Trade Directory Entries** Name: Odyssey Publisher Services Location: 7, St. Andrews Way, London, E3 3PA Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	632	-	537794 182174
332	**Contemporary Trade Directory Entries** Name: Caspian Meadow Location: 100 Violet Road, London, E3 3QH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (NW)	636	-	537652 181957
332	**Contemporary Trade Directory Entries** Name: Grenfell (Uk) Location: Academy House, 100, Violet Road, London, E3 3QH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	652	-	537637 181962
332	**Contemporary Trade Directory Entries** Name: Aspiration Folding Ltd Location: 100, Violet Road, London, E3 3QH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	652	-	537637 181962
332	**Contemporary Trade Directory Entries** Name: Aspirations Holdings Ltd Location: 100, Violet Road, LONDON, E3 3QH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	652	-	537637 181962
333	**Contemporary Trade Directory Entries** Name: Waidson Transport Ltd Location: 121-123, Poplar High Street, London, E14 0AE Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A1NE (SW)	658	-	537838 180776
334	**Contemporary Trade Directory Entries** Name: B S Pallets Location: Pioneer Wharf,29a Broomfield St, London, E14 6BH Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SE (W)	662	-	537568 181654
335	**Contemporary Trade Directory Entries** Name: Life Communications Location: 5, St. Andrews Way, London, E3 3PA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	662	-	537819 182239
335	**Contemporary Trade Directory Entries** Name: C G I Digital Location: 5, St. Andrews Way, London, E3 3PA Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (NW)	662	-	537819 182239
335	**Contemporary Trade Directory Entries** Name: Shred It Location: 5, St. Andrews Way, London, E3 3PA Classification: Recycling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	666	-	537809 182236
335	**Contemporary Trade Directory Entries** Name: 3d Digital Document Distribution Ltd Location: 3-5, St. Andrews Way, London, E3 3PA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	685	-	537810 182262

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
336	**Contemporary Trade Directory Entries** Name: Napier Jones Location: Gillian House, Stephenson Street, London, E16 4SA Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	664	-	539119 181913
336	**Contemporary Trade Directory Entries** Name: Kudos Colour Location: Gillian House,Stephenson Street, London, E16 4SA Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	664	-	539119 181913
336	**Contemporary Trade Directory Entries** Name: Printing In London Location: Bidder Street, London, E16 4SA Classification: Printers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A11NE (NE)	666	-	539120 181914
336	**Contemporary Trade Directory Entries** Name: Ink Spot Location: Gillian House, Stephenson Street, London, E16 4SA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	668	-	539134 181909
336	**Contemporary Trade Directory Entries** Name: Marshall Offset Printing Ltd Location: Gillian House, Stephenson Street, London, E16 4SA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	668	-	539134 181909
336	**Contemporary Trade Directory Entries** Name: Colourscript Location: Gillian House, Stephenson Street, London, E16 4SA Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	668	-	539134 181909
336	**Contemporary Trade Directory Entries** Name: Ink Sport Location: Gillian House, Stephenson Street, London, E16 4SA Classification: Printers Textile **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	668	-	539134 181909
336	**Contemporary Trade Directory Entries** Name: Arboreal Print Group Location: Gillian House, Stephenson Street, London, E16 4SA Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A11NE (NE)	669	-	539126 181914
336	**Contemporary Trade Directory Entries** Name: E1 Taxis Ltd Location: 67, Stephenson Street, London, E16 4SA Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	689	-	539111 181947
336	**Contemporary Trade Directory Entries** Name: Dockland Packaging Supplies Ltd Location: 67, Stephenson Street, London, E16 4SA Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	689	-	539111 181947
336	**Contemporary Trade Directory Entries** Name: Perfection Print Finishers Location: 67, Stephenson Street, London, E16 4SA Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	689	-	539111 181947
336	**Contemporary Trade Directory Entries** Name: S S Print Solutions Location: 67, Stephenson Street, London, E16 4SA Classification: Print Finishers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A11NE (NE)	689	-	539111 181947

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
336	**Contemporary Trade Directory Entries** Name: Reliant Engineers Ltd Location: Stephenson Street, London, E16 4SA Classification: Sheet Metal Working Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	727	-	539116 181995
336	**Contemporary Trade Directory Entries** Name: Gemcross Ltd Location: 30, Stephenson Street, London, E16 4SA Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A11NE (NE)	728	-	539130 181983
337	**Contemporary Trade Directory Entries** Name: L M B Co Location: Unit A, 1b, North Crescent, London, E16 4TG Classification: Cleaning Materials & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	674	-	538818 182244
337	**Contemporary Trade Directory Entries** Name: Canning Car Care Location: Unit A, 1b, North Crescent, London, E16 4TG Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	674	-	538818 182244
338	**Contemporary Trade Directory Entries** Name: Millennium Print Finishers Location: Flat 20, Colebrook House, Ellesmere Street, London, E14 6LB Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	679	-	537572 181494
339	**Contemporary Trade Directory Entries** Name: Creative Press Location: 46 Watts Grove, London, E3 3RE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	694	-	537539 181736
339	**Contemporary Trade Directory Entries** Name: Printselect Colour Location: Unit 3, 46, Watts Grove, London, E3 3RE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	695	-	537539 181736
339	**Contemporary Trade Directory Entries** Name: Printselect Ltd Location: 46, Watts Grove, London, E3 3RE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	695	-	537539 181736
339	**Contemporary Trade Directory Entries** Name: Red Ho Chili Printers Ltd Location: 46, Watts Grove, London, E3 3RE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	695	-	537539 181736
339	**Contemporary Trade Directory Entries** Name: Harvis Press Ltd Location: Unit 2, 44, Watts Grove, London, E3 3RE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	706	-	537529 181750
339	**Contemporary Trade Directory Entries** Name: Paint Box Colour Reproductions Ltd Location: Unit 1, 42, Watts Grove, London, E3 3RE Classification: Lithographic Plate Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (W)	718	-	537518 181766
340	**Contemporary Trade Directory Entries** Name: Trad Hire & Sales Location: Orchard Pl, London, E14 0JW Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (SE)	696	-	539280 180792

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
341	**Contemporary Trade Directory Entries** Name: Pinstripe Dry Cleaners Location: Unit 6, Michigan Building, 2, Biscayne Avenue, London, E14 9QT Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NE (S)	700	-	538494 180493
342	**Contemporary Trade Directory Entries** Name: Epax Transport Ltd Location: CANNING TOWN, LONDON, E16 4TG Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	704	-	538911 182189
342	**Contemporary Trade Directory Entries** Name: Loughton Scaffolding Merchants Location: 5a, North Crescent, London, E16 4TG Classification: Scaffolding & Work Platforms **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	705	-	538912 182190
343	**Contemporary Trade Directory Entries** Name: Repair Force Location: Unit C, 1b, North Crescent, London, E16 4TG Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	705	-	538840 182267
343	**Contemporary Trade Directory Entries** Name: Repair Force Location: UNIT C, 1B, NORTH CRESCENT, CANNING TOWN, LONDON, E16 4TG Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	705	-	538840 182267
343	**Contemporary Trade Directory Entries** Name: The Appliance Centre Location: Unit C, 1b, North Crescent, London, E16 4TG Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	706	-	538841 182267
343	**Contemporary Trade Directory Entries** Name: Joto Ltd Location: 1c, North Crescent, London, E16 4TG Classification: Wire Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	735	-	538835 182310
343	**Contemporary Trade Directory Entries** Name: Alpine Auto Grp Location: 1c, North Crescent, London, E16 4TG Classification: Breakdown and Recovery **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	735	-	538835 182310
343	**Contemporary Trade Directory Entries** Name: Pacific Frozen Foods Location: Unit 11,Ashmead Business Centre,North Cr, London, E16 4TG Classification: Frozen Food Processors & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	756	-	538864 182314
344	**Contemporary Trade Directory Entries** Name: Postscriptum Ltd Location: Unit 1, Pylon Trading Estate, Cody Road, London, E16 4SP Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	712	-	539009 182052
344	**Contemporary Trade Directory Entries** Name: Emmanuell Cargo Services Location: Unit 1, Pylon Trading Estate, Cody Road, London, E16 4SP Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	712	-	539009 182052
344	**Contemporary Trade Directory Entries** Name: A B S Cases Location: 2, Europa Trade Park, Cody Road, London, E16 4SP Classification: Case Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	722	-	539012 182066

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
344	**Contemporary Trade Directory Entries** Name: Dean & Wood Ltd Location: Unit 3, Europa Trade Park, Cody Road, London, E16 4SP Classification: Air Conditioning Equipment & Systems **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	732	-	539016 182080
344	**Contemporary Trade Directory Entries** Name: R M Cable Trays Location: Unit 4, Pylon Trading Estate, Cody Road, London, E16 4SP Classification: Cable & Wire Equipment Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	741	-	539019 182095
344	**Contemporary Trade Directory Entries** Name: Cable Tray Location: Unit 4, Pylon Trading Estate, Cody Road, London, E16 4SP Classification: Cable & Wire Equipment Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	741	-	539019 182095
345	**Contemporary Trade Directory Entries** Name: Pinstripe Laundry Location: Unit 2,Michigan Building,Biscayne Av, London, E14 9QT Classification: Dry Cleaners **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A2NE (S)	713	-	538496 180480
345	**Contemporary Trade Directory Entries** Name: Alphatec Location: Flat 1313, New Providence Wharf, 1, Fairmont Avenue, London, E14 9PJ Classification: Office Equipment Servicing & Maintenance **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A3NW (S)	732	-	538539 180471
345	**Contemporary Trade Directory Entries** Name: Alphatec Ltd Location: Flat 1313, New Providence Wharf, 1, Fairmont Avenue, LONDON, E14 9PJ Classification: Office Equipment Servicing & Maintenance **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A3NW (S)	732	-	538539 180471
346	**Contemporary Trade Directory Entries** Name: Harvest Digital Imagaing Ltd Location: Watts Gr, London, E3 3RE Classification: Printers **Status:** **Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NE (NW)	717	-	537540 181860
347	**Contemporary Trade Directory Entries** Name: 24-7 Print Services Ltd Location: 23, Cranwell Close, LONDON, E3 3QY Classification: Print Finishers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	721	-	537657 182149
347	**Contemporary Trade Directory Entries** Name: Bestprint Location: 2, Cranwell Close, London, E3 3QY Classification: Printers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	742	-	537624 182136
347	**Contemporary Trade Directory Entries** Name: Special Blue Ltd Location: 30, Cranwell Close, London, E3 3QY Classification: Printers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	781	-	537601 182173
347	**Contemporary Trade Directory Entries** Name: Specialblue Location: 30, Cranwell Close, London, E3 3QY Classification: Printed Circuit Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	781	-	537601 182173
347	**Contemporary Trade Directory Entries** Name: Angeleye Location: 30, Cranwell Close, London, E3 3QY Classification: Clothing & Fabrics - Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	781	-	537601 182173

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
348	**Contemporary Trade Directory Entries** Name: C P A Vermin Control Location: 6, Bygrove Street, London, E14 6DN Classification: Pest & Vermin Control **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A5SE (W)	722	-	537622 181124
349	**Contemporary Trade Directory Entries** Name: London Sawmills Ltd Location: Orchard Place, London, E14 0JW Classification: Mould Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (SE)	726	-	539345 180818
350	**Contemporary Trade Directory Entries** Name: D H L Express Location: Unit 6-7, Europa Trade Park, Cody Road, London, E16 4SP Classification: Road Haulage Services **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A11NE (NE)	738	-	539068 182044
351	**Contemporary Trade Directory Entries** Name: Boyle R Motor Engineering Ltd Location: St. Lawrence Cottages,St. Lawrence St, London, E14 9QR Classification: Garage Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A2SE (S)	742	-	538448 180443
352	**Contemporary Trade Directory Entries** Name: Southbank Recovery Location: 8, Cody Road, London, E16 4SR Classification: Car Breakdown & Recovery Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	742	-	538970 182174
352	**Contemporary Trade Directory Entries** Name: Jewson Location: Unit 1 B,Cody Business Park, London, E16 4SR Classification: Builders' Merchants **Status:** **Active** Positional Accuracy: Manually positioned within the geographical locality	A15SE (NE)	757	-	538991 182171
352	**Contemporary Trade Directory Entries** Name: Keyline Builders Merchants Location: 10, Cody Road, London, E16 4SR Classification: Builders' Merchants **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	758	-	538993 182169
353	**Contemporary Trade Directory Entries** Name: A W Phillips Ltd Location: 1D, North Crescent, London, E16 4TG Classification: Air Compressors **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	747	-	538834 182328
353	**Contemporary Trade Directory Entries** Name: London Air Compressor Services Ltd Location: 1d, North Crescent, London, E16 4TG Classification: Air Compressors **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A15SW (N)	747	-	538834 182328
353	**Contemporary Trade Directory Entries** Name: 1st Inrail Location: 1d, North Crescent, London, E16 4TG Classification: Engineers - General **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (NE)	768	-	538855 182337
353	**Contemporary Trade Directory Entries** Name: Clark Electrical Industries Ltd Location: 1e, North Crescent, London, E16 4TG Classification: Electrical Engineers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	793	-	538859 182366
354	**Contemporary Trade Directory Entries** Name: Cong-Wah Ltd Location: Unit 5,Cody Rd, London, E16 4SR Classification: Food Products - Manufacturers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A11NE (NE)	750	-	539021 182108

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
355	**Contemporary Trade Directory Entries** Name: Keolisamey Docklands Location: Castor Lane, London, E14 0BL Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	751	-	537846 180630
355	**Contemporary Trade Directory Entries** Name: Solutions Technology Ltd Location: Castor Lane, London, E14 0BL Classification: Electronic Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	751	-	537846 180630
355	**Contemporary Trade Directory Entries** Name: Serco Docklands Ltd Location: Castor Lane, London, E14 0DS Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	751	-	537846 180630
356	**Contemporary Trade Directory Entries** Name: Easy Managed Transport Ltd Location: 25-26, Cranwell Close, London, E3 3QY Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	752	-	537646 182185
356	**Contemporary Trade Directory Entries** Name: Cheap Printing Uk Location: 26, Cranwell Close, London, E3 3QY Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	771	-	537639 182207
356	**Contemporary Trade Directory Entries** Name: Printing Cafe Location: 26, Cranwell Close, London, E3 3QY Classification: Print Finishers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	771	-	537639 182207
356	**Contemporary Trade Directory Entries** Name: Creativeprinter.Co.Uk Location: 26, Cranwell Close, London, E3 3QY Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	771	-	537639 182207
356	**Contemporary Trade Directory Entries** Name: Lanham Print & Design Ltd Location: Unit 30,Bow Enterprise Park,Cranwell Cl, London, E3 3QY Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	777	-	537618 182189
357	**Contemporary Trade Directory Entries** Name: Just Fords Location: 102, Silvertown Way, London, E16 1EA Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	760	-	539567 181344
357	**Contemporary Trade Directory Entries** Name: Cleaners Silvertown Location: 115 Silvertown Way, London, E16 1EA Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8NE (E)	761	-	539567 181344
358	**Contemporary Trade Directory Entries** Name: Cleaners Bromley By Bow Location: 1, Maltings Close, London, E3 3TA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (N)	761	-	538193 182495
358	**Contemporary Trade Directory Entries** Name: Cleaners Bromley By Bow Location: 1, Maltings Close, London, E3 3TA Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NE (N)	763	-	538222 182499

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
359	**Contemporary Trade Directory Entries** Name: V N Auto M O T Ltd Location: 2A, NORTH CRESCENT, CANNING TOWN, LONDON, E16 4TG Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (N)	771	-	538787 182391
359	**Contemporary Trade Directory Entries** Name: Millennium Hand Finishing Ltd Location: Unit 2d 3 Project Park,North Crescent, Newham, London, E16 4TQ Classification: Print Finishers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A15SW (N)	781	-	538768 182415
360	**Contemporary Trade Directory Entries** Name: I Q Express Ltd Location: Unit F, Project Park 2d, North Crescent, London, E16 4TQ Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	772	-	538741 182420
361	**Contemporary Trade Directory Entries** Name: Domestiqe Services Location: 75, Barking Road, London, E16 4HB Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (E)	775	-	539512 181647
362	**Contemporary Trade Directory Entries** Name: Impressive Cleaning Solutions Location: 1 Fairmont Av, London, E14 9PA Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A3SW (S)	782	-	538542 180420
363	**Contemporary Trade Directory Entries** Name: Unique Stores Location: 3, Rathbone Market, Barking Road, London, E16 1EH Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	785	-	539543 181597
363	**Contemporary Trade Directory Entries** Name: City Of London Dry Cleaners Location: 32a, Barking Road, London, E16 1EQ Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (E)	787	-	539537 181622
364	**Contemporary Trade Directory Entries** Name: M S A S Gobal Logistics (Uk Ltd) Location: Marine Store, Orchard Place, London, E14 0JW Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A4NW (SE)	790	-	539350 180728
365	**Contemporary Trade Directory Entries** Name: St Andrew'S Hospital Location: Devas Street, London, E3 3NT Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (NW)	792	-	537916 182454
366	**Contemporary Trade Directory Entries** Name: Fairlead Maritime Location: Orchard Pl, London, E14 0JW Classification: Marine Engineers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (SE)	795	-	539416 180796
367	**Contemporary Trade Directory Entries** Name: Davies For Tyres Location: 119-121, Devons Road, LONDON, E3 3QX Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	796	-	537550 182118
367	**Contemporary Trade Directory Entries** Name: Abc Pest Control Location: 119-121, Devons Road, London, E3 3QX Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	796	-	537550 182118

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
367	**Contemporary Trade Directory Entries** Name: United Carpet Cleaning Masters Location: 115, Devons Road, London, E3 3QX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (NW)	800	-	537553 182130
368	**Contemporary Trade Directory Entries** Name: Urbiana Location: London, E14 5ga Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A2SE (S)	805	-	538203 180390
369	**Contemporary Trade Directory Entries** Name: Howden Uk Ltd Location: 27, Cranwell Close, London, E3 3QY Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (NW)	808	-	537622 182246
370	**Contemporary Trade Directory Entries** Name: Gel Systems Ltd Location: 14, Hawgood Street, London, E3 3RU Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	809	-	537421 181700
370	**Contemporary Trade Directory Entries** Name: Heat Recovery Location: 14, Hawgood Street, London, E3 3RU Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	809	-	537421 181700
371	**Contemporary Trade Directory Entries** Name: Cong Wah Location: 12 North Cr, London, E16 4TG Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A15SE (NE)	812	-	538923 182336
372	**Contemporary Trade Directory Entries** Name: L M B Supplies Ltd Location: Britannia Mill, 5c, North Crescent, London, E16 4TG Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	814	-	538965 182296
372	**Contemporary Trade Directory Entries** Name: Lawrence M Barry & Co Location: Britannia Mill, North Crescent, London, E16 4TG Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	814	-	538965 182296
372	**Contemporary Trade Directory Entries** Name: Simpson London Location: Unit 9, 101, Stephenson Street, London, E16 4SA Classification: Leather Garments & Products **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	851	-	539005 182306
373	**Contemporary Trade Directory Entries** Name: Bridge & Co Location: Unit H, Project Park 2d, North Crescent, London, E16 4TG Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (N)	820	-	538776 182455
373	**Contemporary Trade Directory Entries** Name: A & S Engineering Solutions Ltd Location: Unit I, Project Park 2d, North Crescent, London, E16 4TQ Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	834	-	538799 182458
373	**Contemporary Trade Directory Entries** Name: Maestro Cleaning Services Ltd Location: Unit G, 2d, North Crescent, London, E16 4TQ Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	841	-	538814 182457

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
373	**Contemporary Trade Directory Entries** Name: Maestro Cleaning & Facilities Ltd Location: Unit G, 2d, North Crescent, London, E16 4TQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	841	-	538814 182457
373	**Contemporary Trade Directory Entries** Name: London Recycling Location: 4d, North Crescent, London, E16 4TG Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	857	-	538855 182450
374	**Contemporary Trade Directory Entries** Name: Paragon Service Graphics Ltd Location: Unit P, Project Park 2d, North Crescent, London, E16 4TG Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (N)	821	-	538754 182469
374	**Contemporary Trade Directory Entries** Name: Paragon Service Point Uk Ltd Location: Unit P, Project Park 2d, North Crescent, London, E16 4TG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (N)	821	-	538754 182469
375	**Contemporary Trade Directory Entries** Name: Uk Shipping & Logistics Ltd Location: 64, Gale Street, London, E3 3RP Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (W)	826	-	537418 181817
376	**Contemporary Trade Directory Entries** Name: Professional Carpet Cleaning Co Location: 81, Barking Road, London, E16 4HB Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (E)	827	-	539538 181713
376	**Contemporary Trade Directory Entries** Name: R J Service Station Location: 95-99, Barking Road, London, E16 4HB Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	861	-	539577 181710
376	**Contemporary Trade Directory Entries** Name: Original Cleaning Services Location: Flat 14, Edgar Myles House, 1a, Ordnance Road, London, E16 4BN Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	876	-	539573 181752
376	**Contemporary Trade Directory Entries** Name: Prompt Distribution Location: Flat 35, Edgar Myles House, 1a, Ordnance Road, London, E16 4BN Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	876	-	539573 181752
377	**Contemporary Trade Directory Entries** Name: P.Bowers Decorators Location: 3, Clarkson Road, London, E16 1HE Classification: Painting & Decorating Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	827	-	539631 181389
378	**Contemporary Trade Directory Entries** Name: Fragrance Of Arabia Location: Flat 10, Willis House, Hale Street, London, E14 0BX Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A1NE (SW)	828	-	537634 180776
379	**Contemporary Trade Directory Entries** Name: Cef Location: Unit 2, 101, Stephenson Street, London, E16 4SA Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	830	-	539069 182186

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
379	**Contemporary Trade Directory Entries** Name: Wide-Scope Services Ltd Location: 101, Stephenson Street, London, E16 4SA Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	843	-	539084 182187
379	**Contemporary Trade Directory Entries** Name: Sealandair Transport Co Location: 101, Stephenson Street, London, E16 4SA Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	843	-	539084 182187
379	**Contemporary Trade Directory Entries** Name: Wincanton Trans European Location: 101, Stephenson Street, London, E16 4SA Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	843	-	539084 182187
379	**Contemporary Trade Directory Entries** Name: Sealandair Transport Co Location: 101, Stephenson Street, London, E16 4SA Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	843	-	539084 182187
379	**Contemporary Trade Directory Entries** Name: Trans-World Enterprises Ltd Location: 101, Stephenson Street, London, E16 4SA Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	843	-	539084 182187
379	**Contemporary Trade Directory Entries** Name: Trans-World Enterprises Ltd Location: 101, Stephenson Street, London, E16 4SA Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	844	-	539084 182187
380	**Contemporary Trade Directory Entries** Name: Peter Mills Location: Billingsgate Market,Trafalgar Way, London, E14 5ST Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A2NW (SW)	834	-	537872 180501
380	**Contemporary Trade Directory Entries** Name: A Eames Ltd Location: Unit Q8 Billingsgate Market,Trafalgar Way, London, E14 5ST Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A2NW (SW)	837	-	537904 180476
381	**Contemporary Trade Directory Entries** Name: Pallet Store Ltd Location: Unit 3/4, Hallsville Road, London, E16 1EE Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (E)	838	-	539639 181233
382	**Contemporary Trade Directory Entries** Name: A1 24hr Pest Control Location: Barking Road, London, E16 1EN Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12SE (E)	842	-	539597 181616
383	**Contemporary Trade Directory Entries** Name: Oven Cleaning Bow Church Location: 171, Devons Road, London, E3 3QX Classification: Oven cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (NW)	850	-	537419 181921
383	**Contemporary Trade Directory Entries** Name: Oven Cleaners Bow Location: 171, Devons Road, London, E3 3QX Classification: Oven cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (NW)	850	-	537419 181921

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
383	**Contemporary Trade Directory Entries** Name: Oven Cleaning (Bow) Location: 171, Devons Road, London, E3 3QX Classification: Oven cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (NW)	850	-	537419 181921
384	**Contemporary Trade Directory Entries** Name: The Communications Co Uk.Ltd Location: 64, Orchard Place, London, E14 0JW Classification: Radio Communication Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A4NW (SE)	857	-	539438 180724
384	**Contemporary Trade Directory Entries** Name: Westminster Petroleum Location: 64, Orchard Place, LONDON, E14 0JW Classification: Oil Fuel Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A4NW (SE)	857	-	539438 180724
384	**Contemporary Trade Directory Entries** Name: Pq2 Ltd Location: 64, Orchard Place, London, E14 0JW Classification: Greeting Card Publishers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A4NW (SE)	857	-	539438 180724
384	**Contemporary Trade Directory Entries** Name: Tramar Trading Location: 64 Orchard Pl, London, E14 0JW Classification: Tile Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A4NW (SE)	857	-	539437 180724
384	**Contemporary Trade Directory Entries** Name: Time Art Gallery Location: 64 Trinity Buoy Wharf, Orchard Place, London, E14 0JY Classification: Farriers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A4NW (SE)	858	-	539438 180724
384	**Contemporary Trade Directory Entries** Name: 4 Life Promotions Location: 64 Orchard Pl, London, E14 0JW Classification: T-Shirts **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A4NW (SE)	863	-	539467 180750
385	**Contemporary Trade Directory Entries** Name: House Cleaning London Location: 15 Rathbone Street, E16 1JH Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12SE (E)	859	-	539645 181512
386	**Contemporary Trade Directory Entries** Name: T M Finishing Ltd Location: Furze Street, London, E3 3RX Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	862	-	537368 181683
386	**Contemporary Trade Directory Entries** Name: T M Finishing Ltd Location: Furze Street, London, E3 3RX Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	862	-	537368 181683
386	**Contemporary Trade Directory Entries** Name: Gemma Location: Furze Street, London, E3 3RX Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	882	-	537349 181706
387	**Contemporary Trade Directory Entries** Name: Misty Morn Laundry Service Location: 24, Clifton Road, London, E16 4PS Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (E)	866	-	539526 181808

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
388	**Contemporary Trade Directory Entries** Name: Arin Garage Location: 2, Imperial Street, London, E3 3EA Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (N)	868	-	538073 182585
389	**Contemporary Trade Directory Entries** Name: Screwfix Location: Unit 5, 101, Stephenson Street, London, E16 4SA Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	868	-	539079 182238
390	**Contemporary Trade Directory Entries** Name: G Dowding Location: 55, Hallsville Road, London, E16 1EE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	876	-	539682 181292
390	**Contemporary Trade Directory Entries** Name: A A Express Food Distribution Location: 2 Shirley st, London, E16 1HU Classification: Food Colouring, Flavouring & Additive Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NE (E)	909	-	539714 181281
391	**Contemporary Trade Directory Entries** Name: J A Glover Ltd Location: 11-12, Crescent Court, North Crescent, LONDON, E16 4TG Classification: Ventilators & Ventilation Systems **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	880	-	538941 182411
391	**Contemporary Trade Directory Entries** Name: Exclusive Service Ltd Location: Unit 6 Crescent Court Business Centre, North Crescent/, London, E16 4TG Classification: Reclaiming - Waste Products **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	882	-	538912 182437
391	**Contemporary Trade Directory Entries** Name: Pirtek Docklands Location: 7 Crescent Court,North Crescent, London, E16 4TG Classification: Hydraulic Equipment & Accessories - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	886	-	538920 182436
391	**Contemporary Trade Directory Entries** Name: Eurocell Building Plastics Location: 8, Crescent Court, North Crescent, London, E16 4TG Classification: Cladding Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	890	-	538928 182434
391	**Contemporary Trade Directory Entries** Name: A J S Marine Location: 8 CRESCENT COURT, NORTH CRESCENT, CANNING TOWN, LONDON, E16 4TG Classification: Freight Forwarders **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	890	-	538929 182434
392	**Contemporary Trade Directory Entries** Name: Devon Styles Location: Furze St, London, E3 3RX Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (W)	884	-	537352 181770
392	**Contemporary Trade Directory Entries** Name: Gemanda Cutting Forms Location: Furze St, London, E3 3RX Classification: Tool Design, Manufacturers & Makers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (W)	890	-	537347 181782

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
392	**Contemporary Trade Directory Entries** Name: Midcar Ltd Location: 34, Bow Common Lane, London, E3 4AX Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	904	-	537327 181722
392	**Contemporary Trade Directory Entries** Name: The Granada Centre Location: 48-50, Bow Common Lane, London, E3 4AX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	920	-	537316 181767
392	**Contemporary Trade Directory Entries** Name: Bow Car Sales Location: 48-50, Bow Common Lane, London, E3 4AX Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	920	-	537316 181767
393	**Contemporary Trade Directory Entries** Name: Veolia Location: Northumberland Wharf, Yabsley Street, London, E14 9RG Classification: Reclamation Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2SE (S)	890	-	538466 180296
394	**Contemporary Trade Directory Entries** Name: Comast Construction Location: 64, ORCHARD PLACE, LONDON, E14 0JW Classification: Concrete Contractors **Status: Active** Positional Accuracy: Automatically positioned to the address	A4NW (SE)	890	-	539499 180747
395	**Contemporary Trade Directory Entries** Name: Ferndale'S Location: 94, Victoria Dock Road, London, E16 1DA Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (E)	896	-	539644 181008
395	**Contemporary Trade Directory Entries** Name: G & S Tyre Services Ltd Location: Unit 1 Peto Street North, London, E16 1DD Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SE (E)	936	-	539680 180990
396	**Contemporary Trade Directory Entries** Name: Md Foods Location: Dairy Depot, Brunel Street, London, E16 1EB Classification: Dairies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	896	-	539692 181190
396	**Contemporary Trade Directory Entries** Name: J M Motor Services Location: 38-44, Shirley Street, London, E16 1HU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	923	-	539719 181189
396	**Contemporary Trade Directory Entries** Name: Allway Car Care Location: 33-39, Shirley Street, London, E16 1HU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	952	-	539744 181161
396	**Contemporary Trade Directory Entries** Name: A1 Autos Location: 33-39, Shirley Street, London, E16 1HU Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (E)	952	-	539744 181161
396	**Contemporary Trade Directory Entries** Name: Shobaj Investment Ltd Location: 504, Jupiter House, 2, Turner Street, London, E16 1FH Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	956	-	539747 181155

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
396	**Contemporary Trade Directory Entries** Name: E K-Automatic Gates Location: 504 Jupiter House,2 Turner Street, London, E16 1FH Classification: Gate Manufacturers - Automated **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (E)	961	-	539756 181182
397	**Contemporary Trade Directory Entries** Name: Darcy Air Conditioning Ltd Location: Flat 403, Ingot Tower, 28, Ursula Gould Way, London, E14 7FY Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	901	-	537330 181618
397	**Contemporary Trade Directory Entries** Name: Bowlers Wholesale Location: 48 Thomas Rd, London, E14 7BJ Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	938	-	537295 181587
398	**Contemporary Trade Directory Entries** Name: Frequency Precision Location: 21 Clipper House, 33 Trinity Buoy Wharf, London, E14 0FL Classification: Medical Equipment Manufacturers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A4NW (SE)	909	-	539478 180692
399	**Contemporary Trade Directory Entries** Name: Shiners Location: Access House,Imperial St, London, E3 3EA Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NW (N)	923	-	538112 182648
399	**Contemporary Trade Directory Entries** Name: Tesco Petrol Station Location: Three Mill Lane, London, E3 3DU Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14NW (N)	938	-	538099 182661
399	**Contemporary Trade Directory Entries** Name: Tesco Petrol Station Location: Tesco Stores Filling Station, Hancock Road, London, E3 3DA Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (N)	954	-	538107 182679
400	**Contemporary Trade Directory Entries** Name: Grayhound Metal Works Location: Shirley St, London, E16 1HU Classification: Staircase, Balustrade & Handrail Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8NE (E)	925	-	539729 181256
400	**Contemporary Trade Directory Entries** Name: Harwood Autos Location: 18-20, Shirley Street, London, E16 1HU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	953	-	539757 181248
400	**Contemporary Trade Directory Entries** Name: Phoenix Restorations Location: 2-4, Ford Street, London, E16 1HZ Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (E)	980	-	539784 181249
401	**Contemporary Trade Directory Entries** Name: Electrical Contractor Location: 110, Barking Road, London, E16 1EN Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	937	-	539661 181712
401	**Contemporary Trade Directory Entries** Name: Busy Bodies Location: 124a, Barking Road, London, E16 1EN Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (E)	962	-	539685 181721

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
402	**Contemporary Trade Directory Entries** Name: Tech Refrigeration Ltd Location: 50, St. Leonards Street, London, E3 3BT Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (N)	937	-	538005 182640
403	**Contemporary Trade Directory Entries** Name: Addlefields Location: 1, Bridge House Quay, London, E14 9QW Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A2SE (S)	950	-	538322 180230
404	**Contemporary Trade Directory Entries** Name: R A M Transport Location: 30, Belton Way, London, E3 4BB Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (W)	951	-	537297 181847
405	**Contemporary Trade Directory Entries** Name: Olse Location: 6, More Close, London, E16 1JE Classification: Staircase, Balustrade & Handrail Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (E)	953	-	539759 181374
406	**Contemporary Trade Directory Entries** Name: Pest Control Poplar Location: London, E14 5rb Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A2SW (SW)	959	-	537902 180335
407	**Contemporary Trade Directory Entries** Name: Tcb Inc Merchandise Location: 112, Victoria Dock Road, London, E16 1DA Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (E)	966	-	539700 180959
407	**Contemporary Trade Directory Entries** Name: Bantuway Location: 1-3, Caxton Street North, LONDON, E16 1JL Classification: Frozen Food Processors & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (E)	991	-	539738 180990
408	**Contemporary Trade Directory Entries** Name: Poplar Pest Control Location: 11b Churchill Place, London, E14 5RB Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A2SW (SW)	970	-	537966 180292
409	**Contemporary Trade Directory Entries** Name: Hobby Homes Location: Unit 3,Ind Est,Thomas Rd, London, E14 7BN Classification: Nuts, Bolts & Fixings **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9SW (W)	981	-	537254 181558
409	**Contemporary Trade Directory Entries** Name: Express Packaging (Uk) Ltd Location: Industrial Est,Thomas Rd, London, E14 7BN Classification: Packaging Materials Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	989	-	537245 181565
409	**Contemporary Trade Directory Entries** Name: Cars Wanted Cash Scrap Yards Ggg Location: Unit 2, Industrial Estate, Thomas Road, London, E14 7BN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	990	-	537245 181565
409	**Contemporary Trade Directory Entries** Name: Hackney Press Ltd Location: Unit 1, Industrial Estate, Thomas Road, London, E14 7BN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (W)	995	-	537238 181581

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
410	**Contemporary Trade Directory Entries** Name: Stagecoach London Location: Stephenson Street, London, E16 4SA Classification: Bus & Coach Operators & Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SE (NE)	990	-	539038 182472
411	**Contemporary Trade Directory Entries** Name: Able Rubbish Removal & Gardening Service Location: 46, Ordnance Road, London, E16 4PJ Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (E)	997	-	539615 181911
412	**Contemporary Trade Directory Entries** Name: Batman Garages Location: 3, Hancock Road, London, E3 3DA Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (N)	1000	-	538166 182732
413	**Fuel Station Entries** Name: Tylers (London) Ltd Location: 43, Gillender Street , Bromley By Bow , London, Inner London, E14 6RN Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Located by supplier to within 100m	A10NE (NW)	182	-	538196 181910
414	**Fuel Station Entries** Name: Orchard Wharf Service Station Location: Leamouth Road Lower Lea Crossing, Leamouth , London, Inner London, E14 0JG Brand: ESSO Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A7SE (SE)	257	-	538957 181090
415	**Fuel Station Entries** Name: Cotton Street Service Station Location: 40, Cotton Street , Poplar , London, Inner London, E14 0EL Brand: TEXACO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A6SW (SW)	309	-	538133 180967
416	**Fuel Station Entries** Name: Castle Location: Silvertown Way Hallsville Road, Canning Town , London, Inner London, E16 1DG Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A8NE (E)	788	-	539580 181177
417	**Fuel Station Entries** Name: Silver Town Service Station Location: Silvertown Way , Canning Town , London, Inner London, E16 1EA Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A8NE (E)	792	-	539598 181307
418	**Fuel Station Entries** Name: Tesco Bromley By Bow Location: Blackwall Tunnel Northern Approach Hancock Road, Bromley By Bow , London, Inner London, E3 3DA Brand: TESCO Premises Type: Hypermarket **Status: Open** Positional Accuracy: Manually positioned to the address or location	A14NW (N)	937	-	538101 182661
419	**Points of Interest - Commercial Services** Name: City Wood Co Location: Islay Wharf, Lochnagar St, London, E14 0LA Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A10SE (N)	30	12	538394 181746

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
419	**Points of Interest - Commercial Services** Name: Leaside Wood Recycling Project Location: Islay Wharf, Lochnagar Street, London, E14 0LA Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A10SE (N)	31	12	538395 181747
420	**Points of Interest - Commercial Services** Name: Chilton Transport (Poplar) Ltd Location: Devon Cottage, Leven Road, London, E14 0LL Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10SE (N)	58	12	538438 181541
421	**Points of Interest - Commercial Services** Name: B M W Spare Parts Location: 52-53 Gillender Street, London, E14 6RN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NE (NW)	112	12	538190 181831
422	**Points of Interest - Commercial Services** Name: O'Grady Plant & Haulage Ltd Location: East London Mail Centre, Twelvetrees Crescent, London, E3 3TT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NE (N)	189	12	538467 181905
423	**Points of Interest - Commercial Services** Name: Orchard Wharf Service Station Location: Leamouth Road, Lower Lea Crossing, Leamouth, London, E6 5SJ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7SE (SE)	248	12	538938 181087
423	**Points of Interest - Commercial Services** Name: Car Wash Location: Leamouth Road, Lower Lea Crossing, Leamouth, London, Greater London, E6 5SJ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7SE (SE)	257	12	538957 181090
424	**Points of Interest - Commercial Services** Name: Line Maker Ltd Location: 20 Lanrick Road, London, E14 0JF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11SE (E)	266	12	539027 181475
425	**Points of Interest - Commercial Services** Name: Shah Jalal Express Ltd Location: 231 East India Dock Road, London, E14 0EG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6SW (SW)	273	12	538120 181044
425	**Points of Interest - Commercial Services** Name: Shah Jalal Express Ltd Location: 231 East India Dock Road, London, E14 0EG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6SW (SW)	274	12	538120 181043
425	**Points of Interest - Commercial Services** Name: Waste Removal Location: 223 East India Dock Road, London, E14 0ED Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A6SW (SW)	296	12	538094 181045
425	**Points of Interest - Commercial Services** Name: Car Wash Location: 40 Cotton Street, London, E14 0EL Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A6SW (SW)	309	12	538133 180967
426	**Points of Interest - Commercial Services** Name: The Remet Company Ltd Location: 9a South Crescent, London, E16 4TL Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A11NW (N)	361	12	538609 182012

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
426	**Points of Interest - Commercial Services** Name: The Remet Company Ltd Location: 9a South Crescent, London, E16 4TL Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A11NW (N)	418	12	538620 182077
427	**Points of Interest - Commercial Services** Name: Orion Location: 11a South Crescent, London, E16 4TL Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A11NW (NE)	371	12	538698 181909
428	**Points of Interest - Commercial Services** Name: Cranfield Paper Recycling Ltd Location: 18a Cording Street, Tower Hamlets, London, E14 6NR Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A10SW (W)	400	12	537849 181540
429	**Points of Interest - Commercial Services** Name: Cool It Ltd Location: Unit 15, 17 Towcester Road, London, Greater London, E3 3ND Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A10NW (NW)	418	12	538041 182098
429	**Points of Interest - Commercial Services** Name: Orion Waste Removal Location: 4a Towcester Road, London, E3 3ND Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14SW (NW)	456	12	538080 182159
429	**Points of Interest - Commercial Services** Name: C & N Panelcraft Location: 2a Towcester Road, London, E3 3ND Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (NW)	463	12	538024 182140
429	**Points of Interest - Commercial Services** Name: Lawrence Autos Location: 5 Towcester Road, London, E3 3ND Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (NW)	473	12	538036 182158
430	**Points of Interest - Commercial Services** Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A11SE (E)	419	12	539066 181656
430	**Points of Interest - Commercial Services** Name: E M R Location: 29 Bidder Street, London, E16 4ST Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A11SE (E)	420	12	539064 181658
430	**Points of Interest - Commercial Services** Name: Scrap Yard Location: E16 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A11SE (E)	422	12	539066 181660
431	**Points of Interest - Commercial Services** Name: Dockland Service Centre Ltd Location: 314 Poplar High Street, London, E14 0BB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A2NE (S)	437	12	538325 180744
432	**Points of Interest - Commercial Services** Name: Benchmark Innovations Location: Flat 8 Lawless House, Bazely Street, London, E14 0ET Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A6SW (SW)	440	12	538118 180811

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
433	**Points of Interest - Commercial Services** Name: Scaramal Motorcycles Location: 34 Quixley Street, London, E14 9PU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A3NW (S)	441	12	538527 180771
434	**Points of Interest - Commercial Services** Name: Orion Location: 11a South Crescent, London, E16 4TL Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A11NW (NE)	449	12	538784 181906
434	**Points of Interest - Commercial Services** Name: Viridor Ltd Location: 11b South Crescent, London, E16 4TL Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A11NW (NE)	472	12	538789 181951
435	**Points of Interest - Commercial Services** Name: Rockar Jaguar Land Rover Location: UNIT C, TWELVETREES CRESCENT, Bromley By Bow, London, E3 3JG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (N)	470	12	538585 182161
436	**Points of Interest - Commercial Services** Name: C C F Location: Unit 1 Electra Business Park 160, Bidder Street, London, E16 4ES Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11SE (NE)	472	12	538960 181793
437	**Points of Interest - Commercial Services** Name: Di-axis Ltd Location: 29 Bidder Street, London, E16 4ST Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A11SE (NE)	482	12	539085 181720
437	**Points of Interest - Commercial Services** Name: Bidder Street Motors Location: Bidder Street, London, E16 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (NE)	549	12	539113 181782
437	**Points of Interest - Commercial Services** Name: J & J Peugeot Spares Location: 9 Bidder Street, London, E16 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (NE)	551	12	539126 181776
437	**Points of Interest - Commercial Services** Name: M V Motor Repairs Location: 7 Bidder Street, London, E16 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (NE)	577	12	539140 181798
437	**Points of Interest - Commercial Services** Name: M V Motor Repairs Location: 7 Bidder Street, London, E16 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (NE)	577	12	539140 181798
437	**Points of Interest - Commercial Services** Name: Bidder St Motors Location: 7 Bidder Street, London, E16 4ST Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (NE)	577	12	539140 181798
437	**Points of Interest - Commercial Services** Name: Cory Enviromental Location: Oasis Park, Stephenson Street, London, E16 4SA Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A11NE (NE)	632	12	539154 181855

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
438	**Points of Interest - Commercial Services** Name: Nimbrook Enterprises Location: 28 Bidder Street, London, E16 4ST Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11SE (E)	500	12	539162 181678
438	**Points of Interest - Commercial Services** Name: R & N Metal Recycling Ltd Location: 1 IVES ROAD, Canning Town, London, E16 4SH Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A11SE (NE)	550	12	539155 181752
438	**Points of Interest - Commercial Services** Name: East London Services Location: 30 Stephenson Street, London, E16 4SA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (E)	563	12	539203 181727
438	**Points of Interest - Commercial Services** Name: East London Services Location: 30 Stephenson Street, London, E16 4SA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (E)	563	12	539203 181727
438	**Points of Interest - Commercial Services** Name: Cory Environmental Location: 32 Stephenson Street, London, E16 4SA Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A11SE (NE)	578	12	539164 181781
439	**Points of Interest - Commercial Services** Name: RAC Auto Windscreens Location: Unit C3 Poplar Business Park, Prestons Road, London, E14 9RL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A2NE (S)	520	12	538206 180682
439	**Points of Interest - Commercial Services** Name: RAC Auto Windscreens Location: Unit C3 Poplar Business Park, Prestons Road, London, E14 9RL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A2NE (S)	520	12	538206 180682
440	**Points of Interest - Commercial Services** Name: Bywaters Recycling & Waste Managment Location: Unit J, Twelvetrees Crescent, London, E3 3JG Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14SE (N)	528	12	538432 182269
441	**Points of Interest - Commercial Services** Name: J T Motors Location: Unit 9 Hillstone Court, Empson Street, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (NW)	540	12	537946 182183
441	**Points of Interest - Commercial Services** Name: Kestrel MOT & Service Centre Location: Unit 10 Empson St, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (NW)	547	12	537944 182190
441	**Points of Interest - Commercial Services** Name: Kestrel M O T & Service Centre Location: Unit A 10, Empson Street, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (NW)	547	12	537944 182190
442	**Points of Interest - Commercial Services** Name: A L I Assist Location: Unit 8, Empson Street, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NW (NW)	544	12	537845 182100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
442	**Points of Interest - Commercial Services** Name: Imperials Location: UNIT 8A, EMPSON STREET, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A10NW (NW)	544	12	537845 182100
442	**Points of Interest - Commercial Services** Name: Docklands Vehicle Centre Location: UNIT B 9, EMPSON STREET, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	560	12	537840 182118
442	**Points of Interest - Commercial Services** Name: J T Motors Location: Unit A 9, Empson Street, London, E3 3LT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (NW)	580	12	537835 182142
442	**Points of Interest - Commercial Services** Name: Odyssey Publisher Services Location: 7 St. Andrews Way, London, E3 3PA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13SE (NW)	632	12	537794 182174
443	**Points of Interest - Commercial Services** Name: Viridor Ltd Location: Unit 4 Datapoint Business Centre 6, South Crescent, London, E16 4TL Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A15SW (NE)	570	12	538774 182142
444	**Points of Interest - Commercial Services** Name: J Y L Location: 8 Twelvetrees Business Park, Twelvetrees Crescent, London, E3 3JQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SW (N)	624	12	538553 182341
445	**Points of Interest - Commercial Services** Name: Diamond Waste Ltd Location: Unit 1 Bow Exchange 5, Yeo Street, London, E3 3QP Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A9NE (NW)	636	12	537612 181816
445	**Points of Interest - Commercial Services** Name: Servicing2you Location: Unit 6 The Exchange, London, E3 Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	644	12	537606 181826
446	**Points of Interest - Commercial Services** Name: Brian Taylor Location: Violet Road, London, E3 3QQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021
446	**Points of Interest - Commercial Services** Name: Spares & Repairs Location: 39 Violet Road, London, E3 3QQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021
446	**Points of Interest - Commercial Services** Name: Brian Taylor Location: Violet Road, London, E3 3QQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021
446	**Points of Interest - Commercial Services** Name: Wheels Wash & Go Location: 39 Violet Road, London, E3 3QQ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
446	**Points of Interest - Commercial Services** Name: Wheels Wash & Go Location: 39 Violet Road, London, E3 3QQ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021
446	**Points of Interest - Commercial Services** Name: Spares & Repairs Location: 39 Violet Road, London, E3 3QQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021
446	**Points of Interest - Commercial Services** Name: D P V Autos Location: 39 Violet Road, London, E3 3QQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (NW)	651	12	537664 182021
446	**Points of Interest - Commercial Services** Name: Loop Management Services Location: Unit 19-20, Cranwell Close, London, E3 3QY Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A9NE (NW)	665	12	537684 182088
447	**Points of Interest - Commercial Services** Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A9SE (W)	651	12	537580 181702
448	**Points of Interest - Commercial Services** Name: Waidson Transport Ltd Location: 121-123 Poplar High Street, London, E14 0AE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A1NE (SW)	658	12	537838 180776
449	**Points of Interest - Commercial Services** Name: Shred It Location: 5 St. Andrews Way, London, E3 3PA Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A13SE (NW)	662	12	537819 182239
450	**Points of Interest - Commercial Services** Name: E1 Taxis Ltd Location: 67 Stephenson Street, London, E16 4SA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11NE (NE)	688	12	539111 181947
451	**Points of Interest - Commercial Services** Name: Canning Car Care Location: Unit A 1b, North Crescent, London, E16 4TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (NE)	696	12	538838 182256
451	**Points of Interest - Commercial Services** Name: Bbf Shipping Ltd Location: Ashmead 1f, North Crescent, London, E16 4TG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	739	12	538860 182293
452	**Points of Interest - Commercial Services** Name: Epax Transport Ltd Location: Canning Town, London, E16 4TG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	704	12	538911 182189
452	**Points of Interest - Commercial Services** Name: Epax Transport Location: 5a North Crescent, London, E16 4TG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	705	12	538912 182190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
453	**Points of Interest - Commercial Services** Name: Emmanuell Cargo Services Location: Unit 1 Pylon Trading Estate, Cody Road, London, E16 4SP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11NE (NE)	712	12	539009 182052
453	**Points of Interest - Commercial Services** Name: Afritrade Location: Unit 1 Pylon Trading Estate, Cody Road, London, E16 4SP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11NE (NE)	712	12	539009 182052
453	**Points of Interest - Commercial Services** Name: Emmanuell Cargo Services Location: Unit 1 Pylon Trading Estate, Cody Road, London, E16 4SP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11NE (NE)	712	12	539009 182052
453	**Points of Interest - Commercial Services** Name: D H L Express Location: Unit 6-7 Europa Trade Park, Cody Road, London, E16 4SP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A11NE (NE)	738	12	539068 182044
454	**Points of Interest - Commercial Services** Name: C P A Vermin Control Location: 6 Bygrove Street, London, E14 6DN Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A5SE (W)	722	12	537622 181124
455	**Points of Interest - Commercial Services** Name: Alfa Victor Sierra Ltd Location: Flat 719 New Providence Wharf 1, Fairmont Avenue, London, E14 9PF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A3NW (S)	732	12	538539 180471
456	**Points of Interest - Commercial Services** Name: Greenshield Services Location: 1-10 Sabbarton Street, London, E16 1DT Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8NE (E)	758	12	539561 181254
456	**Points of Interest - Commercial Services** Name: Greenshield Services Location: 1-10 Sabbarton Street, London, E16 1DT Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8NE (E)	758	12	539561 181254
457	**Points of Interest - Commercial Services** Name: V N Auto M O T Ltd Location: 2A NORTH CRESCENT, Canning Town, London, E16 4TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (N)	770	12	538787 182390
457	**Points of Interest - Commercial Services** Name: Dockland Coach Works Ltd Location: North Crescent, London, E16 4TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (N)	770	12	538786 182391
457	**Points of Interest - Commercial Services** Name: Dockland Coach Works Location: North Crescent, London, E16 4TG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (N)	770	12	538786 182391
457	**Points of Interest - Commercial Services** Name: A J S Marine Location: Unit 8-9 1f, North Crescent, London, E16 4TG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	802	12	538877 182363

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
457	**Points of Interest - Commercial Services** Name: Autoglass Location: Unit 1 2d, North Crescent, London, E16 4TQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SE (N)	824	12	538866 182401
457	**Points of Interest - Commercial Services** Name: A J S Marine Location: 8 CRESCENT COURT, NORTH CRESCENT, Canning Town, London, E16 4TG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	890	12	538929 182434
458	**Points of Interest - Commercial Services** Name: I Q Express Ltd Location: Unit D Project Park 2d, North Crescent, London, E16 4TQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SW (N)	778	12	538756 182418
458	**Points of Interest - Commercial Services** Name: Autoglass Location: Unit 1 2d North Cresent, London, E16 4TQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (N)	814	12	538774 182450
459	**Points of Interest - Commercial Services** Name: UK Shipping & Logistics Location: 64 Gale Street, London, E3 3RP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (W)	826	12	537418 181817
460	**Points of Interest - Commercial Services** Name: Veolia Environnement Location: 2 Yabsley Street, London, E14 9RG Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A2SE (S)	833	12	538486 180357
461	**Points of Interest - Commercial Services** Name: GB Car Seat Covers Location: 13a Rathbone Market, Barking Road, London, E16 1EH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (E)	835	12	539592 181613
461	**Points of Interest - Commercial Services** Name: A1 24hr Pest Control Location: Barking Road, London, E16 1EN Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A12SE (E)	842	12	539597 181616
462	**Points of Interest - Commercial Services** Name: Seabrook Export Services Ltd Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187
462	**Points of Interest - Commercial Services** Name: Wincanton Trans European Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187
462	**Points of Interest - Commercial Services** Name: Sealandair Transport Co Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187
462	**Points of Interest - Commercial Services** Name: Trans-World Enterprises Ltd Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
462	**Points of Interest - Commercial Services** Name: Wincanton Trans European Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187
462	**Points of Interest - Commercial Services** Name: Sealandair Transport Co Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187
462	**Points of Interest - Commercial Services** Name: Seabrook Warehousing Location: 101 Stephenson Street, London, E16 4SA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A15SE (NE)	843	12	539084 182187
463	**Points of Interest - Commercial Services** Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A8NE (E)	846	12	539646 181222
463	**Points of Interest - Commercial Services** Name: G Dowding Autos Location: 55 Hallsville Road, London, E16 1EE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (E)	878	12	539683 181280
464	**Points of Interest - Commercial Services** Name: Arin Garage Location: 2 Imperial Street, London, E3 3EA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (N)	868	12	538072 182585
465	**Points of Interest - Commercial Services** Name: Prompt Distribution Location: Flat 35 Edgar Myles House 1a, Ordnance Road, London, E16 4BN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SE (E)	876	12	539573 181752
466	**Points of Interest - Commercial Services** Name: Pad Home Ltd Location: 1 Trinity Buoy Wharf, London, E14 0FH Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A4NW (SE)	890	12	539499 180747
467	**Points of Interest - Commercial Services** Name: Ferndale's Location: 94 Victoria Dock Road, London, E16 1DA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (E)	896	12	539644 181008
468	**Points of Interest - Commercial Services** Name: Midcar Ltd Location: 34 Bow Common Lane, London, E3 4AX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (W)	904	12	537327 181722
468	**Points of Interest - Commercial Services** Name: Midcar Location: 34 Bow Common Lane, London, E3 4AX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (W)	904	12	537327 181722
468	**Points of Interest - Commercial Services** Name: Granada Centre Location: 48-50 Bow Common Lane, London, E3 4AX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (W)	920	12	537316 181767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
469	**Points of Interest - Commercial Services** Name: J M Motor Services Location: 38-44 Shirley Street, London, E16 1HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (E)	923	12	539719 181189
469	**Points of Interest - Commercial Services** Name: J M Motor Services Location: 38-44 Shirley Street, London, E16 1HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (E)	923	12	539719 181188
469	**Points of Interest - Commercial Services** Name: Allway Car Care Location: 33-39 Shirley Street, London, E16 1HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (E)	952	12	539744 181161
470	**Points of Interest - Commercial Services** Name: Advanced Pest Control Location: 4 Pekin Street, London, E14 6EZ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A5SW (W)	953	12	537396 181076
471	**Points of Interest - Commercial Services** Name: Tesco Hand Car Wash Location: Hancock Road, London, E3 3DA Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NE (N)	975	12	538238 182713
471	**Points of Interest - Commercial Services** Name: Batman Garages Location: 3 Hancock Road, London, E3 3DA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (N)	1000	12	538166 182732
471	**Points of Interest - Commercial Services** Name: Batman Garages Location: 3 Hancock Road, London, E3 3DA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (N)	1000	12	538166 182732
472	**Points of Interest - Commercial Services** Name: Phoenix Restorations Location: 2-4 Ford Street, London, E16 1HZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (E)	979	12	539783 181251
473	**Points of Interest - Commercial Services** Name: Akwaaba Express Ltd Location: 1-3 Caxton Street North, London, E16 1JL Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8SE (E)	991	12	539738 180990
474	**Points of Interest - Education and Health** Name: St Andrew's Hospital Location: Devas Street, Bow, London, E3 3NT Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A14SW (NW)	765	12	537931 182432
475	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SE (NW)	10	12	538345 181609
476	**Points of Interest - Manufacturing and Production** Name: Works Location: E14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SW (NE)	42	12	538595 181504

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
476	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A11SW (NE)	77	12	538556 181558
476	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A11SW (NE)	89	12	538563 181568
477	**Points of Interest - Manufacturing and Production** Name: Gas Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SW (E)	65	12	538702 181474
478	**Points of Interest - Manufacturing and Production** Name: Redbox L B C Location: 44 Gillender Street, London, E14 6RP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A10NE (NW)	176	12	538209 181907
478	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NE (NW)	250	12	538211 181983
478	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NE (NW)	255	12	538198 181985
478	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NE (NW)	284	12	538189 182013
479	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A11SE (E)	289	12	539050 181482
480	**Points of Interest - Manufacturing and Production** Name: Works Location: 38 Susannah Street, London, E14 6LS Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A6SW (SW)	313	12	538064 181070
481	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A10NE (N)	321	12	538431 182060
482	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NW (N)	347	12	538626 181974
482	**Points of Interest - Manufacturing and Production** Name: Industrial Estate Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11NW (N)	354	12	538662 181938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
482	**Points of Interest - Manufacturing and Production** Name: Industrial Estate Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11NW (NE)	369	12	538679 181939
483	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NW (W)	406	12	537885 181387
483	**Points of Interest - Manufacturing and Production** Name: Works Location: E14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A6NW (W)	406	12	537885 181387
484	**Points of Interest - Manufacturing and Production** Name: Barratt Industrial Park Location: E3 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A10NE (NW)	406	12	538183 182136
485	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	407	12	537856 181488
485	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	416	12	537852 181470
486	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NW (NW)	416	12	538022 182085
486	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NW (NW)	419	12	538016 182084
486	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	447	12	538070 182145
486	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	447	12	538064 182143
486	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	473	12	538048 182164
486	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	475	12	538020 182152

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
486	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	475	12	538042 182163
486	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	477	12	538015 182151
487	**Points of Interest - Manufacturing and Production** Name: Works Location: E14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A2NE (S)	419	12	538476 180778
487	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A2NE (S)	420	12	538479 180778
488	**Points of Interest - Manufacturing and Production** Name: Tank Location: E16 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A11NW (N)	425	12	538652 182059
488	**Points of Interest - Manufacturing and Production** Name: Tanks Location: E16 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A11NW (N)	425	12	538652 182059
489	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SE (W)	451	12	537779 181640
490	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SE (W)	455	12	537789 181549
491	**Points of Interest - Manufacturing and Production** Name: London Small Business Centre Location: 12-14 Vesey Path, London, E14 6BT Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A6SW (SW)	462	12	537905 181081
492	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	475	12	538102 182187
492	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	475	12	538097 182186
492	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	523	12	538042 182216

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
492	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	525	12	538036 182215
493	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (E)	488	12	539269 181171
493	**Points of Interest - Manufacturing and Production** Name: Tanks Location: Not Supplied Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	497	12	539256 181114
493	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	509	12	539258 181085
493	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (E)	568	12	539340 181132
494	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NW (NW)	491	12	537896 182078
494	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A10NW (NW)	501	12	537892 182088
494	**Points of Interest - Manufacturing and Production** Name: Factory Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A10NW (NW)	540	12	537873 182124
495	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (E)	492	12	539206 181614
495	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (E)	495	12	539210 181614
495	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SE (E)	500	12	539160 181681
495	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SE (E)	503	12	539164 181681

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
495	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (E)	510	12	539247 181584
495	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (E)	514	12	539251 181585
496	**Points of Interest - Manufacturing and Production** Name: Bywaters' Materials Recovery Facility Solar Array - Solar Photovoltaics (DECC) Location: Unit J, Prologis Park, Twelvetrees Crescent, Bromley, London, E3 3JG Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A14SE (N)	513	12	538404 182257
497	**Points of Interest - Manufacturing and Production** Name: Tanks Location: Not Supplied Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	516	12	539222 181003
497	**Points of Interest - Manufacturing and Production** Name: Tank Location: Not Supplied Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (SE)	538	12	539245 180998
498	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	518	12	537758 181902
498	**Points of Interest - Manufacturing and Production** Name: Caspian Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	549	12	537735 181930
499	**Points of Interest - Manufacturing and Production** Name: Poplar Business Park Location: Unit B1-B2 Poplar Business Park, Prestons Road, London, E14 9RL Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A2NW (S)	545	12	538170 180668
499	**Points of Interest - Manufacturing and Production** Name: Poplar Business Park Location: E14 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A2NW (S)	585	12	538159 180629
499	**Points of Interest - Manufacturing and Production** Name: Poplar Business Park Location: E14 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A2NW (S)	589	12	538153 180627
500	**Points of Interest - Manufacturing and Production** Name: Data Point Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11NW (NE)	552	12	538787 182101
500	**Points of Interest - Manufacturing and Production** Name: Data Point Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11NW (NE)	562	12	538801 182100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
500	**Points of Interest - Manufacturing and Production** Name: Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SW (NE)	626	12	538813 182183
500	**Points of Interest - Manufacturing and Production** Name: Gemini Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	631	12	538874 182118
501	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SE (NE)	553	12	539137 181770
501	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SE (NE)	557	12	539147 181768
501	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SE (NE)	570	12	539164 181771
501	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11SE (NE)	574	12	539169 181772
502	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	569	12	537943 182216
502	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	569	12	537943 182216
503	**Points of Interest - Manufacturing and Production** Name: Tank Location: E16 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8NW (E)	580	12	539378 181426
504	**Points of Interest - Manufacturing and Production** Name: Electricity Generating Station Location: E16 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	589	12	539018 181896
504	**Points of Interest - Manufacturing and Production** Name: Electricity Generating Station Location: E16 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A11NE (NE)	598	12	539028 181899
505	**Points of Interest - Manufacturing and Production** Name: Business Park Location: E3 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	598	12	538542 182317

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
506	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SE (W)	599	12	537634 181730
506	**Points of Interest - Manufacturing and Production** Name: Works Location: E14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SE (W)	603	12	537631 181733
507	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	617	12	538658 182289
508	**Points of Interest - Manufacturing and Production** Name: Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SW (NE)	638	12	538828 182184
509	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	644	12	537664 182006
509	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	644	12	537664 182007
509	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	706	12	537632 182079
509	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	706	12	537632 182079
510	**Points of Interest - Manufacturing and Production** Name: Gemini Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	645	12	538896 182112
511	**Points of Interest - Manufacturing and Production** Name: Electricity Generating Station Location: E16 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	676	12	539019 182002
512	**Points of Interest - Manufacturing and Production** Name: The Forward Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	687	12	538806 182272
512	**Points of Interest - Manufacturing and Production** Name: The Forward Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	698	12	538818 182277

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
512	**Points of Interest - Manufacturing and Production** Name: Ashmead Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	769	12	538885 182312
513	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	690	12	539101 181958
513	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	694	12	539106 181959
513	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	702	12	539121 181956
513	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	705	12	539126 181956
513	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	748	12	539124 182014
513	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A11NE (NE)	748	12	539124 182015
514	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SE (N)	712	12	538404 182457
514	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NE (N)	741	12	538374 182487
515	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (N)	723	12	538210 182458
515	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (N)	769	12	538211 182504
516	**Points of Interest - Manufacturing and Production** Name: Tanks Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	723	12	537923 182381

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
517	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	723	12	539304 180777
518	**Points of Interest - Manufacturing and Production** Name: Gas Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	753	12	538598 182462
519	**Points of Interest - Manufacturing and Production** Name: Tanks Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A2NW (SW)	765	12	537938 180540
519	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A2NW (SW)	766	12	537932 180542
519	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A2NW (SW)	770	12	537931 180538
520	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SE (NW)	775	12	537696 182279
521	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NW (N)	782	12	538096 182502
521	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NW (N)	792	12	538096 182513
522	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	783	12	539038 182146
522	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	792	12	539041 182157
523	**Points of Interest - Manufacturing and Production** Name: Ashmead Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	789	12	538889 182335
523	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	850	12	538849 182445

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
523	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SW (N)	854	12	538854 182446
523	**Points of Interest - Manufacturing and Production** Name: Crescent Court Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	855	12	538904 182409
523	**Points of Interest - Manufacturing and Production** Name: Crescent Court Business Centre Location: E16 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	864	12	538912 182414
523	**Points of Interest - Manufacturing and Production** Name: West Ham Bus Garage Location: Royal Mail Parcel Force, Stephenson Street, Canning Town, E16 4SA Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	872	12	538973 182370
523	**Points of Interest - Manufacturing and Production** Name: West Ham Bus Garage Turbine Location: E16 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A15SE (NE)	872	12	538973 182370
524	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A4NW (SE)	791	12	539382 180761
524	**Points of Interest - Manufacturing and Production** Name: Tank Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	796	12	539383 180754
524	**Points of Interest - Manufacturing and Production** Name: Tanks Location: E14 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A4NW (SE)	804	12	539396 180757
525	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	794	12	537440 181581
526	**Points of Interest - Manufacturing and Production** Name: Works Location: E14 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A9SW (W)	794	12	537438 181598
526	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	857	12	537373 181687
526	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	861	12	537369 181687

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
526	**Points of Interest - Manufacturing and Production** Name: Phoenix Business Centre Location: E3 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	865	12	537365 181634
526	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	882	12	537349 181707
526	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	885	12	537346 181711
527	**Points of Interest - Manufacturing and Production** Name: Gas Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (N)	819	12	538427 182563
528	**Points of Interest - Manufacturing and Production** Name: Air Shaft Location: E14 Category: Extractive Industries Class Code: Unspecified Quarries Or Mines Positional Accuracy: Positioned to an adjacent address or location	A2SE (S)	887	12	538487 180302
529	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	916	12	537315 181717
529	**Points of Interest - Manufacturing and Production** Name: Works Location: E3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	920	12	537311 181716
530	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (E)	921	12	539717 181190
530	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (E)	923	12	539715 181166
530	**Points of Interest - Manufacturing and Production** Name: Works Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (E)	923	12	539715 181166
530	**Points of Interest - Manufacturing and Production** Name: Factory Location: E16 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NE (E)	926	12	539722 181190
530	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (E)	961	12	539757 181184

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
531	**Points of Interest - Manufacturing and Production** Name: Tank Location: E3 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NE (N)	998	12	538482 182737
532	**Points of Interest - Public Infrastructure** Name: Leaside Wood Recycling Project Location: Islay Wharf, Lochnagar Street, London, E14 0LA Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A10SE (N)	31	12	538395 181747
533	**Points of Interest - Public Infrastructure** Name: Veolia Environmental Services Location: Tunnel Approach Transfer Station 40, Gillender Street, London, E14 6RH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A10NW (NW)	218	12	538180 181943
533	**Points of Interest - Public Infrastructure** Name: Cleanaway Ltd Location: Tunnel Approach Transfer Station 40, Gillender Street, London, E14 6RH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A10NW (NW)	218	12	538180 181943
534	**Points of Interest - Public Infrastructure** Name: Rock UK Ltd Location: Leamouth Road, London, E14 0JG Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SE)	256	12	538957 181092
534	**Points of Interest - Public Infrastructure** Name: Orchard Wharf Otr Service Station Location: Leamouth Road, Lower Lea Crossing, Leamouth, London, Greater London, E6 5SJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SE)	257	12	538957 181090
534	**Points of Interest - Public Infrastructure** Name: Esso Location: Leamouth Road, London, E14 0JG Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SE)	258	12	538960 181091
534	**Points of Interest - Public Infrastructure** Name: Esso Location: Leamouth Road, London, E14 0JG Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SE)	258	12	538960 181091
535	**Points of Interest - Public Infrastructure** Name: Waste Transfer Station Location: E14 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A7NE (E)	264	12	539046 181439
536	**Points of Interest - Public Infrastructure** Name: Texaco Location: 19 Cotton Street, London, E14 0EJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SE (SW)	289	12	538185 180948
536	**Points of Interest - Public Infrastructure** Name: Texaco Ltd Location: 19 Cotton Street, London, E14 0EJ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SE (SW)	289	12	538185 180948
536	**Points of Interest - Public Infrastructure** Name: Cotton Street Service Station Location: 40 Cotton Street, London, E14 0EL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SW (SW)	309	12	538133 180967

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
536	**Points of Interest - Public Infrastructure** Name: Texaco Location: 40 Cotton Street, London, E14 0EL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SW (SW)	309	12	538133 180967
536	**Points of Interest - Public Infrastructure** Name: Texaco Location: 40 Cotton Street, London, E14 0EL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SW (SW)	309	12	538133 180967
536	**Points of Interest - Public Infrastructure** Name: Cotton Street Sstn Location: 40 Cotton Street, London, E14 0EL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SW (SW)	309	12	538133 180967
536	**Points of Interest - Public Infrastructure** Name: Cotton Street Service Station Location: 40 Cotton Street, London, E14 0EL Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A6SW (SW)	309	12	538133 180967
537	**Points of Interest - Public Infrastructure** Name: Sluice Location: E16 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A11NW (NE)	320	12	538672 181835
538	**Points of Interest - Public Infrastructure** Name: Kilnbridge Construction Services Ltd Location: 9b South Crescent, London, E16 4TL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A11NW (N)	417	12	538655 182045
539	**Points of Interest - Public Infrastructure** Name: Orion Cleaning & Support Services Location: 4a Towcester Road, London, E3 3ND Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SW (NW)	456	12	538080 182159
539	**Points of Interest - Public Infrastructure** Name: Orion Waste Removal Location: 4a Towcester Road, London, E3 3ND Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SW (NW)	456	12	538080 182159
540	**Points of Interest - Public Infrastructure** Name: Bus Terminus Location: E14 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A2NE (S)	480	12	538396 180701
541	**Points of Interest - Public Infrastructure** Name: Poplar Police Station Location: Poplar Police Station 2, Market Way, London, E14 6AH Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A5NE (W)	498	12	537830 181230
541	**Points of Interest - Public Infrastructure** Name: Metropolitan Police Service Location: Poplar Police Station 2, Market Way, London, E14 6AH Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A5NE (W)	498	12	537830 181230
541	**Points of Interest - Public Infrastructure** Name: Metropolitan Police Service Poplar Location: Poplar Police Station 2, Market Way, London, E14 6AH Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A5NE (W)	498	12	537830 181230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
542	**Points of Interest - Public Infrastructure** Name: South Key Travel Location: 20-21 Colmans Wharf 45, Morris Road, London, E14 6PA Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A9NE (NW)	514	12	537736 181807
543	**Points of Interest - Public Infrastructure** Name: Poplar Fire Station Location: Poplar Fire Station 168, East India Dock Road, London, E14 0BP Category: Central and Local Government Class Code: Fire Brigade Stations Positional Accuracy: Positioned to address or location	A6SW (SW)	528	12	537867 180983
544	**Points of Interest - Public Infrastructure** Name: Bywaters (Leyton) Ltd Location: Unit J, Twelvetrees Crescent, London, E3 3JG Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (N)	528	12	538432 182269
544	**Points of Interest - Public Infrastructure** Name: Bywaters Location: Unit J, Twelvetrees Crescent, London, E3 3JG Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A14SE (N)	528	12	538432 182269
545	**Points of Interest - Public Infrastructure** Name: T & N Hill Waste Services Ltd Location: 1 Ives Road, London, E16 4SH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A11SE (NE)	547	12	539156 181747
545	**Points of Interest - Public Infrastructure** Name: Always Recycling Location: 29 Stephenson Street, London, E16 4SA Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SW (E)	551	12	539214 181697
545	**Points of Interest - Public Infrastructure** Name: Always Recycling Ltd Location: 29 Stephenson Street, London, E16 4SA Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12SW (E)	551	12	539214 181697
546	**Points of Interest - Public Infrastructure** Name: Mortuary Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A2NW (SW)	629	12	537867 180786
547	**Points of Interest - Public Infrastructure** Name: Canning Town Station Location: Nr Silvertown Way, E16 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A8NW (E)	636	12	539442 181352
547	**Points of Interest - Public Infrastructure** Name: Canning Town Bus Station Location: E16 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A8NW (E)	641	12	539437 181445
547	**Points of Interest - Public Infrastructure** Name: Canning Town Bus Station Location: E16 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A8NW (E)	643	12	539439 181443
548	**Points of Interest - Public Infrastructure** Name: Loop Management Services Ltd Location: 19 Cranwell Close, London, E3 3QY Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A9NE (NW)	665	12	537684 182088

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
549	**Points of Interest - Public Infrastructure** Name: Lawrence M Barry & Co Location: Britannia Mill, North Crescent, London, E16 4TG Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A15SE (NE)	814	12	538965 182296
549	**Points of Interest - Public Infrastructure** Name: Lawrence M Barry & Co Location: Britannia Mill, North Crescent, London, E16 4TG Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A15SE (NE)	814	12	538965 182296
550	**Points of Interest - Public Infrastructure** Name: Waste Transfer Station Location: E14 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A2SE (S)	894	12	538452 180291
551	**Points of Interest - Public Infrastructure** Name: Tesco Bromley by Bow Location: Blackwall Tunnel Northern Approach, Hancock Road, Bromley By Bow, London, Greater London, E3 4UR Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NW (N)	937	12	538101 182661
551	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Station Location: Hancock Road, London, E3 3DA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NW (N)	938	12	538099 182661
551	**Points of Interest - Public Infrastructure** Name: Tesco Filling Station Location: Three, Mill Lane, London, E3 3DU Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NW (N)	938	12	538099 182661
551	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Filling Station Location: Hancock Road, London, E3 3DA Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A14NW (N)	1000	12	538166 182732
552	**Points of Interest - Public Infrastructure** Name: Bus Depot Location: E16 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A15SE (NE)	938	12	539010 182426
552	**Points of Interest - Public Infrastructure** Name: Stagecoach London Location: Stephenson Street, London, E16 4SA Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A15SE (NE)	990	12	539038 182472
553	**Points of Interest - Public Infrastructure** Name: Able Rubbish Removal & Gardening Service Location: 46 Ordnance Road, London, E16 4PJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A12NE (E)	997	12	539615 181911
554	**Points of Interest - Recreational and Environmental** Name: Playground Location: Ettrick Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A6NE (SW)	0	12	538436 181374
555	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Balmore Close, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A6NE (W)	0	12	538308 181431

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
556	**Points of Interest - Recreational and Environmental** Name: Playground Location: Fortrose Close, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7NE (E)	87	12	538869 181387
557	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	168	12	538176 181198
557	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	211	12	538117 181257
558	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10NW (NW)	212	12	538073 181854
559	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6SE (SW)	272	12	538212 180950
560	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6SE (S)	320	12	538270 180872
561	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6NW (SW)	330	12	538006 181204
562	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	347	12	537910 181517
562	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10SW (W)	412	12	537854 181478
563	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A10NW (NW)	355	12	537909 181841
563	**Points of Interest - Recreational and Environmental** Name: Playground Location: Uamvar Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A10NW (NW)	375	12	537890 181846
564	**Points of Interest - Recreational and Environmental** Name: Playground Location: East India Dock Road, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A6SW (SW)	400	12	537999 181002

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
564	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6SW (SW)	405	12	537993 181002
565	**Points of Interest - Recreational and Environmental** Name: Playground Location: Naval Row, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A2NE (S)	408	12	538317 180774
565	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A2NE (S)	409	12	538317 180773
566	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5NE (W)	468	12	537832 181347
567	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A2NW (SW)	492	12	538081 180772
567	**Points of Interest - Recreational and Environmental** Name: Playground Location: Poplar High Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A2NW (SW)	493	12	538083 180770
568	**Points of Interest - Recreational and Environmental** Name: Playground Location: Newport Avenue, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A3NW (SE)	516	12	538792 180754
568	**Points of Interest - Recreational and Environmental** Name: Playground Location: Newport Avenue, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A3NW (SE)	526	12	538794 180745
569	**Points of Interest - Recreational and Environmental** Name: Playground Location: Cottage Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A6SW (SW)	562	12	537888 180870
569	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A6SW (SW)	563	12	537889 180868
570	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	565	12	538073 182272
571	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	602	12	537702 181989

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
572	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5NE (W)	622	12	537717 181158
572	**Points of Interest - Recreational and Environmental** Name: Playground Location: Ricardo Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5NE (W)	622	12	537717 181158
573	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5SE (SW)	643	12	537774 180909
573	**Points of Interest - Recreational and Environmental** Name: Playground Location: Woodstock Terrace, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A5SE (SW)	644	12	537774 180908
573	**Points of Interest - Recreational and Environmental** Name: Games Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5SE (SW)	672	12	537743 180907
574	**Points of Interest - Recreational and Environmental** Name: Playground Location: Broomfield Stret, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A9SE (W)	644	12	537586 181649
575	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SW (E)	659	12	539312 181750
575	**Points of Interest - Recreational and Environmental** Name: Playground Location: Manor Road, E16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12SW (E)	660	12	539312 181751
576	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	668	12	537879 182292
576	**Points of Interest - Recreational and Environmental** Name: Playground Location: Devas Street, E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14SW (NW)	670	12	537878 182294
577	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Ellesmere Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A5NE (W)	685	12	537580 181443
577	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	749	12	537505 181476

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
578	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Blackwall Way, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A2NE (S)	701	12	538475 180489
579	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5NE (W)	722	12	537572 181332
579	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5NE (W)	781	12	537512 181326
579	**Points of Interest - Recreational and Environmental** Name: Playground Location: Augusta Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5NE (W)	781	12	537512 181326
580	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NE (NW)	723	12	537592 182039
581	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5SE (SW)	769	12	537586 181071
581	**Points of Interest - Recreational and Environmental** Name: Playground Location: Grundy Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5SE (SW)	769	12	537586 181070
582	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SE (NW)	797	12	537719 182331
583	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (NW)	806	12	537470 181946
583	**Points of Interest - Recreational and Environmental** Name: Playground Location: Watts Grove, E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A9NW (NW)	806	12	537471 181947
584	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (NW)	816	12	537872 182460
585	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	840	12	537392 181728

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
586	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5SE (SW)	842	12	537603 180806
586	**Points of Interest - Recreational and Environmental** Name: Playground Location: Poplar High Street, E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A5SE (SW)	843	12	537602 180806
587	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (W)	870	12	537375 181828
588	**Points of Interest - Recreational and Environmental** Name: Playground Location: Rathbone Street, E16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	873	12	539651 181548
588	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	898	12	539692 181479
588	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Fox Road, E16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	939	12	539723 181531
588	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (E)	946	12	539730 181532
589	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NW (NE)	876	12	539322 182035
590	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (NW)	914	12	537371 181990
591	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NW (NE)	942	12	539497 181968
592	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A5SW (SW)	951	12	537454 180882
593	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NE (NW)	952	12	537826 182589

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
593	**Points of Interest - Recreational and Environmental** Name: Playground Location: Talwin Street, E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NE (NW)	959	12	537821 182594
593	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13NE (NW)	972	12	537817 182607
593	**Points of Interest - Recreational and Environmental** Name: Playground Location: E3 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NE (NW)	972	12	537817 182607
594	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E14 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9SW (W)	980	12	537250 181692
595	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SW (NW)	989	12	537401 182245
596	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (E)	993	12	539785 181160
597	**Points of Interest - Recreational and Environmental** Name: Play Area Location: E16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NE (E)	993	12	539622 181893
598	**Underground Electrical Cables** Unique Feature Identifier: 10006609 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A11NE (NE)	465	13	538865 181856
599	**Underground Electrical Cables** Unique Feature Identifier: 10006610 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 5th April 2018	A11NE (NE)	468	13	538866 181857
600	**Underground Electrical Cables** Unique Feature Identifier: 10005952 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A11NW (N)	490	13	538679 182131
601	**Underground Electrical Cables** Unique Feature Identifier: 10006674 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A11NW (N)	491	13	538702 182111

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
602	**Underground Electrical Cables** Unique Feature Identifier: 10007531 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 5th April 2018	A11NE (NE)	492	13	538881 181871
603	**Underground Electrical Cables** Unique Feature Identifier: 10006608 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A11NE (NE)	496	13	538911 181858
604	**Underground Electrical Cables** Unique Feature Identifier: 10006253 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A11NE (NE)	497	13	538873 181935
605	**Underground Electrical Cables** Unique Feature Identifier: 10006228 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A11NE (NE)	498	13	538876 181938
606	**Underground Electrical Cables** Unique Feature Identifier: 10006611 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 5th April 2018	A11NE (NE)	499	13	538912 181861
607	**Underground Electrical Cables** Unique Feature Identifier: 10005513 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 5th April 2018	A11NE (NE)	506	13	538888 181886
608	**Underground Electrical Cables** Unique Feature Identifier: 10008099 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 27th November 2017	A11NW (NE)	551	13	538854 182001
609	**Underground Electrical Cables** Unique Feature Identifier: 10005615 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 27th November 2017	A11NE (NE)	553	13	538856 182003
610	**Underground Electrical Cables** Unique Feature Identifier: 10008137 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 5th April 2018	A11NE (NE)	554	13	538894 181939
611	**Underground Electrical Cables** Unique Feature Identifier: 10008138 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 5th April 2018	A11NE (NE)	557	13	538895 181941

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
612	**Underground Electrical Cables** Unique Feature Identifier: 10008140 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 30th September 2020	A11NE (NE)	594	13	538955 181947
613	**Underground Electrical Cables** Unique Feature Identifier: 10008139 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 25th May 2017	A11NE (NE)	609	13	538926 181982
614	**Underground Electrical Cables** Unique Feature Identifier: 10008292 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 27th November 2017	A11NE (NE)	627	13	538940 182004
615	**Underground Electrical Cables** Unique Feature Identifier: 10005556 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 27th November 2017	A11NE (NE)	627	13	538927 182024
616	**Underground Electrical Cables** Unique Feature Identifier: 10007349 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A14SE (N)	654	13	538464 182393
617	**Underground Electrical Cables** Unique Feature Identifier: 10006614 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A14SE (N)	655	13	538465 182393
618	**Underground Electrical Cables** Unique Feature Identifier: 10006252 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A14NE (N)	846	13	538331 182591
619	**Underground Electrical Cables** Unique Feature Identifier: 10006227 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 14th October 2019	A14NE (N)	877	13	538342 182623
620	**Underground Electrical Cables** Unique Feature Identifier: 10007847 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 27th November 2017	A15NW (N)	934	13	538849 182544
621	**Underground Electrical Cables** Unique Feature Identifier: 10008423 Cable Status: Commissioned Cable Type: Alternating Current Record Last Updated: 27th November 2017	A15NW (N)	935	13	538851 182544

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
622	**Nitrate Vulnerable Zones** Name: Lee Nvz Description: Surface Water Source: Environment Agency, Head Office	A10SE (N)	103	5	538504 181692

Data Currency

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
London Borough of Southwark - Pollution Control Unit	April 2013	Annual Rolling Update
London Borough of Greenwich - Environmental Health Department	April 2014	Annual Rolling Update
London Borough of Lewisham - Environmental Health Department	January 2013	Annual Rolling Update
London Borough of Barking And Dagenham - Health and Consumer Services	July 2014	Annual Rolling Update
Environment Agency - Head Office	June 2020	Annually
London Borough of Newham - Environmental Health Department	March 2015	Annual Rolling Update
London Borough of Waltham Forest - Environmental Health Department	October 2013	Annual Rolling Update
City of London - Environmental Health Department	October 2014	Annual Rolling Update
London Borough of Redbridge - Environmental Health Department	October 2014	Annual Rolling Update
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	October 2017	Annual Rolling Update
London Borough of Islington - Public Protection	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - Thames Region	January 2021	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Thames Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Thames Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - Kent & South London Area	January 2021	Quarterly
Environment Agency - South East Region - North East Thames Area	January 2021	Quarterly
Environment Agency - Thames Region	January 2021	Quarterly
Local Authority Integrated Pollution Prevention And Control		
London Borough of Southwark - Environmental Health Department	April 2014	Variable
City of London - Environmental Health Department	August 2014	Variable
London Borough of Redbridge - Environmental Health Department	December 2014	Variable
London Borough of Islington - Environmental Health Department	January 2015	Variable
London Borough of Greenwich - Environmental Health Department	June 2014	Variable
London Borough of Hackney - Environmental Health Department	March 2015	Variable
London Borough of Barking And Dagenham - Environmental Health Department	May 2016	Variable
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Variable
London Port Health Authority - Environmental Services	October 2014	Variable
London Borough of Newham - Environmental Health Department	September 2013	Variable
London Borough of Lewisham - Environmental Health Department	September 2014	Variable
London Borough of Waltham Forest - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
London Borough of Southwark - Environmental Health Department	April 2014	Annual Rolling Update
City of London - Environmental Health Department	August 2014	Not Applicable
London Borough of Redbridge - Environmental Health Department	December 2014	Annual Rolling Update
London Borough of Islington - Environmental Health Department	January 2015	Annual Rolling Update
London Borough of Greenwich - Environmental Health Department	June 2014	Annual Rolling Update
London Borough of Hackney - Environmental Health Department	March 2015	Annual Rolling Update
London Borough of Newham - Environmental Health Department	March 2015	Annual Rolling Update
London Borough of Barking And Dagenham - Environmental Health Department	May 2016	Annual Rolling Update
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Annual Rolling Update
London Port Health Authority - Environmental Services	October 2014	Annual Rolling Update
London Borough of Lewisham - Environmental Health Department	September 2014	Annual Rolling Update
London Borough of Waltham Forest - Environmental Health Department	September 2014	Annual Rolling Update

Agency & Hydrological	Version	Update Cycle
Local Authority Pollution Prevention and Control Enforcements		
London Borough of Southwark - Environmental Health Department	April 2014	Variable
City of London - Environmental Health Department	August 2014	Variable
London Borough of Redbridge - Environmental Health Department	December 2014	Variable
London Borough of Islington - Environmental Health Department	January 2015	Variable
London Borough of Greenwich - Environmental Health Department	June 2014	Variable
London Borough of Hackney - Environmental Health Department	March 2015	Variable
London Borough of Barking And Dagenham - Environmental Health Department	May 2016	Variable
London Borough of Tower Hamlets - Environmental Health Department	October 2014	Variable
London Port Health Authority - Environmental Services	October 2014	Variable
London Borough of Newham - Environmental Health Department	September 2013	Variable
London Borough of Lewisham - Environmental Health Department	September 2014	Variable
London Borough of Waltham Forest - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	October 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - Thames Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Thames Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - Thames Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - Thames Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - South East Region - Kent & South London Area	January 2021	Quarterly
Environment Agency - South East Region - North East Thames Area	January 2021	Quarterly
Environment Agency - Thames Region - North East Area	January 2021	Quarterly
Environment Agency - Thames Region - South East Area	January 2021	Quarterly
Water Abstractions		
Environment Agency - Thames Region	January 2021	Quarterly
Water Industry Act Referrals		
Environment Agency - Thames Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	September 2020	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	September 2020	Quarterly

Data Currency

Agency & Hydrological	Version	Update Cycle
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	September 2020	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	September 2020	Quarterly
Flood Defences		
Environment Agency - Head Office	September 2020	Quarterly
OS Water Network Lines		
Ordnance Survey	September 2020	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability		
Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	Annually

Data Currency

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Thames Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South East Region - Kent & South London Area	January 2021	Quarterly
Environment Agency - South East Region - North East Thames Area	January 2021	Quarterly
Environment Agency - Thames Region - North East Area	January 2021	Quarterly
Environment Agency - Thames Region - South East Area	January 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - Kent & South London Area	January 2021	Quarterly
Environment Agency - South East Region - North East Thames Area	January 2021	Quarterly
Environment Agency - Thames Region - North East Area	January 2021	Quarterly
Environment Agency - Thames Region - South East Area	January 2021	Quarterly
Local Authority Landfill Coverage		
City of London - Environmental Health Department	May 2000	Not Applicable
London Borough of Barking And Dagenham - Environmental Health Department	May 2000	Not Applicable
London Borough of Greenwich - Environmental Health Department	May 2000	Not Applicable
London Borough of Hackney	May 2000	Not Applicable
London Borough of Islington - Environmental Health Department	May 2000	Not Applicable
London Borough of Lewisham - Environmental Health Department	May 2000	Not Applicable
London Borough of Newham	May 2000	Not Applicable
London Borough of Redbridge - Environmental Health Department	May 2000	Not Applicable
London Borough of Southwark - Environmental Health Department	May 2000	Not Applicable
London Borough of Tower Hamlets - Environmental Health Department	May 2000	Not Applicable
London Borough of Waltham Forest - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
London Borough of Tower Hamlets - Environmental Health Department	April 2003	Not Applicable
City of London - Environmental Health Department	May 2000	Not Applicable
London Borough of Barking And Dagenham - Environmental Health Department	May 2000	Not Applicable
London Borough of Greenwich - Environmental Health Department	May 2000	Not Applicable
London Borough of Hackney	May 2000	Not Applicable
London Borough of Islington - Environmental Health Department	May 2000	Not Applicable
London Borough of Lewisham - Environmental Health Department	May 2000	Not Applicable
London Borough of Newham	May 2000	Not Applicable
London Borough of Redbridge - Environmental Health Department	May 2000	Not Applicable
London Borough of Southwark - Environmental Health Department	May 2000	Not Applicable
London Borough of Waltham Forest - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Thames Region - North East Area	March 2003	Not Applicable
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Thames Region - North East Area	June 2015	Not Applicable
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable

Data Currency

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
London Borough of Lewisham - Planning Services	April 2015	Variable
City of London	February 2016	Variable
London Borough of Barking And Dagenham	February 2016	Variable
London Borough of Greenwich - Planning Department	February 2016	Variable
London Borough of Hackney	February 2016	Variable
London Borough of Newham	February 2016	Variable
London Borough of Redbridge	February 2016	Variable
London Borough of Southwark - Regeneration Department	February 2016	Variable
London Borough of Tower Hamlets	February 2016	Variable
London Borough of Waltham Forest - Environmental Services	February 2016	Variable
London Port Health Authority - Environmental Services	January 2008	Annual Rolling Update
London Borough of Islington	October 2015	Variable
Planning Hazardous Substance Consents		
London Borough of Lewisham - Planning Services	April 2015	Variable
City of London	February 2016	Variable
London Borough of Barking And Dagenham	February 2016	Variable
London Borough of Greenwich - Planning Department	February 2016	Variable
London Borough of Hackney	February 2016	Variable
London Borough of Newham	February 2016	Variable
London Borough of Redbridge	February 2016	Variable
London Borough of Southwark - Regeneration Department	February 2016	Variable
London Borough of Tower Hamlets	February 2016	Variable
London Borough of Waltham Forest - Environmental Services	February 2016	Variable
London Port Health Authority - Environmental Services	January 2008	Annual Rolling Update
London Borough of Islington	October 2015	Variable

Data Currency

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	October 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Data Currency

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2021	Quarterly
Gas Pipelines National Grid	January 2021	
Points of Interest - Commercial Services PointX	March 2021	Quarterly
Points of Interest - Education and Health PointX	March 2021	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2021	Quarterly
Points of Interest - Public Infrastructure PointX	March 2021	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2021	Quarterly
Underground Electrical Cables National Grid	December 2020	

Data Currency

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
City of London	June 2020	As notified
London Borough of Barking And Dagenham	June 2020	As notified
London Borough of Greenwich	June 2020	As notified
London Borough of Hackney	June 2020	As notified
London Borough of Islington	June 2020	As notified
London Borough of Lewisham	June 2020	As notified
London Borough of Newham	June 2020	As notified
London Borough of Redbridge	June 2020	As notified
London Borough of Southwark	June 2020	As notified
London Borough of Tower Hamlets	June 2020	As notified
London Borough of Waltham Forest	June 2020	As notified
Areas of Unadopted Green Belt		
City of London	June 2020	As notified
London Borough of Barking And Dagenham	June 2020	As notified
London Borough of Greenwich	June 2020	As notified
London Borough of Hackney	June 2020	As notified
London Borough of Islington	June 2020	As notified
London Borough of Lewisham	June 2020	As notified
London Borough of Newham	June 2020	As notified
London Borough of Redbridge	June 2020	As notified
London Borough of Southwark	June 2020	As notified
London Borough of Tower Hamlets	June 2020	As notified
London Borough of Waltham Forest	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	January 2021	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	Stantec

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**London Borough of Tower Hamlets - Environmental Health Department** Council Offices, Southern Grove, London, E3 4PN	Telephone: 020 7364 5000 Fax: 0171 512 4919 Website: www.towerhamlets.gov.uk
4	**London Borough of Newham - Environmental Health Department** Alice Billings House, 2-12 West Ham Lane, London, E15 4SF	Telephone: 020 8430 2000 Fax: 020 8557 8869 Website: www.newham.gov.uk
5	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
6	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
7	**London Borough of Newham** Town Hall Annexe, Barking Road, East Ham, London, E6 2RP	Telephone: 020 8430 2000 Fax: 020 8472 2284 Website: www.newham.gov.uk
8	**London Borough of Greenwich - Environmental Health Department** 12th Floor, Riverside House, Woolwich, London, SE18 6DN	Telephone: 020 8854 8888 Fax: 020 8921 8322 Website: www.greenwich.gov.uk
9	**Health and Safety Executive** 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
10	**London Borough of Tower Hamlets** Mulberry Place, 5 Clove Crescent, London, E14 2BG	Telephone: 020 7364 5000 Fax: 0207 364 5421 Website: www.towerhamlets.gov.uk
11	**Stantec UK Ltd** Caversham Bridge House, Waterman Place, Reading, RG1 8DN	Telephone: 0118 950 0761 Email: pba.reading@stantec.com Website: www.stantec.com
12	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
13	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk
14	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org

Useful Contacts

Contact	Name and Address	Contact Details
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

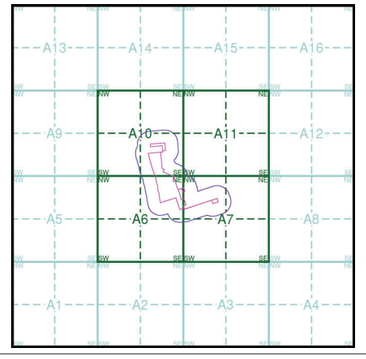
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

rps

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Essex	1:10,560	1873	3
Middlesex	1:10,560	1873 - 1882	4
Surrey	1:10,560	1880	5
London	1:10,560	1896	6
Surrey	1:10,560	1898	7
Essex	1:10,560	1898 - 1899	8
Kent	1:10,560	1899	9
Essex	1:10,560	1920	10
London	1:10,560	1920	11
London	1:10,560	1938	12
Essex	1:10,560	1938	13
Historical Aerial Photography	1:10,560	1949	14
Ordnance Survey Plan	1:10,000	1951	15
Ordnance Survey Plan	1:10,000	1955	16
Ordnance Survey Plan	1:10,000	1965	17
Ordnance Survey Plan	1:10,000	1975	18
Ordnance Survey Plan	1:10,000	1982	19
London	1:25,000	1985	20
Ordnance Survey Plan	1:10,000	1990	21
Ordnance Survey Plan	1:10,000	1995	22
10K Raster Mapping	1:10,000	1999	23
10K Raster Mapping	1:10,000	2006	24
VectorMap Local	1:10,000	2021	25

Historical Map - Slice A



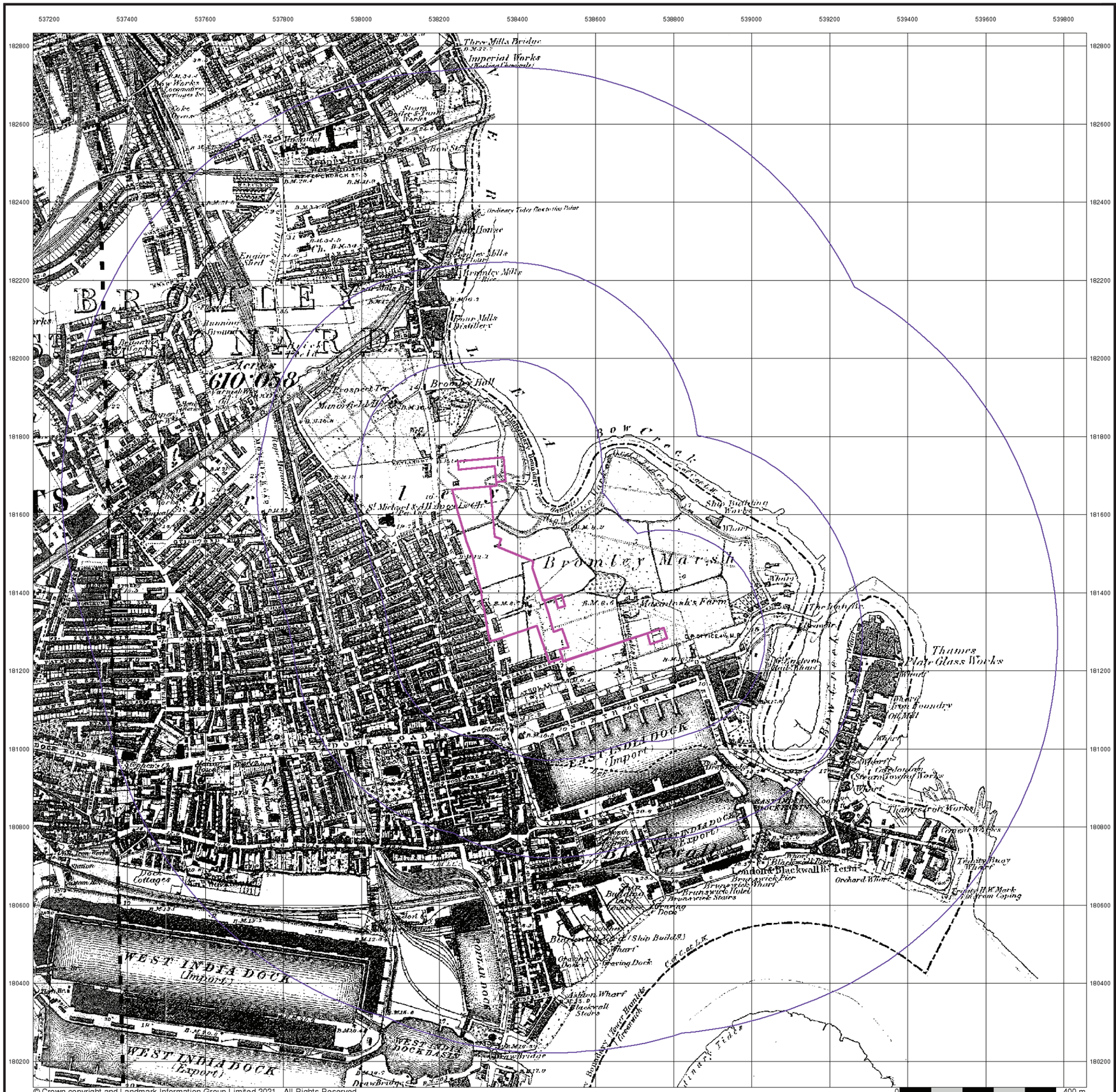
Order Details

Order Number: 281787081_1_1
Customer Ref: JER8921
National Grid Reference: 538470, 181460
Slice: A
Site Area (Ha): 5.54
Search Buffer (m): 1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

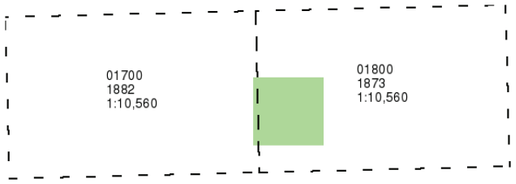
Middlesex

Published 1873 - 1882

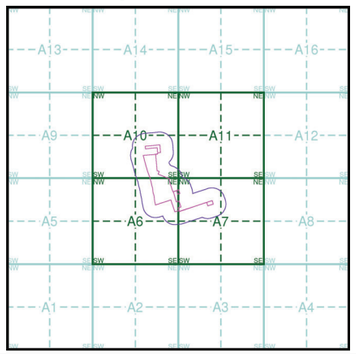
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



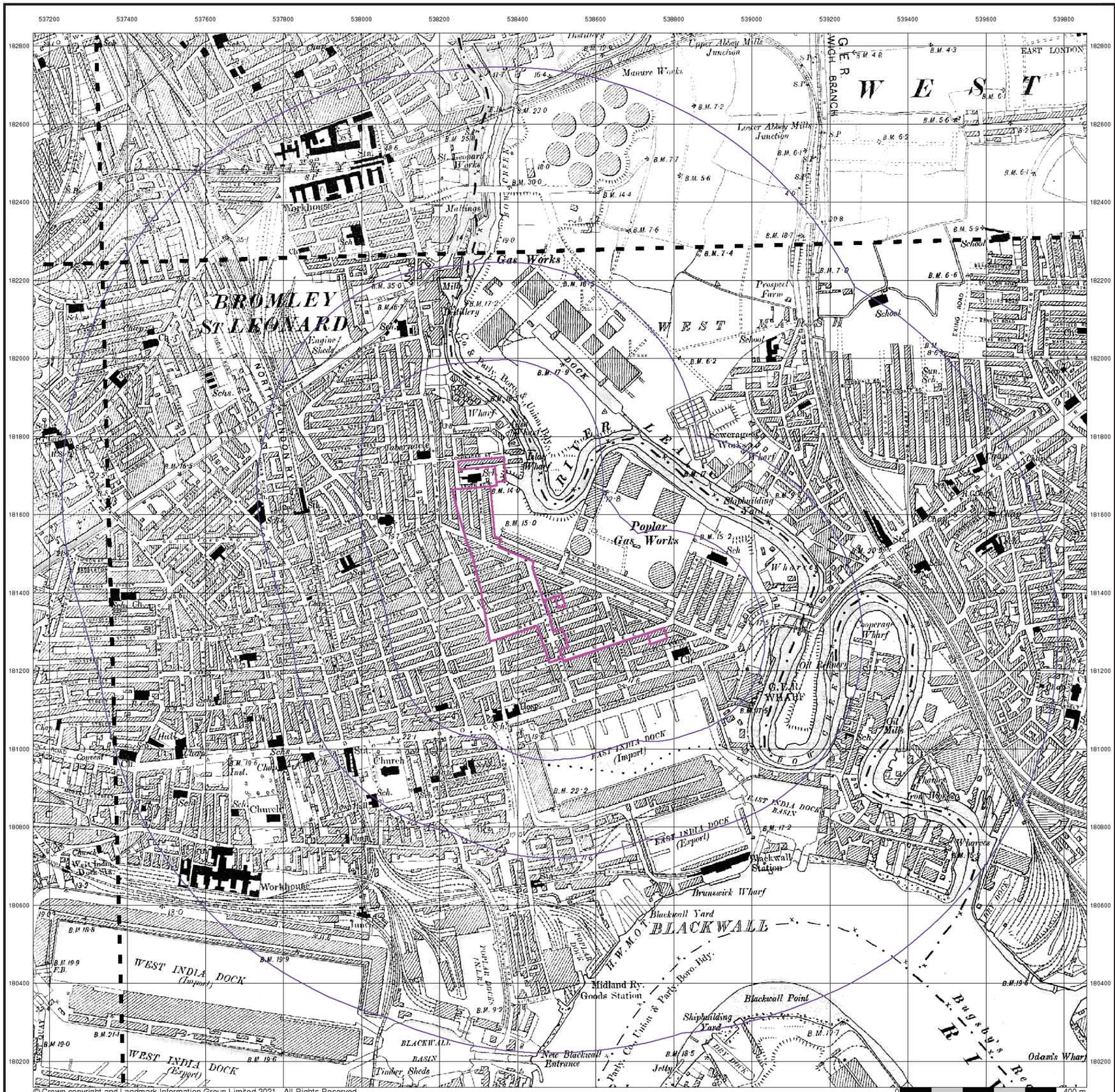
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



rps

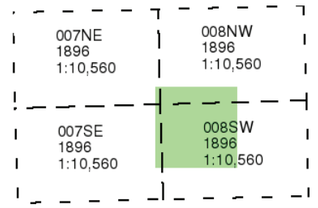
London

Published 1896

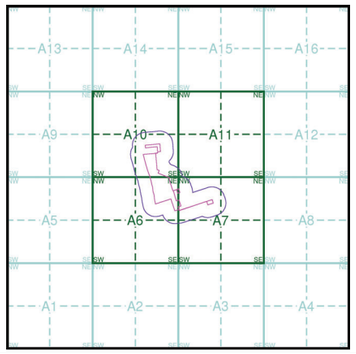
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

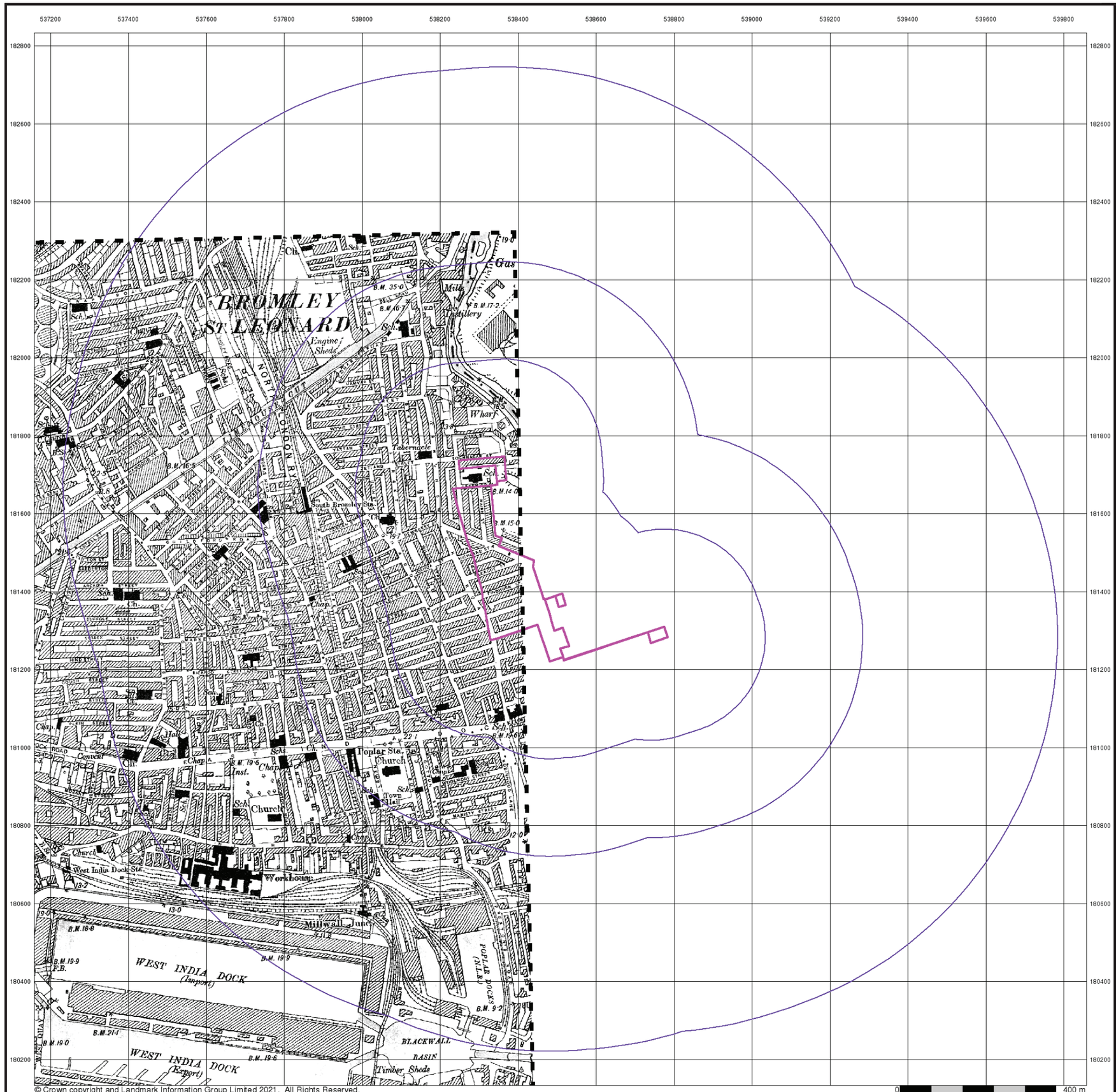
Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

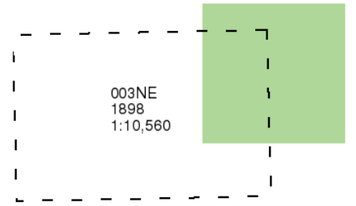
Surrey

Published 1898

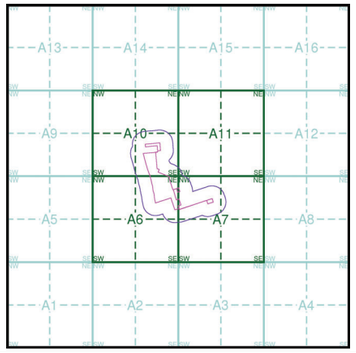
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



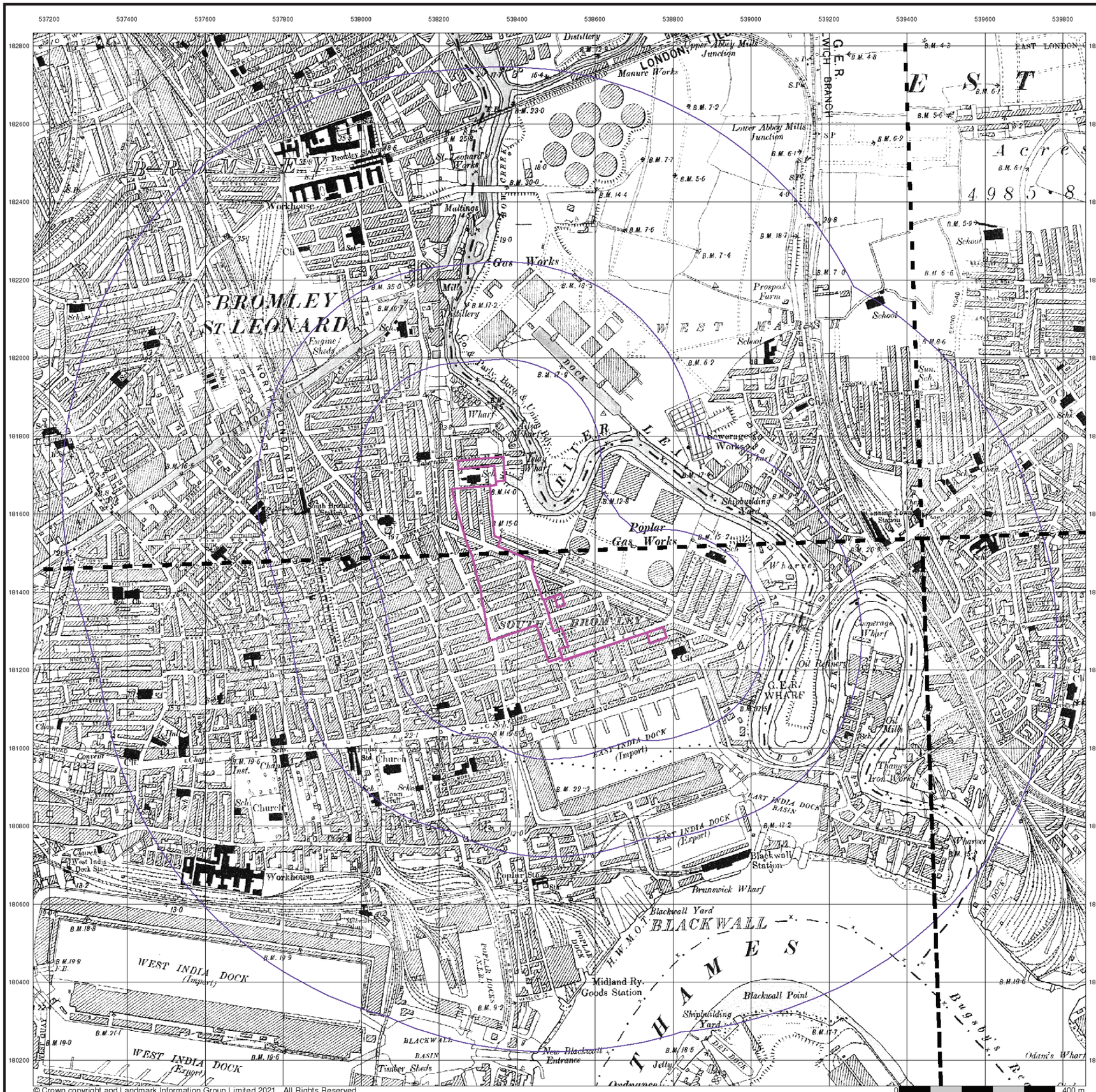
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

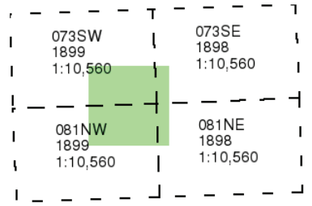
Essex

Published 1898 - 1899

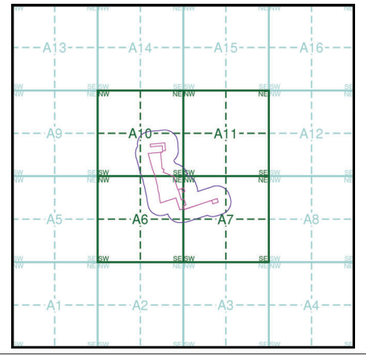
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



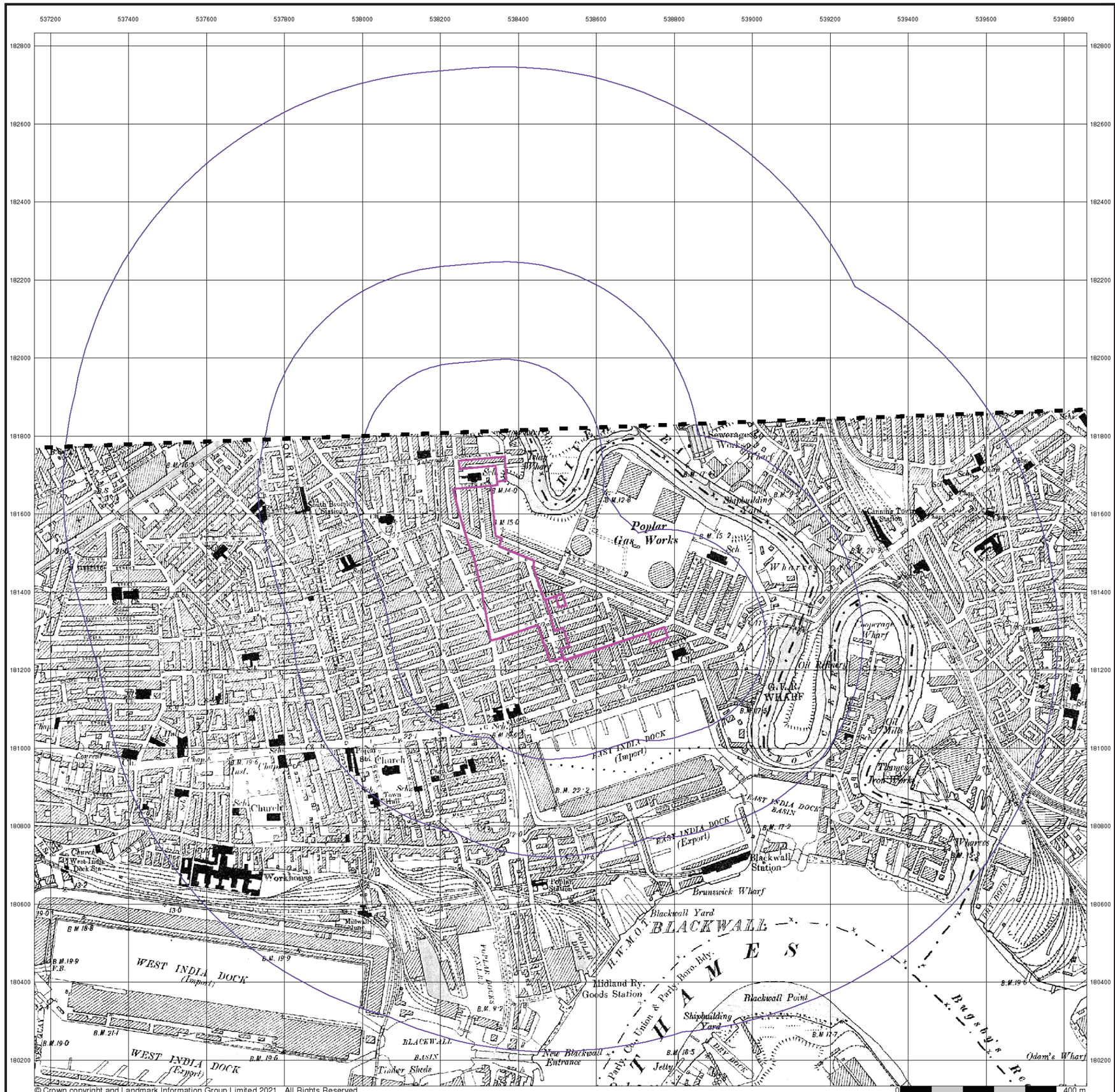
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

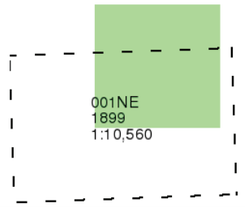
Kent

Published 1899

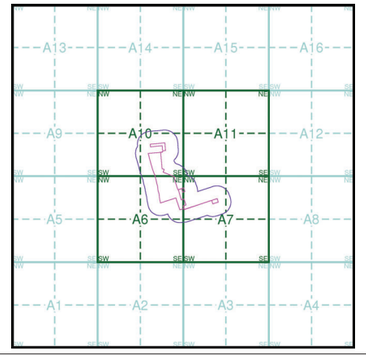
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



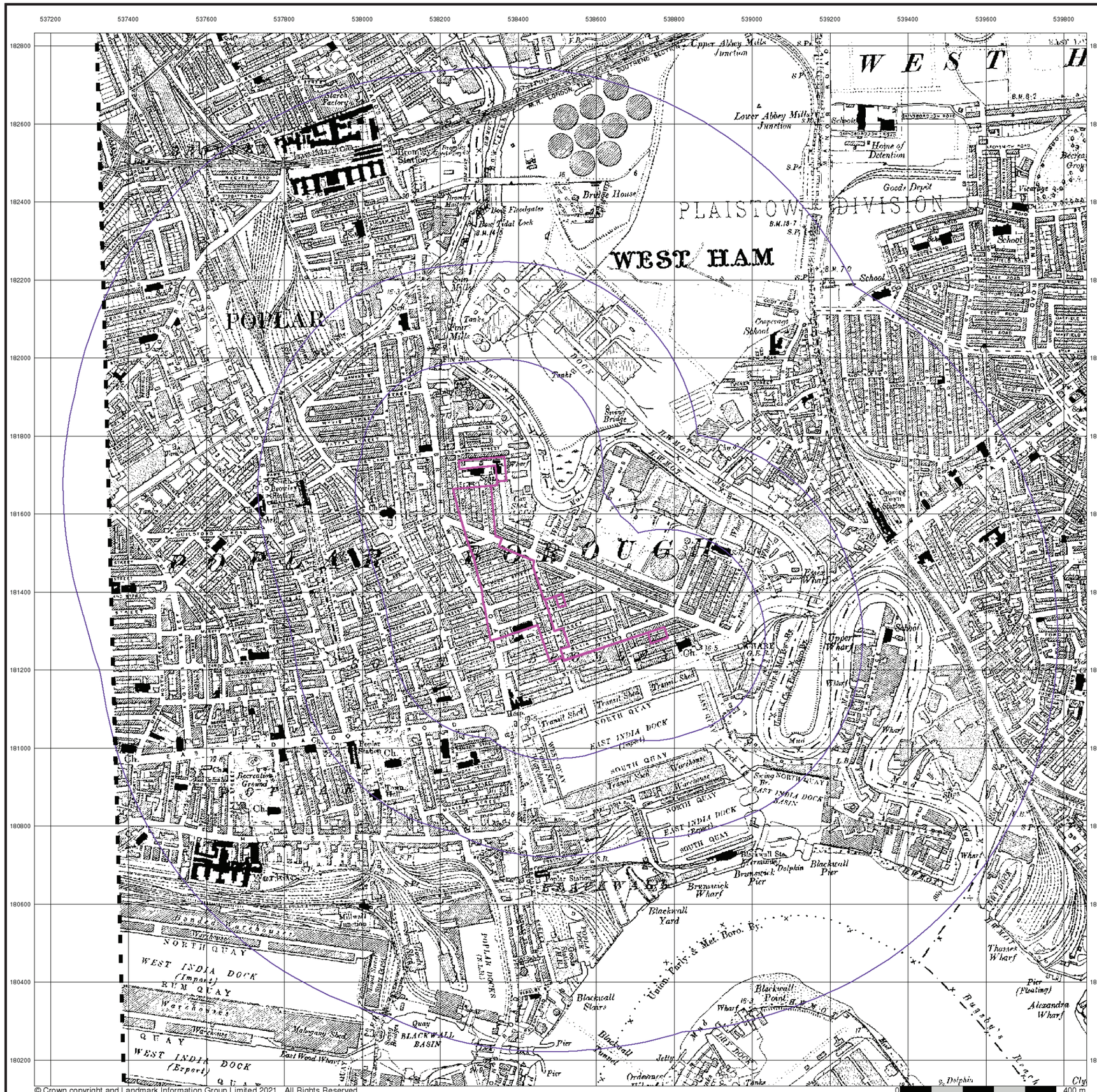
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

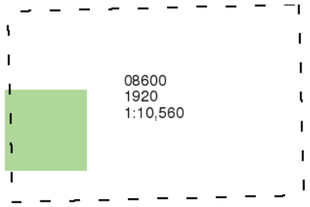
Essex

Published 1920

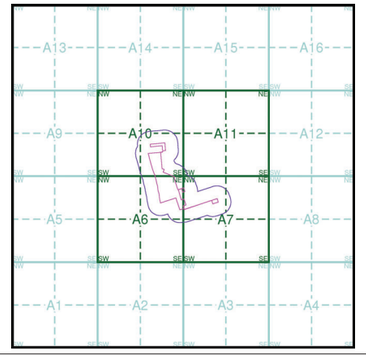
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



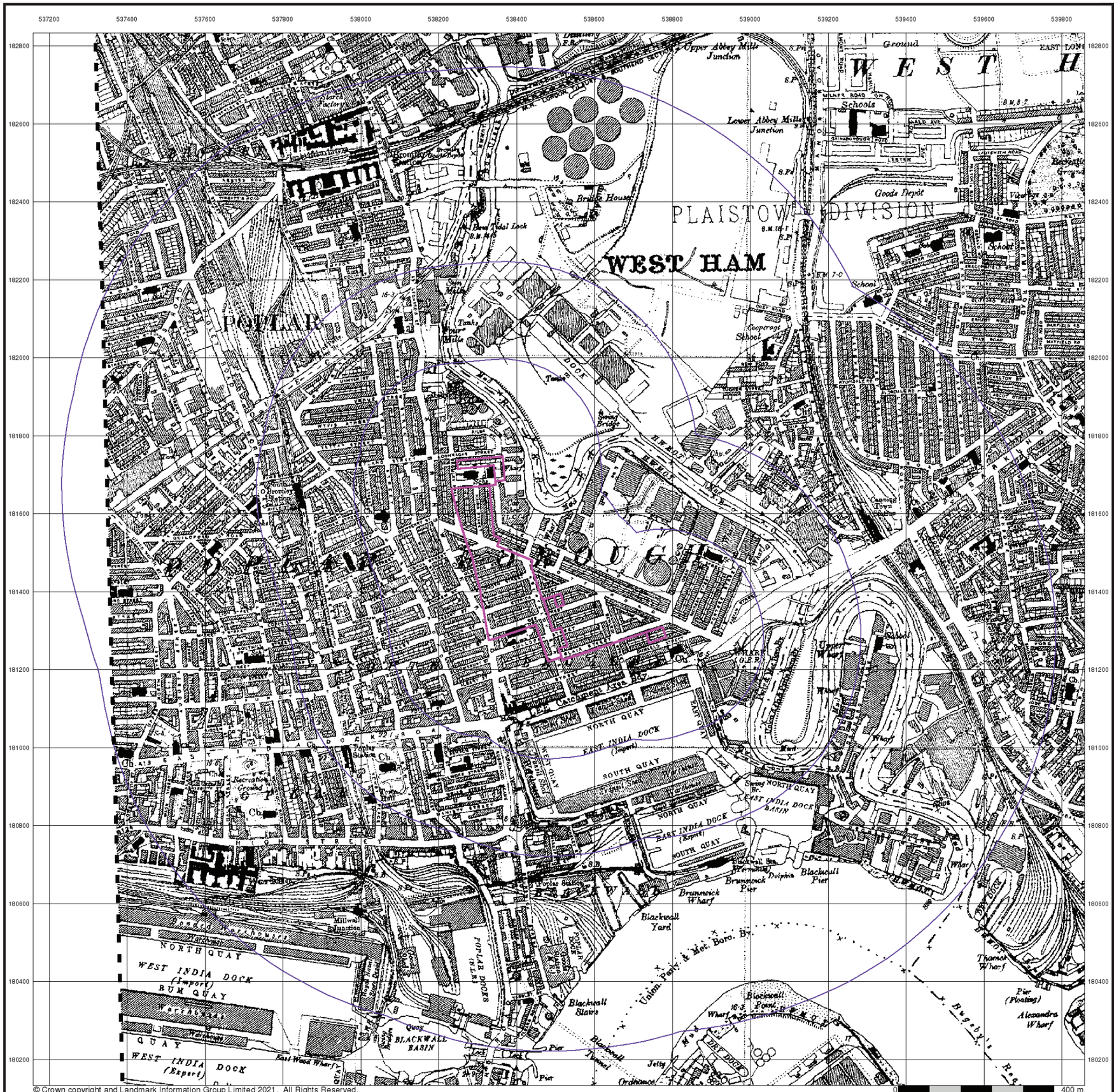
Order Details

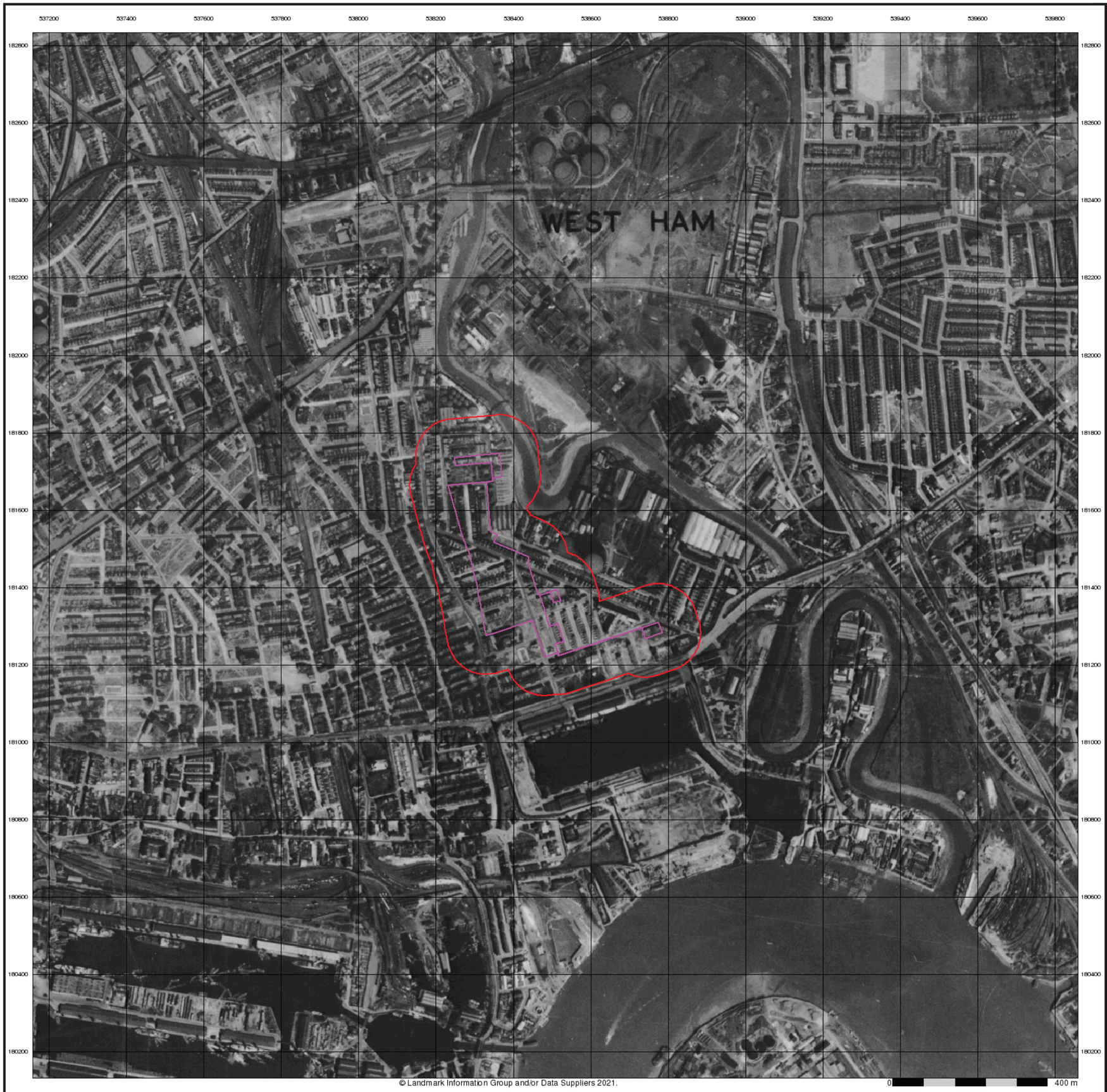
Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk


WEST HAM
PLAISTOW DIVISION
POPLAR
BOROUGH
Upper Abbey Mills Junction
Lower Abbey Mills Junction
Bridge House
Goods Depot
Schools
Tanks
Sorting Office
Recreation Ground
Ch.
Ch. Ch.
Ch. Ch.
Ch.
Ch.



Historical Aerial Photography

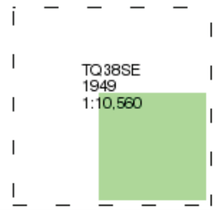
Published 1949

Source map scale - 1:10,560

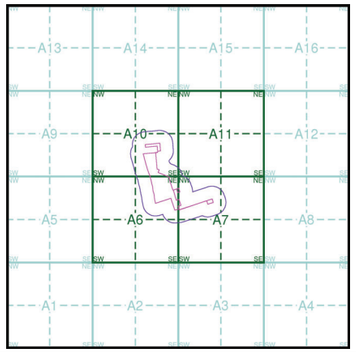
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

© Landmark Information Group and/or Data Suppliers 2010.

Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



BRITISH LIBRARY

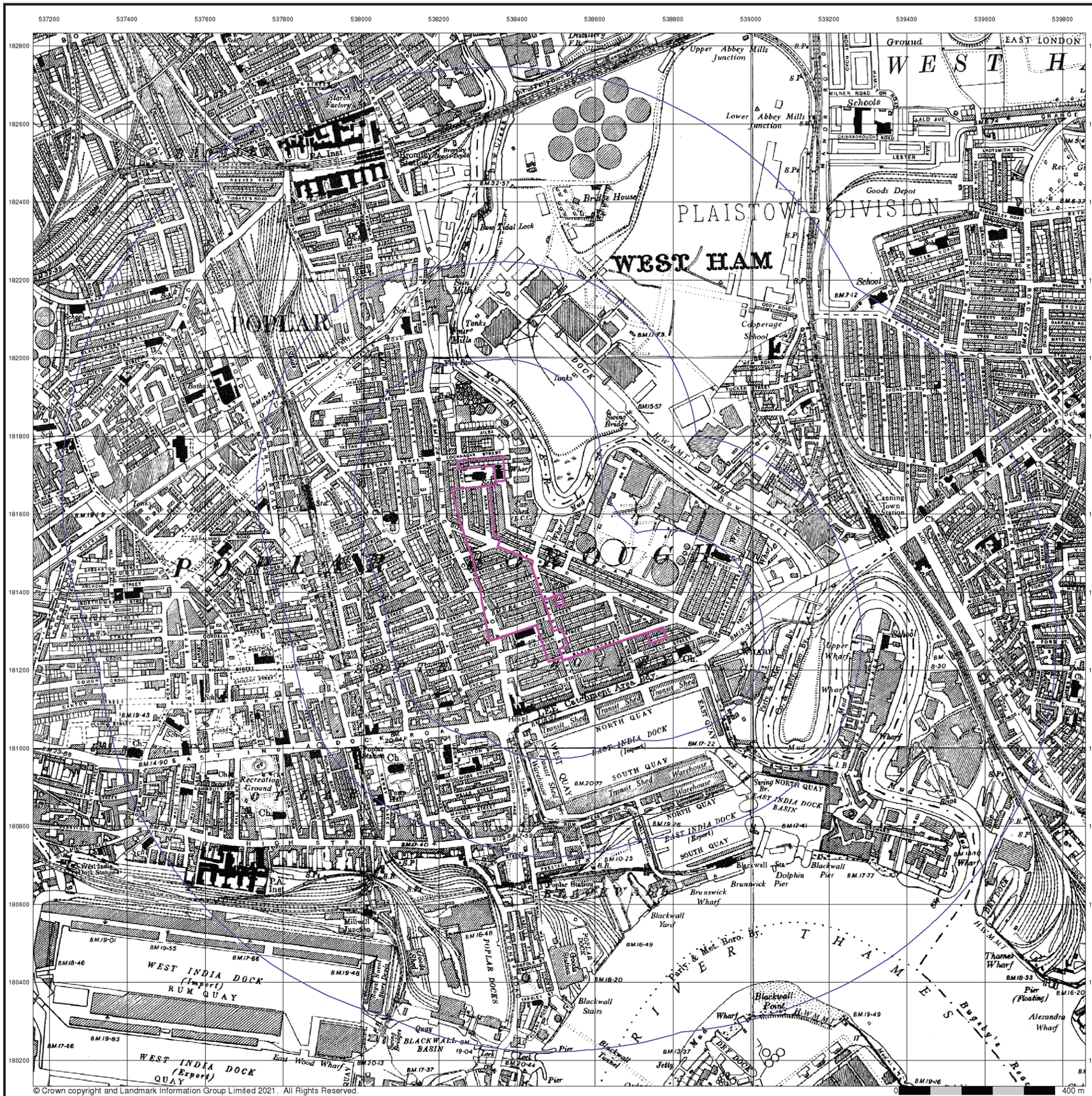
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

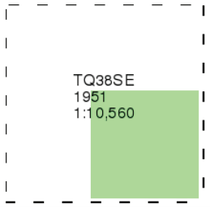
Ordnance Survey Plan

Published 1951

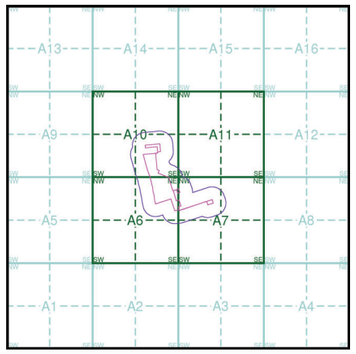
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



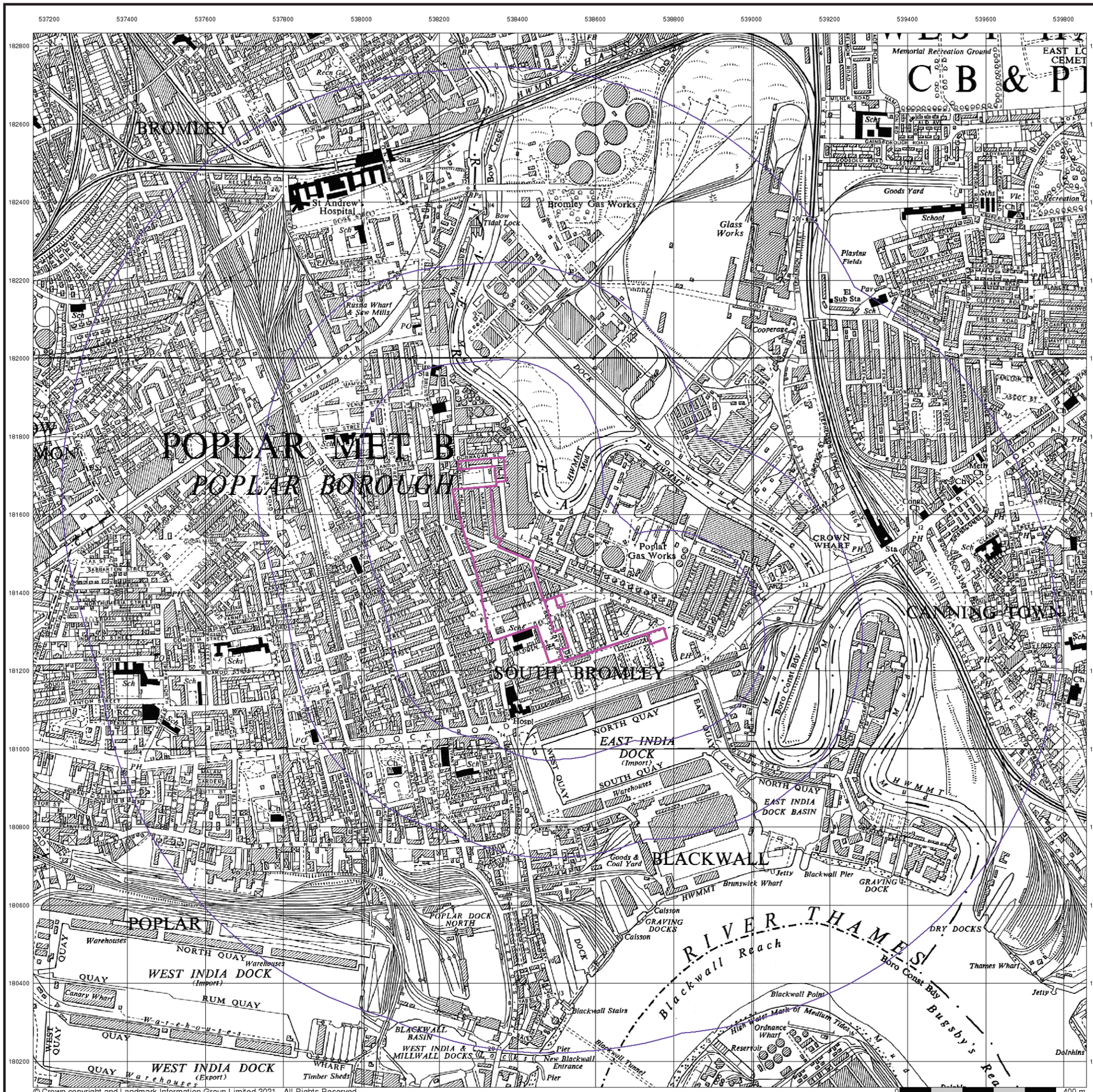
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

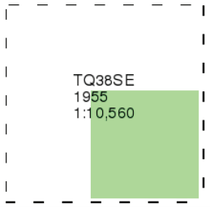
Ordnance Survey Plan

Published 1955

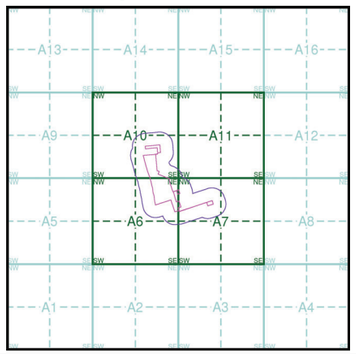
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



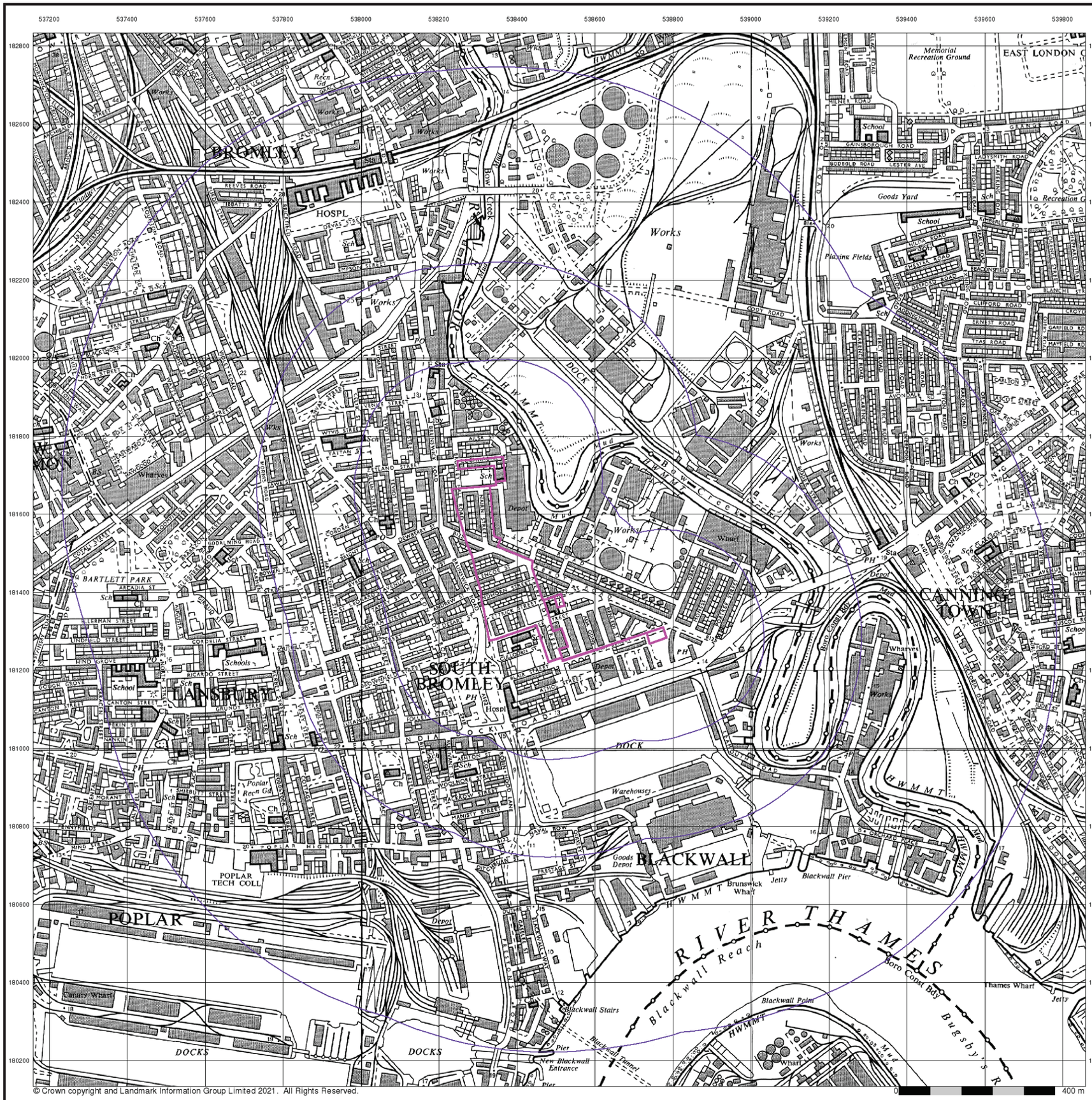
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

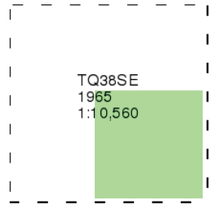
Ordnance Survey Plan

Published 1965

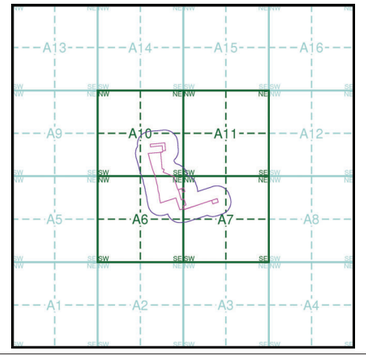
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

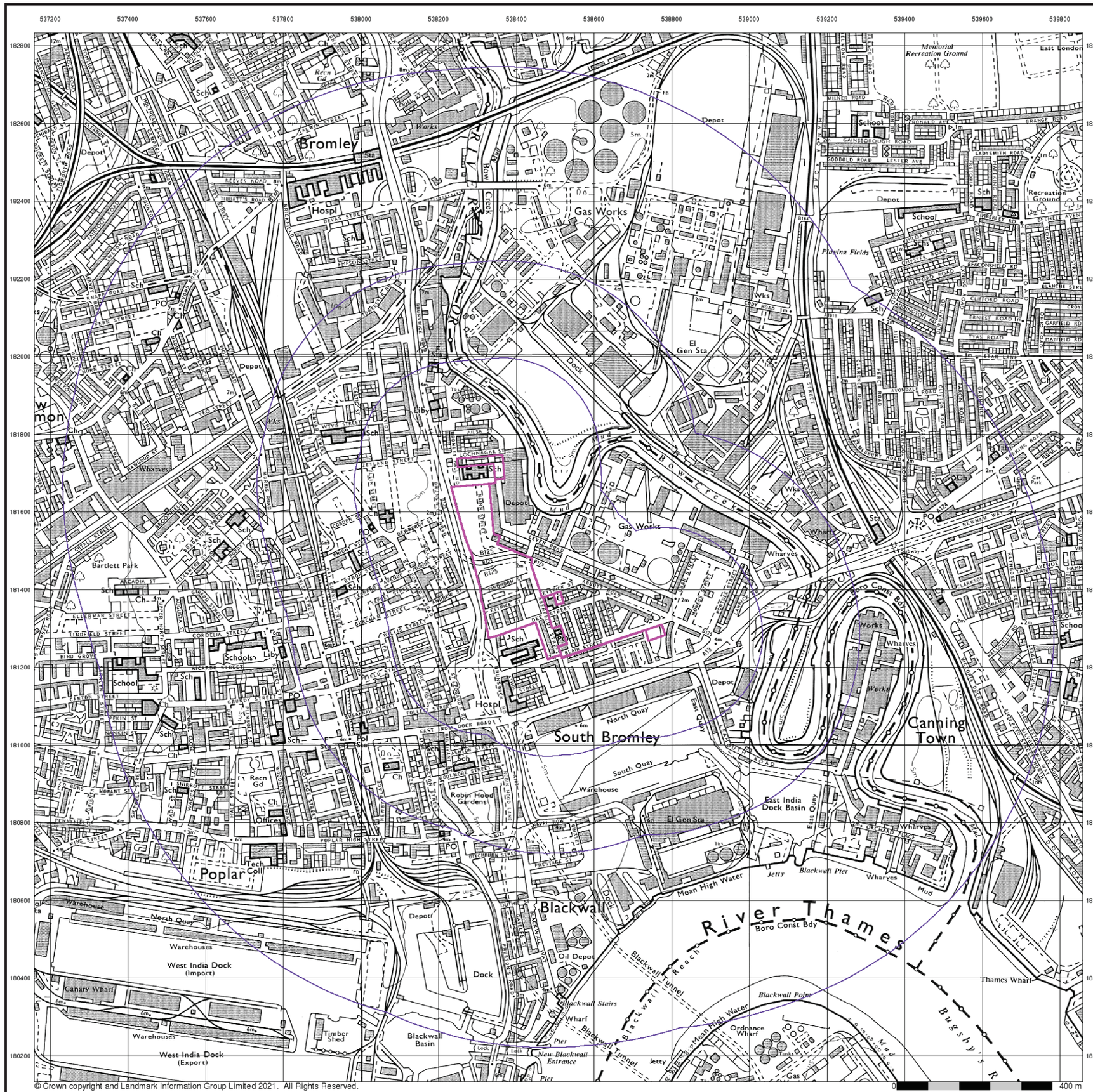


Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

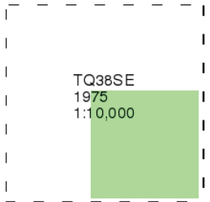
Ordnance Survey Plan

Published 1975

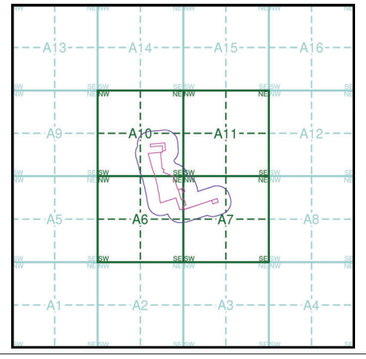
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2021. All Rights Reserved.

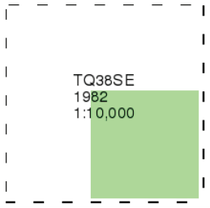
Ordnance Survey Plan

Published 1982

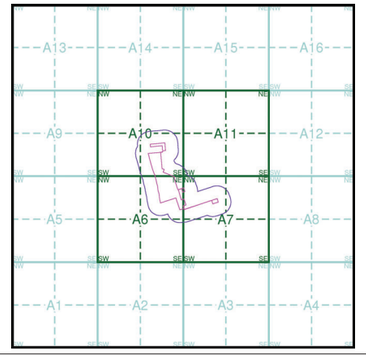
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



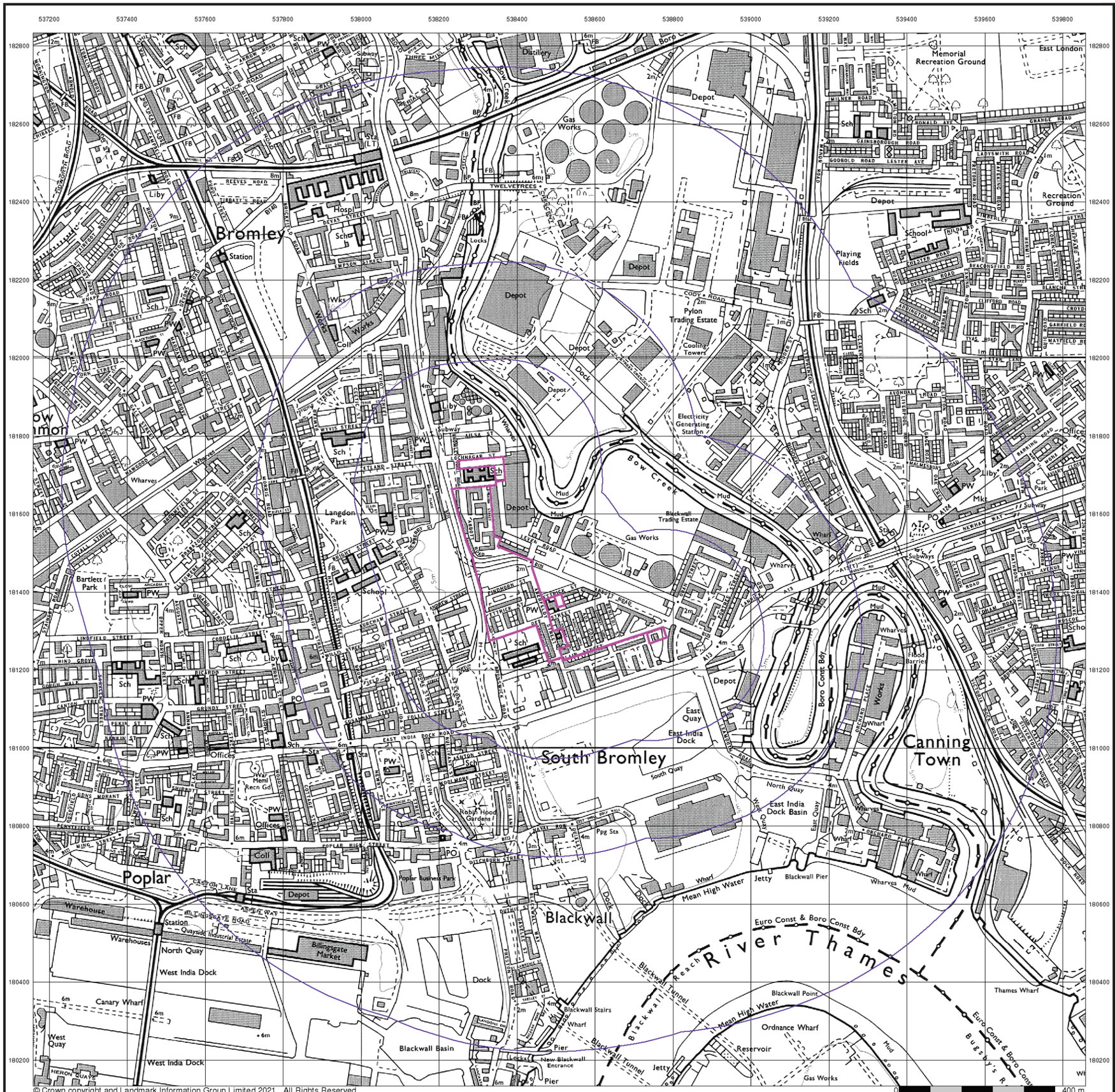
Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk


Bromley
Station
Bromley Hospital
Liby
Gas Works
Depot
Distillery
Memorial Recreation Ground
East London
Recreation Ground
Playing fields
School
Pylon Trading Estate
Cooling Towers
Electricity Generating Station
Dock
Bow Creek
Mud
Blackwall Trading Estate
Langdon Park
Bartlett Park
Wharves
Locks
TWELVETREES CRESCENT
BEEVES ROAD
TIBBAT'S ROAD
EMPSON STREET
LEAMAN STREET
WIVELL STREET
ABBOTT ROAD
LOCHNAGAR ST
LEVEN ROAD
GRANGE ROAD
GAINSBOROUGH ROAD
GODBOLD ROAD
LESTER AVE
MILNER ROAD
RONALD AVE
WINNERLEY RD
BEACONSFIELD RD
CLIFFORD ROAD
COLEBROOKE ROW
GARFIELD RD
MAYFIELD RD
AVONDALE SQUARE
PENCRAIG ROAD
NEWHAM WAY
BARKING ROAD
Car Park
Mkt
Subway
Offices
Mem Recn Gd
Poplar
Poplar Business Park
Ppg Sta
Sta
Warehouse
Warehouses
Quayside Industrial Estate
Billingsgate Market
North Quay
West India Dock
Canary Wharf
West Quay
Blackwall Basin
New Blackwall Entrance
Blackwall Stairs
Blackwall Tunnel
Blackwall Reach
River Thames
Euro Const & Boro Const Bdy
Mean High Water
Jetty
Blackwall Pier
Blackwall Point
Ordnance Wharf
Reservoir
Thames Wharf
Flood Barrier
Boro Const Bdy
East India Dock
East India Dock Basin
South Quay
North Quay
West India Dock
Canning Town
South Bromley
Blackwall
Poplar
Robin Hood Gardens
Works
Coll
Pier
Locks
Wharf
Whf
Sch
PW
PO
Mkt
Liby
Sta
Ho
Hosp
Subway
Flood Barrier
Boro Const Bdy
Works
Wharves
Mud
Depot
Dock
Locks
Pier
Jetty



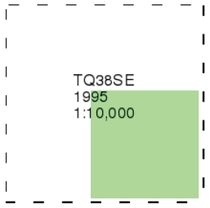
Ordnance Survey Plan

Published 1995

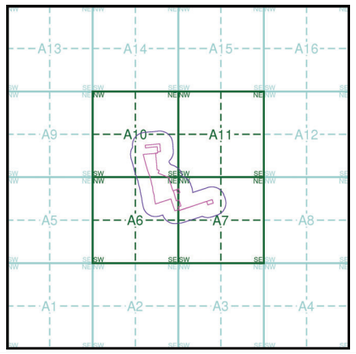
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



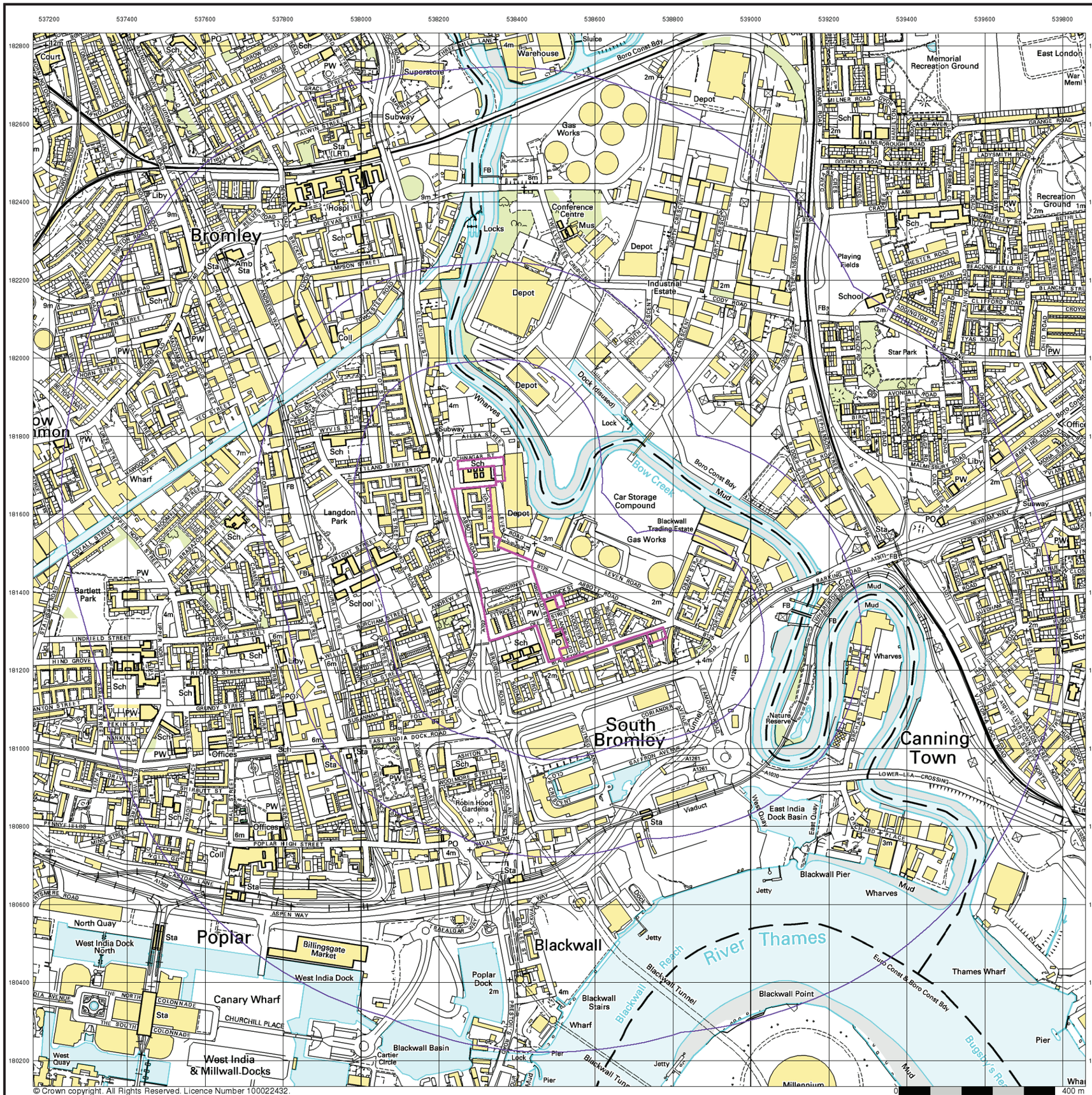
Order Details

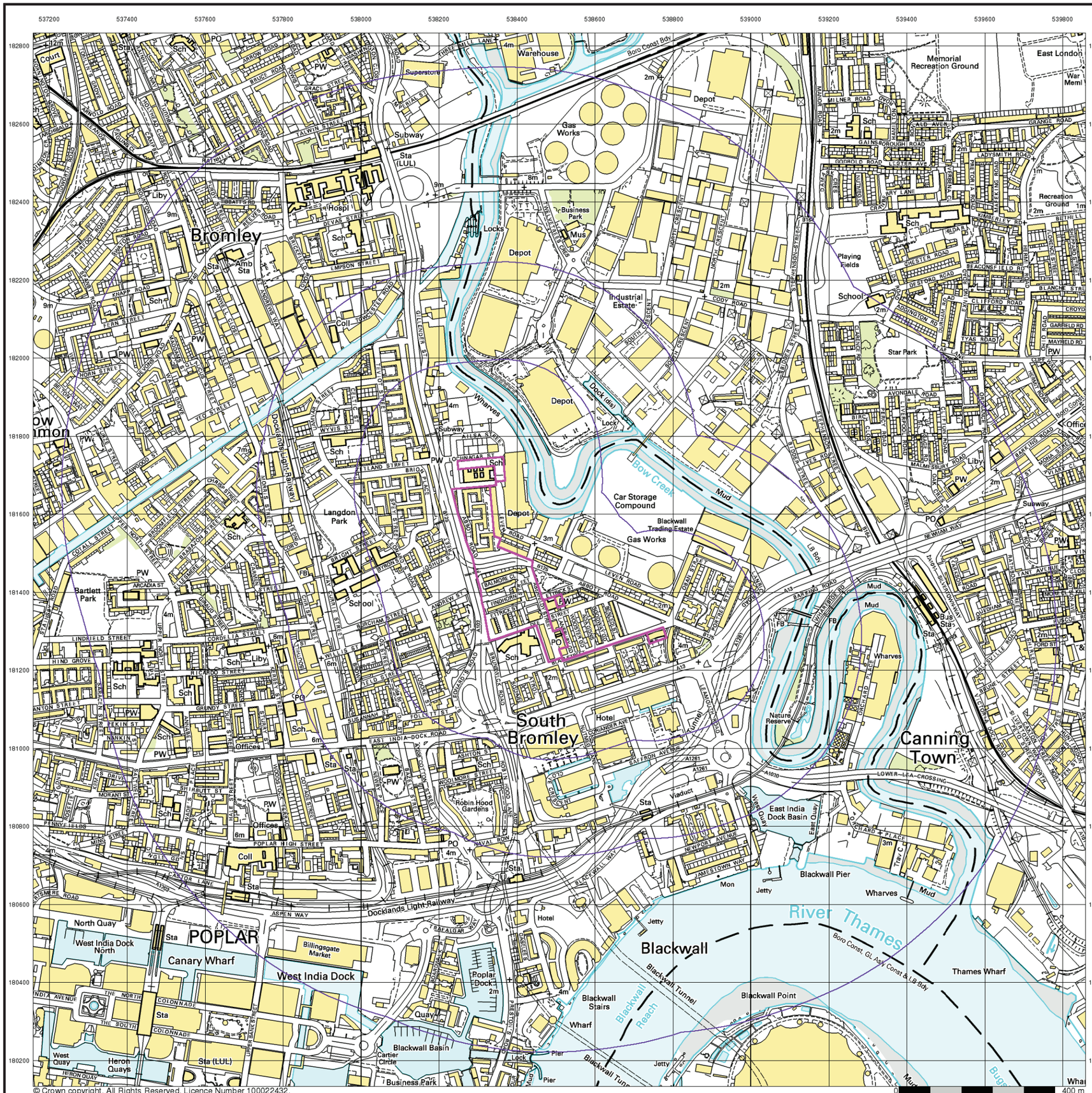
Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk


Bromley
Poplar
South Bromley
Canning Town
Blackwall
Langdon Park
Bartlett Park
West India & Millwall Docks
Canary Wharf
Blackwall Basin
Car Storage Compound
Blackwall Trading Estate
Gas Works
Conference Centre
Industrial Estate
Playing Fields
Star Park
Recreation Ground
Memorial Recreation Ground
East London
Billingsgate Market
East India Dock Basin
Blackwall Pier
Thames Wharf
Blackwall Point
River Thames
Bow Creek
Boro Const Bdy
Dock (disused)
Wharves
Depot
Locks
Lock
Superstore
Warehouse
Sluice
Subway
Hospl
Liby
Sch
School
Offices
Coll
Mus
Sta
Wharf
Pier
Jetty
Mud
Viaduct
Tunnel
Nature Reserve
Robin Hood Gardens
Millennium
Blackwall Tunnel
Blackwall Reach
Bugsby's Reach
Eur5 Const & Boro Const Bdy
West India Dock
West India Dock North
Poplar Dock
North Quay
West Quay
Cartier Circle
Blackwall Stairs
Lower Lea Crossing
A13
A1261
A1020
A102
A12
A2
Bromley-by-Bow
Limehouse
Millwall
Rotherhithe
Deptford
Greenwich
Lewisham
Peckham
Camberwell
Walworth
Southwark
Bermondsey
Lambeth
Vauxhall
Kennington
Brixton
Clapham
Battersea
Wandsworth
Putney
Fulham
Chelsea
Kensington
Hammersmith
Shepherds Bush
Notting Hill
Paddington
Marylebone
Bayswater
Soho
Westminster
Pimlico
Victoria
Knightsbridge
Belgravia
Mayfair
St James's
Whitehall
Charing Cross
Strand
Holborn
Bloomsbury
Fitzrovia
Euston
Somers Town
Camden Town
Kentish Town
Islington
Clerkenwell
Finsbury
Shoreditch
Hoxton
Haggerston
Dalston
Hackney
Stoke Newington
Stamford Hill
Tottenham
Wood Green
Hornsey
Crouch End
Highgate
Archway
Tufnell Park
Holloway
Upper Holloway
Barnsbury
Canonbury
Newington Green
Stoke Newington
Clapton
Hackney Wick
Homerton
Hackney Marshes
Leyton
Walthamstow
Chingford
Woodford
Wanstead
Leytonstone
Forest Gate
Stratford
West Ham
Plaistow
Canning Town
Custom House
Silvertown
North Woolwich
Beckton
Royal Docks
Victoria Dock
Albert Dock
King George V Dock
Thamesmead
Abbey Wood
Belvedere
Erith
Crayford
Dartford
Bexley
Sidcup
Chislehurst
Orpington
Petts Wood
West Wickham
Beckenham
Penge
Anerley
Norwood
Streatham
Tooting
Balham
Clapham Common
Clapham South
Stockwell
Oval
Elephant & Castle
Borough
London Bridge
Bermondsey
Rotherhithe
Surrey Quays
New Cross
New Cross Gate
Brockley
Ladywell
Lewisham
Catford
Hither Green
Grove Park
Mottingham
Eltham
Kidbrooke
Blackheath
Greenwich
Deptford
Rotherhithe
Surrey Quays
Peckham Rye
East Dulwich
Dulwich
West Dulwich
Tulse Hill
Brixton
Stockwell
Vauxhall
Pimlico
Victoria
Westminster



© Crown copyright. All Rights Reserved. Licence Number 100022432.

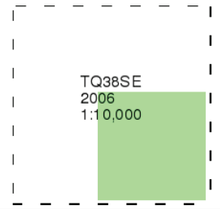
10k Raster Mapping

Published 2006

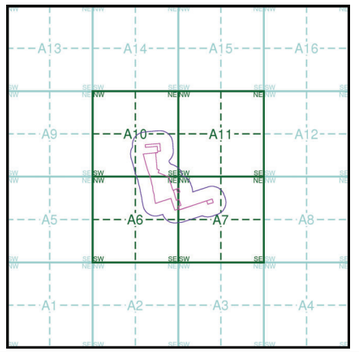
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright. All Rights Reserved. Licence Number 100022432.

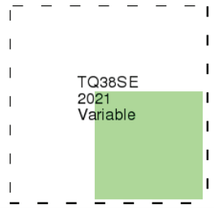
VectorMap Local

Published 2021

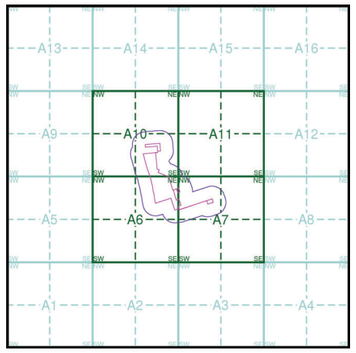
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	281787081_1_1
Customer Ref:	JER8921
National Grid Reference:	538470, 181460
Slice:	A
Site Area (Ha):	5.54
Search Buffer (m):	1000

Site Details

Aberfeldy Village, Aberfeldy Street, LONDON, E14 0NU

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Appendix D

Part 2A (The Contaminated Land Regime)

Contaminated Land Definition

Under Section 57 of the Environmental Act 1995, Part 2A was inserted into the Environmental Protection Act 1990 to include provisions for the management of contaminated land.

Subsequent regulations were first implemented in England in April 2000, Scotland in July 2000 and Wales in July 2001[1], providing a definition of 'contaminated land' and setting out the nature of liabilities that can be incurred by owners of contaminated land and groundwater.

According to the Act, contaminated land is defined as 'any land which appears to the local authority in whose area the land is situated to be in such a condition, by reason of substances in, on or under the land that:

1. *significant harm* is being caused or there is a *significant possibility* of such harm being caused; or
2. *significant pollution* of controlled waters[2] is being caused or there is a significant possibility of such pollution being caused[3]'

The guidance on determining whether a particular possibility is significant is based on the principles of risk assessment and in particular on considerations of the magnitude or consequences of the different types of significant harm caused. The term 'possibility of significant harm being caused' should be taken, as referring to a measure of the probability, or frequency, of the occurrence of circumstances that could lead to significant harm being caused.

The following situations are defined where harm is to be regarded as significant:

1. Chronic or acute toxic effect, serious injury or death to humans
2. Irreversible or other adverse harm to the ecological system
3. Substantial damage to, or failure of, buildings
4. Disease, other physical damage or death of livestock or crops
5. The pollution of controlled waters[4].

With regard to radioactivity, contaminated land is defined as 'any land which appears to be in such a condition, by reason of substances in, on or under the land that harm is being caused, or there is a *significant possibility of such harm being caused*[5]'.

The Risk Assessment Methodology

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risks to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected with the hazard via one or several exposure pathways (e.g. the pathway of direct contact). Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three

[1] In England by The Contaminated Land (England) Regulations 2000, updated by The Contaminated Land (England) (Amendment) Regulations 2012; in Scotland by The Contaminated Land (Scotland) Regulations 2000, updated by the Contaminated Land (Scotland) Regulations 2005; and in Wales by The Contaminated Land (Wales) Regulations 2001, updated by the Contaminated Land (Wales) Regulations 2006.

[2] In Scotland the term "controlled water" has been updated to "water environment" under the Contaminated Land (Scotland) Regulations 2005 in line with the Water Environment and Water Services (Scotland) Act 2003.

[3] The definition was amended in 2012 by implementation of the Water Act 2003.

[4] Groundwater in this context does not include waters within underground strata but above the saturated zone.

[5] The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006 and Contaminated Land (Wales) Regulations 2006.

JER8921 | Aberfeldy Village Masterplan | V2 | R0 | 2nd July 2021
rpsgroup.com

essential components of a source (hazard), pathway and receptor, there can be no risk. Thus, the mere presence of a hazard at a site does not mean that there will necessarily be attendant risks.

The Risk Assessment

By considering where a viable pathway exists which connects a source with a receptor, this assessment will identify where pollutant linkages may exist. A pollutant linkage is the term used by the DEFRA in their standard procedure on risk assessment. If there is no pollutant linkage, then there is no risk. Therefore, only where a viable pollutant linkage is established does this assessment go on to consider the level of risk. Risk should be based on a consideration of both:

- The likelihood of an event (probability) - takes into account both the presence of the hazard and receptor and the integrity of the pathway.
- The severity of the potential consequence - takes into account both the potential severity of the hazard and the sensitivity of the receptor.

For further information please see the Contaminated Land section on the DEFRA website (www.defra.gov.uk).

Appendix E

General Notes

JER8921 | Aberfeldy Village Masterplan | V2 | R0 | 2nd July 2021
rpsgroup.com

APPENDIX G - Viewpoints

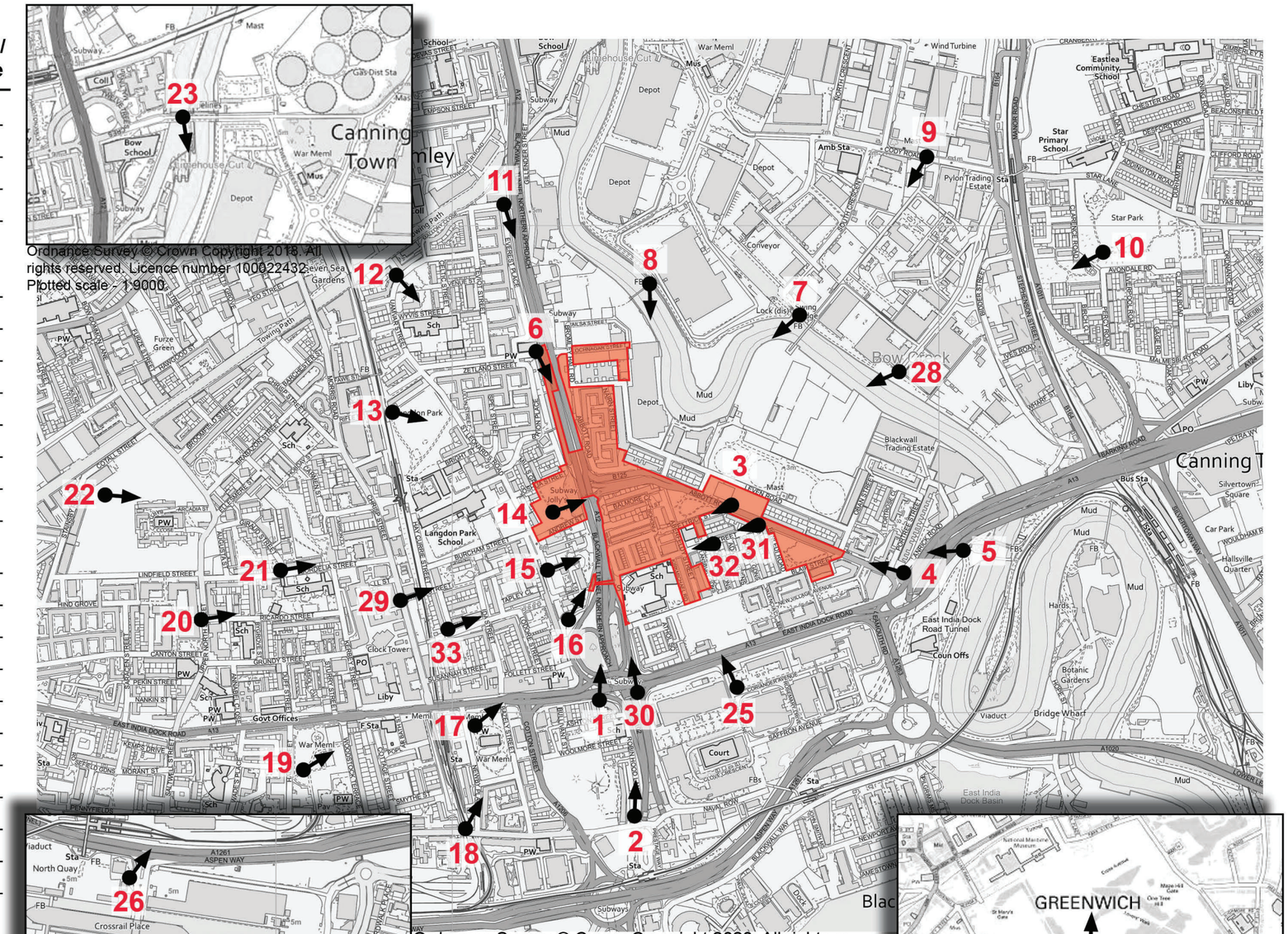
General Notes

RPS Consulting Services Ltd

Phase 1 - Environmental Risk Assessment / Desk Study Environmental Review

1. A "desk study" means that no site visits have been carried out as any part thereof, unless otherwise specified.
2. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the Client.
3. The desk study information is not necessarily exhaustive and further information relevant to the site may be available from other sources.
4. The accuracy of maps cannot be guaranteed and it should be recognised that different conditions on site may have existed between and subsequent to the various map surveys.
5. No sampling or analysis has been undertaken in relation to this desk study.
6. Any borehole data from British Geological Survey sources is included on the basis that: "The British Geological Survey accept no responsibility for omissions or misinterpretation of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation".
7. Where any data supplied by the Client or from other sources, including that from previous site investigations, have been used it has been assumed that the information is correct. No responsibility can be accepted by RPS for inaccuracies in the data supplied by any other party.
8. This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may necessitate a re-interpretation of the report in whole or in part after its original submission.
9. The copyright in the written materials shall remain the property of the RPS Company but with a royalty-free perpetual licence to the Client deemed to be granted on payment in full to the RPS Company by the Client of the outstanding amounts.
10. The report is provided for sole use by the Client and is confidential to them, their professional advisors, no responsibility whatsoever for the contents of the report will be accepted to any person other than the Client. [Unless otherwise agreed]
11. These terms apply in addition to the RPS "Standard Terms & Conditions" (or in addition to another written contract which may be in place instead thereof) unless specifically agreed in writing. (In the event of a conflict between these terms and the said Standard Terms & Conditions the said Standard Terms & Conditions shall prevail.) In the absence of such a written contract the Standard Terms & Conditions will apply.

PSC view no.	Location	Render / Wireline
1	South of East India Dock Road	W
2	Junction of A102 and Poplar High Street	W
3	Abbott Road / Ettrick Street	R+W
4	Abbot Road, junction with East India Dock Road	W
5	LBTH borough designated view 6: View from East India Dock Road to Balfron Tower & Canary Wharf in the back-ground	W
6	A12, junction with Zetland Street	R+W
7	Riverside footpath north of River Lea / Bow Creek	W
8	Bow Creek River Lea bridge	W
9	Cody Road	W
10	Star Lane Park	W
11	A12, junction with Teviot Street	W
12	Uamvar Street	W
13	LBTH borough designated view 5: View from Langdon Park to Balfron Tower & Canary Wharf in the background	W
14	Jolly's Green	W
15	St Leonards Road	W
16	Pedestrian path from A102 / St Leonards Road	W
17	All Saints Churchyard, inside west entrance gates	W
18	Poplar High Street, bridge over railway tracks	W
19	Poplar Recreation Ground	W
20	Upper North Street	W
21	Cordelia Street	W
22	Bartlett Park	W
23	Twelvetrees Crescent, bridge over River Lea and Bow Creek	W
24	LVMF 5A.1 – Greenwich Park: the General Wolfe statue – at the orientation board	W
25	Nutmeg Lane	W
26	Upper Bank Street	W
27	Trafalgar Way	W
28	Bidder Street / Bow Creek	W
29	Chrisp Street, looking along Willis Street	W
30	A12, junction with East India Dock Road, looking north	W
31	Dee Street / Abbott Road	R+W
32	Dee Street, midway	R+W
33	Brownfield Street, outside no.30	W



Ordnance Survey © Crown Copyright 2018. All rights reserved. Licence number 100022432. Plotted scale - 1:9000.

Ordnance Survey © Crown Copyright 2020. All rights reserved. Licence number 100022432. Plotted scale - 1:10000.

Ordnance Survey © Crown Copyright 2020. All rights reserved. Licence number 100022432. Plotted scale - 1:10000.

Ordnance Survey © Crown Copyright 2015. All rights reserved. Licence number 100022432. Plotted scale - 1:8000.

Notes:

Viewpoint locations are approximate - exact locations, taking into account conditions on the ground, to be determined on site with PSC.

Approximate site boundary marked in red for indicative purposes only.

Where a view type is indicated as 'R+W', buildings applied for in detail will be illustrated in rendered form, and buildings applied for in outline will shown in wireline form.

PETER STEWART CONSULTANCY

Aberfeldy Village
Draft viewpoint map for Townscape and Visual Impact Assessment

Revision no: 8
Date: July 2021

Trium Environmental Consulting LLP
4 Cavendish Square
London
W1G 0PG
+44 (0) 20 3887 7118
hello@triumenv.co.uk
www.triumenvironmental.co.uk

Project Reference: TEC0187

Appendix: Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: EIA Scoping Opinion Response
Annex 4: Cumulative Schemes List and Map
Annex 5: Cumulative Schemes Assessment Matrix

Holly Farrow
DP9
100 Pall Mall
London
SW1Y 5NQ

Place Directorate
Development Management
Planning & Building Control
Town Hall, Mulberry Place
5 Clove Crescent
London
E14 2BG
www.towerhamlets.gov.uk
Tel: 020 7364 5314
Fax: 020 7364 5421

Clare.Richmond@towerhamlets.gov.uk

8 September 2021

My ref: PA/21/01820

Dear Holly Farrow,

Environmental Impact Assessment Scoping Opinion
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017(as amended)

Location: Aberfeldy Estate, Abbott Road, Land to the north of East India Dock Road (A13) London E14

Proposal: Request for an Environmental Impact Assessment (EIA) Scoping Opinion under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended), in respect of a hybrid planning application for the demolition of existing buildings and the redevelopment of the site to comprise approximately 1,600 residential units, 7,500sqm of non-residential uses, new and improved access arrangements, associated servicing and landscaping, and public open space. Full planning permission will be sought for approximately 270 residential units and 2,500sqm of non-residential uses.

Please find attached the London Borough of Tower Hamlets' Environmental Impact Assessment (EIA) Scoping Opinion under The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) for the proposed development.

Please note that the Environmental Statement (ES) will form part of the planning application relating to the proposed development, and as such the planning application cannot be validated until the Council is in receipt of the ES.

If you require any further assistance, please do not hesitate to contact the EIA Officer (Clare Richmond) on telephone 020 7364 3620 or email Clare.Richmond@towerhamlets.gov.uk.

Yours sincerely,



Jennifer Peters, Divisional Director, Planning and Building Control

EIA SCOPING OPINION UNDER

THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (AS AMENDED)

In respect of the:

Request for an EIA Scoping Opinion as to the information to be contained within an Environmental Impact Assessment in support of a hybrid planning application for the demolition of existing buildings and the redevelopment of the Application Site to provide approximately 1,600 residential units, 7,500sqm of non-residential uses. Full planning permission will be sought for approximately 270 residential units and 2,500sqm of non-residential uses. PA/21/01820/NC.

Located at:

Aberfeldy Estate, Abbott Road, Land to the north of East India Dock Road (A13), London, E14

Adopted by:

LONDON BOROUGH OF TOWER HAMLETS

FOREWORD

This opinion has been prepared by the London Borough of Tower Hamlets with all reasonable skill, care and diligence.

It is based on the information provided to London Borough of Tower Hamlets on behalf of the Applicant and the comments and opinions resulting from consultation with internal/external consultees prior to adopting this opinion.

The fact that London Borough of Tower Hamlets has given this opinion shall not preclude them from subsequently requiring the developer to submit further information in connection with any submitted development application to the Council.

1. INTRODUCTION

1.1 Context

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as 'the EIA Regulations') require that for certain planning applications, an Environmental Impact Assessment (EIA) is undertaken, and an Environmental Statement (ES) produced.

EIA is a procedure which serves to provide information about the likely effects of a proposed project on the environment, so as to inform the process of decision-making as to whether the project should be allowed to proceed, and if so on what terms.

Schedule 1 of the EIA Regulations lists developments that always require EIA, and Schedule 2 lists developments that may require EIA if it is considered that they could give rise to significant environmental effects by virtue of factors such as its nature, size or location. Where a Proposed Development is determined to be an 'EIA development' the Applicant can ask the relevant planning authority for advice on the scope and content of the EIA (an EIA Scoping Opinion).

The Applicant has determined that the Proposed Development has the potential to generate significant environmental effects and therefore constitutes 'EIA Development'.

A request for an EIA Scoping Opinion was received by the London Borough of Tower Hamlets (LBTH) as the 'relevant planning authority' from DP9 on behalf of Ecoworld and Poplar Harca ('the Applicant') on 12th August 2021.

This requested an EIA Scoping Opinion for the demolition of existing buildings and the redevelopment of the Application Site to provide approximately 1,600 residential units and 7,500 square metres (sqm) Gross Internal Area (GIA) of non-residential floorspace, in buildings ranging from 7 m to 96 m in height; new and improved access arrangements; associated servicing facilities and ancillary plant space; associated landscaping; new vehicular access onto the Application Site, north of Blair Street and a new A12/Abbott Road junction, moved further north; and new public open space. Hybrid planning permission will be sought by the planning application, seeking full planning permission for approximately 270 residential units and 2,500sqm of non-residential uses.

The statutory 5-week deadline for the adoption of the EIA Scoping Opinion 16th September 2021.

This document constitutes LBTH's formal EIA Scoping Opinion.

1.2 Planning History

Paragraphs 33 - 37 of the Scoping Report present the planning history of the Application Site. It is noted that the Application Site has been subject to two planning applications, including:

- An outline planning application (PA/11/02716/PO) for the redevelopment of the existing Aberfeldy estate comprising:

  Outline planning application (all matters reserved) for the mixed-use redevelopment of the existing Aberfeldy estate comprising: Demolition of 297 existing residential units and 1,990 sq m of nonresidential floorspace, including shops (use class A1), professional services (use class A2), food and drink (use class A3 and A5), residential institution (use class C2), storage (use class B8), community, education and cultural (use class D1); and Creation of 1,176 residential units (Use Class C3) in 15 new blocks between 2 and 10 storeys in height plus 1,743sqm retail space (Use Class A1), professional services (Use Class A2), food and drink (Use Classes A3 and A5) and 1,786 community and cultural uses (Use

Class D1) together with a temporary marketing suite (407sqm), energy centre, new and improved public open space and public realm, semi-basement, ground and on-street vehicular and cycle parking and temporary works or structures and associated utilities/services

Outline Planning Permission (OPP) was granted in June 2012 and is hereafter referred to as the '2012 OPP';

- A full planning application (PA/11/03548) which was granted planning June 2012 for phase one of the Aberfeldy New Villages comprising:

  Erection of three blocks between 4 and 10 storeys on the corner of Abbott Road and East India Dock Road to provide 342 new residential units, 352 sq.m. new retail floorspace (Use Classes A1 and A3), a marketing suite of 407 sq.m. (Use Class A2), semi-basement and ground floor parking, cycle parking, landscaped public open space and private amenity space and other associated works.

  Proposal constitutes Phase 1 of application PA/11/02716.

- A minor material amendment application (PA/15/00002) which primarily sought permission for extending the development contained within the consented Phase 3 of the 2012 OPP to include sections of the consented Phase 4, increasing the maximum parameter heights of the buildings in Phase 3 by 2.5m (to allow for additional storeys to certain blocks, thereby enabling an increase in the number of dwellings in Phase 3 whilst not impacting upon the consented total number of residential units or floorspace brought forward across all 6 phases of the consented scheme), clustering the retail uses to the intersection between Aberfeldy Street and Blair Street, and expanding the floor area allocated to the community centre and health centre (to respond to projections of increased demand for these facilities). This application was granted planning permission in July 2015.

- Two reserved matters applications have been permitted for Phase 2 (PA/13/01844 - permitted on 27th March 2014), and Phase 3 (PA/15/01826 - permitted 13th November 2015) of the OPP as amended by the minor material amendment application. These comprised the following:

  PA/13/01844 - *Submission of reserved matters to condition 1 (details of siting, layout, scale, design and external appearance of the building, the means of access thereto and landscaping of the site) and condition 43 (reserved matters further information) for the development of Phase 2 of the Aberfeldy New Village Outline Planning Permission (PA/11/2716) approved on 20 June 2012 comprising demolition of Helen Mackay House, Jervis Bay House, Gaze House and Richie House and creation of two residential blocks between 4 to 8 storeys , with a total of 219 new dwellings (16 x studio; 97 x 1 bed; 92 x 2 bed; 7 x 3 bed; 2 x 4 bed; 5 x 5 bed), new public open space, car parks, cycle parking and temporary works of structures and associated utilities/services required by the development*.

  PA/15/01826 - *Submission of reserved matters pursuant to Condition 1 (details of siting, layout, scale, design and external appearance of the buildings, the means of access thereto and landscaping of the site), and partial approval of details pursuant to Condition 43 - (titled reserved matters further information) Sub-sections (a), (b) , (c), (d) (e), (f), (h) and (i) and partial discharge of Condition 25 (land contamination) Sub-Sections (a), (b),*

and (c) for the development of Phase 3 of the Aberfeldy New Village Outline Planning Permission (PA/15/00002) approved in June 2015 comprising demolition of Arapiles House, Athenia House, Jones House, Adams House, Sam March House, Theseus House and Trident House and creation of four residential blocks between 3 to 10 storeys, with a total of 344 new dwellings (21 x studio, 122 x 1 bed, 162 x 2 bed, 30 x 3 bed, 4 x 4 bed, 3 x 5 bed and 2 x 6 bed), a health centre facility, a pharmacy, a community/youth centre facility, retail spaces (618sq.m) and energy centre, public open space, car parks, cycle parking and new public open space, car parks, cycle parking and temporary works or structures and associated utilities/services required by the development.

For the purposes of this Scoping Opinion, the permissions above are collectively referred to as the 'OPP'. The Proposed Development would replace Phases 4 to 6 of the OPP, to provide a new residential-led mixed-use development. Phase 1 and 3 have been constructed or are under construction currently.

1.3 EIA Scoping Opinion

This EIA Scoping Opinion outlines LBTH's opinion on the proposed scope of the EIA (based on the information provided to date) and identifies any amendments and/or concerns.

In addition to the information provided by the Applicant, this EIA Scoping Opinion has had reference to the following:

- National Planning Policy Framework (NPPF) and associated Planning Practice Guidance (PPG);
- The London Plan (Greater London Authority (GLA), 2021);
- Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020);
- Institute of Environmental Management and Assessment (IEMA), Delivering Quality Development (2016);
- Consultation with internal LBTH consultees and external consultees;
- Relevant Application Site history, including the previous planning applications and permissions for the Application Site;
- Case law; and
- LBTH's interactive map.

Issuing this EIA Scoping Opinion does not prevent the planning authority from requesting "further information" at a later stage under Regulation 25 of the EIA Regulations.

No indication of the likely success of an application for planning permission for the Proposed Development is implied in the expression of this EIA Scoping Opinion.

Matters and aspect chapters are not considered to be 'scoped out' unless specifically confirmed by LBTH. Where LBTH has not accepted that certain matters or aspect chapters can be 'scoped out' of the assessment, the Applicant may agree with relevant consultees on the provision that further evidence has been provided to justify this approach. However, the ES should clearly explain the reasoning for scoping out such matters and aspect chapters, and justify the approach taken, and this will not prevent LBTH requesting further information at a later stage under Regulation 25 of the EIA Regulations.

It should be noted that the EIA Regulations require the ES to "*be based on the most recent Scoping Opinion or Direction issued (so far as the Proposed Development remains materially the*

same as the Proposed Development which was subject to that opinion or direction)". The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development as described in the Scoping Report.

It is recommended that the Applicant uses a table within the ES to demonstrate, how the ES has been based on this Scoping Opinion.

1.4 EIA Scoping Report Regulatory Requirements

Table 1.1 below assesses whether the request for an EIA Scoping Opinion meets the requirements as set out in the EIA Regulations (Regulation 15).

Table 1.1: Review of the request for an EIA Scoping Opinion in respect to the EIA Regulations

EIA Regulation Requirement	Requirement met in request for an EIA Scoping Opinion?
A plan sufficient to identify the land	Figure 1, Figure 2 and Appendix A of the Scoping Report.
A brief description of the nature and purpose of the development, including its location and technical capacity	A description of the Site and its context if provided in Paragraphs 23 to 31, Table 1 and Figure 3 of the Scoping Report. A description of the Proposed Development is provided in Paragraphs 38 to 50 of the Scoping Report.
An explanation of the likely significant effects of the development on the environment	An explanation of potentially significant environmental effects associated with the Proposed Development is provided in Paragraphs 127 to 385 of the Scoping Report.
Such other information or representations as the person making the request may wish to provide or make	As appropriate.

1.5 Report Structure

The contents of the remainder of this EIA Scoping Opinion are set out below:

- Section 2 details LBTH's understanding of the Proposed Development including demolition and construction;
- Section 3 reviews the overall approach to the EIA in the context of prevailing EIA legislation and guidance;
- Section 4 provides a review of the proposed scope and approach to each aspect proposed by the Applicant to be scoped in; and
- Section 5 considers those aspects proposed by the Applicant to be scoped out of the EIA.

1.6 Consultation

The EIA Regulations require that the local planning authority seeks the view of *"consultation bodies"* prior to issuing an EIA Scoping Opinion. LBTH has therefore consulted both internal and external consultees as part of the preparation of this EIA Scoping Opinion. The internal and external responses that have been received are integrated into the main text as appropriate, and the external responses are available on the LBTH's planning register using the following reference number: PA/21/01820.

Subsequent advice regarding the scope of the EIA and engagement with LBTH officers is provided through LBTH's pre-app service, subject to the relevant officer's availability.

1.7 Submission Documents

In accordance with the temporary Town and Country Planning (Development Management Procedure, Listed Buildings and Environmental Impact Assessment) (England) (Coronavirus) (Amendment) Regulations 2020, it may not be reasonably practicable to make a hard copy of the ES available to the public at the time of submission of the planning application, for reasons connected to the effects of coronavirus, including restrictions on movement. In addition, during this time, a hard copy does not need to be provided to LBTH's EIA Consultants.

However, LBTH require agreement that a hard copy of the ES will be submitted to LBTH should it be reasonably practicable to make a hard copy available to the public during the assessment of the planning application.

In addition, as the submission date of this planning application is not known, nor is the nature and duration of restrictions on movement as a result of coronavirus, LBTH reserves the right to require the following at any time during the application process and within reason:

- A copy of the ES, both as a hard copy and an electronic copy. A minimum of one copy of the ES will need to be provided to LBTH; and
- A further copy (both hard and electronic) of the ES should be sent directly to the LBTH's EIA Consultants – address to be supplied separately on the request of the Applicant.

2. THE PROPOSED DEVELOPMENT

2.1 The Proposed Development

Paragraphs 38 to 50 of the Scoping Report describe the Proposed Development. The Proposed Development is understood to comprise the demolition of the existing structures on-site and the construction of a residential-led mixed-use scheme, in plots up to 96 m in height, providing:

- Approximately 1,600 residential units;
- Approximately 7,500 sqm GIA of non-residential uses, including restaurant, retail and office (Use Class E(a), E(b) and E(g));
- New and improved access arrangements, include pedestrianisation of Abbot Road vehicle underpass;
- Associated servicing facilities and ancillary plant space and associated landscaping;
- New vehicular access onto the Application Site north of Blair Street and a new A12/Abbott Road junction moved further north. The existing vehicular underpass is proposed to be converted into a pedestrian and cycle route, connecting Jolly's Green with the Application Site; and
- New public open space.

It is understood that the hybrid planning application will be based upon the following description of the Proposed Development:

- In outline: Demolition of existing buildings and the provision of:
    - Approximately 1,330 residential units;
    - Approximately 5,000 sqm GIA of non-residential restaurant, retail and office uses (Class E(a), E(b) and E(g));
    - New buildings up to 96 m in height;
    - Cycle and pedestrian routes through the Application Site;

- An approximately 1,200 sqm residents hub; and
- Internal vehicle access routes.

- In detail: Demolition of existing buildings and the provision of four residential areas comprising:
  - Approximately 270 residential units;
  - Building heights ranging between approximately 7 m and 42 m in height; and
  - Approximately 2,500 sqm GIA of non-residential restaurant and retail uses (Class E(a) and E(b)).

LBTH notes that the Proposed Development will also provide a new significant public open space at the centre of the Application Site between the A12 and Abbott Road, along with a number of smaller open spaces and a new public square in front of St Nicolas Church. Car parking is proposed to be provided within three podium car parks and on-street. Provision for electrical car charging points will also be made by the Proposed Development.

It is understood that the Application Site covers a total area of 9.69 hectares (ha) and is bordered by:

- Industrial areas and Ailsa Street to the north. Bromley Hall School is between two areas of the Application Site in the north;
- B125 Abbott Road and Leven Road to the east;
- Culloden Primary School and residential areas off Blair Street to the south; and
- The Blackwall Tunnel Northern Approach (A12), beyond which are residential areas.

It is understood the Application Site currently consists of 330 homes, a retail and commercial element (along Aberfeldy Street), Aberfeldy Neighbourhood Centre, Aberfeldy (GP) Practice, and an area of brownfield land. The Application Sites also comprises public realm, containing soft landscaping, Aberfeldy Millennium Green, Leven Road Green, Braithwaite Park, Jolly's Green and a hard standing Multi Use Games Area (MUGA).

2.2 General Comments

There are some uncertainties in the project description in the Scoping Report that should be addressed in the ES, as follows:

- Appendix A and Figure 1 of the Scoping Report provide the planning application boundary for the Application Site. However, some areas within the Application Site are labelled as 'land with the potential to be included in the application boundary'. For the avoidance of doubt this Scoping Opinion has been undertaken on the basis of the maximum extent of the Application Site as shown in Appendix A and Figure 1 of the Scoping Report. The ES should confirm the application boundary and any delivery mechanisms relied on to implement associated works within these areas should they not form part of the Proposed Development and Application Site. In addition it is noted that Paragraph 441 incorrectly states the Application States is 17.4 hectares.
- It is not understood whether affordable housing is intended to be provided as part of the Proposed Development. The ES should clearly set out what affordable housing is proposed and provide the relevant assessment.
- Paragraph 40 of the Scoping Report notes that the Proposed Development will provide car parking however the proposed quantity of car parking has not been provided. No

reference to cycle parking has not been made. The ES should clearly set out the number of car and cycle parking spaces proposed and provide the relevant assessment.

- It is unclear if basements form part of the Proposed Development, as although basements are referred to within the Scoping Report, these are not described within the description of the Proposed Development. The ES will need to outline the extent, depth and location of the proposed basements are including any below ground works. The maximum basement provision must be assessed accordingly in the ES including, for example, variations to site set-up, construction compound locations, materials arising, dewatering and traffic volumes.
- Where appropriate, the ES must assess the maximum parameters of the Proposed Development in accordance with the Rochdale envelope, and these parameters should be clearly set out and sufficiently secured within any given planning permission.
- The ES should also provide information on massing (including sections/elevations), the location of uses within the Proposed Development, the location and nature of public spaces and pedestrian routes, proposals for soft and hard landscaping including ecological enhancements, highway works, access and servicing arrangements, drainage strategy, waste management proposals, sustainability and climate change resilience measures.
- Where different floorspace measurements are used e.g. Gross External Area (GEA), General Internal Area (GIA) and Net Internal Area (NIA), the ES should clearly identify how these have been calculated, based on which drawings and how the figures relate to one another.
- The ES should ensure consequential effects of plant are assessed as required, in terms of flue location and noise.
- Soft landscaping should be prioritised within the Proposed Development which, where possible, should incorporate dual uses e.g. biodiversity benefits, flood attenuation/Sustainable Drainage Systems (SuDS), and wind mitigation.
- The Applicant should take into account the locations of any utilities within or crossing the Application Site; should these need to be redirected or upgraded as a result of the Proposed Development, consultation should be undertaken with the relevant stakeholders.

2.3 Demolition and Construction

The Scoping Report includes information on demolition and construction in Paragraph 49. The Scoping Report states the construction period is anticipated to take place over 120 months (i.e. 10 years) and that the demolition and construction programme to be assessed will be presented within the ES.

Paragraph 71 of the Scoping Report states that the ES (within a non-technical chapter titled 'Demolition and Construction') will include a description of the programme and anticipated related activities and aspects, such as the proposed demolition and construction works, demolition waste volumes and construction material quantities, construction traffic movements and construction traffic routing. It is expected that the demolition and construction chapter will also provide information regarding the anticipated durations of the methods of demolition and construction, site preparation and construction logistics (including site access and egress for construction vehicles), types and depth of piling and foundations likely to be employed and working hours.

Paragraph 72 of the Scoping Report states that this chapter will inform the demolition and construction assessments set out within each aspect chapter. LBTH consider this to be

appropriate.

The ES must detail the demolition and construction information that has formed the basis of assessment. This should include:

- A construction programme (including overlapping activity), proposed construction activities (including any remaining demolition and enabling works), typical plant and methods (including piling) and their anticipated durations;
- A phasing plan that clearly demarcates the locations of the two construction phases;
- The anticipated peak daily construction vehicle movements, construction traffic access and egress, and any temporary road, footpath or cycleway closures;
- The location of construction compounds, including a figure; and
- Information regarding any temporary road, footpath or cycleway closures over the demolition and construction period.

The demolition and construction programme should be sufficiently detailed in the ES to accurately inform the assessments.

Mitigation measures to avoid / reduce / offset adverse demolition and construction effects as far as possible are to be explored in each aspect chapter.

No reference to LBTH's Code of Construction Practice (CoCP) is made in the Scoping Report. Reference must be made to LBTH's CoCP in the ES which includes information on standard hours of working etc., which should inform the EIA.

No reference is made within the Scoping Report to the lifespan (or decommissioning) of the Proposed Development. The intended lifespan of the Proposed Development is to be considered in the ES.

Noting the 120-month construction period and as Paragraph 5 of the Scoping Report states that the Proposed Development would replace Phases 4 to 6 of the OPP, and Paragraph 86 of the Scoping Report refers to a phased construction and occupation of the Proposed Development, the Applicant should consider how a reasonable worst-case scenario can be identified and new sensitive receptors (i.e. residents) assessed and make clear how this has been considered. Any phasing as presented in the ES would then be fixed by planning condition.

The Proposed Development should include a description of any temporary works (noting the 120-month construction phase) required to facilitate any partial use of the Application Site, prior to completion of the Proposed Development.

An assessment has been carried out with respect to Cadent Gas Limited, National Grid Electricity Transmission and National Grid Gas Transmission. The searches identified apparatus in the vicinity of the Proposed Development. As such, the contractor should contact Plant Protection before any works are carried out to ensure the apparatus is not affected by any of the proposed works. The Applicant's attention is drawn to the consultation response from Cadent Gas in this regard.

3. REVIEW OF METHODOLOGY AND SCOPE OF THE EIA

This section comments on the overarching approach to the EIA, as described in the Scoping Report.

3.1 General Comments

In preparing the ES, the Applicant should be mindful of the requirement placed on LBTH as the

local planning authority by the EIA Regulations, in determining applications for EIA Development, LBTH must examine the environmental information to reach a reasoned conclusion on the significant effects of the Proposed Development on the environment. As such, the ES should include the information reasonably required by the planning authority to reach this reasoned conclusion.

The Applicant must ensure all guidance used is relevant, up to date and clearly referenced. A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

The study area for each aspect should be clearly stated in the ES and fully justified. This should be supported by a figure for ease of understanding. It is noted that the study area for matters assessed within each aspect may differ, and where this applies, it should be clearly stated.

To support quality and completeness in the EIA process, Regulation 18(5) requires the developer to ensure that it is undertaken by competent experts. The ES must be accompanied by a statement that outlines the qualifications and relevant experience of the technical experts that have contributed to the ES, including the EIA project team as confirmed in Paragraph 11 of the Scoping Report.

In accordance with Schedule 4(3) of the EIA Regulations, each technical assessment within the ES should consider how the environmental baseline is likely to evolve should the Proposed Development not proceed i.e. the future baseline as confirmed in Paragraph 67 of the Scoping Report.

The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil, and subsoil pollution during the demolition / construction and operation phases, where relevant.

The ES must include a reference list that clearly states which documents / figures / drawings have been relied upon for the description and assessment included in the ES, and where these are located. It is also important for the ES to stipulate whether the information relied upon is for approval, or if it is for information purposes only (e.g. Design and Access Statement (DAS)). This is important so that the reader is aware what is secured through the planning application, and what would need to be secured through a planning condition and/or financial contribution.

The Applicant is advised to ensure that the Proposed Development assessed within the ES correlates to the planning drawings as there are often discrepancies which result in the requirement for clarification / potential Regulation 25 requests during the ES review process, for example different maximum heights stated between the planning application documents and the ES, and wind mitigation relied on in the ES not included within landscape drawings submitted for approval.

It is important that all aspect chapters of the ES assess the various elements of the Proposed Development consistently, where possible. It is acknowledged that in some instances the worst-case scenario may differ between aspect chapters, however this should be clearly stated and justified within the ES.

The ES should consider the effects of the Proposed Development on both existing and new receptors where significant effects are likely, including future site users. LBTH requires the sensitive receptors used in each assessment to be clearly identified throughout the ES.

Paragraphs 77 to 86 of the Scoping Report, which states that the assessment of the detailed part of the Proposed Development will be based on detailed design information (including, but not limited to, fixed area schedules, floor plans, layouts, elevations and massing) and the assessment of the outline parts of the Proposed Development will be based on the maximum amount of

development sought for approval. The worst-case scenario for each technical assessment is to be assessed and must be clearly outlined in the relevant aspect chapters of the ES and sufficiently secured within any given planning permission.

With a scheme of the size and scale of that proposed it is worth noting the responsibilities of the Applicant to provide sufficient information to allow for the determination of likely significant environmental effects at the time the planning application is determined.

Please note the following advice from the Planning Inspectorate on this "Rochdale Envelope" approach (advice note written for Development Consent Order projects, but relevant in this case):

"Establishing a robust worst-case scenario(s) for the purposes of assessment is a particular challenge where there is a large degree of uncertainty and extensive flexibility in the (application) is sought. Applicants should carefully consider the approach to assessing uncertainty and understand how this will influence the complexity of their assessment in the ES. The characteristics of the Proposed Development that are yet to be finalised should be clearly identified in the description of the development in the ES. The Applicant should consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the development in the ES must not be so wide that it is insufficiently certain to comply with requirements of the EIA Regulations".

(PINS Advice Note 9, para.4.12)

The ES must therefore be sufficiently detailed to provide a robust basis for assessment. The Applicant is reminded that the description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with requirements of the EIA Regulations.

It is considered that a part occupation and part construction assessment is undertaken i.e. interim construction, as referred to in Paragraph 86 of the Scoping Report.

It must be ensured that the worst-case scenario is assessed for each aspect, which may not be the maximum development scenario, for example some building orientations and designs within the maximum envelope may result in the worst effects on wind.

It must be ensured the assessments considers all locations within the Proposed Development which could provide residential accommodation, with regards to site suitability

The ES should include details of any assumptions, difficulties and any limitations encountered compiling the required information and the main uncertainties involved, such as technical deficiencies, lack of knowledge, or unavailable data.

In accordance with Schedule 18(3) of the EIA Regulations, the Applicant should provide a Non-Technical Summary that clearly summarises all aspects of the ES, not just the residual effects.

The Applicant is reminded of the requirement for all the relevant environmental information in an ES to be comprehensive and easily accessible, noting that the public are an intended audience of the ES and Non-Technical Summary. LBTH considers that sections should be provided in the ES to aid navigation and to ensure text, paragraph numbers, tables and figure headings are searchable in the pdf tool functions.

3.2 Significance Criteria

Table 2 of the Scoping Report provides an example of the general approach followed to determine 'resultant effects' i.e. the significance of effects, within the resulting ES. The matrix includes the classification that impacts of medium magnitude on assets of medium sensitivity, will result in a moderate effect. In general, LBTH considers that this classification is proportionate.

The ES should clearly state which effects are 'significant' and 'non-significant' for the purposes of the EIA, as provided in Paragraph 124 of the Scoping Report. However, Paragraph 124 of the

Scoping Report states this classification of significance is a general rule, and therefore it must be clear where this methodology is deviated from in the ES. The Applicant is reminded that the Non-Technical Summary of the ES must also state the effects which are considered to be significant, and ensure all likely significant effects are stated.

It is noted that individual aspect chapters will follow discipline specific methodology. All matrices for determining significance of effects are to ensure that the assessment of effects is representative and does not understate adverse or overstate beneficial effects. If aspect chapters deviate from the overall classification of effects, this is to be highlighted in the front end of the ES, for example if any aspect chapters consider minor effects to be significant.

The ES should clearly state how value / sensitivity of receptors and magnitude of impact have been classified within each aspect chapter of the ES e.g. resource value of each heritage asset.

In addition, it should be clearly stated in the ES where professional judgement has been applied and the justification for such judgement. It is essential that the pre-mitigation impact is reported in addition to the residual effect, to ensure the assumed effectiveness of any proposed mitigation can be understood.

The ES should clearly illustrate the effects identified. For example, highlighting the effect in bold can assist the reader in identifying the effects of the Proposed Development quickly and easily e.g. **minor adverse.**

Table 3 of the Scoping Report refers to classifying effects as adverse, beneficial, or neutral. LBTH consider that the classification of 'neutral' effects is to be used where there is no meaningful change to a receptor. However, LBTH do not consider it is appropriate to imply that neutral effects can be significant e.g. moderate neutral effect, as this counters the normal use of this word both in general usage and EIA practice. Although LBTH note that the Scoping Report only proposes to use the term neutral with regards to the Townscape and Visual Impact Assessment.

LBTH require at the end of each aspect chapter, a table is included summarising the impacts, mitigation measures and residual effects (i.e. results of pre- and post-mitigation assessments).

3.3 Alternatives Assessment

The Scoping Report states in Paragraph 109 that the ES will include consideration of the reasonable alternatives and the evolution of the design, and how environmental considerations influenced the design. The Scoping Report also states in Paragraph 68 that the ES will include consideration of the consequence of no development taking place on the Application Site (i.e. the 'do nothing' scenario).

LBTH expects a comprehensive consideration of alternatives to be undertaken as part of the ES, in accordance with the Scoping Report. LBTH also expect consideration to be given to how the Proposed Development compares to previous schemes (i.e. consented schemes) in terms of environmental effects.

LBTH expects that the evolution of the design will include an explanation of how the proposals have developed in response to initial EIA findings. With reference to Schedule 4(2) of the EIA Regulations, this should include a comparison of the predicted environmental effects of each of the design alternatives that have been studied and then rejected.

3.4 Mitigation / Monitoring

The ES should make clear how mitigation measures are to be implemented, and how they relate to the emerging design. Primary or embedded mitigation measures are encouraged and should be identified. Where mitigation should be secured by planning condition or section 106 agreement, this should be made clear. This is necessary to ascertain the reliance that can be placed on the residual effects identified, and the extent to which mitigation measures will be

effective, in accordance the EIA Regulations.

The Proposed Development should seek to enhance the Application Site and surrounding area, in accordance with LBTH policy, in addition to merely mitigating adverse effects. Mitigation will need to be identified to mitigate (avoid, prevent, reduce or off-set) all adverse effects, not just significant, as far as possible, and any beneficial effects enhanced as far as possible.

It is noted that Paragraph 75 and Paragraph 508 confirm a mitigation and monitoring schedule will be provided as part of the ES as a separate chapter. It is imperative that mitigation as outlined in the Scoping Report is secured within any given planning consent, which is particularly relevant for the mitigation relied upon to scope out certain aspect chapters from the ES. It is to be detailed within this chapter how measures are proposed to be secured; for example, embedded into planning drawings or by condition.

Paragraph 72 of the Scoping Report states that for the assessment of demolition and construction it will be assumed that '*standard environmental controls required under legislation and best practice guidance are met as a matter of course*'. The Applicant is advised to refer to relevant case law including, Squire R v Shropshire Council, 24 May 2019. Any relevant control mechanisms to mitigate adverse effects as far as possible are to be clearly stated in the ES.

3.5 Figures and Drawings

Plans and drawings submitted with the planning application are very important in helping the reader quickly and easily understand the Proposed Development and its effects.

The ES is to include figures and drawings presented with a high quality of graphics. It is preferable if key figures are presented in each aspect chapter that references them, and not located in Appendices. Any in-text figures should be provided at a readable scale, with legible notation and labelling. Colour palettes should also be appropriate to the scale of the figure and allow for accurate reproducibility at a page-size scale.

Any drawings that are referred to should be clearly cross-referenced, so that they are easy to locate within the submission.

It is considered helpful if the ES provides the following:

- A plan showing the extent of the study area and the location of the sensitive receptors (clearly labelled) relevant to each aspect chapter e.g. those properties surrounding the Application Site whose daylight and sunlight could be affected by the Proposed Development.
- A plan showing the location of any monitoring undertaken e.g. noise and vibration monitoring.
- A plan of the construction phasing (if appropriate).
- A plan of the operational Proposed Development (internal and external, as needed) showing those elements relevant/relied upon (specific to each discipline) e.g. location of entrances, amenity spaces, thoroughfares etc. for the wind assessment, or flue location for the air quality assessment.
- A plan showing the positioning/location of any necessary mitigation e.g. noise barriers.

4. REVIEW OF ASPECT CHAPTERS PROPOSED BY THE APPLICANT TO BE SCOPED IN TO THE ES

The Applicant is proposing that the following aspects are scoped into the ES:

- Air Quality;
- Climate Change;
- Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
- Noise and Vibration;
- Health;
- Socio-economics;
- Townscape and Visual Impact Assessment;
- Traffic and Transport;
- Wind Microclimate;
- Archaeology (Buried Heritage); and
- Built Heritage.

LBTH's comments on each proposed aspect chapter are provided below.

4.1 Air Quality

4.1.1 Proposed Approach

Paragraph 133 of the Scoping Report states that the Air Quality aspect chapter of the ES will include an assessment of effects from a temporary increase in dust generated by construction works; effects from an increase in particulate matter (PM_{10}) concentrations generated during demolition and construction works; effects from an increase in air pollutants (nitrogen dioxide (NO_2) and PM_{10}) generated by demolition and construction plant and vehicle exhaust emissions; and effects from the completed Proposed Development, due to emissions (NO2, PM10 and PM2.5) from road traffic and an energy centre / combined heat and power (CHP) (where one is proposed).

The Scoping Report also states that an Air Quality Neutral Assessment will be undertaken.

4.1.2 General Comments

For the avoidance of doubt the assessment of vehicle emissions is to include assessment of NO_2, PM_{10}, and $PM_{2.5}$, noting that $PM_{2.5}$ which is not referred to with regards to the demolition and construction assessment within the Scoping Report.

As stated in Paragraph 130 of the Scoping Report, the whole of the LBTH has been designated as an Air Quality Management Area (AQMA). This means that even small increases in emissions can lead to significant effects. It should also be noted that part of the Application Site is located within an area identified as having substandard air quality in LBTH, as shown within Figure 14 of Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020).

Given that the Application Site is adjacent to the Blackwall Tunnel Northern Approach and East India Dock Road, LBTH expects the applicant to consider the layout of the Proposed Development to limit the potential exposure to unacceptable air quality. This accords with the requirement to consider alternatives within EIA Regulations.

The ES is to ensure that realistic background air quality concentrations are used in the assessment, and a robust model verification exercise is undertaken. Any limitations should be clearly stated. It is considered that current baseline and future year projections are to be based on the LAEI (20 m^2 grid reference) and Tower Hamlets monitoring data. LBTH notes that in

addition to verifying modelling against existing monitoring data in the area, air quality monitoring for nitrogen dioxide will be undertaken at the Application Site (over a minimum period of three months), in order to provide further confidence in the modelled predictions. LBTH considers this to be appropriate.

Meteorological data from London City Airport should also be used to inform the assessment, along with the most recent local monitoring data.

The Scoping Report does not clearly state the scenarios will be assessed. For ease, these scenarios must be clearly differentiated (i.e. current baseline, future baseline, and opening year). The dispersion modelling must enable the future baseline with and without the Proposed Development to be understood, and in accordance with Paragraph 6.20 of the Institute of Air Quality Management (IAQM) guidance 'Planning for Air Quality' (2017), comparison should also be provided against the existing baseline. The ES should also include an assessment of the worst case (peak) demolition and construction effects, and an interim construction and operation effects of the Proposed Development.

The ES must ensure the spatial extent of the assessment of vehicle emissions is sufficient, to ensure the likely significant effects of the Proposed Development can be understood. There may be a requirement to obtain further traffic modelling beyond what is required to inform the traffic and transport, and noise and vibration aspect chapters of the ES.

The ES is to illustrate the location of air quality receptors, their use type (e.g. school, nursery, residential) and their sensitivity to poor air quality/changes in air quality. The ES should include a figure(s) showing the location of identified air quality receptors, as well as the background monitoring stations utilised in the assessment.

The ES shall have regard to the GLA Supplementary Planning Guidance (SPG) on Sustainable Design and Construction with regards to impacts on future users of the building and the impact of emissions from the building on both the Proposed Development itself and surrounding areas.

The Applicant should also have regard to the London Plan with particular reference to Policy SI 1, the London Mayor's Environment Strategy with particular reference to Policy 4.3.3a, with regards to new developments being 'air quality positive', and the air quality recommendations in the Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020) in particular policy ES2 - improving air quality.

An air quality neutral assessment should be carried out following the methodology outlined in the GLA Sustainable Design and Construction Supplementary Planning Guidance (SPG). In addition, the Air Quality Neutral Planning Support Update (2014) should be used to inform the assessment as referenced in the Scoping Report. The Air Quality Neutral Assessment should include the following:

- Determine the relevant Building Emission Benchmarks (BEBs) for NO2 and PM10 for the development, based on its land use-class and location (see Appendices 5 and 6 in the Sustainable Design and Construction SPG 2014 Mayor of London and the GLA's Air Quality Neutral Planning Support Update);
- Calculate the site's NOx and PM10 emissions from buildings and compare then with the BEB(s);
- Determine the relevant transport emission benchmarks (TEBs) for NOx and PM10 for the site;
- Calculate the sites NOx and PM10 emissions from transport and compare them with the TEBs;
- The BEBs and the TEBs should both be met, for both NOx and PM10, to achieve the air quality neutral requirement. In-line with the policy context in London, the development shall

be at least 'air quality neutral'. Developers shall mitigate the residual impacts and provide local mitigations to deal with any adverse air quality impacts associated with development proposals, including if the development fails to meet one or more of the AQN (Air Quality Neutral) benchmarks.

4.1.3 Demolition and Construction

Given the 120-month construction programme and phased occupation of the Proposed Development, the demolition and construction assessment should include a worst-case assessment in which the effects of construction on new on-site receptors (e.g. residents) are considered.

The ES should clearly set out the definition of 'temporary' effects as, whilst the Scoping Report refers to 'temporary generation of dust from construction works' and 'temporary changes in traffic related emissions during the construction works', the demolition and construction programme is anticipated to be ten years in duration; therefore, it is likely that that demolition and construction related effects are long term.

It is likely that air quality monitoring will be required during the demolition and construction works should the Proposed Development be granted planning permission.

The ES should also consider the potential effects arising from any required remediation of the Application Site, which can result in emissions to air and as a result, risk to human health and nuisance.

The Air Quality (Dust) Risk-Assessment (AQDRA) is to provide a detailed risk-assessment for each construction sub-phase as outlined in the Control of Dust and Emissions During Construction SPG 2014, Mayor of London. The ES should identify adherence to the GLA Control of Dust and Emissions SPG as a mitigation measure to be secured within any given planning permission.

The potential for cumulative construction traffic effects is to be sufficiently considered and assessed as required. The approach to determining cumulative construction effects should be based on the anticipated number of demolition and construction trips of each cumulative scheme considered. The projected traffic flows from cumulative schemes should be gathered based on information available in the public domain.

4.1.4 Operation

LBTH expects that should the air quality assessment identify levels of air pollution above the National Air Quality Objective levels, mitigation is to be provided, noting that the use of filtered inlet air is not normally considered to be acceptable. Occupants of the proposed residential units are not to be exposed to air in excess of the UK air quality objectives, the effect on future on-site receptors is to be assessed as confirmed in Paragraph 134 of the Scoping Report. Mitigation measures such as greenery (landscape, living green walls, trees, etc.), and winter gardens instead of balconies/terraces on certain floors should be considered. Given LBTH's understanding of Air Quality in the area of the Application Site, there may need a need to limit residential uses and balconies on the lower floors. It is recommended that modelling is undertaken early in the design process to ensure the Air Quality within the Application Site is taken into account within the design of the Proposed Development.

It is noted that Paragraph 133 of the Scoping Report refers to *"an energy centre / CHP (where one is proposed)"*. LBTH expects the ES to confirm the on-site (or any off-site) energy sources to be utilised, the location/s and emissions arising from these. LBTH considers that the use of any boilers or CHP units should be assessed if back-up or temporary generators/boilers are to be assessed.

The Scoping Report confirms that open space is proposed as part of the Proposed Development. The position of such space, including any play space, should be considered in the ES in relation to air quality, to avoid adverse effects.

The ES is to provide a transparent account of the modelling undertaken, all assumptions made and all input data used, including datasets used, methodologies (monitoring, modelling, and scenarios), meteorological data, background concentrations, traffic data (flow, speeds, etc.), dispersion model type.

Given the height of the Proposed Development, the Air Quality aspect chapter will need to assess the effects at various heights and identify at which levels mitigation is required. If mechanical ventilation is required, the ES should specify at what level/location air of a suitable quality can be utilised and ensure the ventilation strategy is consistent between the overheating strategy and noise assessments i.e. whether other assessments are relying on open or closed windows.

LBTH considers that a commitment to using electric (or other technology) vehicles for servicing and delivery associated with the Sainsbury's and retail elements of the Proposed Development should be made within the planning application which can be secured within any given consent.

4.2 Climate Change

4.2.1 Proposed Approach

Paragraph 145 of the Scoping Report states that a climate change resilience assessment and greenhouse gas (GHG) assessment will be undertaken. The associated aspect chapter will consider the climate change resilience of the Proposed Development; any in-combination climate impacts associated with the Proposed Development (whereby climate change events alter the significance of environmental effects identified in other aspect assessments); and the impact of the Proposed Development on climate change.

4.2.2 General Comments

Paragraph 165 of the Scoping Report states that no detailed assessment is proposed to be provided for inter-project cumulative effects. LBTH agrees that a detailed assessment accounting for all proposed developments in the area that may have a cumulative effect with the Proposed Development is not required. Given that the level of significance of effect should be determined against local emissions targets and compared against UK wide budgets, LBTH expects cumulative schemes to be assessed qualitatively, based on a broad assumption that by their nature, the cumulative schemes are expected to be major developments of a similar scale to the Proposed Development. This will enable a cumulative effects assessment based on a worst-case scenario.

The Applicant presents the UK Climate Change Projections 2018 (UKCP18) future climate change projections relative to the 1981-2000 baseline period under RCP8.5 within Table 4 of the Scoping Report. LBTH expects that the RCP8.5 emissions scenario of UKCP18 will be used in the assessment. In accordance with guidance, the consideration of climate change should use RCP8.5 emissions scenario, at a 50% certainty level.

All climate change resilience and adaption measures should be included within the 'Mitigation and Monitoring Schedule' chapter of the ES, and consideration should be given to producing a Climate Change Resilience and Adaptation Plan in accordance with IEMA EIA Guide to Climate Change Resilience and Adaptation (2020).

The Applicant should assess GHG emissions quantitatively; any use of professional judgement to assess significance should be fully justified. All references to carbon emissions should refer to carbon dioxide, CO_2, carbon dioxide equivalent, or CO_2e and not carbon alone.

In accordance with IEMA Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating Their Significance (2017), all GHG emissions are to be considered as significant. The level of significance of effect should be determined against local emissions targets and compared against UK wide budgets, based upon professional judgement. The Applicant is reminded that all likely significant effects must be stated in the Non-Technical Summary.

The GHG assessment is to cover all phases of the project lifespan, from demolition and enabling works through to end of life (including decommissioning as the end-of-life stage). Where professional judgement has been used, this should be made clear with any assumptions and reasoning explicitly stated.

Any further guidance published before submission of planning application, in addition to the guidance referenced within the Scoping Report, should be considered within the assessment.

Mitigation measures to meet adopted and any emerging policy and will need to be secured within any given planning consent. Particular attention should be made to ensuring emission reduction measures are integrated and delivered through the construction and operation phases (e.g. selection of construction methodologies, selection and use of construction equipment and vehicles, and selection and transport of materials that have low embodied GHG emissions). As a Greater London Authority (GLA) referable scheme subject to London Plan Policy SI 2 and Policy SI 7, the findings of the Proposed Development's Whole Life Cycle Carbon Assessment and Circular Economy Statement should be referred to in the assessment.

For the GHG emission assessment of the Proposed Development's operational phase, the EIA should set out how the Proposed Development will be net zero carbon on-site in 2050, as required by the Climate Change Act 2008 (as amended) and London Plan Policy SI 2. It should be noted that Policy D.ES7 within Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020) requires residential development to achieve zero carbon. Reference in the ES should be made to whether the national, regional and local policy requirements in relation to energy and GHG are satisfied by the Proposed Development.

It is noted that since January 2019 the GLA has encouraged the use of Standard Assessment Procedure (SAP) 10 carbon emission factors to estimate the carbon produced by new buildings in addition to Part L of the Building Regulations 2013.

4.3 Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

4.3.1 Proposed Approach

Paragraph 166 of the Scoping Report states that a Daylight, Sunlight, Overshadowing and Solar Glare Assessment will be undertaken, and Paragraph 168 of the Scoping Reports states that the aspect chapter will consider the potential for likely significant effects as a result of the Proposed Development on daylight, sunlight and overshadowing to existing, neighbouring residential properties, as well as existing open space and public amenity areas. Paragraph 168 of the Scoping Report further states that given the proximity of sensitive viewpoints to the Application Site, a Solar Glare Assessment will be undertaken.

It is noted that Paragraph 412 of the Scoping Report proposes to scope out assessment of Daylight, Sunlight, and Overshadowing within the Proposed Development from the ES and this aspect is dealt with in Section 5.2 of this Scoping Opinion.

4.3.2 General Comments

It is noted that light pollution is included in the aspect chapter title in the Scoping Report; however, this matter is dealt with in Paragraph 169 of the Scoping Report which provides a discussion

proposing to scope out an assessment of light pollution due to the residential nature of the Proposed Development. LBTH agrees that this is acceptable for the residential element of the Proposed Development; however, LBTH notes that approximately 7,500 sqm GIA of non-residential uses (including restaurant, retail and office (Use Class E(a), E(b) and E(g))) will be provided. Therefore, LBTH expects that a light pollution assessment should be undertaken for the non-residential uses of the Proposed Development or justification should be provided in the ES, if it is considered that such an assessment is not required.

LBTH notes that Paragraph 178 of the Scoping Report states that *"At distances greater than 500m from the Proposed Development, instances of solar glare would be unlikely to occur. Given the close proximity of the railway line from Kentish Town in relation to the Proposed Development, viewpoints along this railway line may need to be assessed"*. LBTH considers this to be an error, given that Kentish Town Station is located approximately 10 km to the north-west of the Application Site and would, therefore, unlikely be affected by any potential instances of solar glare from the Proposed Development.

The study area and individual properties assessed should be clearly stated and justified within the ES and shown on a figure for ease of understanding. It is noted that a list of receptors to be considered has been provided in Paragraph 175 of the Scoping Report, however no figure is provided so the exact receptors to be assessed is not known. Reference is made to Aberfeldy Road, which is understood to refer to Aberfeldy Street, and Carndale House, which is understood to refer to Carradale House. Bromley Hall School, Poplar Baptist Church, River Thames and Tidal Tributaries SINC, and receptors on Brion Place should be identified as receptors.

The effects on and from cumulative schemes must be assessed such as Leven Road Gas Works (PA/18/02803), Leven Road Bus Depot (PA/19/02148), Islay Wharf (PA/19/01760) and Ailsa Wharf (PA/18/03461 and PA/21/01739), in addition to Phase 1-3 of Aberfeldy Masterplan.

4.3.3 Demolition and Construction

The approach set out in Paragraph 180 of the Scoping Report regarding assessment during demolition and construction is agreed, which confirms a qualitative assessment of the demolition and construction stage will be undertaken. This assessment should consider, at least qualitatively, likely effects from construction equipment, such as with cranes in situ.

4.3.4 Operation

The overall effect at each receptor (i.e. each residential dwelling) must be based on an overall view of the impacts to individual windows and rooms as set out in the significance of assessments with guidance from "*Appendix I: Environmental Impact Assessment of the BRE guidelines*". LBTH will not accept mitigation factors such as "external balconies" or "single aspect rooms deeper than 5M" being used as reasons to downgrade significance of effects from say "Moderate" to "Minor". These can be stated as possible reasons for light loss but not as mechanisms to change the banding of effect.

For neighbouring properties, the tests carried out should be Vertical Sky Component (VSC) and No Sky Line (NSL). This should include NSL contour plans which clearly show which rooms have been modelled from plans and which rooms are assumed, this can simply be done using a colour coded key. The numerical classifications that should be used for categorisation of VSC and NSL impacts are:

- Reduction of under 20% or in the case of VSC retained VSC at 27% or more - Negligible significance;
- Reduction of 20% or more but under 30% – Minor significance;
- Reduction of 30% or more but under 40% – Moderate significance; and

- Reduction of 40% or more – Major significance.

For sunlight, the Annual Probability of Sunlight Hours (APSH) in summer and winter should be assessed for windows that face within 90 degrees of due south. The numerical classifications that should be used for categorisation of APSH are:

- Achieves at least 25% APSH for annual sunlight hours with 5% APSH in the winter months or reduction in light is no greater than 20% of the existing condition (meets the BRE Guidelines) - Negligible;
- Reduction of 20% or more but under 30% - Minor Adverse;
- Reduction of 30% or more but under 40% - Moderate Adverse; and
- Reduction of 40% or more - Major Adverse.

The two-hour sun contour test (overshadowing) test is to be undertaken. The numerical classifications that should be used for the overshadowing tests are:

- Achieves at least two hours of sun two 50% of its area on 21st March or reduction of under 20% of the existing condition (meets the BRE Guidelines) - Negligible;
- Reduction of 20% or more but under 30% - Minor Adverse;
- Reduction of 30% or more but under 40% - Moderate Adverse; and
- Reduction of 40% or more - Major Adverse.

Two-hour sun contour drawings on the 21st March and transient overshadowing diagrams should be provided for open space provided as part of the Proposed Development and surrounding the Application Site. The position of amenity space should be carefully considered in relation to daylight and sunlight and assessed accordingly.

The assessment should assess the change in daylight/sunlight provision, but also whether the conditions that remain are suitable.

Depending on the proximity of final cumulative schemes identified, it is requested that an additional scenario is tested, which shows the existing scenario with cumulative schemes but without the Proposed Development. This will help the Council understand more clearly what the effects of the Proposed Development itself are, and effects of cumulative schemes.

The effects on cumulative developments, including those not yet constructed, as a result of the Proposed Development must be assessed.

Layouts for rooms in neighbouring properties are to be researched on the statutory planning register, estate agents' websites or land registry. The use of properties i.e. residential needs to be cross referenced with the council tax band government website: http://cti.voa.gov.uk/cti/inits.asp, this will show accurately which properties are residential and therefore need to be tested for the EIA.

The Applicant is also required to provide a summary table for daylight, which includes the following:

- The receptor (i.e. each building);
- The number of windows / rooms in the receptor tested;
- The number of windows / rooms which meet the BRE criteria;
- The number of windows / rooms which do not meet the BRE criteria, split by minor, moderate and major significance, as per the criteria outlined above;

- The number of dwellings affected; and
- Commentary on minor, moderate and major sunlight and daylight losses.

LBTH can provide an example summary table on request.

4.4 Noise and Vibration

4.4.1 Proposed Approach

The Scoping Report states that the noise and vibration aspect chapter of the ES will consider:

- Changes in noise levels at existing sensitive receptors as a result of traffic and plant noise generated by the Proposed Development during demolition and construction;
- Changes in noise levels at existing sensitive receptors as a result of traffic and plant noise generated by the Proposed Development during operation; and
- Suitability of the proposed Application Site uses in relation to the noise environment.

4.4.2 General Comments

In addition to the proposed effects proposed to be assessed as outlined above, the assessment is to consider potential vibration effects.

Given that the application site is adjacent to the Blackwall Tunnel Northern Approach and East India Dock Road, LBTH expects the Applicant to consider the layout of the Proposed Development to limit the potential exposure to unacceptable noise levels. This accords with the requirement to consider alternatives within EIA Regulations.

The Applicant should note that LBTH is particularly concerned with the potential cumulative effects during demolition, construction and operation of the Proposed Development. The ES must ensure the cumulative effects are sufficiently established, specifically in relation to simultaneous cumulative effects but also the accumulated effect over time.

Noise monitoring and sensitive receptors should be agreed with LBTH's Environmental Health Officer. LBTH's minimum requirement is for noise monitoring to be undertaken continuously for 7 days and nights.

Sufficient details of the noise and vibration monitoring and surveys should be provided within the ES to enable the reader to understand the conditions during the monitoring / surveys and whether this may have affected the results. In addition, the ES should identify the specific locations where monitoring has been undertaken, explain how these locations were selected, confirm when this monitoring was undertaken and the time period covered.

The ES should clearly identify the receptors and study area in relation to noise and vibration surrounding and the Application Site, and their sensitivity to potential construction and operation of the Proposed Development. A map should be provided to support this and appropriate descriptors. The ES should ensure all receptors likely to be significantly affected are identified and assessed, and to ensure the planning requirements are met in addition to the EIA requirements, LBTH will need to understand the extent of adverse effects from the Proposed Development.

No reference is made to the Significant Observed Adverse Effect Level (SOAEL) and Lowest Observed Adverse Effect Level (LOAEL). The LOAEL and SOAEL should be defined for all of the construction and operational noise and vibration matters assessed (e.g. airborne noise, groundborne vibration etc.) and these thresholds should be used to determine the significance of absolute noise levels. The determination of these thresholds should be clearly explained in

relation to the Local Plan, standards, guidelines or other reliable point of reference.

LBTH expects the Applicant to ensure the assessment is undertaken with reference to NPPF (2019) the Noise Policy Statement for England (NPSE) (2010), relevant British Standards, and LBTH policy and guidance, in addition to the guidance referenced in Paragraph 207 of the Scoping Report. The ES should ensure all guidance used to inform the assessment is relevant and extant, and ensure that all references are provided in full, are correct and included in reference list.

4.4.3 Demolition and Construction

Given the 120-month construction programme and phased occupation of the Proposed Development, the demolition and construction assessment should include a worst-case interim assessment in which the effects of construction on new on-site receptors (e.g. residents) are considered.

Reference must be made in the ES to LBTH's Code of Construction Practice (CoCP), which includes information on hours of working etc. and consideration should be given to the Considerate Contractors scheme.

For reference LBTH requires that noise levels measured 1 metre from the façade of any occupied building neighbouring the site shall not exceed 75dB(A) at residential and commercial properties, and 65dB(A) at schools and hospitals (LAeq,T where T = 10 hours Monday to Friday and 5 hours for Saturday) during demolition and construction of the Proposed Development.

The assessment of demolition and construction is to be undertaken in accordance with the ABC methodology as set out in BS 5228-2:2009+A1:2014.

The guidance in DMRB should be considered in the assessment of demolition and construction traffic noise.

LBTH also expects the Applicant to commit to a thorough ongoing monitoring program throughout the construction period, with sufficient controls in place should noise levels, and as appropriate vibration levels, exceed agreed standards.

4.4.4 Operation

The Application Site suitability assessment must include, but not be limited to, the effects of noise and vibration arising from road traffic and air traffic. For reference LBTH requires that internal ambient noise levels in habitable rooms except bedrooms do not exceed 35dB LAeq,16 hour, between the hours 07:00 - 23:00 and within bedrooms do not exceed both 30 dB LAeq, 8 hour and LAmax 45 dB more than 10 times between the hours 23:00 - 07:00.

The positioning of any proposed noise sensitive uses e.g. amenity space associated with the Proposed Development should be carefully considered in relation to noise and assessed accordingly. The ES should demonstrate suitable target levels for internal noise levels are met in properties during operation of the Proposed Development.

Assessment is required with regards to the effect from operational noise associated with the Proposed Development, including noise from mechanical plant as proposed in Paragraph 201 of the Scoping Report. In the control of noise from fixed building services plant, that plant that may be introduced as part of the Development should be designed to a level 10 dB below the lowest existing background noise level at a position 1 m from the façade of the nearest sensitive receptors (i.e. Plant LAeq,T = -10 dB LA90,T), in accordance with LBTH policy D.ES9.

The Acoustics Ventilation and Overheating (AVO) Guide should be referenced with the assessment so that the approach to the acoustic assessment takes due regard of the interdependence of provisions for acoustics, ventilation, and overheating. Application of the AVO Guide is intended to demonstrate good acoustic design as described in the ProPG: Planning &

Noise, May 2017 when considering internal noise level guidelines. The Applicant must ensure that any mitigation of adverse effects related to noise and vibration and air quality is compatible with any overheating strategy proposed in the application.

It should be noted that the Proposed Development will be subject to the agent of change principle, in accordance with London Plan Policy D13. This places the responsibility for mitigating the impact of noise and vibration firmly on the Proposed Development. This means that where new developments are proposed close to existing noise-generating uses, Applicants will need to design them in a way to avoid significant adverse noise and vibration impacts on the new occupiers, including residents. Whilst this may be achieved through the provision of improved noise insulation measures within the Proposed Development, there may be parts of it where residential use would be considered inappropriate because significant effects would still be likely to occur despite them.

The agent of change principle works both ways. If a new noise-generating use is proposed close to existing noise-sensitive uses, such as residential development or businesses; the onus is on the new user to ensure its building or activity is designed to protect existing users or residents from noise impacts.

4.5 Health

4.5.1 Proposed Approach

The Scoping Report states that human health will be assessed within the relevant aspect chapters as set out in Paragraph 216 and within a Health Impact Assessment will be submitted with the planning application, and that no standalone health aspect chapter will be provided within the ES.

4.5.2 General Comments

The Applicant is advised to consider integrating the HIA into the EIA to minimise duplication and facilitate enhanced consideration of health within the EIA as well as meeting the requirements of both the HIA policy and the EIA Regulations.

For clarity, the introductory section of the ES should contain a table which provides a clear cross-reference to where the relevant information on human health is located in the ES, such as within the HIA, wind microclimate (including strong wind occurrences), daylight, sunlight and overshadowing, socio-economics, air quality, noise and vibration, transport aspect, ground conditions, water environment chapters of the ES.

In accordance with LBTH policy D.SG3, and policy within the NPPF and London Plan, a **detailed** HIA is to be submitted in support of the planning application. Any likely significant effects identified within the HIA should be further assessed as part of the EIA. It should be noted that the emerging policy requires *'Developments of a scale referable to the Greater London Authority (as set out in legislation) are required to complete and submit a **detailed** health impact assessment as part of the planning application'*. Detailed HIAs **must be informed by sufficient consultation**, in order to identify the relevant health determinants for the Proposed Development and assess their impact. It is noted from Paragraph 221 of the Scoping Report that the scope of the detailed HIA has been discussed with the LBTH's HIA Officer (in May 2021). The required consultation is to also be agreed with LBTH's HIA Officer.

The HIA is to be structure around the following key themes, as identified within LBTH's HIA Guidance (2021):

- Delivering healthy layouts;
- Promoting neighbourhood cohesion;

- Enabling active living; and
- Creating the healthiest of environments.

A key aspect of the HIAs will be identifying whether any vulnerable groups could be disproportionally affected as a result of the Proposed Development, and how the development might actively address and reach out to benefit population groups who are identified as suffering from inequality of health outcomes.

The Applicant is reminded that all likely significant effects must be identified and assessed within the ES. The ES is to clearly state whether the HIA identified likely significant effects, and where such effects are assessed within the ES.

Community engagement will offer a qualitative impact analysis of those who will experience living on or near the Application Site and who might suffer or benefit from its many features and their combined health impact. While it might be difficult to quantify the impact of any single risk factor/determinant of health (as per HUDU checklist), it is therefore important for the Applicant to take into account the experience of the local population. The criteria questions in the Tower Hamlets HIA guidance can help inform consultation on health.

Please see Ben Cave's A Review Package for Health Impact Assessment reports of development projects(https://www.researchgate.net/publication/237489850_A_Review_Package_for_Health_Impact_Assessment_Reports_of_Development_Projects) for guidance on how to develop and present the detailed HIA.

HIA has a broad remit to assess a number of determinants of health at building or site level including housing quality and design, access to healthcare and other social infrastructure, access to open space and nature, air quality, noise and neighbourhood amenity, active travel, community safety, access to healthy food, access to work and training, climate change. The HIA is to assess their impact on a range of health outcomes including physical, mental, environmental health as well as health equity and safety.

With regards to the HIA, evidence shows that design and layout have an impact on behaviour pattern. While the Applicant cannot anticipate the ways buildings and spaces are used or other lifestyle factors of future residents, the Applicant must ensure that the proposed site layout maximises the health benefits, promotes communal/open space promoting cohesion, enables active living and contributes to environmental sustainability, all key factors for health. The Applicant is reminded that the way buildings and spaces are used is also determined by their availability, accessibility, design and maintenance, all of which can be considered at planning stage. The analysis of health risk factors at various relevant spatial scales (room, building, street, site and neighbourhood levels) is required as a range of smaller and consistent negative design issues can potentially affect human health.

LBTH recommend the Applicant refers to Sports England's Active Design for instance to ensure that active design principles are embedded into the design and layout of their development to meet planning and transport objectives (see p. 56 Sports England's Active Design). Furthermore, the HIA will need to consider the impact not just on the Application Site but on the wider population. The Applicant must identify an impact area in view of the size of the development, the local demographics and existence of local infrastructure around the Application Site.

4.6 Socio-economics

4.6.1 Proposed Approach

The Scoping Report states that the socio-economics aspect chapter of the ES will assess employment opportunities and loss of existing employment and residential accommodation during

construction and operation, operational employment and spending, provision of commercial floorspace, housing and affordable housing provision, effects on social infrastructure (specifically primary healthcare, early years, primary and secondary education, open space provision and child play space provision), and effects on crime, deprivation and social cohesion.

4.6.2 General Comments

The Scoping Report does not identify whether the effects on dentists, nurseries, leisure and other community facilities will be considered within the ES. The ES should consider the potential effects on these or provide justification as to why not assessed. The Applicant is reminded it is not acceptable to scope out aspect or matters on the basis of difficulty undertaking the assessments.

Table 3 of the Scoping Report provides the matrix to determine effects for the socio-economic assessment. The matrix includes the classification that impacts of medium magnitude on assets of medium sensitivity, will result in a moderate effect. LBTH considers that this classification is proportionate. However, given this is in line with the overall methodology for the ES as set out in Table 2 (page 21) of the Scoping Report, the Applicant should consider the need for repeating matrix in the ES.

This assessment will need to include consideration of LBTH's affordable housing target i.e. a minimum of 35% (noting that sites on public land require a minimum of 50% to benefit from the fast track route, in accordance with the London Plan), and required housing mix i.e. 70% rented and 30% intermediate tenure split. Should the Proposed Development not meet LBTH's affordable housing target, this should be assessed as being an adverse effect as the Proposed Development has failed to meet the communities' minimum need. If the affordable housing provision changes after the planning application has been submitted, reassessment may be required as part of the ES. The assessment should ensure that the new site users have access to sufficient levels of social infrastructure, such as health, and recreation etc.

The ES should clearly identify the receptors and study area in relation to socio-economics, surrounding and within the Application Site, and their sensitivity to potential construction and operation works. This should include a map and appropriate descriptors.

The ES should clearly set out how all figures have been calculated (e.g. employment generation) and justified as appropriate, with reference to other relevant documents/aspect chapters where appropriate and ensure this represents the worst-case scenario. This is particularly relevant for the assessment of the non-residential uses proposed, and it must be ensured the worst case has been assessed.

The data sources are to be fully referenced with relevant comments regarding the reliability of such data and any other limitations. Given the proximity of London Borough of Newham to the Application it is considered that local effects will affect areas within London Borough of Newham, and therefore the baseline and subsequent assessments are to consider London Borough of Newham in addition to LBTH.

LBTH consider that consultation should be undertaken to ensure data utilised in the assessment is up to date, for example patient data for doctor's surgeries, and school place data. The socio-economic assessment should ensure the most up to date data informs the assessment and clearly state any assumptions and limitations. The ES should summarise any consultation activity that has been undertaken with appropriate organisations.

4.6.3 Demolition and Construction

LBTH has an above average unemployment level within Greater London. LBTH will seek to ensure that jobs are provided for local people, both in the construction phase of the Proposed Development and by the end-users, where appropriate.

When calculating employment figures the Homes and Community Agency's (HCA) Employment Densities Guide should be used. Where there are a range of 'area per Full Time Equivalents (FTE)', information should be provided on why a specific figure has been used. It should be noted that the HCA guide references both GIA and NIA, and therefore the EIA should ensure that the correct figures are used for the correct land uses. Specific consideration should be given to the loss of current employment within the Application Site and the potential disruption of businesses adjacent to and in proximity of the Application Site during demolition and construction.

4.6.4 Operation

Refer to the text above on employment calculations.

It is noted that Paragraph 240 of the Scoping Report states that the child yield anticipated to arise from the Proposed Development will be calculated based on the GLA Population Yield Calculator. LBTH requires that LBTH's Child Yield Calculator is used inform the socio-economic assessments.

The future baseline and cumulative effects will be an important assessment in relation to the socio-economic aspect chapter, and the assessment should ensure that the new site users have access to sufficient levels of social infrastructure, such as health, education, open space and play space on a phase-by-phase basis. Assessments of demand for community facilities should be supported quantitative information including likely population increase from cumulative schemes where possible.

Where adverse effects are identified the Applicant is to identify mitigation as confirmed in Paragraph 240 of the Scoping Report. This should include consideration of providing facilities that are over capacity and adversely affected by the Proposed Development.

4.7 Townscape and Visual Impact Assessment

4.7.1 Proposed Approach

Paragraph 241 of the Scoping Report states that the Townscape and Visual Impact Assessment (TVIA) will consider effects on townscape and visual amenity, as a result of the Proposed Development during demolition and construction, and operation.

4.7.2 General Comments

The Scoping Report states that the general approach and methodology of the TVIA will be based on Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3) and the London View Management Framework (LVMF).

The ES should clearly identify the receptors considered within the TVIA and their sensitivity to the demolition and construction, and operation of the Proposed Development. This should be supported by a clear map outlining the receptors and study area, such as the figure provided in Appendix G of the Scoping Report.

All judgements on the significance and direction of effects on views and townscape need to be fully explained and justified.

The assessment of townscape character should have regard to the location and sensitivity of affected townscape character areas (with reference to the Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020), Urban Structure and Characterisation Study and other relevant guidance, such as Conservation Area appraisals, design guides, supplementary planning documents and the Tower Hamlets Conservation Strategy), in addition to such documents adopted by the London Borough of Newham.

A list and map of proposed views has been provided within the Scoping Report in Appendix G. This will need to be discussed and agreed with LBTH's Urban Designer through a site visit, a VU City Model and / or an initial assessment. It is helpful if photos with wirelines of the Proposed Development are provided in the first instance to inform the identification of rendered views.

From an initial consideration LBTH consider the following viewpoints should also be assessed in the townscape and visual aspect chapter:

- Viewpoints to demonstrate how the setting of Grade II* listed Balfron Tower and associated Conservation Area is affected by the Proposed Development, to include a view from Brownfield Street;
- Viewpoint from Royal Oak Public House (Grade II) on Barking Road;
- Viewpoint from Memorial Recreation Ground.
- Locally (Royal Borough of Greenwich) designated views (as identified in policy DH(g) of the Royal Greenwich Local Plan: Core Strategy with Detailed Policies):
  - View 7: Thames side panorama from the Thames Barrier open space.
  - View 9: Docklands Panorama from the Wolfe Monument; and
  - View 11: 02 from Central Park.

The Applicant is advised to consult with the Twentieth Century Society and Historic England regarding the viewpoints proposed to ensure the effects on Balfron Tower and Carradale House listed buildings can be sufficiently understood, The Applicant is advised to refer to the Twentieth Century Society's and Historic England's consultation response in this regard.

The Applicant should consider whether the Proposed Development would be visible in LVMF views and Borough designated views (as identified in Figure 6 of policy D.DH4 of the Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020).

It is important that the assessment is designed to ensure that all impacts are fully understood. Section drawings and techniques such as photomontages are a useful part of this.

The TVIA methodology should accord with the GLVIA3 methodology as described within the Scoping Report. It is therefore understood that the TVIA will highlight the 'residual' likely significant effects for townscape and views (those effects which remain following the implementation of suitable mitigation/iterative design measures). The TVIA should clearly establish which levels of effect are deemed significant, with clear justification as to the nature (adverse, beneficial or neutral) of effect.

As a part of the hybrid planning application, LBTH understands that accurate visual representations (AVRs) will be included within the ES. The Scoping Report states that this will include for fully rendered (photorealistic) (AVR3) and wireline images (AVR1) to show the outline of the development, as set out in Paragraph 263 of the Scoping Report, produced at a level of detail appropriate to the particular view in question.

Images should be prepared in accordance with the Landscape Institute's Technical Advice Note 06/19 'Visual Representation of Development Proposal'. Visualisations are required to be undertaken in accordance with Type 4, as described on Page 11, and Pages 21-24. The presentation of AVRs should reference the latest Landscape Institute Guidance on visualisations (TGN 06/19) and should include a detailed description of the AVR production methodology.

The ES should contain a detailed methodology, which demonstrates that the views can be relied on as a fair representation of the impacts of the Proposed Development. The assessment should not focus on only any beneficial effects of the Proposed Development.

It should be noted that whilst townscape, views and built heritage are interrelated, each matter should be clearly defined and dealt with appropriately in order to comply with the current guidelines e.g. its own methodology, and effects identified. Some guidance on links to cultural heritage assessments is provided at paragraphs 5.7-5.11 of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3). The townscape and visual assessments in the TVIHA should be informed by the built heritage assessment, especially in relation to sensitivity and value of heritage assets and provide clear cross-reference as appropriate.

All cumulative schemes identified for assessment should be clearly identified on a plan showing their location relative to the Proposed Development and for each viewpoint by an AVR illustration where they would be in view, to show how the cumulative effects assessment has been determined.

4.7.3 Demolition and Construction

The ES should confirm details of any construction compounds and Application Site hoarding and provide assessment within the TVIA as required. The TVIA should also consider the programme of work, including any phasing of construction.

4.7.4 Operation

The ES should assess winter views so that vegetation is not screening the Proposed Development. In views where there is no vegetation, summer visualisations may be used.

4.8 Traffic and Transport

4.8.1 Proposed Approach

The Scoping Report states that the traffic and transport aspect chapter of the ES will consider the potential effects of the Proposed Development during demolition, construction on severance, and amenity, fear and intimidation, and during operation on severance, pedestrian and cyclist delay, vehicle and bus delay, amenity, fear and intimidation, and accidents and safety during operation.

4.7.2 General Comments

With regards to Paragraph 284 of the Scoping Report, the scope of the assessment should be agreed with LBTH Highways in addition to Transport for London (TfL). The scope of trip generation and traffic modelling is to be agreed with LBTH and TfL prior to submission.

Cyclists must be assessed appropriately and separately from pedestrians, recognising that cycling amenity and infrastructure and effects on cyclists are not always the same as pedestrians. Areas where cyclists must dismount must not be included as cyclist amenity spaces. If people cannot cycle, then the facility is not a cyclist amenity. The ES must clearly identify how cyclists may use the repurposed Abbott Road vehicular underpass, and any other proposed embedded or enhanced mitigation measures for cyclists. In addition, consideration should be given to how cyclists will connect with Cycle Superhighways 2 and 3.

Mitigation measures for buses, especially route 309 and any potential rerouting, should clearly identify how the measures will be secured and acknowledge where mitigation is within the Applicant's control and when it is not. Table 5 of the Scoping Report notes that during demolition and construction, severance and amenity, fear and intimidation will be assessed for local roads only. It also notes that severance, pedestrian and cyclist delay, vehicle and bus delay, amenity, fear and intimidation and accidents and safety will be assessed during operation. LBTH consider that pedestrian and cyclist delay, vehicle and bus delay, accidents and safety are to be scoped into the assessment during demolition, and construction. It is agreed that the assessment of hazardous loads can be scoped out of the ES on the basis on hazardous loads would be

generated as a result of the Proposed Development.

LBTH considers that rail delay and the effects on public transport should be assessed for operation and, therefore, must be scoped in. As part of the assessment of public transport, station capacity assessments for London Underground and DLR stations, and line loading assessments are to be undertaken and agreed with LBTH and TfL.

No consideration has been given to junction capacity within the Scoping Report. This matter is considered to be scoped in unless it can be sufficiently justified that significant effects are not likely. The Applicant is advised to consult with LBTH and TfL in this regard.

LBTH considers that diverting traffic from the existing Abbott Road vehicular underpass has the potential to result in likely significant adverse effects on existing users of adjacent roads (including non-drivers through fear and intimidation, and severance in other areas). The implementation of pedestrian and cyclist connectivity through the Abbot Road underpass may reduce severance in this area but may also introduce adverse impacts in other areas. It will be important for the ES to present the changes to other areas in a balanced way.

In addition to the above, appropriate consideration must be given to the timeframe of when Abbott Road diversions will be delivered. For example, if Abbott Road will be closed to vehicular traffic early during the construction phase, then this must also be assessed during construction.

Appropriate consideration must also be given to the timeframe for delivery of any other mitigation measures which may be proposed to address the significant adverse effects on adjacent roads from diversion of traffic. For example, there may be a time where the underpass is closed to vehicles (with adverse effects on the road network) and not yet open to pedestrians and cyclists (no beneficial effect).

LBTH consider that changes to access and servicing to the Proposed Development and effects on nearby properties should also be considered and assessed.

No scenarios for assessment are set out in the Scoping Report. These should include:

- Existing baseline year;
- Assessment baseline (opening year) without the Proposed Development i.e. Do Nothing;
- Assessment (opening year) with the Proposed Development i.e. Do Something;
- Existing baseline year plus peak hour construction vehicle movements associated with the Proposed Development; and
- A key relevant interim scenario with partial occupation and partial construction of the Proposed Development.

It must be ensured that the traffic scenarios to be assessed are appropriate to support the consideration of all environmental aspects, particularly given the hybrid nature of the planning application.

Where the future baseline incorporates transport capacity improvements and environmental gains, from which the Proposed Development potentially benefits, these must be clearly identified and where there is uncertainty about their future realisation, sensitivity testing should be undertaken to show the likely effect in their absence. This applies equally to the noise and vibration and air quality assessments where they rely on the transport modelling. It must be ensured that cumulative developments are factored into the transport modelling.

Where there are shortfalls in the IEMA guidance, the TfL Healthy Streets Approach should be used.

The TA should be produced in line with TfL's Transport Assessment Best Practice Guidance. The

Applicant should be aware that as part of TfL's ongoing work embedding Healthy Streets in London's planning system, TfL are providing new guidance and resources for planning Applicants at the TfL website, including Vision Zero and Road Safety Audit recommendations, a new Healthy Streets TA template and advice on when and how Healthy Street tools and guidance documents apply to planning applications and policy.

The Applicant is encouraged to use TfL's Transport Classification of Londoners to help inform expected transport mode shares.

It is not clear from the Scoping Report whether there may be temporary or permanent road or path closures during construction and operation. Any temporary or permanent closures are to be assessed in the ES as part of the severance assessment. If any roads or paths are to be closed, a figure should be provided which clearly shows any road or path closures proposed as part of the Proposed Development.

The Applicant should confirm that long and short stay cycle parking provision will be provided in line with the minimum standards set out in the London Plan and designed in accordance with the London Cycle Design Standards. The Applicant should demonstrate as part of the TA how the Proposed Development will link to the strategic cycle network.

The ES should clearly identify the study area and receptors in relation to highways and transport surrounding and within the Application Site, and their sensitivity to demolition and construction, and operation works. The study area should be detailed on a map. It should be clear how any professional judgement has been applied in the ES.

The detailed assessment methodology for this aspect chapter and the TA should be agreed in consultation with transportation officers at LBTH and TfL. Details of the consultation undertaken should be set out in the ES. The Applicant is advised to agree the trip generation and any modelling scope with LBTH and TfL, prior to submitting the application.

All modelling assumptions and limitations should be clearly stated and justified; similarly, where professional judgement has been employed, this should be justified, and assumptions explained.

LBTH expects that all mitigation measures relied upon in the ES are clearly stated, it is not sufficient for mitigation measures to be only detailed within the TA; it is noted that the relevant documents which secure such mitigation measures e.g. a DSP and Travel Plan are to be submitted as part of the planning application.

4.8.3 Demolition and Construction

The ES must include construction vehicle numbers, Heavy Goods Vehicles (HGVs) numbers and likely traffic routing. Assessment of demolition and construction must compare HGVs from the demolition and construction phase to HGVs in the baseline. It is not acceptable to compare only total vehicles, as the effects on, for example, fear and intimidation are greater from HGVs.

Cumulative impacts will be an important consideration given the location of the Proposed Development in an area of significant growth, particularly considering the cumulative schemes will introduce HGVs and construction traffic onto local streets at the same time as the Proposed Development.

All vehicle parking associated with the construction will be expected to be accommodated within the Application Site, minimising the impact on the local area.

An outline Construction Logistics Plan (CLP) is to be submitted as part of the planning application and should be prepared in accordance with TfL guidance, which is available at: http://content.tfl.gov.uk/construction-logistics-plan-guidance.pdf. The CLP should assess the impact of the Proposed Development traffic in relation to other developments and infrastructure projects that are within close proximity of the Application Site.

a CLP/CEMP can act as mitigation, it does not eliminate adverse effects, and the effects must be appropriately assessed within the ES. The CLP/CEMP should not be over-relied upon as mitigation.

4.8.4 Operation

The ES and TA must contain a multi-modal impact assessment including baseline and future vehicle (car, vans, Light Good Vehicles (LGVs) and Heavy Good Vehicles (HGVs)), public transport (bus, Crossrail, DLR, London Underground and Overground) and pedestrian and cycle trips and the overall mode share. Demand for individual mode of public transport should be assessed, and provide an estimate based on directions; this would enable determination of the need and size of mitigation required. A full multi-modal trip generation should be prepared using relevant data from TRICS and deriving mode share from recent proposals in similar locations.

Peak hour demand split out by mode and direction of travel will be required to make a full assessment of the scheme impacts and determine any necessary mitigation.

Given the Mayoral focus on Healthy Streets, it would be useful to clearly integrate the Healthy Streets principles within the EIA and TA. Improvement measures where identified should be fully funded. Healthy Streets principles should be integrated into the ES. All streets in and around the Application Site should prioritise walking and cycling and, where vehicle access is necessary, streets should be designed for very low speeds where cars are guests. Active freight should be prioritised, and deliveries and servicing consolidated where possible. Bus priority should be improved to help maintain bus reliability and as an intrinsic element in the Healthy Streets Approach.

In accordance with Policy T4 of the London Plan, a Residential Travel Plan is proposed to support sustainable and active travel. This should be prepared in accordance with TfL guidance. A draft Delivery Service Plan (DSP) is also to be submitted as part of the planning application, and the DSP should reflect the need for robust safety standards from freight operators and encourage the consolidation of deliveries to minimise impact on the highway network. Measures to reduce peak-time freight trips would be most welcome.

All servicing will be expected to take place within the boundaries of the Application Site, minimising the effect on the public highway. The way in which the Proposed Development is to be serviced should be clearly diagrammatised. The ES should also include specific details regarding the proposed delivery to and servicing of the Proposed Development (e.g. the location and capacity of loading facilities for deliveries, and the anticipated increases in Light Goods Vehicles (LGVs)) so that the relevant assessment can be provided and effects identified, where necessary.

LBTH considers that a commitment to using electric (or other technology) vehicles for servicing and delivery associated with the Proposed Development should be made within the planning application which can be secured within any given consent.

An Active Travel Zone (ATZ) assessment should be provided in line with TfL guidelines, and the scope of these agreed with both LBTH and TfL. In line with TfL's recently published guidance, the ATZ methodology should be followed to assess key walking and cycling routes in the vicinity of the Application Site. In line with London Plan policy T2, proposals to enhance local walking and cycling routes should come forward through this ATZ assessment process. The ATZ map should include an overlay of KSIs (Killed or seriously injured) and any TfL Safer Junctions schemes. For any clusters (one or more killed, two or more seriously injured) along key routes in the ATZ assessment, changes must be suggested that would make these routes safer using the Healthy Streets approach. The ATZ assessment should take account of people from all walks of life and identify opportunities for increasing inclusive travel.

Any Application Site-specific measures related to borough and TfL infrastructure and services must be secured with the s106 agreement.

4.9 Wind Microclimate

4.9.1 Proposed Approach

The Scoping Report states that the Wind Microclimate aspect chapter of the ES will qualitatively consider effects of wind speeds during construction and will quantitatively assess effects of wind speeds (comfort and safety) as a result of the Proposed Development during operation.

4.9.2 General Comments

Given the height of the Proposed Development, the assessment should consider wind speeds at elevated levels of the Proposed Development, as stated in Paragraph 332 of the Scoping Report. For the avoidance of doubt the assessment is to assess the wind microclimate to be experienced on any balconies, open space and roof terraces as appropriate, including those provided within the Proposed Development, as well as within surrounding buildings as required. The Applicant should review whether any such spaces are within the study area for assessment, and this should be confirmed in the ES.

4.9.3 Demolition and Construction

As stated in Paragraph 335 of the Scoping Report, effects during demolition and construction are to be assessed using professional judgement (qualitatively) within the ES, which is considered acceptable. For the avoidance of doubt, the ES should provide assessment of wind effects during construction utilising the worst-case scenario, such as with cranes in situ. It should be clear where professional judgement has been applied.

4.9.4 Operation

LBTH consider that City of London (CoL) Microclimate Guidelines (August 2019), should inform the assessment methodology given the location of the Application Site is adjacent to in a significant growth area (as per the site allocation in Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020)). However, it is not considered that Annex A of the CoL Microclimate Guidelines can be applied to LBTH as the guidelines confirm these parameters have been scaled specifically for CoL. LBTH consider that any dining areas should meet the City Lawson Criteria for frequent sitting i.e. 2.5m/s.

LBTH expects an initial assessment of the Proposed Development should be undertaken using Computational Fluid Dynamics (CFD), and that the results of the CDF analysis contribute to the design of the Proposed Development and/or the mitigation measures which may be required to achieve suitable conditions for the proposed uses on-site. LBTH expects wind tunnel testing will then be undertaken on the final scheme to inform the wind microclimate aspect chapter.

Wind tunnel testing will be undertaken to assess wind conditions at various receptors' location and the suitability of the intended uses. Scenarios to be tested are:

- Baseline (Existing Application Site + Existing Surrounding Context);
- Proposed Development (detailed element only) + Existing Surrounding Context;
- Proposed Development (detailed and outline elements) + Existing Surrounding Context;
- Proposed Development (detailed and outline elements + Future Surrounding Context (cumulative schemes); and
- Future Baseline (Existing Application Site + Future Surrounding Context).

Given the proximity of cumulative schemes located to the north, east and south (presented within Appendix C of the Scoping Report) of the Application Site, LBTH considers that the existing baseline scenario with future surrounds (i.e. cumulative schemes) but without the Proposed Development will help to differentiate the effects from the Proposed Development and those from nearby cumulative schemes, which is understood to be proposed as the future baseline scenario.

If mitigation measures are required to ensure wind conditions are suitable for their intended use, wind tunnel testing of these measures is to be undertaken and any results provided in the ES.

The ES should set out exactly what measures are required for mitigation and how these will be secured. It must be ensured that all mitigation measures and landscaping proposed and tested in the wind microclimate aspect chapter are proposed within the landscaping strategy, as there are often discrepancies where required mitigation measures are not brought forward in other planning application documents.

The ES should consider whether future monitoring is required to test actual conditions of the Proposed Development.

A study area covering a 450 m radius from the centre of the Application Site will be used, which LBTH considers to be acceptable.

The following plans should be included in the ES:

- The intended uses of the Application Site (e.g. the open spaces, thoroughfares, entrances);
- What conditions are being targeted (e.g. open space should be suitable for sitting); and
- The mitigation measures relied upon.

This allows the reader to understand the basis of the assessment and provides the opportunity to contest the uses and anticipated wind categories. For the avoidance of doubt, results are to be presented for both the windiest season, and summer season.

Any spaces that are proposed as part of the Proposed Development, and that are relied upon by the Applicant to provide amenity, should have wind conditions suitable for this use.

The location of any strong winds should be clearly annotated on a plan, noting that all strong winds are to be mitigated to safe levels. LBTH considers that all instances of strong wind are to be identified as a significant effect and are to be reported in the ES and Non-Technical Summary accordingly.

Whilst the Applicant is reminded that any significant beneficial effects are to be assessed within the ES, it should be noted that a failure to achieve wind conditions suitable for their intended use is more significant and cannot be offset by locations where wind conditions are better than required for their intended use. It is considered that beneficial effects should not be considered significant, unless they lead to acceptable conditions off-site where conditions were previously not acceptable.

The assessment should demonstrate how climate change has been considered within the Wind Microclimate aspect chapter of the ES, noting that the UK Climate Projections 2018 (UKCP18) states "*an increase in near surface wind speeds over the UK for the second half of the 21st century for the winter season [is predicted] when more significant impacts of wind are experienced. This is accompanied by an increase in frequency of winter storms over the UK"* Whilst it is acknowledged that *"the increase in wind speeds is modest compared to interannual variability for the PPE-15"*, more extreme wind conditions are predicted overall.

4.10 Archaeology (Buried Heritage)

4.10.1 Proposed Approach

The Scoping Report states that an Archaeology Desk-Based assessment will be undertaken, and an Archaeology aspect chapter will be prepared, which will consider the following of the Proposed Development on archaeology assets:

- Site set-up works, including contractors compound set-up and associated temporary services levelling work and other preparatory ground works including remediation for unexploded ordnance (UXO) and chemical contaminants;
- Construction, including foundation excavation or pile installation, service installation, road construction;
- Landscaping, including ground reduction or levelling and creation of attenuation tanks and ponds;
- Compression of buried remains from vehicle movement, construction of spoil tips, bunds or raised landscape areas; and
- De-watering of waterlogged or organic archaeological remains through alterations to the level of groundwater across the Application Site.

4.10.2 General Comments

Paragraphs 354 to 355 of the Scoping Report proposes to scope out the assessment of operation effects from the Archaeology aspect chapter. The assessment should consider, where appropriate, the likelihood of alterations to existing drainage and groundwater patterns that might lead to *in situ* change, decomposition and/or destruction of below ground archaeological remains and deposits, which can also lead to subsidence of buildings.

The Application Site is within Lea Valley Tier 3 Archaeological Priority Area (APA) which has potential to contain both palaeoenvironmental evidence and evidence of prehistoric human activity such as that identified at earlier stages of the Aberfeldy redevelopment where a picture of prehistoric human land management along the Lea has emerged in the limited trenching so far undertaken.

The Applicant is reminded that The Greater London Archaeology Advisory Service (GLAAS) provide LBTH's archaeology advice. The Applicant is advised to refer to Policy S.DH3 of Tower Hamlets Local Plan 2031 (2020).

It is noted that Paragraph 360 of the Scoping Report refers to 'basements', though it is unclear as to the depth or extent of these. The effect of any basement levels as part of the Proposed Development are to be assessed with regards to archaeology, based on a clear identification of the depth and extent of the basement works including construction methodology and any associated dewatering required.

The ES should clearly identify the receptors and study area in relation to archaeological resources, and their sensitivity. The ES should be supported by an up-to-date archaeological desk-based assessment, a geoarchaeological model of the Application Site and its surroundings, created from available geotechnical and geoarchaeological data, by a recognised geoarchaeological specialist. The model should then be used to assess the impact of the Proposed Development in terms of depth and extent of impact on potentially sensitive deposits. The impact assessment should include application of the 2019 Historic England piling impact guidance.

The ES must also be informed by the results of any further pre-submission work, as agreed with GLAAS following the completion of the model and impact assessment. The Applicant should refer

to GLAAS's consultation response in this regard.

The Applicant is remined that conclusions must be informed by, and compliant with, up to date planning policy and Historic England technical guidance on archaeology and development. The Applicant is to take account of the following guidance within the Archaeology aspect chapter and Archaeological Desk Based Assessment:

- English Heritage (2008), Conservation principles, policies and guidance.
- Chartered Institute for Archaeologists (2014), Standard and guidance for commissioning work or providing consultancy advice on archaeology and historic environment.
- Historic England (2017), Land Contamination and Archaeology. To ensure buried remains are considered when creating and managing the conceptual site model and remediation programme.
- Historic England's Piling and Archaeology Guidelines and Good Practice document (2019).
- Historic England (2020), Deposit Modelling and Archaeology: Guidance for Mapping Buried Deposits.

The Archaeology aspect chapter of the ES should be informed by the below listed elements. The Applicant's attention is drawn to the consultation response from Historic England in this regard.

- An up-to-date Archaeological Desk Based Assessment;
- A geoarchaeological model of the Application Site and surroundings, using existing data and prepared by a recognised geoarchaeological specialist;
- An assessment of the Proposed Development's impact using the Desk Based Assessment and the geoarchaeological model;
- Results of any further pre-submission fieldwork, as agreed with GLAAS following the completion of the geoarchaeological model and impact assessment and
- A mitigation programme that includes appropriate public benefits.

The ES should outline the measures required to preserve and present the Application Site's archaeology heritage as part of the Proposed Development.

The Applicant is advised to carefully consider the residual effects of the Proposed Development. Often residual effects are referred to a negligible, when archaeology assets are permanently harmed and / or destroyed which underplays the likely effects of the Proposed Development.

4.10.3 Demolition and Construction

The ES should confirm the piling methodology proposed to facilitate the Proposed Development e.g. depth of piles, type of piling and area of piling. Potential effects on archaeology as a result of piling should be clearly presented within the ES, as well as any assumptions made when assessing effects as a result of piling.

4.10.4 Operation

As raised above, the assessment is to consider, where appropriate, the likelihood of alterations to existing drainage and groundwater patterns that might lead to *in situ* change, decomposition and/or destruction of below ground archaeological remains and deposits, which can also lead to subsidence of buildings and monuments.

4.11 Built Heritage

4.11.1 Proposed Approach

The Scoping Report states that the Built Heritage aspect chapter will consider effects of the Proposed Development on built heritage receptors (designated and non-designated assets), including their heritage significance and the contribution made to that significance by their setting during demolition and construction, and operation of the Proposed Development.

4.11.2 General Comments

The built heritage assessment must provide assessment of all built heritage assets likely to be significantly affected; in addition, it may be necessary to assess effects not likely to be significant to ensure the planning requirements are fulfilled, in addition to the ES requirements. It must be ensured, that the study area is based on the zone of visual influence of the Proposed Development, noting the anticipated maximum height of the Proposed Development at 96 m.

The Scoping Report includes a list of the heritage assets most directly affected by the Proposed Development within Paragraph 371 and 372 of the Scoping Report and shown within Figure 10, noting that all heritage assets to be assessed are yet be agreed with LBTH. LBTH consider that a zone of visual influence is provided to inform the heritage assets to be scoped into the assessment. However, from an initial consideration it is considered that the following should also be assessed:

- Maritime Greenwich World Heritage Site and Scheduled Monument;
- Three Mills Conservation Area;
- Limehouse Cut Conservation Area;
- Lansbury Conservation Area;
- Naval Row Conservation Area;
- All Saints Church Conservation Area;
- Northern portal and parapet to the Blackwall Tunnel (Grade II);
- East India Dock Wall and Gateway (Grade II);
- Poplar Baths (Grade II);
- Statue of Richard Green (Grade II);
- Church of St Saviours (Grade II);
- Twelvetrees Crescent Bridge (Grade II);
- Group of Gasholders former Bromley-by-Bow gasworks (Grade II);
- Northern Ventilation Shaft to the Blackwall Tunnel (Grade II);
- Dry Dock at Blackwall Engineering (Grade II);
- Blackwall Pier (Grade II);
- Trinity House (Grade II);
- Royal Oak Public House (Grade II);
- 162 St Leonards Road Locally listed building;
- 159-167 St Leonards Road locally listed buildings;
- Dowgate Wharf, 22 Gillender Street (Grade II) and 21-22 Gillender Street locally listed buildings;

- 18 Follet Street locally listed building;
- Mission House locally listed building;
- St Freideswide Halls locally listed building; and
- Heritage assets within the identified Conservation Areas

The Application Site itself contains a portion of the Grade II listed Bromley Hall School site, any direct effects on Bromley Hall school should be fully considered assessed in addition to the effects on the setting.

The Applicant is advised to consult with the Twentieth Century Society, with particular regard to the effects of the Proposed Development on Balfron Tower and Carradale House listed buildings. The Applicant is advised to refer to the Twentieth Century Society's consultation response in this regard. Given the height of the Proposed Development and the surrounding landscape character, the Proposed Development is likely to be visible across a very large area and could, as a result, affect the significance of heritage assets at some distance from the Application Site itself. The ES must demonstrate that the extent of the proposed study area is of the appropriate size to ensure that all heritage assets likely to be affected by the Proposed Development have been included and can be properly assessed. The ES must be supported by a figure which clearly identifies all built heritage receptors that have been assessed, similar to that provided to Figure 10 of the Scoping Report.

It is considered that non-designated features of historic, architectural, archaeological or artistic interest should also be identified as receptors for, in addition to designated heritage assets and locally listed structures. Since these can also be of national importance and make an important contribution to the character and local distinctiveness of an area and its sense of place. It is noted that non-designated heritage assets should not just be limited to locally listed buildings.

The assessment should be undertaken with reference to various Historic England guidance such as *The Setting of Heritage Assets*, GPA 3 (December 2017) and *Tall Buildings*, Advice Note 4 (December 2015), which is due to be updated in the near future.

A clear analysis of the heritage significance of each affected heritage asset, including the contribution of its setting to heritage significance, should be provided. All judgements on the significance and direction of effects on heritage assets need to be fully explained and justified.

The ES assessment should provide consideration of Section 184 to 202 of the NPPF regarding the levels of harm the Proposed Development is likely to result in.

The ES is to provide reference to all guidance that has informed the assessment. Reference should be made to LBTH Character Appraisals and Management Guidelines for relevant Conservation Areas, in addition to such document adopted by the London Borough of Newham.

It should be noted that whilst townscape, built heritage and views are interrelated, each matter should be clearly defined and dealt with appropriately in order to comply with the current guidelines e.g. its own methodology, and effects identified. Some guidance on links to cultural heritage assessments is provided at paragraphs 5.7-5.11 of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3).

4.11.3 Demolition and Construction

The ES should confirm details of any construction compounds and provide assessment as required.

The Applicant is reminded that demolition and construction effects, although temporary, can still be significant in terms of EIA and the relevant residual effects must be reported as such.

4.11.4 Operation

LBTH has no specific comments to make on this element of the assessment at this time.

4.12 Cumulative Effects

4.12.1 Proposed Approach

The Scoping Report states that the ES will assess potential cumulative effects as a result of the interaction of individual effects resultant from the Proposed Development on a receptor ('intra-project cumulative effects') and from the Proposed Development interacting with other developments ("inter-project cumulative effects"). A provisional list of cumulative developments is provided in Appendix C of the Scoping Report.

It is understood from Paragraph 102 of the Scoping Report that the assessment of inter-project cumulative effects will be assessed in each aspect chapter, and from Paragraph 107 of the Scoping Report that intra-project effect interactions will be provided as a separate ES chapter.

4.12.2 General Comments

The intra-project cumulative effects assessment should conclude whether effects on receptors are considered to be significant and this should be clearly stated within the ES and NTS. The assessment should not be limited to stating the range of effects on each receptor as reported within each aspect chapter as, for example, several minor effects on a receptor may result in a moderate i.e. significant effect which would not be identified if only a range of effects is presented. In addition, the intra-project cumulative effect assessment should not only consider individually significant effects from the aspect chapters as a number of insignificant effects on the same receptor, can cumulatively result in a significant effect. The ES should clearly state the methodology for assessment of intra-project effects. The ES should clearly state the methodology for assessment of effect interactions and must clearly state whether interactions are significant or insignificant.

It should also be noted that effects can accumulate over-time to result in a cumulatively significant effect and this aspect should be considered in addition to effects that occur simultaneously. This should be taken into account within both the inter and intra cumulative effects assessments.

The cumulative effects assessments (both inter and intra-project assessment) should consider likely effects on specific receptors and or groups of receptors, in addition to general aspects of the environment. Cumulative effects assessments should not just consider whether the magnitude of effects is greater, but also other aspects such as whether the duration of effects on a receptor are increased.

The inter-project assessment should be quantitative, where possible, utilising the relevant data from the corresponding planning applications. It is not appropriate to undertake a qualitative assessment where data is publicly available. LBTH expects that the cumulative schemes are reviewed throughout the EIA process to ensure the cumulative effects assessment, includes submitted, approved, and existing developments that may give rise to significant cumulative effects. Through the Scoping Report, the Applicant seeks to agree the cumulative schemes to be assessed; whilst this is welcomed, cumulative schemes for assessment must still be reviewed throughout the EIA process.

Cumulative effects will be an important consideration when determining the planning application. The EIA will need to carefully assess the effect that the Proposed Development has both on, from and with, cumulative schemes.

The Scoping Report states that cumulative schemes over 10,000 sqm (GEA) and over 150

residential units have been considered. Whilst LBTH agrees that schemes of this scale are more likely to give rise to cumulative effects, cumulative effects can arise from smaller scale developments e.g. several smaller scale developments within the vicinity of the Proposed Development may, in cumulation with the Proposed Development, result in significant effects, as well as larger developments which are further than 1 km from the Application Site.

It should be noted that approved projects at the time of determination are to be assessed; therefore, it may be appropriate to include projects which are likely to be approved prior to the determination of the Proposed Development to avoid delays determining the planning application for the Proposed Development. This is particularly relevant in light of the Pearce v Secretary of State for Business Energy and Industrial Strategy (BEIS) (2021) case law, and therefore LBTH would expect schemes to be considered whether granted or not. LBTH encourages the Applicant to contact relevant developers of cumulative schemes to obtain required information if such information is not yet publicly available. This is particularly relevant for the Proposed Development, given the number of cumulative schemes proposed on sites adjacent and surrounding the Application Site.

The Applicant should provide a clear figure within the ES of cumulative schemes scoped in or out of the assessment and the study area/s, as provided in Figure C1 of Appendix C of the Scoping Report.

LBTH requires the current status of all cumulative schemes to be provided in the ES, as is provided in Table C1 of Appendix C of the Scoping Report.

LBTH have reviewed the list of cumulative schemes provided in Appendix C of the Scoping Report and has identified the following schemes for inclusion / consideration in the cumulative effects assessment:

- Areas 7 and IC Barking Road, Canning Town - 11/00662/LTGDC (within the London Borough of Newham Planning permission granted)
- Blackwall Reach - PA/12/02752, PA/14/02480, PA/16/01958/P3 (planning permission granted) and PA/20/02371 (likely to be determined before the Proposed Development);
- Aberfeldy Estate – PA/11/02716, PA/11/03548, PA/13/01844, PA/15/00002, and PA/15/01826 (planning permission granted);
- 116-118 Chrisp Street - PA/14/02928 (planning permission granted);
- Bromley by Bow North - PA/11/02423 (planning permission granted);
- 43-45 Gillender Street - PA/19/01628 (planning permission granted);
- Goodluck Hope - PA/19/02773 (likely to be determined before the Proposed Development);
- 160 Chrisp Street - PA/15/00039 (Planning permission granted);
- Bow Common – PA/19/02379 (Resolution to grant planning permission);
- Stroudley Walk - PA/19/02292 (planning permission granted);
- Blackwall Jetty - PA/21/00288 (likely to be determined before the Proposed Development);
- Mulberry Place - PA/21/01304 (Scoping Opinion requested);
- Land under the DLR bounded by Scouler Street, Aspen Way and Prestage Way - PA/19/02292 (planning permission granted);
- Global Switch - PA/21/00986 (Could be determined before the Proposed Development);

- 1 Paul Julius Close (Reuters) - PA/13/01861/A1 (planning permission granted);
- North Quay - PA/20/01421/A1 (likely to be determined before the Proposed Development);
- Tower Hamlets College, 112 Poplar High Street - PA/19/02067/NC (scoping opinion issued);
- Chrisp Street Market – PA/21/01975 (scoping opinion requested);
- Trinity Buoy Wharf - PA/17/00729 and PA/19/00957 (planning permission granted); and
- The Silvertown Tunnel Order (2018).

The Crossrail Act (2008). The Crossrail Hybrid Bill was enacted on 22nd July 2008 when it completed all the Parliamentary stages and received Royal Assent to become The Crossrail Act (2008).

For the avoidance of doubt, developments which are essentially completed should be assessed as part of the baseline where relevant, as confirmed in Paragraph 103 of the Scoping Report. However, it must be ensured that the effects of cumulative schemes which are 'essentially complete' but not yet operational are taken into account, as for example if not yet fully operational, the transport movements will not be included at the time of baseline surveys, and therefore trip generation data from the essentially complete cumulative schemes will still need to be added in the future baseline scenario.

Reserved Matter applications and Minor Material Amendment applications are to be considered and reviewed in relation to the schemes identified for inclusion in the inter-project cumulative effects assessment. This is particularly relevant for EIA developments as these applications can give rise to additional significant effects. It is noted that all references to Reserved Matter applications and Minor Material Amendment applications relevant to the cumulative schemes as proposed in Appendix A have not been identified.

The Applicant must provide sufficient justification, to scope out any of the schemes identified above, in relation to likely significant effects.

The Applicant should consider the Planning Inspectorate's Advice Note 17 which provides a best practice approach to Cumulative Effect Assessment.

For the avoidance of doubt LBTH considers that the cumulative construction and operational effects can result in significant effects and are to be assessed within the ES.

4.12.3 Demolition and Construction

LBTH will require the overlapping construction periods of nearby committed developments and resulting consequential effects to be assessed.

Standard, generic mitigation measures (normally included within a Construction Environmental Management Plan (CEMP)) do not always provide adequate and sufficient mitigation. The ES will therefore need to identify site-specific but achievable measures with reference to how these can be secured and implemented. The construction timelines and routes of such cumulative schemes are to be assessed in the ES in the relevant aspect chapters, and it should not be assumed that all cumulative developments adopting best practice measures would avoid construction effects occurring.

It is requested that an outline CLP is submitted as part of the ES, which should make reference from TfL's CLP Guidance (2017). Importantly, Page 31 of Tfl's CLP Guidance states that that, *"Where there is a concentration of construction activity, it is good practice to set up a construction working group, with representatives from all interested parties, including TfL and the Local Planning Authority. The working group should share the results of the CLPs, broken down so that*

people can see the impact for each individual development phase and the numbers and types of vehicles in use. There is an expectation that the contractor will participate and work together with others in the area to minimise impacts".

4.12.4 Operation

LBTH considers that operational effects should be considered and assessed within both the intra-project cumulative assessment and inter-project cumulative assessment, as noted above.

5. REVIEW OF ASPECT CHAPTERS PROPOSED BY THE APPLICANT TO BE SCOPED OUT OF THE ES

It is noted that the Applicant is seeking to scope the following aspect chapters out of the EIA because they consider they are unlikely to generate any significant environmental effects:

- Ecology and Biodiversity;
- Daylight, Sunlight and Overshadowing – Internal;
- Geoenvironmental (Ground Conditions, Groundwater and Land Take and Soils;
- Water Resources, Drainage and Flood Risk;
- Project Vulnerability;
- Electronic Interference; and
- Waste; and

LBTH's position on each of the aspect chapters proposed to be scoped out of the ES is provided below.

It is noted that aviation has not been considered within the Scoping Report, LBTH has therefore provided consideration of these aspects within Section 5.8 Scoping Opinion.

5.1 Ecology and Biodiversity

The Scoping Report proposes to scope out an assessment of Ecology from the ES, on the basis that the Preliminary Ecological Appraisal (PEA) (Appendix E of the Scoping Report) which details the results of an ecological data search and an Extended Phase 1 Habitat Survey, found the Application Site has limited ecological value. The Scoping Report also states there is low potential on the Application Site to support foraging, commuting and roosting bats, moderate potential to support nesting birds and no potential to support black redstart. Presence of invasive/non-native species (INNS), including Virginia creeper and Buddleia has been confirmed.

No statutory or non-statutory designated sites were recorded within the Application Site boundary and the Proposed Development is not expected to have an impact on statutory and non-statutory designated sites within 2 km of the Application Site with the adoption of a CEMP and noting the limited public access to such sites.

In addition to the above, it was identified that whilst the Epping Forest Special Area of Conservation (EFSAC) lies approximately 6.4 km to the north of the Application Site, based on the information currently available, it is anticipated that the Proposed Development will have no likely significant effects on the SAC. This is due to the Proposed Development sitting outside of the *"6.2km Zone of Influence buffer detailed within the EFSAC Interim Mitigation Strategy and the net increase in vehicle trips as a result of the Proposed Development are considered to be negligible beyond the local road network (see Transport Scoping Report for the proposed development)"*.

LBTH notes that the PEA (presented in Appendix E of the Scoping Report and upon which the above justification is based) was undertaken for a site area of 7.35 ha, rather than the 9.69 ha area of the Application Site, with the main section of the Application Site not having been included within the PEA being Jolly's Green. LBTH considers that whilst the wildlife habitat of Jolly's Green is unknown, it is by far the most biodiverse area within the Application Site boundary and the Applicant should note that there have been several recent biodiversity enhancement projects at Jolly's Green, led by Trees for Cities, working with the local community. LBTH considers that the Applicant should update the PEA with the correct Application Site boundary, to enable LBTH to successfully consider whether an Ecology and Biodiversity aspect chapter can be scoped out of the ES. Noting that the Scoping Report does not confirm whether the areas of open space within the Application Site are to be retained as part of the Proposed Development. LBTH therefore, requires an **Ecology and Biodiversity aspect chapter to be scoped into the ES**, unless the Applicant can provide the updated PEA including Jolly's green and further details regarding the proposals for the areas of open spaces to demonstrate likely significant effects are not likely to occur.

It should be noted that all ecology surveys should be valid at the time of determination, and all required further must be undertaken and submitted to support the planning application. The Applicant is advised to refer to CIEEM's Advice Note on the lifespan of ecological reports and surveys (2019).

The Proposed Development has the potential to enhance biodiversity and achieve biodiversity net gain through biodiverse roofs and other biodiversity enhancements, which will be required in accordance with the relevant planning policy. A Biodiversity Net Gain assessment is to be undertaken. Ecological enhancements should contribute to the local biodiversity action plan (LBAP).

5.2 Daylight, Sunlight and Overshadowing – Internal

Paragraph 412 Scoping Report proposes to scope out an aspect chapter on daylight, sunlight and overshadowing within the proposed residential units and within the new public realm on the basis that is considered a design consideration rather than an environmental consideration.

It is noted in Paragraph 412 of the Scoping Report states that daylight, sunlight and overshadowing within the proposed residential units will be assessed and presented as separate standalone report submitted in support of the planning application.

LBTH agrees **Daylight, Sunlight and Overshadowing – Internal, new receptors within the Proposed Development can be scoped out of the ES** as an aspect chapter on the basis that a standalone report is submitted in support of the planning application and the results of this report are summarised in the Daylight, Sunlight, Overshadowing and Solar Glare aspect chapter, supported by a summary/conclusion paragraph of the daylight and sunlight levels.

The overshadowing of public amenity spaces to be provided within the Proposed Development is to be assessed in the ES to ensure such spaces are suitable for the intended use. Two-hour sun contour drawings on the 21st March and transient overshadowing diagrams should be provided for all open space provided as part of the Proposed Development.

5.3 Geoenvironmental (Ground Condition, Groundwater and Land Take and Soils)

Paragraphs 413 to 437 of the Scoping Report propose to scope out a Geoenvironmental assessment on the basis that the Proposed Development is unlikely to give rise to significant residual adverse effects in respect of land contamination, ground conditions, groundwater and

land take. This is supported by a Phase 1 Report which is presented in Appendix F of the Scoping Report.

The Phase 1 Report has identified the likely source-pathway-receptor pollutant linkages and provides a qualitative indication of the level of risk posed by potential ground contamination at the site. Specifically, Paragraph 428 of the Scoping Report states that *"the Phase 1 concludes that the general risk of contamination of receptors (i.e. construction works, future on-site users, neighbours) and resources (i.e. groundwater) is considered to be mostly low to moderate, with a moderate risk identified for volatile inhalation from groundwater"*. From this preliminary assessment, the Applicant has identified recommendations for further surveys and reporting. These include, but are not limited to, the following:

- Undertaking an intrusive Site Investigation (involving laboratory testing) subsequent to planning determination, followed by further stages of investigation and site remediation agreed through planning conditions.
- The Intrusive Investigation will include a risk assessment of the contamination at the Application Site, which would be undertaken by comparing measured levels of soil contamination with generic assessment criteria established through industry guidance and best practice.
- Should significant areas of contamination be identified during the further site survey/investigation work, a Remedial Strategy (including options appraisal) will be undertaken. Remediation strategies for soil include:
    - The remediation of soils on-site;
    - A strategy for ensuring separation between source and receptors via structural slabs, membranes and soil capping layers (as appropriate);
    - Off-site treatments (where practicable); and/or
    - The disposal of soil off-site.
- The appropriate Remedial Strategy will be agreed as appropriate in advance of any remediation work. The remediation framework will identify remediation requirements for the protection of human health and controlled waters, as well as identifying any areas that require remediation to be undertaken.
- Should a Remedial Strategy by implemented, a verification process will be undertaken to confirm that the strategy has remediated the soils to a level acceptable for the intended end use of the site (based on site specific criteria).
- An assessment for the potential for ground gas will be completed during further intrusive site investigation work.

Paragraph 431 of the Scoping Report concludes that, overall*, "the proposed ground works across the site, associated with the preparatory ground works and foundation excavations during the construction of the Proposed Development, will result in the appropriate treatment of the identified areas of contamination (i.e. soils and materials). This will result in residual beneficial effects to the local environment, through reducing the net contaminant loading at the site and surrounding area"*.

Whilst the Scoping Report has not considered the implications of the proximity of the Application Site to the former Leven Road Gas Works, though it is noted the gas works is considered within Appendix F of the Scoping Report, and the potential contamination associated with the gas works in detail, it is noted (in Appendix C – Cumulative Schemes – of the Scoping Report) that a hybrid planning application was submitted to the LBTH in 2018 for a residential-led mixed-use

development on the former gas works site. The project was subsequently granted planning permission in October 2019 and it is understood that regeneration works have since commenced. LBTH considers, therefore, that the requisite demolition and construction related environmental management/mitigation and monitoring measures for the former gas works development have been secured and controlled through an appropriate CEMP (or equivalent) and that this has been secured via planning condition(s). Consequently, the former gas works site, as a potential source of contamination, is less of a risk now and in future.

For the Proposed Development, key mitigation and management controls should form part of a CEMP for the demolition and construction works and it is noted that the Applicant states in Paragraph 217 of the Scoping Report that this would be prepared in advance of any works commencing on-site. This should be presented in the ES to help define the policies, procedures, and management framework for the implementation of any identified specific geoenvironmental management and mitigation controls and monitoring.

In view of the above, LBTH considers that a **Geoenvironmental assessment and aspect chapter can be scoped out of the ES**. The Applicant is reminded that all mitigation measures relied upon for scoping Geoenvironmental (Ground Conditions, Groundwater and Land Take and Soils) out of the ES must be referenced within the Mitigation and Monitoring Schedule chapter of the ES, which must include all measures stated in the Scoping Report.

It should be noted that within Policy D.DH8 of Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020), Paragraph 8.89 requires daylight assessments to follow the methodology set out in the most recent British Standard for daylighting.

5.4 Water Resources, Drainage and Flood Risk

The Scoping Report proposes to scope out an assessment of Water Resources, Drainage and Flood Risk from the ES. This is on the basis of the basis that a Flood Risk Assessment and Drainage Strategy will be submitted as part of the application, which will meet planning policy requirements, in addition it is stated that wastewater capacity will be confirmed with Thames Water should planning permission be granted, and water demand is considered to be taken into account with Thames Waters Water Resource Management Plans. Unspecified water efficiency measures are proposed.

The Application Site is in Flood Zone 3, but benefits from flood defences. The Application Site is primarily located within an area with very low and low risk of surface water flooding, with areas of medium and high flood risk along the existing roads within the Application Site. The Application is also at risk of reservoir flooding.

The Application Site lies within a Critical Drainage Area (as illustrated in Figure 15 of the Tower Hamlets Local Plan 2031), with the potential for hydraulic connectivity between the Application Site and the former gas works site. Given the nature, scale and context of the Proposed Development LBTH considers that **Water Resources, Drainage and Flood Risk aspect chapter is to be scoped into the ES** as it is considered the Proposed Development is likely to result in significant effects on water resources, drainage and flood risk, and an aspect chapter is to be provided within the ES.

The Flood Risk Assessment (FRA) and Surface Water Drainage Strategy are to form the basis for this assessment and will need to be submitted with the application; the mitigation measures secured as part of these documents should be clearly stated in the ES.

LBTH expect the Water Resources, Drainage and Flood Risk aspect chapter to be informed by contaminated land assessments.

If the Proposed Development requires dewatering as a result of the construction of any basements or groundworks, the ES should consider and assessment the potential for this activity to effect on water quality and / or groundwater flows occur.

The ES should assess whether the demand for water supply and sewage treatment of the Proposed Development can be met and that there is sufficient capacity in the utility networks to meet the predicted demand both on and offsite before occupation of the Proposed Development. A cumulative assessment is required in this regard. Consultation with Thames Water on clean and wastewater capacity should be undertaken prior to the submission of the application, to determine what measures are required to mitigate a development of this scale (including cumulatively). Details of the water consumption rate and sewerage discharge rate should be provided within the ES.

The Integrated Water Management Plan (IWMP) for the Isle of Dogs and South Poplar (October 2020) (Available here: https://data.london.gov.uk/dataset/isle-of-dogs-and-south-poplar-integrated-water-management-plan), sets out a hierarchy of requirements that the Proposed Development should adhere to. The Applicant must refer to the IWMP and incorporate IWMP requirements to avoid likely significant cumulative effects, which should be clearly set out in the ES. It should be noted that measures set out in the IWMP may have consequential effects on other sensitive receptors, and if these are proposed, consequential effects may need to be assessed in the ES.

LBTH's Sustainable Drainage Proforma must be submitted as part of the planning application. LBTH considers that habitat creation incorporating Sustainable Drainage Systems (SuDS) within the Proposed Development to be a mandatory requirement.

The Applicant is advised that the Application Site is within a LBTH Critical Drainage Area (CDA), as per Figure 15 of the LBTH's Local Plan. Therefore, the Proposed Development must achieve greenfield runoff rates as per the Local Plan policy as this is a mandatory requirement within a CDA.

The updated Environment Agency climate change allowances (2020) should be considered as part of the assessment and modelling undertaken. The FRA must include an assessment of the latest River Thames Tidal Upriver flood modelling (2017) to inform the sequential and exception tests, set finished floor levels, and access and egress routes. The latest River Thames Tidal Upriver flood modelling (2017) can be obtained by contacting HNLenquiries@environment-agency.gov.uk. It should be demonstrated that the Application Site passes the Flood Risk Sequential Test, and it is advised that consultation is undertaken with the Environment Agency regarding the FRA requirements and the need to ensure the Proposed Development provides safe access in the event of a flood. LBTH considers that the drainage strategy should be designed to accommodate the 1 in 100-year event + 40% climate change.

Finished floor levels are required to be above the TE2100 breach event, and provide safe access and egress in such events and the Proposed Development should contribute to the delivery of the vision of the Thames Estuary 2100 Plan (TE2100), and follow the specific recommendations on how to manage tidal flood risk. This should be considered and assessed in the ES.

5.5 Project Vulnerability

Paragraphs 466 to 474 of the Scoping Report propose to scope out an assessment of risk of major accidents and/or disasters (i.e. project vulnerability) from the ES, on the basis that there are no relevant risks, that aren't otherwise managed and assessed, which may give rise to major accidents and disasters. It is noted that vulnerability of the Proposed Development will be

assessed with regards to food risk and wind microclimate.

It is considered that the ES should include a description and assessment of the potential vulnerability of the Proposed Development to risks of major accidents and disasters, which are relevant to the Proposed Development, including vulnerability to climate change and flood risk. Measures to prevent or mitigate significant adverse effects of such events should be provided in the ES where relevant.

It is important that the introductory section(s) of the ES sign-post to where accidents and disasters have been assessed in the ES, such as flood risk, wind microclimate, transport, and construction. Where Geoenvironmental (Ground Conditions, Groundwater and Land Take and Soils) is scoped out of the ES, this should be explained within the introductory section(s) of the ES, in terms of how contaminated land (including UXO) would not pose a risk to major accidents and/or disasters.

For clarity, **LBTH does not agree to scope out major accidents and disasters from the ES and that relevant risks of accidents and disasters, such as those referred to above, are to be assessed within the ES. However, it is considered that a standalone major accidents and disaster aspect chapter is not required** given the nature and context of the Proposed Development and noting the Health and Safety Executive's consultation response confirms the Application Site does not life within the consultation distance of a major hazard site or major accident hazard pipeline.

The Applicant's attention is drawn to the IEMAs Major Accidents and Disasters in EIA Guide (2020), and the ES should align with the approaches set out within the guide, such as identifying source-pathway-receptor linkages of relevant topics.

5.6 Electronic (TV and Radio) Interference

The Scoping Report proposes to scope out assessment of Electronic (TV and Radio) Interference from the ES. This is on the basis that standard measures are deal with the relevant effects.

Given the number of TV transmitters and mobile network transmitters in the area, and that much of the surrounding area is taken up by industrial uses and by the River Lea, LBTH considers that there is unlikely to be significant effects on television and radio reception received within the surrounding area of the Application Site. Therefore, LBTH considers that a **Telecommunications assessment can be scoped out of the ES**.

Mitigation measures as referred to in Paragraph 475 of the Scoping Report to avoid likely significant effects must be clearly stated in the ES.

5.7 Waste

Paragraph 476 of the Scoping Report proposes to scope out an assessment of waste. This is on the basis that:

- Significant adverse effects on the local waste management infrastructure and landfill capacity (resulting from the waste expected to be generated during the demolition and construction of the Proposed Development) are considered unlikely, due to:
    - Mitigation measures (such as the provision of a CEMP and Site Waste Management Plan to include waste reduction and management objectives will be provided) that will be presented within the Demolition and Construction chapter of the ES; and
    - There being available capacity specified existing facilities and land suitable for new

waste facilities to provide sufficient capacity within the borough to manage waste apportionment targets (as set out within Paragraph 483 of the Scoping Report);

- Significant adverse effects on local waste management infrastructure and landfill capacity (resulting from the waste expected to be generated during the operation of the Proposed Development) are considered unlikely, due to:
    - A separate Operational Waste Management Strategy that will be prepared and submitted as a standalone document as part of the planning application; and
    - There being available capacity specified existing facilities and land suitable for new waste facilities to provide sufficient capacity within the borough to manage waste apportionment targets (as set out within Paragraph 483 of the Scoping Report).

Given the above, LBTH considers that a **Waste assessment and aspect chapter can be scoped out of the ES**. Noting that adherence to London Plan Policy SI7 diverting 95% of demolition and construction waste results in a negligible effect in accordance with IEMA guidance, and the operation of the Proposed Development is unlikely to significant effect landfill supply.

However, the Applicant is reminded that IEMA's Guide to: Materials and Waste in Environmental Impact Assessment considers materials to be a sensitive receptor, in addition to landfill capacity. Given that the Scoping Report does not consider materials, unless the Applicant can adequately justify that no likely significant effects will occur on materials during the demolition and construction of the Proposed Development, and once the Proposed Development is operational, LBTH considers that a **Materials assessment and aspect chapter should be scoped into the ES**.

All mitigation measures relied upon to avoid likely significant effects must be clearly stated in the ES.

The Applicant is reminded that the EIA Regulations require an estimate, by type and quantity, of expected residues and emissions, which includes quantities and types of waste produced during the demolition / construction and operation phases. This should be provided in introductory chapter of the ES, in addition to the mitigation measures included as part of the application to avoid significant effects in relation to waste as stated in the Scoping Report.

The Applicant should produce a Circular Economy Statement using the guidance in the London Plan Policy SI7. Adopting this approach will play a significant role in promoting resource efficiency and addressing the challenge of the climate emergency. Consideration should be given to the LBTH Waste Management Strategy 2018-2030.

5.8 Aviation

LBTH notes that the Scoping Report does not include a section on aviation a considering the Proposed Development potential effects on aviation safety, however Paragraph 41 of the Scoping Report states the Proposed Development is situated in a London City Airport safeguarding zone.

The Application Site is located approximately 3 km to the north west of London City Airport, and the maximum height of the Proposed Development is 96 m AOD, and therefore the Proposed Development is not anticipated to affect the current use of approach and/or departure procedures for London City Airport and **therefore Aviation can be scoped out of the ES**.

An aerodrome safeguarding report is to be prepared and submitted with the planning application to support the process of statutory consultation associated with the identified safeguarding requirement. This should assess physical safeguarding (buildings and cranes), and technical

safeguarding (communication, navigation and surveillance equipment), lighting, cranes and bird strike hazard.

Appendix: Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: EIA Scoping Opinion Response
Annex 4: Cumulative Schemes List and Map
Annex 5: Cumulative Schemes Assessment Matrix

Aberfeldy Village EIA Scoping Opinion Response

This EIA Scoping Opinion Response document constitutes the response of the Applicant to the EIA Scoping Opinion received from the London Borough of Tower Hamlets (LBTH) on the 8th September 2021 relating to the EIA for the redevelopment of the Aberfeldy Village. This document is structured as follows in accordance with the structure set out within the LBTHs' Environmental Impact Assessment (EIA) Scoping Opinion:

- **Table 1** EIA Scoping Opinion Response, Section 2 EIA Process Requirements;
- **Table 2** EIA Scoping – Topics Scoped In; and
- **Table 3** EIA Scoping – Topics Scoped Out.

The document only responds to any areas where further clarification or justification has been considered necessary by the Applicant's EIA Team, all other comments raised in the scoping opinion have been addressed directly through the ES (Volumes 1 and 2).

Table 1: EIA Scoping Opinion (SO) Response, Section 2 EIA Process Requirements

SO Section Ref.	Comment Within the LBTH Scoping Opinion	Applicant's EIA Team Response
2.0 The Proposed Development		
2.2 General Comments	Where different floorspace measurements are used e.g. Gross External Area (GEA), General Internal Area (GIA) and Net Internal Area (NIA), the ES should clearly identify how these have been calculated, based on which drawings and how the figures relate to one another.	This information is presented within **ES Volume 1, Chapter 4: The Proposed Development** and as appropriate within **ES Volume 1, Chapter 5-14**
	The ES should ensure consequential effects of plant are assessed as required, in terms of flue location and noise.	This has been assessed within **ES Volume 1, Chapter 8: Air Quality and ES Volume 1, Chapter 10: Noise and Vibration.**
	Soft landscaping should be prioritised within the Proposed Development which, where possible, should incorporate dual uses e.g. biodiversity benefits, flood attenuation/Sustainable Drainage Systems (SuDS), and wind mitigation.	The information is presented within **ES Volume 1, Chapter 4: The Proposed** The **ES Volume 1, Chapter 8: Air Quality and ES Volume 1, Chapter 10: Noise and Vibration.**
	The Applicant should take into account the locations of any utilities within or crossing the Application Site; should these need to be redirected or upgraded as a result of the Proposed Development, consultation should be undertaken with the relevant stakeholders.	The impact of any utilities within or crossing the Site have been considered as part of the Utilities Assessment and as appropriate considered within **ES Volume 1, Chapter 5: Demolition and Construction.**
2.3 Demolition and Construction	No reference is made within the Scoping Report to the lifespan (or decommissioning) of the Proposed Development. The intended lifespan of the Proposed Development is to be considered in the ES.	Consideration of the decommissioning of the Proposed Development is not a requirement of the EIA Regulations relevant to this project, and therefore has not been assessed in the EIA or discussed any further in this ES.
	Noting the 120-month construction period and as Paragraph 5 of the Scoping Report states that the Proposed Development would replace Phases 4 to 6 of the OPP, and Paragraph 86 of the Scoping Report refers to a phased construction and occupation of the Proposed Development, the Applicant should consider how a reasonable worst-case scenario can be identified and new sensitive receptors (i.e. residents) assessed and make clear how this has been considered. Any phasing as presented in the ES would then be fixed by planning condition.	A Phasing Parameter Plan has been submitted with the Planning Application. **ES Volume I, Chapter 2**: Methodology presents how a reasonable worst-case scenario has been identified for each of the technical assessments.
	The Proposed Development should include a description of any temporary works (noting the 120-month construction phase) required to facilitate any partial use of the Application Site, prior to completion of the Proposed Development.	No temporary site uses are currently envisaged for the Proposed Development.
3.0 Review of the Methodology and Scope of the EIA		
3.2 Significance Criteria	Table 3 of the Scoping Report refers to classifying effects as adverse, beneficial, or neutral. LBTH consider that the classification of 'neutral' effects is to be used where there is no meaningful change to a receptor. However, LBTH do not consider it is appropriate to imply that neutral effects can be significant e.g. moderate neutral effect, as this counters the normal use of this word both in general usage and EIA practice. Although LBTH note that the Scoping Report only proposes to use the term neutral with regards to the Townscape and Visual Impact Assessment.	Noted, however, in relation to townscape visual impact effects are assessed as beneficial, adverse, or neutral. This is in line with guidance in the GLVIA which states that a professional judgement should be made as to whether effects can be described as *'…positive or negative (or in some cases neutral)…'* (see GLVIA paragraph 5.37 in reference to landscape/ townscape, and paragraph 6.29 (from which the preceding quoted extract is taken) for visual effects). The assessment as beneficial or adverse is a 'net equation', since with regard to the receptor that is being assessed, there may be both positive and negative effects as a result of the Proposed Development.

4.12 Cumulative Effects		
4.12.2	The cumulative effects assessments (both inter and intra-project assessment) should consider likely effects on specific receptors and or groups of receptors, in addition to general aspects of the environment. Cumulative effects assessments should not just consider whether the magnitude of effects is greater, but also other aspects such as whether the duration of effects on a receptor are increased. LBTH have reviewed the list of cumulative schemes provided in Appendix C of the Scoping Report and has identified the following schemes for inclusion / consideration in the cumulative effects assessment: • Areas 7 and IC Barking Road, Canning Town - 11/00662/LTGDC (within the London Borough of Newham Planning permission granted) • Blackwall Reach - PA/12/02752, PA/14/02480, PA/16/01958/P3 (planning permission granted) and PA/20/02371 (likely to be determined before the Proposed Development); • Aberfeldy Estate – PA/11/02716, PA/11/03548, PA/13/01844, PA/15/00002, and PA/15/01826 (planning permission granted); • 116-118 Chrisp Street - PA/14/02928 (planning permission granted); • Bromley by Bow North - PA/11/02423 (planning permission granted); • 43-45 Gillender Street - PA/19/01628 (planning permission granted); • Goodluck Hope - PA/19/02773 (likely to be determined before the Proposed Development); • 160 Chrisp Street - PA/15/00039 (Planning permission granted); • Bow Common – PA/19/02379 (Resolution to grant planning permission); • Stroudley Walk - PA/19/02292 (planning permission granted); • Blackwall Jetty - PA/21/00288 (likely to be determined before the Proposed Development); • Mulberry Place - PA/21/01304 (Scoping Opinion requested); • Land under the DLR bounded by Scouler Street, Aspen Way and Prestage Way - PA/19/02292 (planning permission granted); • Global Switch - PA/21/00986 (Could be determined before the Proposed Development); • 1 Paul Julius Close (Reuters) - PA/13/01861/A1 (planning permission granted); • North Quay - PA/20/01421/A1 (likely to be determined before the Proposed Development); • Tower Hamlets College, 112 Poplar High Street - PA/19/02067/NC (scoping opinion issued); • Chrisp Street Market – PA/21/01975 (scoping opinion requested); • Trinity Buoy Wharf - PA/17/00729 and PA/19/00957 (planning permission granted); and • The Silvertown Tunnel Order (2018).	Where relevant the cumulative schemes assessment considers potential impacts that may arise during the Proposed Development's peak construction period in combination with other developments that are also under construction at the same time. A scoping exercise has been undertaken which has identified cumulative schemes likely to be under construction at the same time as the Proposed Development. Further details in regard to this scoping exercise is presented within the **ES Volume 1, Chapter 2: Methodology**. The following has been considered when undertaking the scoping exercise: • The likelihood of the other cumulative schemes being constructed concurrently to the Proposed Development; • The likelihood that the same or similar HGV traffic routes as the Proposed Development will be used for the cumulative schemes; • The proximity of the cumulative schemes to the Proposed Development site and the potential for surrounding receptors to experience 'in combination' or 'cumulative' effects as a result of the Proposed Development being constructed concurrently with the cumulative schemes; and • The amount of information available to be assessed i.e. whether the cumulative schemes only have a scoping report and are therefore not able to be assessed in terms of massing studies. These additional schemes have been considered and the below responses relate to those which are not considered to be cumulative schemes for this Site. **Scheme** / **Response** Mulberry Place - PA/21/01304 (Scoping Opinion requested); / Although the Scoping Opinion has been submitted, there is insufficient information available to undertake an assessment of the cumulative effects of this scheme. Global Switch - PA/21/00986 (Could be determined before the Proposed Development); / Although the scheme is located nearby, the five level phased external plant has no cumulative interactions with the Proposed Development as it is not generating population or additional sensitive receptors. Noise generated from the external plant is considered too far to lead to an increase in dB when considering the noise environments between the Site and the cumulative scheme. Tower Hamlets College, 112 Poplar High Street - PA/19/02067/NC (scoping opinion issued); / Although the Scoping Opinion has been submitted, there is insufficient information available to undertake an assessment of the cumulative effects of this scheme. Chrisp Street Market – PA/21/01975 (scoping opinion requested); / Although the Scoping Opinion has been submitted, there is insufficient information available to undertake an assessment of the cumulative effects of this scheme.

Table 2: EIA Scoping – Topics Scoped In

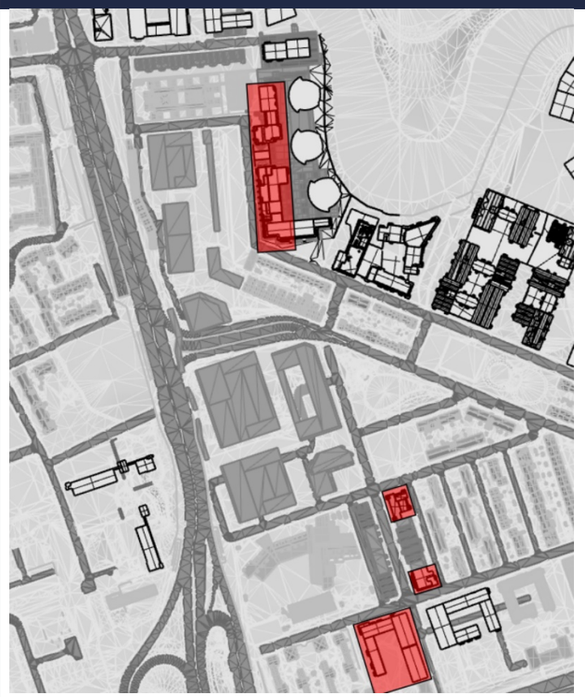
4.1 Air Quality		
4.1.2 General Comments	The ES is to ensure that realistic background air quality concentrations are used in the assessment, and a robust model verification exercise is undertaken. Any limitations should be clearly stated. It is considered that current baseline and future year projections are to be based on the LAEI (20 m2 grid reference) and Tower Hamlets monitoring data. LBTH notes that in addition to verifying modelling against existing monitoring data in the area, air quality monitoring for nitrogen dioxide will be undertaken at the Application Site (over a minimum period of three months), in order to provide further confidence in the modelled predictions. LBTH considers this to be appropriate.	During the assessment period between March 2020 and June 2021, travel had been significantly limited by restrictions that were implemented as part of the Government's response to the COVID-19 pandemic. Consequently this has affected transport movements at the time hence at the time of undertaking the baseline air quality work in early 2021, it was not considered representative to undertake air quality monitoring. Instead, existing LBTH monitoring data was used.
4.3 Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare		
4.3.2 General Comments	It is noted that light pollution is included in the aspect chapter title in the Scoping Report; however, this matter is dealt with in Paragraph 169 of the Scoping Report which provides a discussion proposing to scope out an assessment of light pollution due to the residential nature of the Proposed Development. LBTH agrees that this is acceptable for the residential element of the Proposed Development; however, LBTH notes that approximately 7,500 sqm GIA of non-residential uses (including restaurant, retail and office (Use Class E(a), E(b) and E(g))) will be provided. Therefore, LBTH expects that a light pollution assessment should be undertaken for the non-residential uses of the Proposed Development or justification should be provided in the ES, if it is considered that such an assessment is not required.	Light pollution is defined as any light emitting from artificial sources into spaces where it is unwanted, such as spillage of light from office or commercial buildings onto residential accommodation, where this would cause nuisance to the occupants The elements of the Proposed Development which are detailed comprise primarily residential uses which are not considered to be a source of light intrusion and therefore do not require assessment. The commercial uses proposed are not considered likely to results in any significant light intrusion effects, owing to the relative distance from sensitive uses and are therefore not assessed. As a mixed-use scheme, there is the potential for the proposed residential elements to be located within 20 meters of commercial buildings and thus considered future sensitive receptors in terms of light pollution. However, the non-residential uses of Proposed Development comprising commercial uses are currently proposed in outline and as such no light pollution assessment can be undertaken at this time. An assessment of the light pollution effects relies on the detailed design of the scheme, for both the commercial buildings that would emit the artificial lighting and the apertures of the proposed residential buildings. Owing to the application for the Proposed Development being partly in outline, the façade materials, including glazing, as well as the lighting design, internal layouts and room uses are not yet known for the outline element. As such, a full detailed analysis for solar glare and light pollution cannot be undertaken at this stage in respect of the outline element. Any emerging lighting strategy will be designed with respect to the ILP Guidance Notes and will ensure that any significant effects are mitigated as part of the detailed design development
	The study area and individual properties assessed should be clearly stated and justified within the ES and shown on a figure for ease of understanding. It is noted that a list of receptors to be considered has been provided in Paragraph 175 of the Scoping Report, however no figure is provided so the exact receptors to be assessed is not known. Reference is made to Aberfeldy Road, which is understood to refer to Aberfeldy Street, and Carndale House, which is understood to refer to Carradale House. Bromley Hall School, Poplar Baptist Church, River Thames and Tidal Tributaries SINC, and receptors on Brion Place should be identified as receptors.	A map of receptors with buildings, clearly identified, with naming corrections are provided within **ES Volume 1, Chapter 12: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare** within Figures 12.1, 12.2 and 12.3. The additional buildings, Bromley Hall School, Poplar Baptist Church and receptors on Brion Place are considered in the Sensitive Receptors Section, with the likely significant effects considered in the Potential Effects Section. The River Thames is south of the Proposed Development and therefore not considered sensitive. Bow Creek / River Lea are Tidal Tributaries which are assessed as sensitive receptors.
4.3.4 Operation	The Applicant is also required to provide a summary table for daylight, which includes the following: - The receptor (i.e. each building); - The number of windows / rooms in the receptor tested; - The number of windows / rooms which meet the BRE criteria; - The number of windows / rooms which do not meet the BRE criteria, split by minor, moderate and major significance, as per the criteria outlined above; - The number of dwellings affected; and - Commentary on minor, moderate and major sunlight and daylight losses.	Information about dwellings is not always available and as such reporting by dwellings is not a viable option. A summary table has been provided within the ES chapter detailing the number of windows/rooms tested and affected per receptor, split by minor, moderate and major effects. The daylight and sunlight technical results report on the specific windows and rooms which impacts occur, which are mapped on corresponding illustrations whereby the individual effects can be identified.
4.5 Health		
4.5.2 General Comments	The Applicant is advised to consider integrating the HIA into the EIA to minimise duplication and facilitate enhanced consideration of health within the EIA as well as meeting the requirements of both the HIA policy and the EIA Regulations.	A table is provided in ***ES Volume 1, Chapter 2: EIA Methodology*** which provides reference to relevant information on human health located in the ES
	the introductory section of the ES should contain a table which provides a clear cross-reference to where the relevant information on human health is located in the ES, such as within the HIA, wind microclimate (including strong wind occurrences), daylight, sunlight and overshadowing, socio-economics, air quality, noise and vibration, transport aspect, ground conditions, water environment chapters of the ES.	The application is be supported by a detailed Health Impact Assessment in accordance with LBTH policy D.SG3. The scope of the HIA has been agreed with LBTH Health Impact Assessment Officer. The HIA will

	In accordance with LBTH policy D.SG3, and policy within the NPPF and London Plan, a **detailed** HIA is to be submitted in support of the planning application. Any likely significant effects identified within the HIA should be further assessed as part of the EIA. It should be noted that the emerging policy requires *'Developments of a scale referable to the Greater London Authority (as set out in legislation) are required to complete and submit a **detailed** health impact assessment as part of the planning application'*. Detailed HIAs **must be informed by sufficient consultation**, in order to identify the relevant health determinants for the Proposed Development and assess their impact. It is noted from Paragraph 221 of the Scoping Report that the scope of the detailed HIA has been discussed with the LBTH's HIA Officer (in May 2021). The required consultation is to also be agreed with LBTH's HIA Officer.	include reference to supporting documents (such as ES Chapters) to further understand methodology, approach as agreed with LBTH Health Impact Assessment Officer. Any likely significant effects identified within the HIA are included in the ES. The HIA utilises the Sports England's Active Design to evaluate the design and layout principles of the proposal. The Local Impact Area used in the HIA is commensurate with the appropriate impact areas used to assess the significance of effects across the range of health determinants and where possible is consistent with local impact areas used in the ES for such purposes.
	The HIA is to be structure around the following key themes, as identified within LBTH's HIA Guidance (2021): • Delivering healthy layouts; • Promoting neighbourhood cohesion; • Enabling active living; and • Creating the healthiest of environments.	
	The Applicant is reminded that all likely significant effects must be identified and assessed within the ES. The ES is to clearly state whether the HIA identified likely significant effects, and where such effects are assessed within the ES.	
	Community engagement will offer a qualitative impact analysis of those who will experience living on or near the Application Site and who might suffer or benefit from its many features and their combined health impact. While it might be difficult to quantify the impact of any single risk factor/determinant of health (as per HUDU checklist), it is therefore important for the Applicant to take into account the experience of the local population. The criteria questions in the Tower Hamlets HIA guidance can help inform consultation on health.	
	HIA has a broad remit to assess a number of determinants of health at building or site level including housing quality and design, access to healthcare and other social infrastructure, access to open space and nature, air quality, noise and neighbourhood amenity, active travel, community safety, access to healthy food, access to work and training, climate change. The HIA is to assess their impact on a range of health outcomes including physical, mental, environmental health as well as health equity and safety.	
	With regards to the HIA, evidence shows that design and layout have an impact on behaviour pattern. While the Applicant cannot anticipate the ways buildings and spaces are used or other lifestyle factors of future residents, the Applicant must ensure that the proposed site layout maximises the health benefits, promotes communal/open space promoting cohesion, enables active living and contributes to environmental sustainability, all key factors for health. The Applicant is reminded that the way buildings and spaces are used is also determined by their availability, accessibility, design and maintenance, all of which can be considered at planning stage. The analysis of health risk factors at various relevant spatial scales (room, building, street, site and neighbourhood levels) is required as a range of smaller and consistent negative design issues can potentially affect human health.	
	LBTH recommend the Applicant refers to Sports England's Active Design for instance to ensure that active design principles are embedded into the design and layout of their development to meet planning and transport objectives (see p. 56 Sports England's Active Design). Furthermore, the HIA will need to consider the impact not just on the Application Site but on the wider population. The Applicant must identify an impact area in view of the size of the development, the local demographics and existence of local infrastructure around the Application Site.	

4.6 Socio-Economics		
4.6.2 General Comments	The Scoping Report does not identify whether the effects on dentists, nurseries, leisure and other community facilities will be considered within the ES. The ES should consider the potential effects on these or provide justification as to why not assessed. The Applicant is reminded it is not acceptable to scope out aspect or matters on the basis of difficulty undertaking the assessments.	Effects on dentists, nurseries, leisure and community facilities are considered in the ES chapter. Where available, capacity is assessed using local, regional or national benchmarks. If no published thresholds for capacity exist, a best-practice assessment has been used to determine assessment conclusions.
	Table 3 of the Scoping Report provides the matrix to determine effects for the socio-economic assessment. The matrix includes the classification that impacts of medium magnitude on assets of medium sensitivity, will result in a moderate effect. LBTH considers that this classification is proportionate. However, given this is in line with the overall methodology for the ES as set out in Table 2 (page 21) of the Scoping Report, the Applicant should consider the need for repeating matrix in the ES.	The level of affordable housing has been considered in line with LBTH's targets The ES Chapter includes a section on receptors and study area with descriptors and justification. Worst-case scenario has been used to assess all receptors within the Socio-economics ES Chapter, including assessment of employment generation Data sources are fully referenced throughout **ES Volume 1, Chapter 6: Socioeconomics** Whilst it is recognised that the London Borough of Newham is geographically proximate to the site boundary, it is considered the inclusion of London Borough of Newham within the affected impact areas is for the most part, not appropriate. The boundary of the two Boroughs closest to the site, aligns with the River Lea which is considered to be a significant physical barrier with currently only two places for potential crossover of residents (one of which connects directly to a waste management service and is considered unlikely to be used by the wider population). Moreover, currently the vast majority of land uses across the river within the London Borough of Newham include industrial, commercial and logistics uses which are highly unlikely to have a permanent resident population. Whilst there may be some commercial activity which could occur between the two places, it is considered unlikely that the delivery of the Proposed Development will have any significant or permanent impacts on the population within the area that falls within the London Borough of Newham. As such, it is considered the inclusion of London Borough of Newham within the assessed impact areas of the Chapter is not appropriate. However, for receptors such as primary health care, where a radius is used, parts of this may fall within LB Newham – in which case this has been taken in to account. Consultation emails will be sent out to relevant organisations, including Tower Hamlets Clinical Commissioning Group and LBTH's Education department to ensure data is up-to-date and consistent with latest trends. HCA's Employment Density Guide (2015) has been applied to estimate employment levels for the Proposed Development. Consideration has been given to any loss of existing employment on-site and if there is any potential displacement of business during construction & demolition phases. The LBTH Child Yield Calculator has been used to determine level of children to be generated by Proposed Development Assessments of demand for community facilities has been included in the chapter including likely population increase from cumulative schemes where possible. Adverse effects are described and appropriate mitigation measures have been proposed
	This assessment will need to include consideration of LBTH's affordable housing target i.e. a minimum of 35% (noting that sites on public land require a minimum of 50% to benefit from the fast track route, in accordance with the London Plan), and required housing mix i.e. 70% rented and 30% intermediate tenure split. Should the Proposed Development not meet LBTH's affordable housing target, this should be assessed as being an adverse effect as the Proposed Development has failed to meet the communities' minimum need. If the affordable housing provision changes after the planning application has been submitted, reassessment may be required as part of the ES. The assessment should ensure that the new site users have access to sufficient levels of social infrastructure, such as health, and recreation etc.	
	The ES should clearly identify the receptors and study area in relation to socio-economics, surrounding and within the Application Site, and their sensitivity to potential construction and operation works. This should include a map and appropriate descriptors.	
	The ES should clearly set out how all figures have been calculated (e.g. employment generation) and justified as appropriate, with reference to other relevant documents/aspect chapters where appropriate and ensure this represents the worst-case scenario. This is particularly relevant for the assessment of the non-residential uses proposed, and it must be ensured the worst case has been assessed.	
	The data sources are to be fully referenced with relevant comments regarding the reliability of such data and any other limitations. Given the proximity of London Borough of Newham to the Application it is considered that local effects will affect areas within London Borough of Newham, and therefore the baseline and subsequent assessments are to consider London Borough of Newham in addition to LBTH.	
	LBTH consider that consultation should be undertaken to ensure data utilised in the assessment is up to date, for example patient data for doctor's surgeries, and school place data. The socio-economic assessment should ensure the most up to date data informs the assessment and clearly state any assumptions and limitations. The ES should summarise any consultation activity that has been undertaken with appropriate organisations.	
4.6.3 Demolition and Construction	LBTH has an above average unemployment level within Greater London. LBTH will seek to ensure that jobs are provided for local people, both in the construction phase of the Proposed Development and by the end-users, where appropriate.	
	When calculating employment figures the Homes and Community Agency's (HCA) Employment Densities Guide should be used. Where there are a range of 'area per Full Time Equivalents (FTE)', information should be provided on why a specific figure has been used. It should be noted that the HCA guide references both GIA and NIA, and therefore the EIA should ensure that the correct figures are used for the correct land uses. Specific consideration should be given to the loss of current employment within the Application Site and the potential disruption of businesses adjacent to and in proximity of the Application Site during demolition and construction.	
	It is noted that Paragraph 240 of the Scoping Report states that the child yield anticipated to arise from the Proposed Development will be calculated based on the GLA Population Yield Calculator. LBTH requires that LBTH's Child Yield Calculator is used inform the socio-economic assessments.	
	The future baseline and cumulative effects will be an important assessment in relation to the socio-economic aspect chapter, and the assessment should ensure that the new site users have access to sufficient levels of social infrastructure, such as health, education, open space and play space on a phase-by-phase basis. Assessments of demand for community facilities should be supported quantitative information including likely population increase from cumulative schemes where possible.	

4.8 Traffic and Transport		
4.8.2	Mitigation measures for buses, especially route 309 and any potential rerouting, should clearly identify how the measures will be secured and acknowledge where mitigation is within the Applicant's control and when it is not. Table 5 of the Scoping Report notes that during demolition and construction, severance and amenity, fear and intimidation will be assessed for local roads only. It also notes that severance, pedestrian and cyclist delay, vehicle and bus delay, amenity, fear and intimidation and accidents and safety will be assessed during operation. LBTH consider that pedestrian and cyclist delay, vehicle and bus delay, accidents and safety are to be scoped into the assessment during demolition, and construction. It is agreed that the assessment of hazardous loads can be scoped out of the ES on the basis on hazardous loads would be generated as a result of the Proposed Development.	A Traffic and Transport ES chapter is required to comply with specific national guidelines as set out in DMRB LA104 and the Guidelines for the Environmental Assessment of Road Traffic (GEART). The specific impacts to be assessed are set out in the standards and are as follows: • Severance • Driver Delay • Pedestrian Delay • Pedestrian Amenity • Fear and Intimidation • Accidents and Safety • Hazardous Loads Specific EIA thresholds for these impacts exist so that the magnitude and significance of the environmental impact can be determined in line with DMRB and GEART. However, pedestrians, cyclists, drivers, and public transport passengers can be included as separate receptors as part of the assessment so that the impacts as set out above on each of these receptor groups can be determined.
	LBTH considers that rail delay and the effects on public transport should be assessed for operation and, therefore, must be scoped in. As part of the assessment of public transport, station capacity assessments for London Underground and DLR stations, and line loading assessments are to be undertaken and agreed with LBTH and TfL.	Rail delay and "effects" on public transport are not included in national guidance and no EIA thresholds for these impacts exists. Therefore, they are not be included in the ES chapter. However, the impact of public transport demand on the capacity of the public transport network, including rail, forms part of the TA.
	No consideration has been given to junction capacity within the Scoping Report. This matter is considered to be scoped in unless it can be sufficiently justified that significant effects are not likely. The Applicant is advised to consult with LBTH and TfL in this regard.	The Proposed Development will not result in an increase in vehicle trips on the network. It is acknowledged that the proposed closure of the underpass will result in redistribution of traffic on the strategic network but a reduction in traffic on B125 Abbott Road will occur as well. Strategic modelling has been undertaken and microsimulation is underway which will assess the junctions that will be impacted by the closure of the underpass. The result of this modelling informs the driver delay and severance environmental impact assessment.
	In addition to the above, appropriate consideration must be given to the timeframe of when Abbott Road diversions will be delivered. For example, if Abbott Road will be closed to vehicular traffic early during the construction phase, then this must also be assessed during construction.	The peak construction traffic is expected to occur in April/May 2026 during Phase B. The underpass will not be closed until after the peak construction traffic has taken place. However the routing of vehicles will only change slightly with the closure of the underpass in future Phases with access from the A12 maintained via the re provided off-slip and egress from the site via B125 Abbott Road junction with the A13. The minor change in routing is not considered to have a material impact on construction traffic volumes along B125 Abbott Road, within other streets of the site or the strategic network.
	Proposed assessment scenarios set out: • Existing baseline year • Assessment baseline (do nothing) • Assessment with development (do something) • Existing baseline plus peak hour construction vehicle movements • Interim scenario with partial occupation and partial construction of the development	While data from an existing baseline year has been used to establish the assessment future baseline year (2031), it has not been assessed separately against severance, delay, etc. as EIA is concerned with the impact or change of a proposal against a do-nothing baseline in the same year. Our proposed methodology is in line with BMRB LA104 and the 1993 IEMA guidelines. Peak construction in 2026 encompasses construction of Phase B of the Proposed Development. In this phase, the Detailed Proposals (Phase A) of the Proposed Development would be operational. However, as the Proposed Development will re-provide parking at a lower level than existing Site no increase in traffic is expected as a result of Phase A operation and therefore this has not been explicitly assessed as part of this scenario. For Phase B construction, construction vehicles will access and egress the site via the A12/Lochnagar Street junction. The Interim scenario year of 2026 has therefore been used to illustrate the partial occupation and partial construction.
	The detailed assessment methodology for this aspect chapter and the TA should be agreed in consultation with transportation officers at LBTH and TfL. Details of the consultation undertaken should be set out in the ES. The Applicant is advised to agree the trip generation and any modelling scope with LBTH and TfL, prior to submitting the application.	Noted, extensive consultation has occurred and is ongoing with both LBTH and TfL.

4.8.3 Demolition and Construction	Cumulative impacts will be an important consideration given the location of the Proposed Development in an area of significant growth, particularly considering the cumulative schemes will introduce HGVs and construction traffic onto local streets at the same time as the Proposed Development.	An estimate of construction vehicle flows for nearby development has been included as part of the ES based on publicly available construction flows for those developments. It is noted that as the future year modelling is based on growth of existing traffic and existing traffic already includes some construction flows for construction around the area, some cumulative construction traffic will be inherent to the assessment.
4.8.4 Operation	The ES and TA must contain a multi-modal impact assessment including baseline and future vehicle (car, vans, Light Good Vehicles (LGVs) and Heavy Good Vehicles (HGVs)), public transport (bus, Crossrail, DLR, London Underground and Overground) and pedestrian and cycle trips and the overall mode share. Demand for individual mode of public transport should be assessed, and provide an estimate based on directions; this would enable determination of the need and size of mitigation required. A full multi-modal trip generation should be prepared using relevant data from TRICS and deriving mode share from recent proposals in similar locations.	The TA includes a multi-modal trip generation and capacity impact assessment, while the ES uses the vehicle trip generation from the TA to establish environmental effects as set out in DMRB LA104 and the 1993 GEART.
	Given the Mayoral focus on Healthy Streets, it would be useful to clearly integrate the Healthy Streets principles within the EIA and TA. Improvement measures where identified should be fully funded. Healthy Streets principles should be integrated into the ES. All streets in and around the Application Site should prioritise walking and cycling and, where vehicle access is necessary, streets should be designed for very low speeds where cars are guests. Active freight should be prioritised, and deliveries and servicing consolidated where possible. Bus priority should be improved to help maintain bus reliability and as an intrinsic element in the Healthy Streets Approach.	The TA has been produced in line with the Healthy Streets TA guidance and the proposed public realm improvements for the site have been developed in line with the Healthy Streets approach. Mitigation set out in the ES therefore includes Healthy Streets compliant measures.
	All servicing will be expected to take place within the boundaries of the Application Site, minimising the effect on the public highway. The way in which the Proposed Development is to be serviced should be clearly diagrammatised. The ES should also include specific details regarding the proposed delivery to and servicing of the Proposed Development (e.g. the location and capacity of loading facilities for deliveries, and the anticipated increases in Light Goods Vehicles (LGVs)) so that the relevant assessment can be provided and effects identified, where necessary.	The servicing strategy has been discussed with LBTH highways on several occasions and will be set out in full as part of the Transport Assessment and Delivery Servicing Plan. The EIA is not the appropriate place for this data to be repeated as it needs to be produced in line with national DMRB and IEMA guidelines.
	LBTH considers a commitment to using electric (or alternative technology) vehicles for servicing and delivery associated with the development should be made as part of the planning application, to be secured via s106 or condition.	The proposals will enable EV delivery and servicing through the provision of EV rapid charging and cargo cycle facilities. However, as deliveries, especially those to individual residents of the site such as grocery or parcel deliveries, are mostly outside of the developer's control a condition such as this is not deemed appropriate.
	Cumulative impacts will be an important consideration	An estimate of construction vehicle flows for nearby development will be included as part of the ES based on publicly available construction flows for those developments. It is noted that as the future year modelling is based on growth of existing traffic and existing traffic already includes some construction flows for construction around the area, some cumulative construction traffic will be inherent to the assessment.
	The ES and TA should include a multi-modal impact assessment.	The TA includes a multi-modal trip generation and capacity impact assessment, while the ES uses the vehicle trip generation from the TA to establish environmental effects as set out in DMRB LA104 and the 1993 GEART.
4.9 Wind Microclimate		
4.9.2 General Comments	Given the height of the Proposed Development, the assessment should consider wind speeds at elevated levels of the Proposed Development, as stated in Paragraph 332 of the Scoping Report. For the avoidance of doubt the assessment is to assess the wind microclimate to be experienced on any balconies, open space and roof terraces as appropriate, including those provided within the Proposed Development, as well as within surrounding buildings as required. The Applicant should review whether any such spaces are within the study area for assessment, and this should be confirmed in the ES.	An assessment of the wind microclimate at all amenity space (including open space, rooftops and balconies) within the Proposed Development has been undertaken as appropriate. Elevated amenity levels of surrounding buildings have been included for sites in very close proximity to the Proposed Development. In the majority of cases, introduction of building massing would be anticipated to provide shelter to the surroundings, which is particularly applicable to elevated spaces which tend to be otherwise very exposed. RWDI have reviewed potential impacts to off-site balconies and the figure below shows the ones that are relevant from a Wind point of view are highlighted below:

		 Any others are unlikely to be affected by the development as they are too far away.
4.9.3	As stated in Paragraph 335 of the Scoping Report, effects during demolition and construction are to be assessed using professional judgement (qualitatively) within the ES, which is considered acceptable. For the avoidance of doubt, the ES should provide assessment of wind effects during construction utilising the worst-case scenario, such as with cranes in situ. It should be clear where professional judgement has been applied.	Noted, however, the demolition and construction milestone of "with cranes in situ" may not reflect the worst-case scenario for a specific site. Appropriate judgements have been applied.
4.9.4	LBTH consider that City of London (CoL) Microclimate Guidelines (August 2019), should inform the assessment methodology given the location of the Application Site is adjacent to in a significant growth area (as per the site allocation in Tower Hamlets Local Plan 2031: Managing Growth and Sharing the Benefits (2020)). However, it is not considered that Annex A of the CoL Microclimate Guidelines can be applied to LBTH as the guidelines confirm these parameters have been scaled specifically for CoL. LBTH consider that any dining areas should meet the City Lawson Criteria for frequent sitting i.e. 2.5m/s.	The CoL WMG, including the criteria that are applied are derived specifically for the street-scape and uses of public realm within the City of London. This may be applicable to a certain extent in areas of LBTH such as Canary Wharf (i.e., predominantly office uses with small street patterns), however the Aberfeldy Estate has a very different environment. It is considered that the standard LDDC variant of the Lawson Comfort criteria, which already contains an appropriate threshold criteria for sitting use should be utilized. From a technical perspective, a number of the minimum technical requirements of the CoL guidelines are already considered in RWDI's wind tunnel methodology.
	LBTH expects an initial assessment of the Proposed Development should be undertaken using Computational Fluid Dynamics (CFD), and that the results of the CDF analysis contribute to the design of the Proposed Development and/or the mitigation measures which may be required to achieve suitable conditions for the proposed uses on-site. LBTH expects wind tunnel testing will then be undertaken on the final scheme to inform the wind microclimate aspect chapter. Wind tunnel testing will be undertaken to assess wind conditions at various receptors' location and the suitability of the intended uses. Scenarios to be tested are: • Baseline (Existing Application Site + Existing Surrounding Context); • Proposed Development (detailed element only) + Existing Surrounding Context; • Proposed Development (detailed and outline elements) + Existing Surrounding Context; • Proposed Development (detailed and outline elements + Future Surrounding Context (cumulative schemes); and	Initial CFD was not undertaken, however early wind tunnel studies were undertaken to inform the massing design. The wind assessment has been undertaken based on the agreed configurations and also an assessment of the illustrative scheme to provide comfort on the outline maximum parameters assessment. Further explanation of this approach is presented within ***ES Volume 1, Chapter 2: Methodology***.

	• Future Baseline (Existing Application Site + Future Surrounding Context).	
	If mitigation measures are required to ensure wind conditions are suitable for their intended use, wind tunnel testing of these measures is to be undertaken and any results provided in the ES. The ES should set out exactly what measures are required for mitigation and how these will be secured. It must be ensured that all mitigation measures and landscaping proposed and tested in the wind microclimate aspect chapter are proposed within the landscaping strategy, as there are often discrepancies where required mitigation measures are not brought forward in other planning application documents.	Mitigation principles and/or broad strategies could be proven against the illustrative scheme, however it remains the case that details associated with the scheme geometry and specific target uses across the site would be subject to change to be determined at reserved matters stages. Where required the detailed elements of the Proposed Development will be mitigated.
	The ES should consider whether future monitoring is required to test actual conditions of the Proposed Development.	Monitoring is typically only conducted on localised areas where anecdotally, wind issues or adverse effects on the environment associated with wind have been witnessed. It is impractical to conduct monitoring over large areas, where pedestrians and/or vehicles would be frequent also. Wind assessments are conducted utilising a significant period of statistical wind data also, therefore the timelines associated with monitoring to gather appropriate data could be extensive. Fortunately, with robust wind assessments having been conducted such manifestations of adverse wind effects are very rare, and typically occur on schemes where no assessment was originally carried out prior to its construction. It is therefore not anticipated that any monitoring would be required.
	A study area covering a 450 m radius from the centre of the Application Site will be used, which LBTH considers to be acceptable. The following plans should be included in the ES: • The intended uses of the Application Site (e.g. the open spaces, thoroughfares, entrances); • What conditions are being targeted (e.g. open space should be suitable for sitting); and • The mitigation measures relied upon. This allows the reader to understand the basis of the assessment and provides the opportunity to contest the uses and anticipated wind categories. For the avoidance of doubt, results are to be presented for both the windiest season, and summer season.	Figures of the intended uses of the Proposed Development have been included within the ES for the outline elements (based on the illustrative scheme) and the detailed elements in particular, including seasonal considerations where applicable. Target criteria forms part of the methodology and discussion sections of the accompanying reporting. The mitigation measures to be relied upon have been clearly outlined within the **ES Volume 1, Chapter 13: Wind Microclimate**, notwithstanding the previously mentioned approach with regards to the maximum parameters.
	Any spaces that are proposed as part of the Proposed Development, and that are relied upon by the Applicant to provide amenity, should have wind conditions suitable for this use.	Amenity spaces within the Proposed Development have been assessed as part of the wind microclimate assessment, with a focus upon summer season conditions when these spaces are to be most frequently used. For these areas, a mixture of standing and sitting conditions is considered appropriate in more open amenity spaces, and for private balconies, standing is appropriate where no seating is provided. In all cases, these uses must be considered safe with no exceedances annually of the distress criteria for all seasons. Where seating is specifically provided, conditions suitable for sitting (during the summer season) will be sought.
	The assessment should demonstrate how climate change has been considered within the Wind Microclimate aspect chapter of the ES, noting that the UK Climate Projections 2018 (UKCP18) states “an increase in near surface wind speeds over the UK for the second half of the 21st century for the winter season [is predicted] when more significant impacts of wind are experienced. This is accompanied by an increase in frequency of winter storms over the UK” Whilst it is acknowledged that “the increase in wind speeds is modest compared to interannual variability for the PPE-15”, more extreme wind conditions are predicted overall.	In combination climate change effects are presented in **ES Volume 1, Chapter 9: Climate Change.** It is worth noting that the data used within the analysis does statistically identify trends over the period for when the data is collected. As such, consideration of these trends are inherently included within the wind microclimate assessment included within the ES. UKCP18 and not UKCP09, informs the climate change scenario, as noted.
4.11 Built Heritage		
	The Scoping Report includes a list of the heritage assets most directly affected by the Proposed Development within Paragraph 371 and 372 of the Scoping Report and shown within Figure 10, noting that all heritage assets to be assessed are yet be agreed with LBTH. LBTH consider that a zone of visual influence is provided to inform the heritage assets to be scoped into the assessment. However, from an initial consideration it is considered that the following should also be assessed: • Maritime Greenwich World Heritage Site and Scheduled Monument; • Three Mills Conservation Area; • Limehouse Cut Conservation Area; • Lansbury Conservation Area; • Naval Row Conservation Area;	**Annex 6** of the **ES Volume 2, Townscape Visual Impact Assessment and Built Heritage Assessment – Part 1** presents the Zone of Theoretical Visibility (ZTV), which has been used to establish heritage assets with the potential to be directly affected by the Proposed Development. The full list of heritage assets assessed within the ES are presented within **ES Volume 2, Townscape Visual Impact Assessment and Built Heritage Assessment - Part 2**

	• All Saints Church Conservation Area; • Northern portal and parapet to the Blackwall Tunnel (Grade II); • East India Dock Wall and Gateway (Grade II); • Poplar Baths (Grade II); • Statue of Richard Green (Grade II); • Church of St Saviours (Grade II); • Twelvetrees Crescent Bridge (Grade II); • Group of Gasholders former Bromley-by-Bow gasworks (Grade II); • Northern Ventilation Shaft to the Blackwall Tunnel (Grade II); • Dry Dock at Blackwall Engineering (Grade II); • Blackwall Pier (Grade II); • Trinity House (Grade II); • Royal Oak Public House (Grade II); • 162 St Leonards Road Locally listed building; • 159-167 St Leonards Road locally listed buildings; • Dowgate Wharf, 22 Gillender Street (Grade II) and 21-22 Gillender Street locally listed buildings • 18 Follet Street locally listed building; • Mission House locally listed building; • St Freideswide Halls locally listed building; and • Heritage assets within the identified Conservation Areas	

Table 3: EIA Scoping – Topics Scoped Out

5.1 Ecology and Biodiversity		
5.1	LBTH notes that the Preliminary Ecological Appraisal (PEA) (presented in Appendix E of the Scoping Report and upon which the above justification is based) was undertaken for a site area of 7.35 ha, rather than the 9.69 ha area of the Application Site, with the main section of the Application Site not having been included within the PEA being Jolly's Green. LBTH considers that whilst the wildlife habitat of Jolly's Green is unknown, it is by far the most biodiverse area within the Application Site boundary and the Applicant should note that there have been several recent biodiversity enhancement projects at Jolly's Green, led by Trees for Cities, working with the local community. LBTH considers that the Applicant should update the PEA with the correct Application Site boundary, to enable LBTH to successfully consider whether an Ecology and Biodiversity aspect chapter can be scoped out of the ES. Noting that the Scoping Report does not confirm whether the areas of open space within the Application Site are to be retained as part of the Proposed Development. LBTH therefore, requires an **Ecology and Biodiversity aspect chapter to be scoped into the ES**, unless the Applicant can provide the updated PEA including Jolly's green and further details regarding the proposals for the areas of open spaces to demonstrate likely significant effects are not likely to occur.	The PEA submitted alongside the scoping report did not include the final application site boundary. As the existing Jolly's Green open space is not included within the application site / red line boundary and the existing open spaces are to be improved, it is considered that there is no requirement for this aspect to be included within the ES. The Proposed Development is unlikely to result in significant effects. An updated PEA which reflects the final red line Site boundary has been prepared and is submitted in support of the planning application.
	The Proposed Development has the potential to enhance biodiversity and achieve biodiversity net gain through biodiverse roofs and other biodiversity enhancements, which will be required in accordance with the relevant planning policy. A Biodiversity Net Gain assessment is to be undertaken. Ecological enhancements should contribute to the local biodiversity action plan (LBAP).	The Biodiversity Net Gain Assessment has been prepared for the Site and accompanies the Planning Application.
5.3 Geoenvironmental (ground conditions, groundwater, land take and soils)		
	For the Proposed Development, key mitigation and management controls should form part of a CEMP for the demolition and construction works and it is noted that the Applicant states in Paragraph 217 of the Scoping Report that this would be prepared in advance of any works commencing on-site. This should be presented in the ES to help define the policies, procedures, and management framework for the implementation of any identified specific geoenvironmental management and mitigation controls and monitoring.	An Outline CEMP is appended to the ES within ES Volume 3, Appendix: Demolition and Construction – Annex 1.
5.5 Project Vulnerability		
	LBTH does not agree to scope out major accidents and disasters from the ES and that relevant risks of accidents and disasters, such as those referred to above, are to be assessed within the ES. However, it is considered that a standalone major accidents and disaster aspect chapter is not required given the nature and context of the Proposed Development and noting the Health and Safety Executive's consultation response confirms the Application Site does not life within the consultation distance of a major hazard site or major accident hazard pipeline.	A review of the IEMA guidance (2020) 'Major Accidents and Disasters in EIA: A Primer has been undertaken, and the approach which was followed in the EIA Scoping Report is considered to align with this new guidance. As per the guidance, the Proposed Development has been screened to determine its potential to result in likely significant effects from major accidents and natural disasters. It is considered the Proposed Development would be unlikely to result in significant effects from most major accidents and natural disasters. The potential for strong winds is considered within **ES Volume 1, Chapter 11: Wind Microclimate** and any potential for Solar Glare is considered within **ES Volume 1, Chapter 10: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare** as relevant)
5.7 Waste		
5.7	"… the Applicant is reminded that IEMA's Guide to: Materials and Waste in Environmental Impact Assessment considers materials to be a sensitive receptor, in addition to landfill capacity. Given that the Scoping Report does not consider materials, unless the Applicant can adequately justify that no likely significant effects will occur on materials during the demolition and construction of the Proposed Development, and once the Proposed Development is operational, LBTH considers that a **Materials assessment and aspect chapter should be scoped into the ES**.	Further justification on this point is therefore provided below: Demolition and Construction: During demolition and construction, it is anticipated that materials for constructing the Proposed Development will be sourced from the Site, in terms of any 'waste for recovery'[1] and within the LBTH and London. In accordance with IEMA's guide to Materials and Waste in Environmental Impact Assessment[2], materials are considered to be sensitive receptors and include *"physical resources that are used across the lifecycle of a development. Examples include concrete, aggregate, asphalt, bricks, ballast, mortar, glass and timber."* Mitigation: IEMA's guide to Materials and Waste in Environmental Impact Assessment refers to different types of mitigation measures to prevent or reduce adverse effects relating to materials and waste: • Primary mitigation measures: are *"an intrinsic part of the development, and do not require additional action to be taken"*[3]; for example, choosing to refurbish an existing building, rather than demolish it;

[1] Defined by IEMA's guide to Materials and Waste in Environmental Impact Assessment (2020) as 'waste' materials that go through an acceptable recovery process, to lose their status as 'waste' and become materials for other uses.
[2] IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment.
[3] IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment (page 19).

		• Secondary mitigation measures: are “foreseeable actions brought out by the environmental assessment process, and that have not previously been achieved through primary and tertiary mechanisms”[4]; for example, the implementation of a Procurements Strategy or Construction Environmental Management Plan (CEMP) (or equivalent) or Operational Waste Management Strategy; and • Tertiary mitigation measures: are “those that are in place with or without the iterative EIA process” and include “those that will be undertaken to meet existing legislative requirements, of those that are considered standard practices used to manage commonly occurring environmental effects” [5]; for example, sending waste to active and permitted waste management sites, which have to adhere to the requirements of the Environmental Permitting Regulations[6], whereby carrying out certain types of activity (such as receiving waste for landfill) requires an active and permitted waste management site to hold an environmental permit to do so. In view of the above, measures will be implemented to reduce the quantity of materials used during the construction of the Proposed Development. The key construction materials will be: • Recovered from off-site sources (e.g. donor sites) as far as reasonably practicable; • Sourced locally as far as reasonably practicable; • Sourced in accordance with The Green Guide to Specification[7] to reduce the environmental impact of the construction of the Proposed Development by an informed and responsible selection of construction materials and components (for example, for the floors, roofs, walls, windows, insulation and landscaping of the Proposed Development); • Reclaimed or recycled materials, where feasible; • Sourced via a defined Procurement Strategy, which will select materials with a percentage of recyclable content where feasible; • Managed via the implementation of a CEMP (or equivalent), which will include measures such as: • A ‘just-in-time’ material delivery system to avoid materials being stockpiled and spoiled during bad weather; • Consideration of material quantity requirement to avoid over-ordering and generation of waste materials; and • Designated storage area for new building materials, to reduce the risk of damage / spoiling. – Measures such as the above shall be implemented pursuant to planning conditions; therefore, it is considered that significant adverse effects of the demolition and construction of the Proposed Development on materials would be unlikely. On the basis of the above, an assessment of demolition and construction effects on materials is scoped out; however, the ES sets out: • The approximate type and quantities / volumes of materials that are anticipated to be required for the construction of the Proposed Development; • The sustainability credentials of materials (if known); and • The commitment to undertaking the measures outlined above. Any necessary mitigation measures relating to the above points are included in **ES Volume 1, Chapter 17: Mitigation and Monitoring**. These measures could be secured through a condition by the LBTH.

[4] IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment (page 27).
[5] IEMA, (2020); IEMA guide to: Materials and Waste in Environmental Impact Assessment (page 20).
[6] The Environmental Permitting (England and Wales) Regulations 2016
[7] BRE, (2009); The Green Guide to Specification, Fourth Edition.

Appendix: Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: EIA Scoping Opinion Response
Annex 4: Cumulative Schemes List and Map
Annex 5: Cumulative Schemes Assessment Matrix

APPENDIX C– Cumulative Schemes

Cumulative Scheme List

Table C1 Cumulative Schemes

Ref.	Name/Address	Application Number	Scheme Description	Status
1	Blackwall Reach The Robin Hood Gardens Estate together with land south of Poplar High Street and Naval Row, Woolmore School and land north of Woolmore Street bounded by Cotton Street, East India Dock Road and Bullivant Street	PA/12/00001/P0	Outline application for alterations to and demolition of existing buildings, site clearance and ground works and redevelopment to provide: Up to 1,575 residential units (up to 191,510m^2 GEA - Use Class C3); Up to 1,710 m^2 (GEA) of retail floorspace (Use Class A1-A5); Up to 900m^2 of office floorspace (Use Class B1); Up to 500m^2 community floorspace (Use Class D1); Replacement school (up to 4,500m^2 GEA - Use Class D1); Replacement faith building (up to 1,200m^2- Use Class D1) The application also proposes an energy centre (up to 750m^2 GEA); associated plant and servicing; provision of open space, landscaping works and ancillary drainage; car parking (up to 340 spaces in designated surface, podium, semi-basement and basement areas plus on-street); and alterations to and creation of new vehicular and pedestrian access routes. All matters associated with details of appearance, landscaping, layout and scale and (save for the matters of detail submitted in respect of certain highway routes, works and/or improvements for the use by vehicles, cyclists and pedestrians as set out in the Development Specification and Details of Access Report) access are reserved for future determination and within the parameters set out in the Parameter Plans and Parameter Statements	Permission Granted by LBTH March 2012 Commenced
		PA/12/02752	Submission of reserved matters pursuant to condition E5 of outline planning permission dated 30th March 2012, reference PA/12/00001 for 98 new homes; 500m^2 community centre; 838m^2 office space and a 954m^2 mosque (i.e. for building parcels A1, A2 and B within Development Zone 1, excluding Parcel R 'Phase 1A') comprising layout, scale and appearance of the buildings, the means of access thereto and the landscaping as well as approval of details of vehicular and cycle parking provision, servicing and refuse collection and associated ancillary development.	Decided Permit
		PA/14/02480	PA/14/02480/P2 | Reserved matters application pursuant to condition L5 of outline planning permission dated 30th March 2012 (PA/12/00001/LBTH) for 242 new homes, 635m^2 of commercial floorspace (Use Class A1 and A3) (i.e. for building parcels G, H and L within Development Zone 3 "Phase 1B"), comprising layout, scale and appearance of the buildings, the means of access thereto and landscaping and refuse collection and associated ancillary development.	Decided Permit
		PA/16/01958/P3	Details of all reserved matters (Access, Appearance, Landscaping, Layout and Scale) pursuant to outline planning permission ref PA/12/00001, dated 30/03/2012, relating to the following areas of the Blackwall Reach development: i) Building Parcels C1, C2, C3 and D within Development Zone 2 ii) Landscaping and public realm within Development Zone 2, including works to the retained Millennium Green Comprising 268 residential units (Use Class C3) within	Decided Permit

			4 buildings of up to 10 storeys in height, with associated landscaping, public realm and other ancillary works.	
		PA/20/02371	Details of all reserved matters (Access, Appearance, Landscaping, Layout and Scale) pursuant to outline planning permission ref. PA/12/00001, dated 30th March 2012, relating to Phase 3 and the following areas of the Blackwall Reach Regeneration Project: i.Building Parcels E1, E2, E3, E4, F1, F2 and F3; ii.Landscaping, Playspace and Public Realm Works within Development Zone 2, including works to the retained Millennium Green Comprising 315 new residential homes, a café/restaurant, concierge and ancillary gymnasium for residents within 2 main building parcels between 6 and 12 storeys in height with landscaping, children's playspace, public realm, car and cycle parking, refuse and recycling facilities and other associated works. This application is accompanied by an Environmental Statement Addendum | Blackwall Reach Phase 3 (Building Parcels E1, E2, E3, E4, F1, F2, and F3 of Development Zone 2) Robin Hood Gardens East, Robin Hood Lane, London E14	Registered
2	Castle Wharf Esso Petrol Station, Leamouth Road, London, E14 0JG	PA/16/01763/A1	Redevelopment of the former Service Station site with a residential led mixed use development, comprising residential units, together with 295m^2 of D1 floorspace, 81m^2 of flexible non-residential floorspace (Use Classes A1, A2, A3, B1, D1 and D2), 36m^2 café floorspace (Use Class A3), set across two main buildings including a 24 storey tower with stepped blocks of 20, 17, 11 and 8 storeys, linked by a 2 storey podium at ground level, with a single basement level, landscaping and associated amenities.	Permission Granted October 2017 by LBTH Under Construction
3	Ailsa Wharf, Ailsa Street, London	PA/16/02692 & PA/18/03461	Demolition of existing structures/buildings and the redevelopment of the site for a mixed-use scheme providing 785 residential units (C3) and 2,954m^2 GIA commercial floorspace (A1/A3/B1/D2) within a series of thirteen building blocks varying between 3 and 17 storeys (Maximum AOD height of 59.9); the creation of a new access road and the realignment of Ailsa Street; the provision of cycle and car parking spaces; and associated site-wide landscaping and public realm works.	Permission Granted October 2018 by LBTH Commenced
4	Imperial 2 (formerly Clockhouse and Access House), Bromley by Bow, London, E3 3AE	17/00364/FUL 18/00572/NMA, & 18/00575/NMA 17/00344/FUL	Full planning application for the demolition of the existing buildings on site and the construction of a residential-led mixed use scheme comprising a series of buildings ranging from one to 27 storeys in height to provide 3,570m^2 of flexible community, commercial and retail floorspace (Use Classes A1, A2, A3, A4, B1 and/or D1) at ground and mezzanine floor level, 491 residential units (Use Class C3) on the upper floors, parking/refuse/servicing at basement and ground floor, energy centre, communal amenity areas, and all associated landscaped public open space.	Permission Granted September 2018 by LLDC Under Construction
5	Chrisp Street Market, Chrisp Street, London	PA/16/01612/A1	Comprehensive redevelopment of the site (including existing car park) comprising the demolition of existing buildings with the exception of the Festival of Britain buildings, Clock Tower and Idea Store; erection of 19 new buildings ranging from 3 to 25 storeys (up to a maximum AOD height of 88m) providing 643 residential units (C3 Use Class) (including re-provision of 124 affordable residential units); existing market enhancement, including new canopy and service building; refurbishment of retained Festival of Britain buildings; reconfiguration and replacement of existing and provision of new commercial uses including new cinema (D2 use class); alterations and additions to existing Idea Store for community use and multi-function space (D1 Use Class); flexible affordable workspace/ community space (B1/D1 Use Class); office space (B1 use class); retail, financial and professional services and cafe/ restaurant floor space (A1 - A3 Use Class), including A1 food store; public house (A4 Use Class); hot food takeaway floor space (A5 Use Class); upgrade and provision of new public open space including child play space; new public realm, landscaping works and new lighting;	Permission Granted March 2019 by LBTH Not Commenced

			cycle parking spaces (including new visitor cycle parking); and provision of disabled car parking spaces. (Reconsultation due to revised submission documents that take in to account Grade II Listed status of the clock tower and the Festival Inn pub. Also changes to housing mix and child play space. Additional documents uploaded since the last letter was sent.) The application is accompanied by an Environmental Impact Assessment.	
		PA/14/02928/A1	Demolish Public House (Class A.4) and Former Tyre and Exhaust Centre Building Class B.1/B.2), Erect Mixed-Use Development Comprising Part 5, Part 10, Part 13 Storey Block of 53 Flats (Class C.3) with Ground Floor Commercial Unit (Flexible Permission - Classes A1/A2/A3/A4), and Associated Cycle and Refuse Storage Facilities, Lay Out Amenity Areas and Electricity Sub-Station, Stop Up Existing Accesses, Form New Vehicular and Pedestrian Accesses onto Chrisp Street, and Create 3 Accessible Parking Spaces on Chrisp Street.	Permission granted by LBTH Decided Permit
		PA/15/00039/A1	Demolition of existing buildings on the site and redevelopment to provide new buildings ranging from three to twelve storeys to provide 254 residential units (comprising 99 x 1 bed; 100 x 2 bed; 51 x 3 bed: 4 x 4 bed), together with associated car parking, amenity space, child playspace and infrastructure works.	Permission granted by LBTH Decided Permit
		PA/21/01975	This application is not currently on the planning portal	N/A At this point it cannot be assessed as no information is available
6	Barrett Industrial Estate, 20-22 Gillender Street, London	PA/18/00528/A1 & PA/19/00914	Demolition of the existing buildings, with the exception of 21-22 Gillender Street (Magnolia House), and redevelopment of the site to provide 307 residential units (Use Class C3), 1,815m^2 of commercial floorspace (Use Class B1) and 100m^2 of flexible commercial/retail floorspace (Use Class A1/A3/B1) within three buildings of 8 storeys (42.9m AOD), 17 storeys (67.0m AOD) and 20 storeys (78.5m AOD) with public and private amenity spaces, together with disabled car parking, cycle parking and associated landscaping.	Permission granted November 2018 by LBTH Commenced
		PA/18/00520/NC (related listed building consent)	Listed Building Consent for remedial works to Grade II listed wall that forms the north wall of the Dowgate Wharf P B Burgoyne and Company Limited Warehouse (List Entry UID: 1065050) in association with redevelopment of the site at 20 -22 Gillender Street for demolition of the existing buildings, with the exception of 21-22 Gillender Street (Magnolia House), and redevelopment of the site to provide 307 residential units (Use Class C3), 1,815m^2 of commercial floorspace (Use Class B1) and 100m^2 of flexible commercial/retail floorspace (Use Class A1/A3/B1) within three buildings of 8 storeys (42.9m AOD), 17 storeys (67.0m AOD) and 20 storeys (78.5m AOD) with public and private amenity spaces, together with disabled car parking, cycle parking and associated landscaping.	
7	Hercules Wharf, Castle Wharf and Union Wharf, Orchard Place, London, E14	PA/14/03594/A1, PA/17/02292 & PA/18/02805	Demolition of existing buildings at Hercules Wharf, Union Wharf and Castle Wharf and erection of 16 blocks (A-M) ranging in height from three-storeys up to 30 storeys (100m) (plus basement) providing 834 residential units; Retail / Employment Space (Class A1 - A4, B1, D1); Management Offices (Class B1) and Education Space (Class D1); car parking spaces; bicycle parking spaces; hard and soft landscaping works including to Orchard Dry Dock and the repair	Permission granted September 2016 by LBTH Under Construction

			and replacement of the river wall. Listed Building Consent application - Works to listed structures including repairs to 19th century river wall in eastern section of Union Wharf; restoration of the caisson and brick piers, and alteration of the surface of the in filled Orchard Dry Dock in connection with the use of the dry docks as part of public landscaping. Works to curtilage structures including landscaping works around bollards; oil tank repaired and remodelled and section of 19th century wall on to Orchard Place to be demolished with bricks salvaged where possible to be reused in detailed landscape design. The application is accompanied by an Environmental Impact Assessment Amended proposal: A reduction of storeys to Blocks B, C, E, F and J, a reduction in number of residential units to 804, an increase in commercial floorspace, alterations to the mix of proposed residential units including a reduction in studio and one bed units and an increase in 3 and 4 bed units. Further integration of door step play space and mitigation measures in relation to Orchard Wharf including the change of use of three town houses in Block M from residential to commercial floor space and the addition of panels to the south and south-west balcony sides on Blocks J and K.	
		PA/19/02773	Minor material amendment to condition no. 2 (Approved Documents and Plans) of planning permission ref: PA/17/02292, Dated 08/05/2018 Amendments include Condition 2 - Approved Documents and Plans	Permission granted by LBTH Registered
8	Cody Dock 11c South Crest, Canning Town, London, E16 4TL	17/03659/OUT	Outline planning permission (with all matters reserved) for up to 1,500m^2 of employment floorspace (Use Class B1 b/c), up to 500m^2 of employment floorspace (Use Class B2), up to 50m^2 ancillary community and exhibition space (Use Class D1), up to 200m^2 ancillary restaurant/cafe space (Use Class A3), public toilets, dockside storage space, boat parking, car parking, cycle parking, and ancillary hard and soft landscaping. Full planning permission for up to 500m^2 employment floorspace (Use Class B1 b/c), up to 60m^2 employment floorspace (Use Class B2), up to 700m^2 work/live mooring space (Use Class Sui Generis) and ancillary access pontoon, up to 50m^2 ancillary community space (Use Class D1), a pedestrian footbridge, one mooring for a commercial passenger vessel, two moorings for visitor vessels, a composter, and ancillary hard landscaping and soft landscaping.	Permission Granted April 2019 by LBN Not Commenced
9	Former Parcel Force Depot, Street, Canning Town, London, E16 4SB [2.5km from site]	17/01847/OUT	Hybrid planning application comprising: Detailed planning application for Phase 1 with works to include: The proposed demolition of existing buildings and structures, The erection of buildings, including tall buildings, comprising: 1,020 Residential Units (Use Class C3) 689m^2 (GEA) of Business Floorspace (Use Class B1); 5,400m^2 (GEA) of Retail Floorspace (Use Class A1-A4); and 12,004m^2 (GEA) of Community and Leisure Floorspace including a Secondary School (Use Class D1 and D2). Associated infrastructure, including a new bridge connection to West Ham Station and two footbridges across Manor Road; Alterations to the existing access road and vehicle bridge; Streets, open spaces, landscaping and public realm; Car, motorcycle and bicycle parking spaces and servicing spaces; Utilities including energy centre and electricity substations; and Other works incidental to the proposed development Outline planning application (all matters reserved) for the balance of the site for: The proposed demolition of existing buildings and structures; The erection of buildings, including tall buildings, comprising: Residential Units (Use Class C3); Business Floorspace (B1); Retail (A1-	Permission Granted August 2018 by LBN Commenced

			A4); Community and Leisure (D1 and D2); and Associated infrastructure; Streets, open spaces, landscaping and public realm; Car, motorcycle and bicycle parking spaces and servicing spaces; Utilities including electricity substations; and Other works incidental to the proposed development.	
10	Anchorage House, 2 Clove Crescent, London, E14 2BE	PA/16/01061/A1	Change of use at part ground floor level from Class B1 Office to a mix of flexible Class B1, A1, A3, A4 and D2 uses, the infill of the ground floor colonnades and the construction of a two storey podium at the south east corner of the building providing additional Class B1 Office space at first floor level, and associated alterations and landscaping.	Permission Granted July 2016 by LBTH Not Commenced
11	Wood Wharf, Prestons Road	PA/13/02966/P0	Outline planning permission for comprehensive mixed use redevelopment of Wood Wharf comprising: Demolition of existing buildings and structures, including dwellings at Lovegrove Walk; The erection of buildings, including tall buildings, and basements comprising: Up to 3,610 residential units (C3); Hotel (C1); Business floorspace (B1); Retail (A1-A5); Community and Leisure (D1 and D2); Sui Generis uses including Conference Centres, Theatres, Launderettes, and Data Centres Minimum commercial floorspace would be 165,000m^2 GIA; Associated infrastructure, including the creation of structures in Blackwall Basin, the Graving Dock, and South Dock; Streets, open spaces, landscaping and public realm; Bridge links; Car, motorcycle, and bicycle parking spaces, servicing; Utilities including energy centres and electricity substation(s); and Other works incidental to the proposed development.	Permission granted December 2014 by LBTH Under Construction
12	Brunel Street Works, Canning Town Area 8 Bounded by Peto Street North and Victoria Dock Road Sivertown Way, Canning Town	16/03428/FUL	Detailed planning permission for mixed use development to provide 975 residential units (Use Class C3), A 152 bedroom hotel (Use Class C1), A 3,000m^2 (GIA) of flexible commercial floor space (Use Classes B1 (A,B&C), A1-A4, D2 and a nursery within Use Class D1) including a foodstore of up to 550m^2, An enhanced public realm with cycle ways, tree planting and public squares, amenity space, car parking, cycle parking, refuse stores and servicing arrangements and all associated works. Relocation of existing electricity substation. (This major application is accompanied by an Environmental Statement for the purposes of Environmental Impact Assessment)	Permission granted October 2017 by LBN Under Construction
13	Leven Road Gasworks, Poplar Gas Works, Leven Road, London	PA/18/02803/A1	A hybrid planning application (part outline/part full) comprising: 1.) In Outline, with all matters reserved apart from access, for a comprehensive mixed-use development comprising a maximum of 195,000m^2 (GEA) (excluding basement and secondary school) of floorspace for the following uses: Residential (Class C3); Business uses including office and flexible workspace (Class B1); Retail, financial and professional services, food and drink uses (Class	Permission granted October 2019 by LBTH Commenced

			A1, A2, A3 & A4); Community, education and cultural uses (Class D1); A secondary school (Class D1) (not included within the above m^2 GEA figure); Assembly and leisure uses (Class D2); Public open space including riverside park and riverside walk; Storage, car and cycle parking; and Formation of new pedestrian and vehicular access and means of access and circulation within the site together new private and public open space. 2. In Full, for 66,600m^2 (GEA) of residential (Use Class C3) arranged in four blocks (A, B, C and D), ranging from 4 (up to 23m AOD) 5 (19.7m AOD), 6 (up to 26.9m AOD), 8 (up to 34.1m AOD), 9 (up to 36.3m AOD) 12 (up to 51.3m AOD) and 14 (57.6m AOD) storeys in height, up to 2700m^2 GIA of office and flexible workspaces (Class B1), up to 500m^2 GIA community and up to 2000m^2 GIA leisure uses (Class D1 & D2), up to 2500m^2 GIA of retail and food and drink uses (Class A1, A2, A3 and A4) together with access, car and cycle parking, energy centre, associated landscaping and new public realm, and private open space. Further explanation (not forming part of the formal description of development set out above): Further details submitted with the application explain that the Proposed Development could deliver up to 2,800 new homes of which 577 new homes are included in the Full component of the Application (Phase 1), at least 1ha Public Park; and a maximum of 0.5 hectares of land secured for a secondary school. The application is accompanied by an Environmental Statement.	
14	267-269 East India Dock Road, London, E14 0EG	PA/19/01838/A2	Internal and external alterations to the existing residential units at no. 267 East India Dock Road and proposed erection of a 163-bedroom hotel (C1 use class) comprising of a part four, and part-eighteen storey building over basement, with associated roof top plant room, ground floor servicing, car and bike parking and landscaping.	Permission granted November 2020 by LBTH Not commenced
15	(Former Poplar Bus Depot), Leven Road, London, E14 0LN	PA/19/02148/A1	Part retention, part alteration, and part demolition of the existing boundary walls and the former tram shed depot arches, and retention of the three storey office building. Demolition of the remainder of the existing warehouse and the redevelopment of the site to provide 547 residential units (Class C3), 3,492m^2 (GIA) of flexible space comprising of a mix of: office; retail; professional services; restaurant/bar; community space; and leisure space (Classes B1, A1, A2, A3, A4, D1 and D2) within buildings ranging from 3 storeys (20.2m AOD) to 20 storeys (72.7m AOD), with associated parking, landscaping, public realm and all associated works. This application is accompanied by an Environmental Statement.	Permission granted October 2020 by LBTH Not commenced
16	Islay Wharf, Lochnagar Street	PA/19/01760	Demolition of existing warehouse building and redevelopment of the site for mixed use development comprising two blocks ranging in height between 12 storeys and 21 storeys, accommodating 351m^2 of flexible uses classes (Class A1, A2, B1, D1, D2) on ground floor and mezzanine with associated public realm works and residential accommodation (Class C3) on the upper floors providing 133 residential units.	Permission granted November 2020 by LBTH Not commenced
17	London Docklands Travelodge Hotel, Coriander Avenue, London, E14 2AA	PA/18/03088/A1	Outline application (with all matters reserved) for the demolition of existing Travelodge Hotel (Use Class C1) and erection of a data centre (Use Class B8).	Permission granted December 2019 by LBTH Not commenced
18	Site north west of Leamouth Road Roundabout, Leamouth Road, London	PA/18/03089	Erection of 19 storey building (up to maximum height of 64.250 metres AOD) to provide a new 350 room hotel (Use Class C1) together with ancillary restaurant and bar, car parking, cycle parking and landscaping.	Permission granted December 2019 by LBTH Commenced

19	300 Manor Road, Land Comprising Former HSS Site And 300 Manor Road Canning Town London	18/03506/OUT	Redevelopment of land bounded by Manor Road, (i) outline planning permission for up to 449 dwellings (Class C3), up to 1,845m^2 of commercial (Class B1) and retail (Class A1/A2/A3/A4) floorspace; car parking, open space and associated infrastructure works; (ii) full planning permission for Phase 1 for 355 dwellings (Class C3), 555m^2 of commercial (Class B1) and retail (Class A1/A2/A3/A4) floorspace; car parking, open space and associated infrastructure works. This application is accompanied by an Environmental Statement for the purposes of Environmental Impact Assessment under The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	Permission granted November 2020 by LBN Not commenced
20	Aberfeldy Estate, Abbott Road, London, E14	PA/11/02716/P0	Outline planning application (all matters reserved) for the mixed-use redevelopment of the existing Aberfeldy estate comprising: Demolition of 297 existing residential units and 1,990m^2 of non-residential floorspace, including shops (use class A1), professional services (use class A2), food and drink (use class A3 and A5), residential institution (use class C2), storage (use class B8), community, education and cultural (use class D1); and creation of 1,176 residential units (Use Class C3) in 15 new blocks between 2 and 10 storeys in height plus 1,743m^2 retail space (Use Class A1), professional services (Use Class A2), food and drink (Use Classes A3 and A5) and 1,786 community and cultural uses (Use Class D1) together with a temporary marketing suite (407m^2), energy centre, new and improved public open space and public realm, semi-basement, ground and on-street vehicular and cycle parking and temporary works or structures and associated utilities/services.	Permission granted June 2021 by LBTH Commenced Phases 1-3a of the Aberfeldy Village masterplan complete Phase 3b works commenced
		PA/11/03548/P1	Erection of three blocks between 4 and 10 storeys on the corner of Abbott Road and East India Dock Road to provide 342 new residential units, 352m^2. new retail floorspace (Use Classes A1 and A3), a marketing suite of 407m^2. (Use Class A2), semi-basement and ground floor parking, cycle parking, landscaped public open space and private amenity space and other associated works. Proposal constitutes Phase 1 of application PA/11/02716.	Permission granted under appeal (LBTH) Decided Permit
		PA/13/01844/P2	Submission of reserved matters to condition 1 (details of siting, layout, scale, design and external appearance of the building, the means of access thereto and landscaping of the site) and condition 43 (reserved matters further information) for the development of Phase 2 of the Aberfeldy New Village Outline Planning Permission (PA/11/2716) approved on 20 June 2012 comprising demolition of Helen Mackay House, Jervis Bay House, Gaze House and Richie House and creation of two residential blocks between 4 to 8 storeys , with a total of 219 new dwellings (16 x studio; 97 x 1 bed; 92 x 2 bed; 7 x 3 bed; 2 x 4 bed; 5 x 5 bed), new public open space, car parks, cycle parking and temporary works of structures and associated utilities/services required by the development.	Permission granted under appeal (LBTH) Decided Permit
		PA/15/00002/S	Minor Material amendment through variation of conditions No 3 (Approved Parameters Plans), 4 (Phasing Plan), 5 (Total Floor Space Areas) and 6 (Phase-by-phase Floor Space Areas), of Outline Planning Permission granted 20th June 2012 (Ref: PA/11/02716) "For the mixed-use redevelopment of the existing Aberfeldy estate comprising: Demolition of 297 existing residential units and 1,990m^2 of non-residential floorspace, including shops (use class A1), professional services (use class A2), food and drink (use class A3 and	Permission granted under appeal (LBTH) Decided Permit

			A5), residential institution (use class C2), storage (use class B8), community, education and cultural (use class D1); and Creation of 1,176 residential units (Use Class C3) in 15 new blocks between 2 and 10 storeys in height plus up to 1,743m^2 retail space (Use Class A1), professional services (Use Class A2), food and drink (Use Classes A3 and A5) and 1,256m^2 community and cultural uses (Use Class D1), health centre (Use Class D1), together with a temporary marketing suite (407m^2), energy centre, new and improved public open space and public realm, semi-basement, ground and on-street vehicular and cycle parking and temporary works or structures and associated utilities/services." (Further information submitted in connection with Supplementary Environmental Statement)	
		PA/15/01826/P3	Submission of reserved matters pursuant to Condition 1 (details of siting, layout, scale, design and external appearance of the buildings, the means of access thereto and landscaping of the site), and partial approval of details pursuant to Condition 43 - (titled reserved matters further information) Sub-sections (a), (b) , (c), (d) (e), (f), (h) and (i) and partial discharge of Condition 25 (land contamination) Sub-Sections (a), (b), and (c) for the development of Phase 3 of the Aberfeldy New Village Outline Planning Permission (PA/15/00002) approved in June 2015 comprising demolition of Arapiles House, Athenia House, Jones House, Adams House, Sam March House, Theseus House and Trident House and creation of four residential blocks between 3 to 10 storeys, with a total of 344 new dwellings (21 x studio, 122 x 1 bed, 162 x 2 bed, 30 x 3 bed, 4 x 4 bed, 3 x 5 bed and 2 x 6 bed), a health centre facility, a pharmacy, a community/youth centre facility, retail spaces (618m^2) and energy centre, public open space, car parks, cycle parking and new public open space, car parks, cycle parking and temporary works or structures and associated utilities/services required by the development.	Permission granted under appeal (LBTH) Decided Permit
		PA/11/03375	Demolition of existing buildings and redevelopment of the site to provide a mixed use scheme of between 3 and 22 storeys comprising 8,104m^2 business accommodation (Use Class B1), 392 residential units (Use Class C3), associated parking and landscaping. This application is accompanied by an Environmental Impact Assessment	Permission granted under appeal (LBTH) Commenced
21	Poplar Business Park, 10 Prestons Road, London, E14 9RL	PA/11/03375	Demolition of existing buildings and redevelopment of the site to provide a mixed use scheme of between 3 and 22 storeys comprising 8,104 m^2 business accommodation (Use Class B1), 392 residential units (Use Class C3), associated parking and landscaping. This application is accompanied by an Environmental Impact Assessment	Permission granted under appeal (LBTH) Commenced
22	Land at Blackwall Yard, Blackwall Way, London, E14 2EH	PA/20/02509/A1	Phased redevelopment of the site and construction of 5 buildings (with maximum heights of between 9 and 39 storeys) comprising residential dwellings of mixed tenure, primary school & nursery, commercial, business & service floorspace, communal floorspace, public house, realignment of & environmental improvements to Blackwall Way, associated car & cycle parking, landscaping & public realm works (including alterations to the existing graving dock), installation of plant and associated works. External repairs and alterations to Grade II listed graving dock. This application is accompanied by an Environmental Statement.	Under determination
		PA/21/00288/A1	Full planning permission for a riverboat station, jetty and associated works at Blackwall Yard. This application is accompanied by an Environmental Statement.	Registered

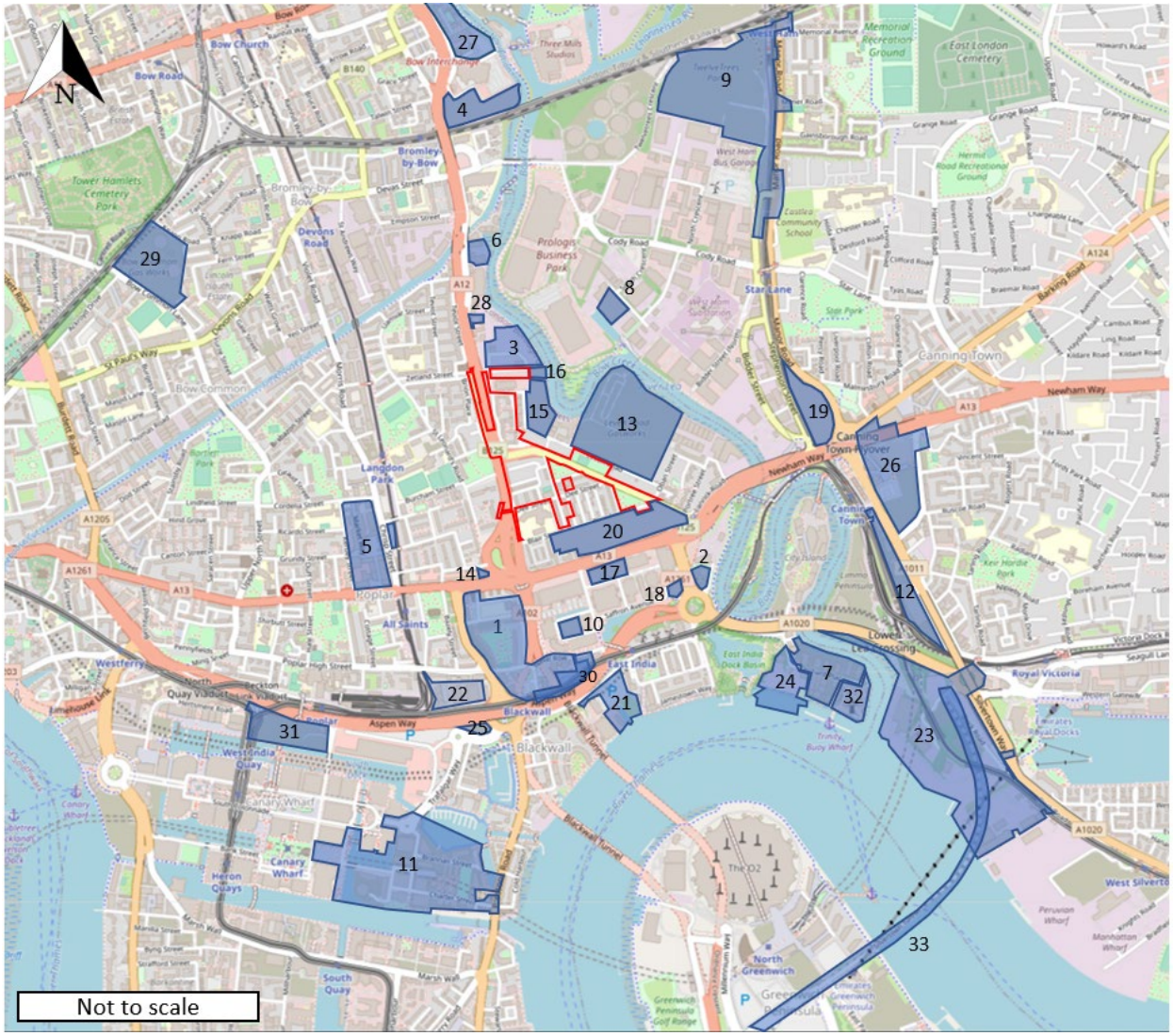
23	Land At Thameside West And Carlsberg Tetley Dock Road Silvertown London	PA/19/00292/NC	Phased Hybrid Planning Application Part A - Full planning application for redevelopment of site following demolition of all existing buildings and enabling works to provide a mixed-use development consisting of the erection of five buildings between 15 and 30 storeys (56.6 m AOD and 103.75 m AOD) above a raised safeguarded wharf box (15.5m AOD) and one standalone 20 storey building (68.9 m AOD) which would deliver: (i) a total of up to 826 dwellings (Class C3) and ancillary accommodation; (ii) up to 8,212m^2 gross internal area (GIA) of General Industrial / Storage or Distribution floorspace (Class B2/B8) including ancillary office accommodation; and (iii) 135m^2 (GIA) of flexible commercial floorspace (Class E). Associated works include hard and soft landscaping; private amenity space; vehicular access and servicing facilities; car parking and cycle parking; and other works incidental to the proposals including works to the River Wall; and Part B - Outline planning application for external waterborne freight infrastructure and all other related works (including marine works) for which all matters are reserved. This application is accompanied by an Environmental Statement.	Application under determination by LBTH Under determination
24	Orchard Wharf, Orchard Place, London	PA/20/02488/A1	Redevelopment of the site to provide a new mixed use building including student accommodation units and associated uses (Sui Generis), residential units (Class C3), office (Class B1), shops/cafes (Class A1/A3) and a restaurant/takeaway (Class A3/A5) arranged over a 4 storey podium with three taller elements of 46, 36 and 28 storeys (with roof-top plant and basements), alongside parking, landscaping, public realm and other associated works. This application is accompanied by an Environmental Statement.	Application under determination by LBTH Under determination
25	2 Trafalgar Way, London, E14 5SP	PA/20/01402/A2	Redevelopment of the site to provide a new mixed use building including student accommodation units and associated uses (Sui Generis), residential units (Class C3), office (Class B1), shops/cafes (Class A1/A3) and a restaurant/takeaway (Class A3/A5) arranged over a 4 storey podium with three taller elements of 46, 36 and 28 storeys (with roof-top plant and basements), alongside parking, landscaping, public realm and other associated works. This application is accompanied by an Environmental Statement.	Application under determination by LBTH Under determination
26	Areas 7 and IC Barking Road, Canning Town	11/00662/LTGDC	Outline planning permission (with all matters except for access reserved) for the comprehensive redevelopment of the land known as Areas 7 and 1C of the Canning Town and Custom House Masterplan to comprise a mixed use scheme including the demolition of existing buildings and associated structures, the alteration of the highways, engineering and construction of new buildings and structures to provide a total of 191,530m^2 (excluding basement) comprising retail use (Class A1/2/3/4/5), including a foodstore, residential dwellings (Class C3), leisure (Class D2) and health (Class D1), offices (Class B1a), live/work units (Sui Generis), research and development/light industry (Class B1b/c), a hotel (Class C1), student accommodation (Sui Generis), and energy centre, creation of basement and semi-basement car parking, landscaping, creation of new public realm and associated works with detailed planning permission for the development of Phase 1 (including Plot A) of Area 7 and 1C to comprise a foodstore (Class A1) of 8,200m^2 (GEA), a retail unit (Classes A1/2/3) of 425m^2 (GEA) and associated servicing areas, 179 residential dwellings (Class C30, and energy centre, a basement car park comprising 224 spaces and 238 temporary car parking spaces to be provided at grade adjacent to the foodstore, public realm works and associated works	Permission granted by LBN

27	Bromley by Bow North, Hancock Road, London	PA/11/02423/P1	Hybrid planning application for residential-led mixed-use redevelopment of the site comprising: Outline Application; All matters reserved (except for access) Demolition of all existing buildings; Development of 522 residential units (Use Class C3) (3 - 9 storeys, Blocks S1, S2, S3, S4, S5, S6, S7, S8, R5, R6, R7, and R9); 2,490.6 m² (GIA) Flexible Business Space (Use Class B1) (Ground and mezzanine levels in Blocks R5, S3 and S4); 6,299.2 m² (GIA) Car Dealership (Sui Generis) (4 - 8 storeys); 471 m² (GIA) Flexible Restaurant (Use Class A3) or Public House (Use Class A4) (2 storeys within Block S7) Associated highway infrastructure including creation of new access/egress arrangements along Hancock Road, access to Free Wharf; 133 residential car parking spaces (including 10 disabled car parking spaces); 16 commercial car parking spaces (including 3 disabled car parking spaces); together with 13 motorcycle spaces, 23 mobility scooter spaces, and 511 bicycle parking spaces; Public open space; and Landscaping and associated upgrade works to the River Lea towpath. Full details Demolition of all existing buildings; Development of 219 residential units (Use Class C3) (3 - 9 storeys, Blocks R1, R2, R3 and R4); 1,021 m² (GIA) Flexible Business Space (Use Class B1) (Ground and mezzanine levels in Block R4); Associated highway infrastructure including creation of new access/egress arrangement along Hancock Road, and temporary road for delivery and servicing to Block R4; 59 residential car parking spaces (including 4 disabled car parking spaces); together with 3 motorcycle, 3 mobility scooter spaces, and 291 bicycle parking spaces; Communal amenity space and temporary public open space; and Landscaping and associated upgrade works to the River Lea towpath.	Permission granted by LBTH Decided External Decision – Approved (GLA/CLG/L)
28	43 - 45 Gillender Street, London, E14 6RN	PA/19/01628/A1	Demolition of an existing container building, demolition of an existing extension to Bromley Hall (Grade II* Listed), erection of two blocks between 3 and 5 storeys to provide 22 residential units and 587m^2. office space (Use Class B1), minor alterations to Old Poplar Library (Grade II Listed) and Bromley Hall (Grade II* Listed).	Permission granted by LBTH Decided Permit
29	Bow Common Gas Works, Bow Common Lane, London	PA/19/02379	n Outline, with all matters reserved, for a comprehensive phased mixed-use development comprising demolition of existing buildings and structures, for the following uses: Residential (Class C3); Business uses including office and flexible workspace (Class B1); Retail, financial and professional services, food and drink uses (Class A1, A2, A3 & A4); Community, education and cultural uses (Class D1);	Resolution to grant planning permission Registered

			A sixth form centre (Class D1); Assembly and leisure uses (Class D2); Public open space including Bow Common and public realm; Storage, car and cycle parking; Formation of new pedestrian and vehicular access and means of access and circulation within the site together with new private and public open space and site preparation works; and Sustainable energy measures. In Full, for a comprehensive phased development comprising demolition of existing buildings and structures, and residential (Use Class C3) flexible residential facilities and commercial uses (Use Classes A1, A2, A3, A4, B1, C3, D1 and D2) together with public open space; public realm works and landscaping; car and cycle parking; servicing arrangements; sustainable energy measures; formation of new pedestrian and vehicular access and means of access and circulation within the site; and site preparation works. The application is accompanied by an Environmental Statement.	
30	Land Under The DLR Bounded By Scouler Street And Aspen Way And Prest30age Way, Aspen Way, London	PA/19/02292	342-room, part-24 part-17 storey, apart-hotel (C1 Use Class), eight workspace units (B1 Use Class), new bus loop/stand, new youth play area, and public realm works	Permission granted by LBTH Decided Permit
31	North Quay, Aspen Way, London, E14	PA/20/01421/A1	Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising: Demolition of existing buildings and structures; Erection of buildings and construction of basements; The following uses: - Business floorspace (B1) - Hotel/Serviced Apartments (C1) - Residential (C3) - Co-Living (C4/Sui Generis) - Student Housing (Sui Generis) - Retail (A1-A5) - Community and Leisure (D1 and D2) - Other Sui Generis Uses - Associated infrastructure, including a new deck over part of the existing dock; - Creation of streets, open spaces, hard and soft landscaping and public realm; - Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;	Registered

			- Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station); - Car, motorcycle, bicycle parking spaces, servicing; - Utilities including energy centres and electricity substation(s); and - Other minor works incidental to the proposed development. This application is accompanied by an Environmental Statement. [For consultation purposes only: Proposal within 8 development zones for a maximum of 355,000m^2 of floorspace (GIA) in multiple buildings up to a maximum height of 225m AOD (above basement level) comprising: Business floorspace (B1) of between 150,000m^2 and 240,000m^2 (GIA) Residential (C3), up to a total maximum of 150,000m^2 (GIA) Co-Living (C4/Sui Generis), & Student Housing (Sui Generis) uses, up to a total maximum of 100,000m^2 (GIA) Hotel/Serviced Apartments (C1) up to 150,000m^2 (GIA) Retail (A1-A5) & Community and Leisure (D1 and D2) of between 10,000m^2 and 60,000m^2 (GIA) Other Sui Generis Uses up to 25,000m^2 (GIA) New streets, open space, public realm, landscaping, and other associated infrastructure]	
32	Trinity Buoy Wharf, 64 Orchard Place, London	PA/17/00729/A1	Outline planning application with all matters reserved for demolition of building(s), additional creative SME Use class B1 workspace; relocation and additional floor space for a School (Use Class D1) and additional floors pace to studios to the Royal Drawing School (Use Class D1).	Decided Permit
		PA/19/00957	Application for the approval of reserved matters in respect of Phase One Royal Drawing School (Building N) conditions no.1 (Reserved Matters) of planning permission ref: PA/17/00729; Dated 14/12/2018.	Decided Permit
33	The Silvertown Tunnel Order (2018).			

Figure C1 Cumulative Schemes Map



Appendix: Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: EIA Scoping Opinion Response
Annex 4: Cumulative Schemes List and Map
Annex 5: Cumulative Schemes Assessment Matrix

Scoping of 'Other Developments' in the Technical Assessment of Cumulative Effects

The following table presents a list of the cumulative schemes that have been considered for each of the technical assessments of the EIA. The table sets out how/if each scheme has been included within the assessment of cumulative effects for each of the technical assessments, denoted by a tick '✓' or a cross 'x'. Where a cumulative scheme has been excluded, a short explanation for this is provided.

Table / Map Ref	Development Name	Technical ES Chapter										
		Socio Economics	Traffic and Transport[1]	Air Quality[3, 4]	Noise and Vibration[3]	Climate Change[5]	Archaeology[5]	Water Resources, Drainage and Flood Risk	Daylight, Sunlight, Overshadowing[6, 7]	Wind Microclimate[7]	Built Heritage[8]	TVIA
1	Blackwall Reach The Robin Hood Gardens Estate together with land south of Poplar High Street and Naval Row, Woolmore School and land north of Woolmore Street bounded by Cotton Street, East India Dock Road and Bullivant Street	✓	x	x	x	✓	✓	✓	x	x	x	✓
2	Castle Wharf Esso Petrol Station, Leamouth Road, London, E14 0JG	✓	x	x	x	✓	✓	✓	x	x	x	✓
3	Ailsa Wharf, Ailsa Street, London	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Imperial 2 (formerly Clockhouse and Access House), Bromley by Bow, London, E3 3AE	✓	x	x	x	✓	✓	✓	x	x	x	✓
5	Chrisp Street Market, Chrisp Street, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
6	Barrett Industrial Estate, 20-22 Gillender Street, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
7	Hercules Wharf, Castle Wharf and Union Wharf, Orchard Place, London, E14	✓	x	x	x	✓	✓	✓	x	x	x	✓
8	Cody Dock 11c South Crest, Canning Town, London, E16 4TL	✓	x	x	x	✓	✓	✓	x	x	x	✓
9	Former Parcel Force Depot, Stephenson Street, Canning Town, London, E16 4SB	✓	✓	✓	✓	✓	✓	✓	x	✓	x	✓
10	Anchorage House, 2 Clove Crescent, London, E14 2BE	✓	x	x	x	✓	✓	✓	x	x	x	x This scheme does not result in any massing changes to the existing building and so the massing will remain as it appears in the photos.
11	Wood Wharf, Prestons Road	✓	x	x	x	✓	✓	✓	x	x	x	✓
12	Brunel Street Works, Canning Town Area 8 Bounded by Peto Street North and Victoria Dock Road Sivertown Way, Canning Town	✓	x	x	x	✓	✓	✓	x	x	x	✓
13	Leven Road Gasworks, Poplar Gas Works, Leven Road, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
14	267-269 East India Dock Road, London, E14 0EG	✓	x	x	x	✓	✓	✓	x	x	x	✓

Table / Map Ref	Development Name			Technical ES Chapter								
		Socio Economics	Traffic and Transport[1]	Air Quality[3, 4]	Noise and Vibration[3]	Climate Change[5]	Archaeology[5]	Water Resources, Drainage and Flood Risk	Daylight, Sunlight, Overshadowing[6, 7]	Wind Microclimate[7]	Built Heritage[8]	TVIA
15	(Former Poplar Bus Depot), Leven Road, London, E14 0LN	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16	Islay Wharf, Lochnagar Street	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17	London Docklands Travelodge Hotel, Coriander Avenue, London, E14 2AA	✓	x	x	x	✓	✓	✓	x	x	x	✓
18	Site north west of Leamouth Road Roundabout, Leamouth Road, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
19	300 Manor Road, Land Comprising Former HSS Site And 300 Manor Road Canning Town London	✓	x	x	x	✓	✓	✓	x	x	x	✓
20	Aberfeldy Estate, Abbott Road, London, E14[2]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21	Poplar Business Park, 10 Prestons Road, London, E14 9RL	✓	x	x	x	✓	✓	✓	x	x	x	✓
22	Land at Blackwall Yard, Blackwall Way, London, E14 2EH	✓	x	x	x	✓	✓	✓	x	x	x	✓
23	Land At Thameside West And Carlsberg Tetley Dock Road Silvertown London	✓	x	x	x	✓	✓	✓	x	x	x	✓
24	Orchard Wharf, Orchard Place, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
25	2 Trafalgar Way, London, E14 5SP	✓	x	x	x	✓	✓	✓	x	x	x	✓
26	Areas 7 and IC Barking Road, Canning Town	✓	x	x	x	✓	✓	✓	x	x	x	✓
27	Bromley by Bow North, Hancock Road, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
28	43 - 45 Gillender Street, London, E14 6RN	✓	x	x	x	✓	✓	✓	x	x	x	✓
29	Bow Common Gas Works, Bow Common Lane, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
30	Land Under The DLR Bounded By Scouler Street And Aspen Way And Prestage Way, Aspen Way, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
31	North Quay, Aspen Way, London, E14	✓	x	x	x	✓	✓	✓	x	x	x	✓
32	Trinity Buoy Wharf, 64 Orchard Place, London	✓	x	x	x	✓	✓	✓	x	x	x	✓
33	The Silvertown Tunnel Order (2018).	✓	x	x	x	✓	✓	✓	x	x	x	x

Notes: 1. The cumulative schemes included within the traffic and transport assessment were agreed separately with TfL and LBTH through the Transport Assessment scoping process.
2. This scheme is built out/near completion and therefore is considered within the baseline assessments.

3. The operational assessment is based on the assumptions for the traffic data as set out in point 1 above. Consideration has also been given to the potential for cumulative effects during the demolition and construction phase with these same cumulative schemes as they are closest to the Site.
4. Receptors from cumulative schemes have not been included in the air quality as there are sufficient existing receptors along roads affected by the Proposed Development already included in the assessment to be able to determine the likely effects at these introduced receptors (negligible).
5. Qualitative consideration only.
6. Aberfeldy Village Masterplan and Ailsa Wharf are under construction and included in the baseline condition as fully built out.
7. All other cumulative schemes are located too far from the Site to be affected and therefore have not been included within the assessment.
8. It is not expected that there will be a cumulative effect from the other cumulative schemes due to their distance from the heritage receptors scoped into the Built Heritage assessment and the intervening townscape (ES Volume 2).

Appendix: Demolition and Construction

Annex 1: Outline Construction Environmental Management Plan (CEMP)

Appendix: Demolition and Construction

Annex 1: Outline Construction Environmental Management Plan (CEMP)



CONTENTS

		page
1.0	INTRODUCTION	3
2.0	THE FINAL CEMP	5
3.0	GENERAL FRAMEWORK AND ADMINISTRATION	8
4.0	PROJECT OUTLINE	10
5.0	CONSTRUCTION OVERVIEW	12
6.0	THE CONSTRUCTION SITE	20
7.0	SITE LOGISTICS	23
8.0	TRAFFIC MANAGEMENT	24
9.0	SITE WASTE MANAGEMENT	27
10.0	NOISE AND VIBRATION	29
11.0	AIR QUALITY	33
12.0	GROUND CONDITIONS	36
13.0	SURFACE WATER MANAGEMENT	37
14.0	ECOLOGY	39
15.0	CONCLUSION	40
REFERENCES		41

BLUE SKY BUILDING
Suite 335, Kemp House, 152-160 City Road,
London, EC1V 2NX
TEL: +44(0)20 7831 5950
REGISTRATION NO. 07816133

1.0 INTRODUCTION

This outline Construction Environmental Management Plan (CEMP) has been prepared by Blue Sky Building and is submitted in support of a hybrid planning application for the Aberfeldy Village Masterplan. The hybrid planning application is made in relation to the north of East India Dock Road (A13), east of the Blackwall Tunnel Northern Approach Road (A12) and to the southwest of Abbot Road (the “Site”) on behalf of The Aberfeldy New Village LLP’ (“The Applicant”). The hybrid planning application is formed of detailed development proposals in respect of Phase A for which no matters are reserved ("Detailed Proposals"), and outline development proposals for the remainder of the Site, with all matters reserved ("Outline Proposals"). The Detailed Proposals and Outline Proposals together are referred to as the “Proposed Development”.

The Proposed Development comprises the comprehensive redevelopment of the Site. The Proposed Development will provide new retail and workspace floorspace along with residential dwellings and the pedestrianisation of the A12 Abbott Road vehicular underpass to create a new east to west route. The Development will also provide significant, high quality public realm, including a new Town Square, a new High Street and a public park.

The purpose of the CEMP is to outline how the Aberfeldy Village Masterplan construction project will avoid, minimise or mitigate effects on the environment and surrounding area.

It is anticipated that the Final CEMP will be considered a ‘living’ document. As such, the document will be subject to regular reviews and updates to reflect the actual activities associated with the construction works, particularly where they change throughout the works. This will be prepared by the appointed Contractors.

Framework of this Outline CEMP

This Outline CEMP aims to provide an overarching and strategic framework for the management of environmental effects and the implementation of measures prior to, and during, the construction phase of the Proposed Development. It is based on the London Borough of Tower Hamlets (LBTH) Code of Construction Practice and established good management principles. It includes the following information:

- Information pertaining to data management, roles and responsibilities, structure, mitigation and monitoring, auditing, and non-compliance and corrective actions;
- Information pertaining to staff training, health and safety, community liaison;
- Information relating to the Site and the Proposed Development;
- Outline of the construction works, timing and duration;
- Environmental management measures, for the following elements:
  - Transport;
  - Noise and Vibration;
  - Air Quality;
  - Waste;
  - Ground Conditions;
  - Ecology;
  - Surface Water Management; and
  - Schedule of Environmental Legislation.

2.0 THE FINAL CEMP

Principal Contractor Requirements

The Contractor will identify in the Final CEMP how compliance with the requirements of LBTH Code of Construction Practice (CoCP) will be achieved.

There is a large body of environmental and safety requirements relevant to construction projects, in the form of primary legislation (Acts of Parliament), secondary legislation (Statutory Instruments, including Regulations and Orders), statutory guidance and Codes of Practice. The Contractors will be responsible for identifying new legislation and regulation and complying with all prevailing legislation at the time of construction including any requirements under Health and Safety regulations.

In addition to the environmental requirements described, the Contractors will be responsible for obtaining licences from LBTH before erecting any scaffolding, hoardings, gantries, temporary crossings or fences or depositing a skip on the highway.

A suitably qualified environmental professional will be appointed by the Principal Contractor to prepare the Final CEMP.

Document Control

The Final CEMP will be held and maintained electronically, with the latest revisions identified with a document reference.

Site Management – Roles and Responsibilities

An outline of the anticipated key roles and responsibilities are listed overleaf in Table 1.

Mitigation and Management Measures

The mitigation and management measures outlined in the following sections are to be included within the Principal Contractor's CEMP unless measures which have a greater level of environmental protection are proposed.

Table 1 Summary of Anticipated Key Roles and Responsibilities relating to the Implementation of the CEMP

Role	Key Responsibilities
The Aberfeldy New Village LLP. (Client)	Responsibility for appointment / allocation of the Principal Contractor, Project Manager and Environmental Manager,
TBA (Principal Contractor)	Responsibility for the enabling and construction activities and holds overall responsibility for the activities on site and implementation of the Final CEMP. Responsibilities include: ▪ Ensuring that the works are carried out in accordance with the Final CEMP and contract documentation, including the implementation of mitigation and management measures, environmental monitoring, environmental auditing, and other matters covered in this Outline CEMP; ▪ Ensuring the appointed contractors / subcontractors are appropriately qualified and competent; ▪ Ensure environmental awareness training for all workers, including an induction for all site workers / contractors which includes environmental elements pertaining to the implementation of the Final CEMP; ▪ Monitor the performance of contractors / sub-contractors and provide direction as necessary; ▪ Liaise regularly with the Environmental Manager; ▪ Complete a monthly audit of the Final CEMP and report findings, with follow up on identified actions as required; and ▪ Undertaking corrective actions in the event of breaches of the CEMP or applicable environmental legislation. ▪ Ensuring that resources are appropriately allocated to allow for the inclusion of the actions included in the Final CEMP for the duration of the project. ▪ Responsible for the actions of management of contractors / sub-contractors associated with the construction works and ensuring that they appropriately comply with the requirements of the Final CEMP and applicable environmental legislation.
Environmental Manager	Co-ordinate monitoring and reporting of the Final CEMP implementation, through liaison with the Principal Contractor and other parties as appropriate, to ensure that the works are implemented in accord with the commitments in the Final CEMP. Responsibilities include: ▪ Undertake environmental monitoring and reporting as specified in the Final CEMP; ▪ Undertaking environmental audits in conjunction with the Principal Contractor as specified in the Final CEMP. Reporting of audit findings is to occur on a monthly basis. ▪ Regularly review the Final CEMP to ensure it accurately reflects the construction works occurring on site, at a frequency of no less than six months (unless significant changes to the enabling and construction methodology occurs); ▪ Ensure that all relevant environmental consents, licences, permits etc. are in place prior to the commencement of the relevant works. Ensure the requirements of these permits are included in the Final CEMP and are adhered to; ▪ Act as the first point of contact for environmental issues associated with the Proposed Development; ▪ Undertake environmental training (including toolbox talks) as required, to ensure that enabling and construction staff are aware of the environmental requirements; ▪ Ensure that the objectives of the Final CEMP are being achieved and that

	are not contrary to any relevant legal requirements; ▪ Engage with the Principal Contractor on environmental issues identified during the construction works, and issue Corrective Notices where required. Follow-up on such notices is to be undertaken in conjunction with the Principal Contractor to ensure non-compliances have been appropriately rectified.
Environmental Consultant	Advise Client on environmental related matters as requested.
Contractor(s) / Sub-Contractor(s)	▪ Work to agreed plans, methods and procedures to minimise environmental impacts; ▪ Commit to undertaking works associated with the Project in accordance with the Final CEMP; ▪ Undertake the site induction training (which is to include an environmental management element); ▪ Report all environmental incidents immediately to their line manager; and ▪ Monitor the workplace for potential environmental risks and alert their line manager if any are observed.

Key Contacts

The following Table outlines the Key Contacts for Aberfeldy Village Development.

Table 2 Key Project Contacts

Role	Name	Contact Details
The Aberfeldy New Village LLP (Client)	TBC	TBC
(Principal Contractor)	TBC	TBC
Structural Engineer	TBC	TBC
Environmental Consultant	TBC	TBC
Project Manager	TBC	TBC
Site Manager	TBC	TBC
Environmental Manager	TBC	TBC
Health and Safety Officer	TBC	TBC
Community Liaison Manager	TBC	TBC

3.0 GENERAL FRAMEWORK AND ADMINISTRATION

Public Liaison

The Contractor should provide LBTH Environmental Health Department with a full programme of key activities for the development before it starts.

The specific measures to be implemented by the Contractor will include:

- The Contractor will liaise with LBTH Environmental Health Department on a regular basis, agreeing routine arrangements for each site's activities and ensuring compliance with the Final CEMP.
- The Contractor will be responsible for establishing and maintaining contact with LBTH and local residents; keeping them informed of construction matters likely to affect them.
- This liaison will include the regular and frequent distribution of Newsletters and attendance at meetings at the request of LBTH with representatives of local businesses and residents' groups. (See under community relations below).
- The Contractor will provide an information and reporting telephone 'Hot Line' staffed throughout working hours. Information on this facility shall be prominently displayed on site hoardings. The Contractors' nominated persons will attend monthly reviews with LBTH Environmental Health Department, or otherwise as requested.
- The Contractor will facilitate LBTH Environmental Inspectors to undertake regular planned inspections of the site to check compliance and associated records.
- The Contractor will provide LBTH with a full programme, providing detail on the nature and timing of the main site activates. The contents of this programme are specified in the following section.

Community Liaison

Contact with neighbours and the public throughout the construction programme will be pro-actively maintained, with regular update meetings on no less than a quarterly basis and the issuing of a brief news sheet on progress. Update sheets will be displayed on site hoardings.

The Contractors will nominate community relations personnel, who will be focussed on engaging with the local community. The Contractor will ensure that occupiers of nearby properties and residents are informed in advance of works taking place,

including the estimated duration. The Contractor will inform local businesses and residents likely to be affected by such activities at least 14 days prior to undertaking the works, as well as applying for the appropriate permits and licences, (e.g. hoardings and crossovers).

Neighbour and Public Relations Strategy
To successfully develop and implement a 'Neighbour and Public Relations Strategy', the following actions will be undertaken:

- Initial Contact: Once full planning permission has been obtained and contractors have been appointed, formal contact will be established with the nearest neighbours and those who could potentially be affected by the construction works; and

- Contact during Works Period: A single point of contact for neighbour and public relations will be established, with a senior member of the project staff nominated for the role. Contact details for this single point of contact will be displayed on the site hoarding. Outside normal working hours, site security will act as the main point of contact via a dedicated phone number. Security will alert the staff contact if necessary (available 24 hours). Should there be any complaints, these will be logged, fully investigated and reported to the relevant department within LBTH as soon as possible. The complainant will be informed as to what action has been taken.

Emergency Incident Communication

In the case of work required in response to an emergency, LBTH and all neighbours will be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected occupiers will also be notified of the 'hotline' number, which will operate during working hours.

Construction Staff and Training

All site construction staff to be made aware of the requirements of the CEMP and will be made responsible for its implementation. Regular training is to be implemented where deemed appropriate, and in response to non-compliance incidents.

Health and Safety

The Principal Contractor will prepare and implement a project specific Construction Phase Plan, in accordance with The Construction (Design and Management) Regulations (CDM Regulations). This Plan is to be provided to, and agreed with, LBTH (and other relevant parties as required).

4.0 PROJECT OUTLINE

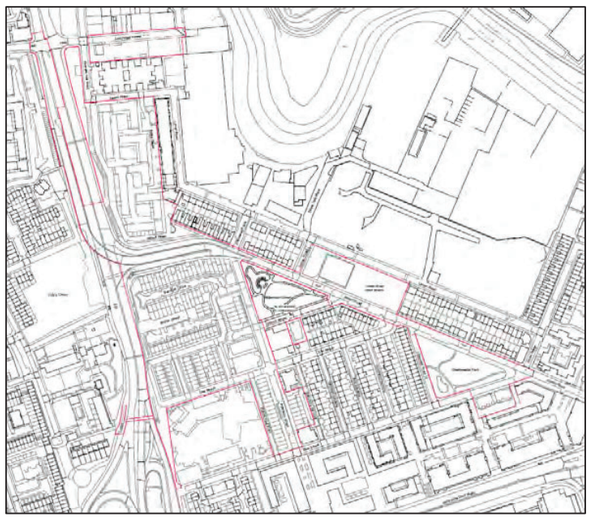
The Site

The Proposed Development is located on Land to the north of East India Dock Road (A13), east of the Blackwall Tunnel Northern Approach Road (A12) and to the southwest of Abbot Road.

The Site is located in Poplar, within the administrative boundary of the London Borough of Tower Hamlets. The Site is 8.14 hectares (approx. 20 acres) in total and comprises:

- Abbott Road;
- Aberfeldy Street;
- Balmore Close;
- Blairgowrie Court;
- Heather House;
- Jura House;
- Tartan House;
- Thistle House;
- Kilbrennan House;
- Nos. 33-35 Findhorn Street;
- 2a Ettrick Street;
- 384 Abbott Road;
- Lochnagar Street;
- Aberfeldy Neighbourhood Centre;
- Nairn Street Estate; and
- Leven Road Open Space and Braithwaite Park are included for their enhancement.

Location Plan



Overview of the Proposed Development

The Aberfeldy Village Masterplan aims to deliver, up to 1628 new homes, new workspace, a new high street, new and improved open space and the pedestrianisation of the A12 Abbott Road vehicular underpass.

The anticipated works comprise residential development and associated demolition and public realm improvements to be delivered in four phases. The works are summarised as:

Phase A – Buildings H1 to H3, I and J (the Detailed Proposals);
Phase B – Buildings A1 to A3, B1 to B5, and extensive highways and public realm alterations;
Phase C – Buildings C1 to C4 and E1 to E3;
Phase D – Buildings D1 to D4; and

Public realm works to be delivered in each phase.

Construction Sequence

The Proposed Development is expected to be completed in four construction phases, sequenced to suit a phased completion and occupation. The proposed development is currently planned to be completed and occupied in the sequence: Phase A-B-C-D.

Public realm and highways works will be completed within each phase to suit the occupation sequence with the larger elements of highways alterations planned with Phase B.

Project Programme

The current expectation is that the demolition and construction works would take approximately 128 months (10 years 8 months). Phases may be constructed in an overlapping sequence. The Contractor is to provide the Environmental Health Department with a full programme. This will include:

- detailed method statement for works and activities affecting the highway
- detailed method statements for specific/special activities in line with the principles identified in this report
- details of site traffic movements showing the projected number of vehicles; what is being delivered, when peaks in activities occur, traffic marshalling arrangements.
- routes to site for deliveries.
- The Contractor will agree detailed schedules of work with the Inspectors acting on behalf of LBTH prior to commencement of development to assess the potential for nuisance.

Indicative Construction Timetable

Construction Task / Activity	Duration	Start Date (Quarter and Year)	Completion Date (Quarter and Year)
Phase A Site Establishment & Demolition	5 months	Year 1 Q3	Year 2 Q1
Phase A Construction.	28 months	Year 1 Q3	Year 3 Q4
Phase B Demolition	5 months	Year 3 Q3	Year 3 Q4
Phase B Construction	36 months	Year 4 Q1	Year 6 Q4
Highways: A12/ B125 Junction	15 months	Year 3 Q4	Year 4 Q4
Highways: B125 realignment	12 months	Year 5 Q1	Year 5 Q4
Public Realm: Underpass Pedestrianisation and landscape	12 months	Year 6 Q1	Year 6 Q4
Phase C/ D Demolition	7 months	Year 6 Q3	Year 6 Q4
Phase C Construction	36 months	Year 7 Q1	Year 9 Q4
Phase D Construction	22 months	Year 10 Q3	Year 12 Q2

5.0

CONSTRUCTION OVERVIEW

This section of the document will identify the expected construction methodology of the project. Much of the design is at an early stage and more detailed construction planning will be carried out as the individual building designs become more advanced

The construction of the Proposed Development will comprise the following key stages, overlapping across the phased construction sequence.:

1. Site establishment;
2. Demolition and site Preparation;
3. Substructures/ Foundations;
4. Superstructures;
5. Building Envelope;
6. Fitting Out; and
7. Landscaping (sequenced to suit the completion of each phase).

Pre-construction Planning

Prior to commencement of works on site a period of pre-construction planning and activities are required to ensure works can commence.

- Production of a detailed CEMP including:
- Neighbour liaison before the commencement on site to explain the nature of works.
- Liaison with the project teams of potentially ongoing local developments to agree shared and combined logistics issues.
- Condition survey of boundary walls and fences.
- Condition survey of highways.
- Existing statutory services surveys.
- Ecological surveys to facilitate site clearance.
- Unexploded ordnance checks.
- Formulation of project Construction Phase Plan and risk assessments.
- Formulation of detailed Site Waste Management Plans and environmental plans as per the current DEFRA guidelines.
- Development of project specific method statements.
- Production of detailed works programmes and sequencing.
- Hoarding and scaffold licences for works on the perimeter boundary.
- Section 80 demolition notices.
- Construction notices.
- Notices for works on the highway in accordance with the Highways Act 1980 and Road Traffic Act 1998.

- Connections to existing statutory services and main sewers.
- Licence for discharge of water from the site into the public sewer
- baseline movement & environmental monitoring establishment
- Submission of section 61 Prior Consent application
- Register the project under the Considerate Constructors Scheme.
- Mobilisation of selected plant and operators

Site Establishment

One of the first site activities as each phase starts will be to establish the area as a construction site. The working areas will be secure, and the general public will be separated from the works. The construction site areas will be secured prior to works commencing with solid and well maintained, 2.4m high hoarding. Secure access points with wheel cleaning facilities will be established at the access and egress locations. Pedestrian access points for operatives and staff will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided.

The project offices are proposed to be established in Jura House (subject to planning permission), a residential building within the phase D site. Welfare and individual site offices will be located in temporary modular buildings on each phase. Temporary accommodation and welfare facilities will be adapted as required as demolition and construction processes.

Specific Site Establishment activities will include:

- Hoardings will be 2.4m high, decorated, with clear pedestrian warning signs and the required notices of Contractors Contact details. Bulkhead lighting to be provided in accordance with LBTH licence.
- Vehicle and pedestrian access to the works will be via separate entrances controlled by fully trained gatemen and traffic marshals.
- Installation of site temporary electrics, lighting, water and fire alarms. The site will operate from connections to the permanent utility supplies rather than generators.
- Establishment of site security provisions to ensure that the site is protected against unauthorised or unlawful entry and potential theft from site.
- Wheel cleaning facilities will be established at all site access and egress locations.
- Establish project offices in temporary cabins located inside the construction boundary hoardings.

Site Establishment

Construction site areas will be made safe and secure prior to works commencing and the general public will be separated from the works, with the use of solid and well maintained, 2.4m high hoardings. Secure access points with wheel cleaning facilities will be established at all site access and egress locations. Pedestrian access points for operatives will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided. Public access to neighbouring buildings will be safeguarded and will be entirely separate from construction areas.

In addition to the proposed use of Jura House subject to planning permission as the main Project Office, site offices and associated welfare facilities for the workforce will be provided for each site. Temporary accommodation and welfare facilities will be established in temporary cabins as works progress. The locations will be identified in advance and agreed with the LBTH as part of the detailed construction and demolition logistics programming and approval of the DMS, CMS and CEMP. It is anticipated that further information and details on this will be submitted, pursuant to planning conditions in relation to construction and demolition management.

Perimeter scaffolding with Monarflex sheeting will be designed to ensure that safe access for both pedestrians and vehicles accessing the retained neighbouring buildings and surrounding streets.

Demolition

Two methods of demolition will be adopted and will be refined following further risk assessment of the individual sites and surrounding areas. Taller buildings that lie alongside congested areas and public highways will be demolished using a “Top Down” method. ‘Top-Down’ demolition offers more control and accuracy over standard mechanical demolition methods. The Blair Street site where Building I is proposed in Phase one is an example where “Top Down” would be appropriate. The majority of buildings, where a safe buffer zone exists within the site boundary, will be demolished by “High Reach” machines. This dual approach to demolition will ensure that high reach plant operated at a considerable distance from the public and is contained within the central areas of the site. Further details of the methods to be applied follow below.

The first demolition areas will focus on both the Phase A construction areas The site for the terrace “J” has been previously demolished and once secured will be investigated and cleared of vegetation and below ground obstructions. Sites of buildings F, H and I will be secured, hoarded and prepared for demolition by top down or high reach methods.

A “Soft Strip” will entail the removal of all internal furnishings, windows and roof plant, and will include the safe removal of asbestos within the existing buildings by a specialist contractor. Advanced building surveys will be carried out as part of the pre-demolition process following vacant possession of each building, including a full Refurbishment & Demolition (R&D) survey of materials containing asbestos. Waste arising from the soft strip will be separated on site into recyclable waste streams for processing off site.

Top-Down demolition is undertaken by encapsulating the building with scaffolding and Monarflex, back propping the floors where required (subject to engineer’s report) and lifting smaller machines into the building by crane. The building is then reduced a floor at a time. The arisings from the demolition shall either be loaded down stripped out lift shafts or lifted down in bins using a crane.

For High Reach demolition of the central areas of the site, buildings are demolished in a step like manner working through the structural bays on each floor using excavators fitted with long reach arms. Arisings on the floors will be scraped off periodically to keep the weight on the slabs to a minimum. Independent scaffolding and Monarflex will be used on key elevations and water hoses fed up through the machine arm assists dust suppression. Arisings on the ground will be processed for crushing using standard height machines.

The buildings will primarily be dismantled using a combination of machine mounted pulverisers, crushers and shears. Water dousing will be carried out using recycled water where possible, to control dust. Noise levels will be controlled using best practice controls and management including the provision of screening where required. It is anticipated that the concrete materials recovered from the demolition process will be crushed, graded and stockpiled on site, and then ultimately reused on site. In the event of contaminated material being identified, the contaminated material will be segregated and removed from site to a suitable landfill.

Various utilities and services exist on the site. To eliminate the risks associated with live services, existing services will be identified and terminated prior to demolition commencing. Temporary services will be installed in advance of these terminations as necessary. All new cables and services will be clearly marked, located and identified.

Substructure/ Foundations

All of the proposed buildings are founded at ground level with the exception of Building B3 in Phase B which has a single level basement.

New piled foundations will be required to support the new construction. Design is at an early stage and remains subject to further site investigations, but current expectation is that piles for Phase A Buildings will be Continuous Flight Auger (CFA), 600mm diameter and up to 20m deep.

When demolition is complete to each site a piling platform will be constructed using compacted crushed demolition arisings that will have been stockpiled for this purpose. Pile probing for below ground obstructions will be undertaken prior to forming the piling platform.

Piling will be undertaken from a piling platform at the existing ground level. Excavation for below ground drainage, ground beams and pile caps will follow piling operations. Basement (B3 only) and ground level slabs will then be cast.

A single piling rig is likely to be on site for each of the buildings in Phase A, although multiple rigs may operate on the larger phases in the future. Piling will be serviced by small crawler cranes and 360º excavators. Concrete will be delivered by ready mix trucks and placed directly from the vehicle's placement chute where possible.

Fixed tower cranes, needed for building each superstructure, will be erected during the piling works and will be used to service the remaining substructure construction. Cranes will generally be positioned within the footprint of each of the taller buildings. Low rise structure will be constructed using smaller mobile cranes.

Superstructure

The proposed superstructures to the residential buildings will be reinforced concrete framed with ribbon columns and flat slab floors. The concrete cores may be constructed ahead of the main frame by slip-forming or jump-forming. Consideration will be given in the detailed construction planning to utilising prefabricated elements, such as columns and staircases. Balconies will need to be carefully considered as the final detailing can dictate method and sequencing of the superstructure frames. It is envisaged that the final balconies design will allow a 'clip-on' approach, fixed to the external cladding.

Fixed tower cranes will be used to assist with construction of the superstructures in a conventional manner on a floor-by-floor basis. Concrete will be placed by concrete pumps and placing booms.

Access and edge protection will be incorporated in the design of the falsework system which could include climbing screens to contain construction operations for the taller buildings.

The lifting equipment (e.g. mobile cranes, tower cranes, other lifting equipment such as elevated working platforms or forklifts etc) that will be required throughout the construction works is yet to be determined in detail. However, as part of the DMS and CMS, a lifting strategy will be developed and prepared in accordance with the detailed design and statutory obligations. The LBTH will be consulted throughout preparation of the lifting strategy to ensure an appropriate proposal is put forward for consent. All necessary permits and licenses (e.g. permits and over sailing licenses (where applicable) for tower cranes) will be secured, and risk assessments and safe working instructions prepared and approved, ready for implementation by the contractor prior to the use of this type of equipment on site.

Building Envelope

The new cladding will be a mixture of components for which specific methodologies will be developed once the design has been further developed. For the purposes of construction planning for we have assumed that the inner skin of the perimeter walls to residential blocks would ideally be a Metsec, or similar SFS (steel framing system) which will allow earliest creation of a watertight environment for fit out works to commence.

For the low-rise buildings traditional scaffolding would be erected as concrete frames near completion for the construction of SFS, windows and membranes; followed by hand laid brickwork, or rendered rainscreen panels. For the taller buildings mast climber platforms may be used for access rather than scaffolding.

Materials will be transported vertically by platform hoists. Mortar would be delivered as dry ready mix and stored on site in silos for daily preparation and use.

The final operations for tower cranes will be to deliver roof materials, plant and equipment, after which they will be dismantled and removed. External hoists will remain in position throughout the envelope construction and to move fit out materials. Hoists will remain in position until permanent lifts are operational.

Fitting Out

Finishes and services fit out will commence once a level of temporary or permanent water tightness has been achieved, working from the lower floors upwards. The fit-out works will comprise the complete installation of finishes and services to the residential units, common areas and cores.

Plant will be installed when plant rooms become available, and services distribution will then proceed. Prefabrication of

components will be adopted wherever practical in order to reduce site time and numbers of deliveries.

As each building nears completion the construction site area will be reduced, and the local hard and soft landscaping areas released. Finally, the temporary site facilities and hoardings will be cleared, and the final landscaping completed for the public realm.

Highways

The proposed project includes the realignment of the junction of the B125 (Abbott Road) and A12 including the pedestrianisation and landscaping of the current northbound underpass. The Highways alterations will mostly be undertaken in Phase B. The junction and underpass will remain open throughout the demolition and construction to help mitigate the additional traffic flows. Early construction of the new junction (in year 4) will provide a direct construction access to Phase B from the A12.

The new alignment of Abbott Road will be constructed through the Phase B site in parallel to construction of the buildings in year 5 and the underpass would be closed around the end of that year. The pedestrianisation and landscaping of the underpass would then be concluded in year 6, the final year of Phase B works.

6.0 THE CONSTRUCTION SITE

This section outlines the requirements relating to site management practices, ranging from the location of accommodation and equipment to the operation of equipment on site. It outlines procedures that should be implemented during site operations. These relate to working hours, site layout & appearance, and good housekeeping.

Representatives from the Contractors and LBTH should regularly inspect the construction site to ensure that these procedures are followed. The Contractors must follow a ‘good housekeeping’ policy at all times.

The specific measures to be implemented by the Contractors will include:

Working hours

Working Hours will be in accordance with LBTH’s CoCP:

08.00 to 18.00 Monday to Friday
08.00 to 13.00 Saturday
No working on Sundays, Bank or Public Holidays

To ensure that the impact of the enabling and construction is kept to a minimum we propose that the contractors should submit a Section 61 Prior notice application to LBTH.

Good housekeeping

The Contractors will:

- ensure considerate site behaviour of the Contractors’ staff;
- ensure the noise from lorry reversing alarms and the like are kept to minimum levels;
- prohibit open fires;
- ensure that appropriate provisions for dust control and road cleanliness are implemented;
- remove rubbish at frequent intervals, leaving the site clean and tidy;
- frequently inspect, repair and re-paint as necessary all site hoardings to comply with the conditions of LBTH Licence – all flyposting and graffiti is to be removed as soon as reasonably practicable and within 24 hours of notice from authorities;
- maintain toilet facilities and other welfare facilities for its staff;
- remove food waste;

- prevent vermin and other infestations; and
- undertake all loading and unloading of vehicles inside the site boundary.

Public information

The site hoarding will display all necessary health & safety material.

Security

The Contractors will ensure that the site is secure and will prevent unauthorised entry to or exit from the site. Site gates will be closed and locked when there is no site presence. Alarms will incorporate an appropriate cut-out period. Access and egress will be via controlled security gates.

Hoardings, site layout and facilities

The site will be completely secure to deter public access. The proposed hoarding line and gates, all of which will be in accordance with LBTH licencing requirements, are shown on the logistics plans in section 7. It is intended to provide protection from noise and dust at all times through the erection of encapsulating scaffolds, climbing screens and physical barriers as appropriate to the task.

Site welfare arrangements will be maintained in temporary accommodation in modular cabins.

Emergency planning and response

The Contractors will develop a plan for emergencies to incorporate:

- Emergency procedures including emergency pollution control to enable a quick response.
- Emergency phone numbers and the method of notifying LBTH and statutory authorities. Contact numbers for the key staff of the Contractors will also be included. The Contractors will display a ‘contact board’ on the hoarding identifying key personnel with contact addresses and telephone numbers, so that members of the public know who to contact in the event of a report or query.
- London Fire Commissioner requirements for the provision of site access points.
- Site Fire plan and management controls to prevent fires.
- A plan to reduce fire risk and potential fire load during construction, operation and subsequently during maintenance or repair. The project will comply with any third-party requirements as may be appropriate.

Access and Egress Gates

The main site access gates will be located as indicated on the logistics plans in section 7.

Materials Handling & Cranes

Materials handling is a major logistics exercise for large projects. Prefabrication will be adopted extensively with components being brought to site in large sections where possible. Large volumes of materials will be required at times calling for the highest levels of delivery and handling management. Delivery vehicles will enter the sites as shown on the site logistics drawing and leave in forward gear.

LBTH approvals will be sought for tower crane locations. Luffing jib cranes will be used such that oversailing of neighbouring property can be ruled out by computer limiter. Cranes will be positioned ensuring that out of service radii do not extend beyond the site boundary.

Considerate Constructors Scheme

The site will be registered with the ‘Considerate Constructors Scheme’. This scheme ensures that contractors carry out their operations in a safe and considerate manner with due regard to neighbours, passing pedestrians and road users.

7.0 SITE LOGISTICS

The efficient management of the site logistics will be vital to the success of the project. A key strategy of logistics for a construction project is to ensure that the products and materials arrive on site at the time and in the quantities that are required.

The Contractor will ensure that the necessary pre-planning is undertaken and that the quality of the communication between those planning the project and those supplying the products and materials is maintained throughout the duration of the project.

The drawings overleaf illustrate the proposed overall logistics plan for the sites that incorporates the following key features:

- Sites are fully hoarded throughout the construction periods;
- Safe segregated access to adjacent properties maintained;
- All vehicle access via gates as indicated;
- All loading and unloading to be within the site boundary;
- Access and egress to be controlled by fully manned security gates;
- Tower cranes to be selected and located to ensure no oversailing outside the site boundaries.

Please refer to Phasing and Logistics drawings BSB-AV-001-010 overleaf

Lochnagar Street

J

Bromley Hall Road

A 12

Leven Road

Compound/
Landscaping

Self Erecting
Crane
(Indicative)



KEY

- Harding/ Gates
- Traditional Scaffold
- Crane
- Site Accommodation
- Traffic Marshal
- Wheel wash
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

PROJECT: Aberfeldy Village
CLIENT: EcoWorld

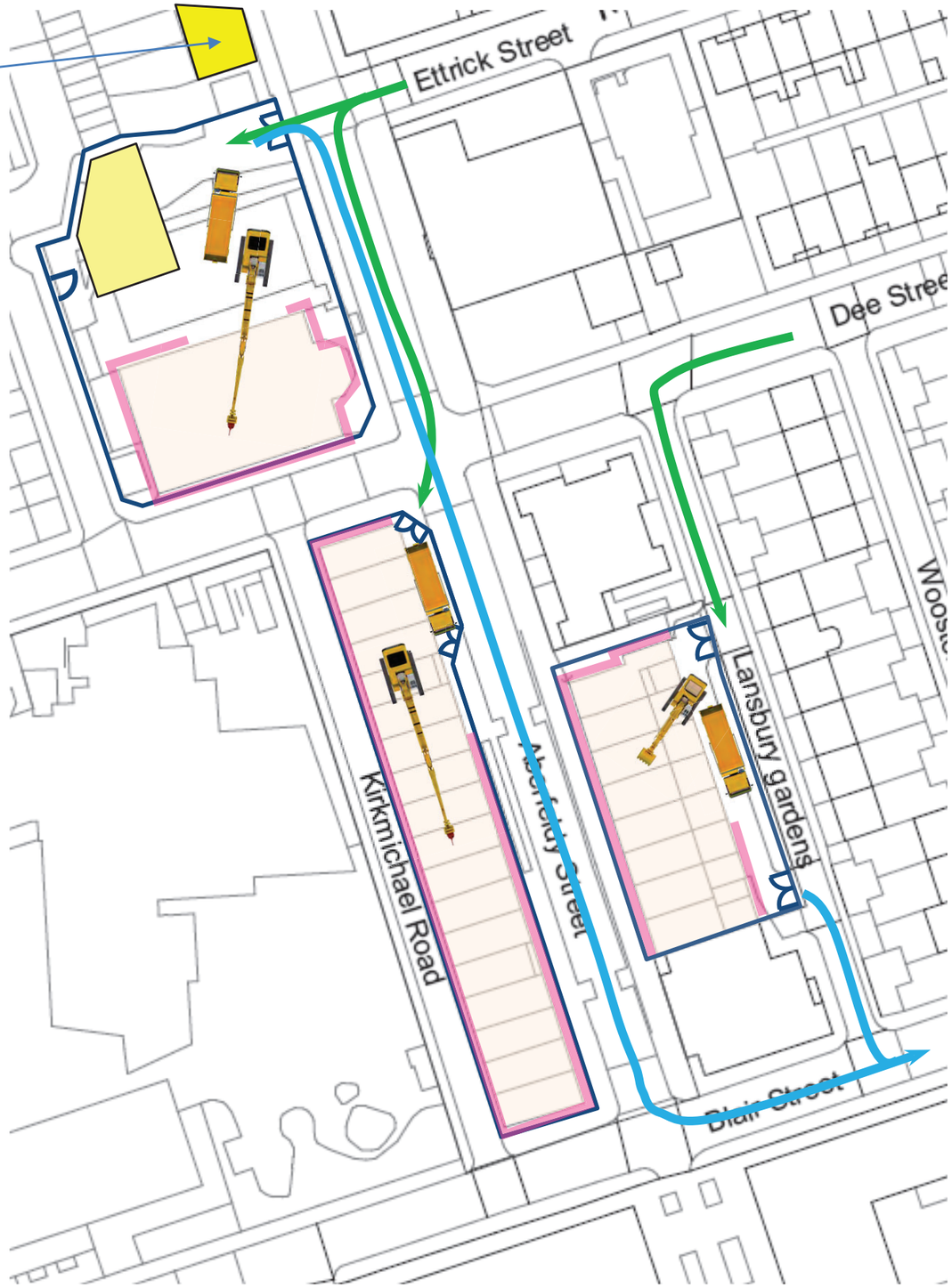
TITLE: **Phase A. J1. Construction Logistics**

DRAWING NO.: BSB-AV-001

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building

Jura House – Project Office



KEY

- Harding/ Gates
- Traditional Scaffold
- Long Reach Excavator
- Site Accommodation
- Traffic Marshal
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

PROJECT: Aberfeldy Village
CLIENT: EcoWorld

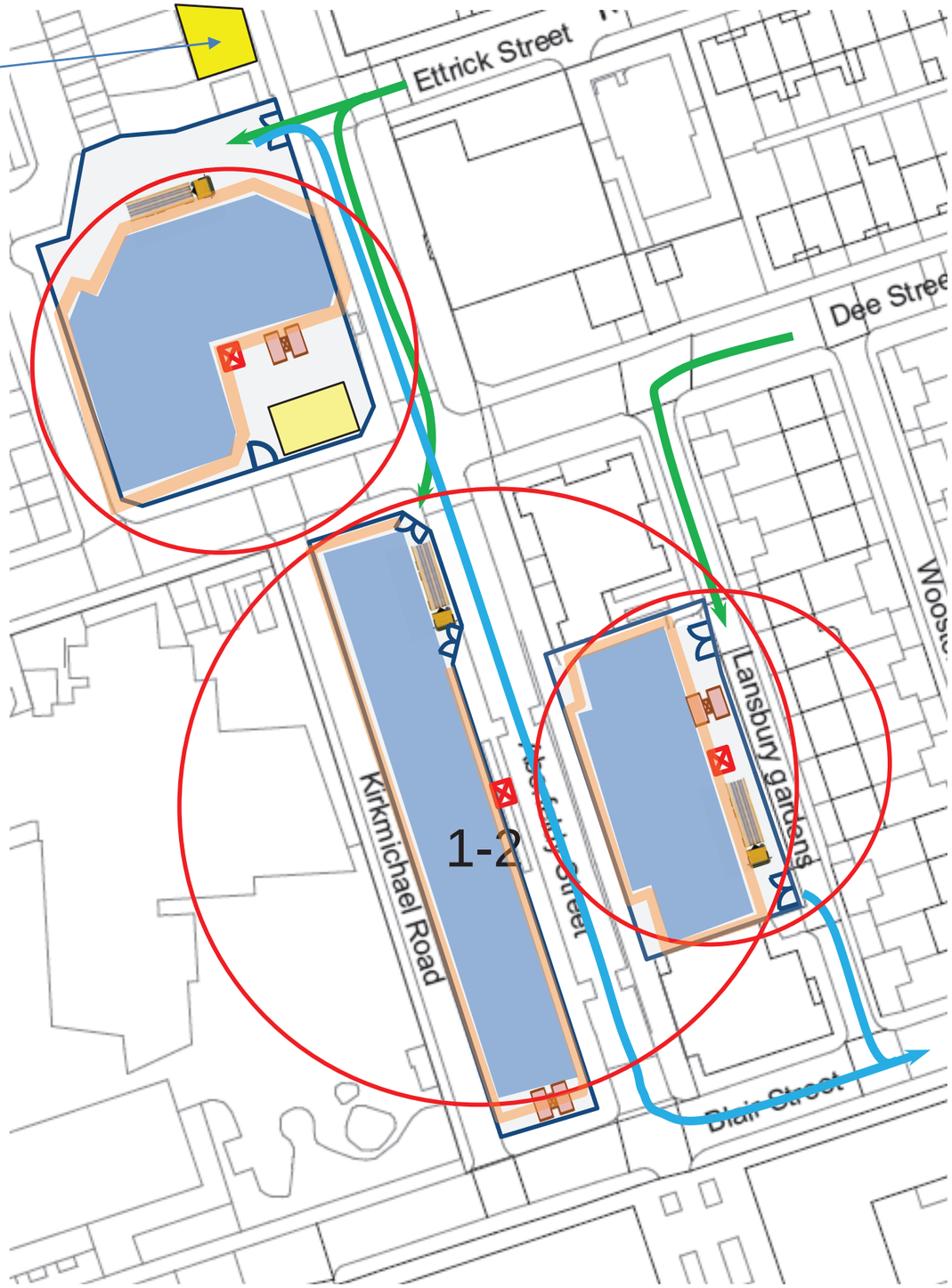
TITLE: Phase A. F1 & H1-3. Demolition Logistics

DRAWING NO.: BSB-AV-002

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building

Jura House –
Project Office



KEY

- Harding/ Gates
- Mast Climbers
- Luffing Jib Tower Crane
- Site Accommodation
- Platform Hoists
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

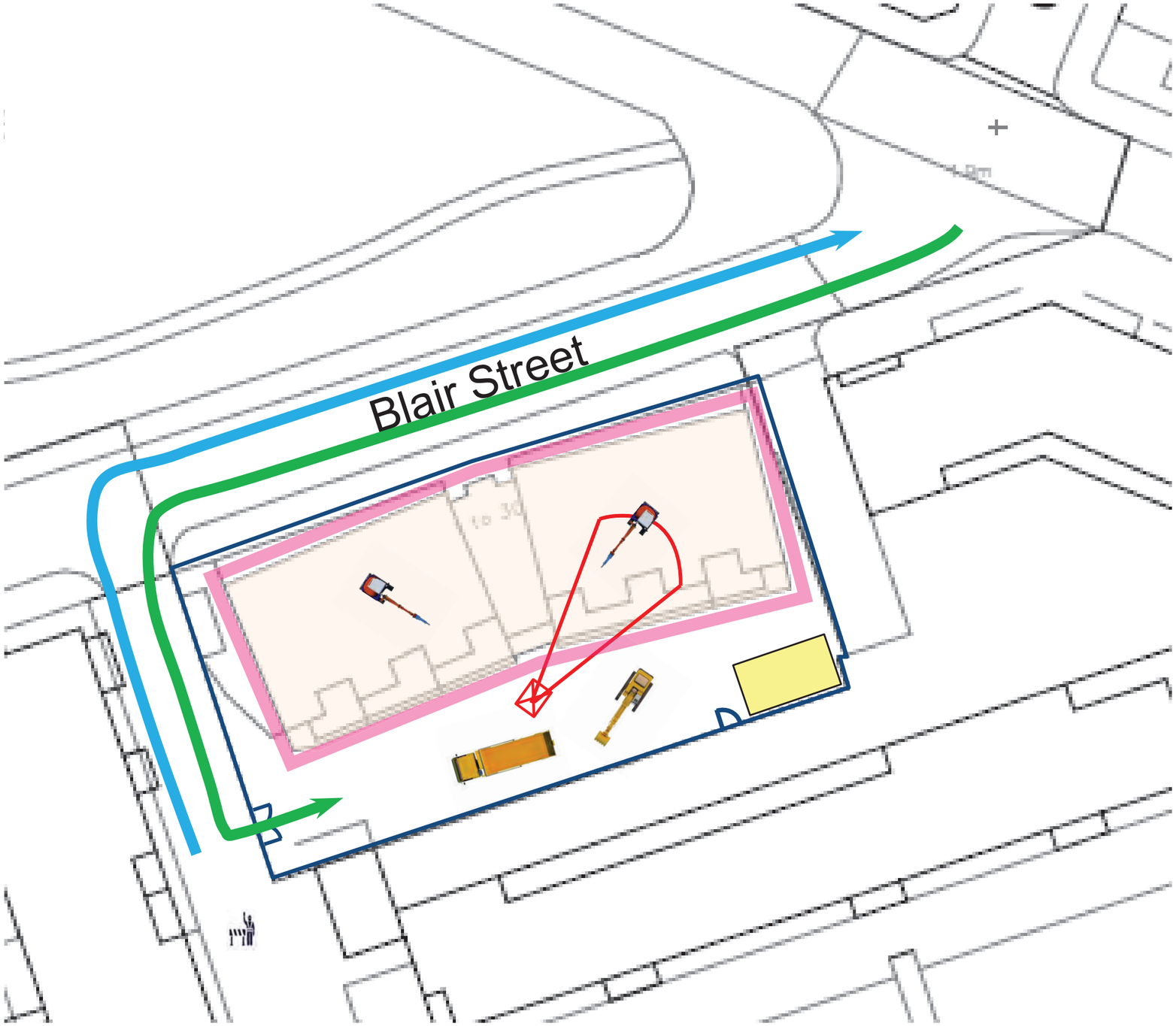
PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: Phase A. F1 & H1-3. Construction Logistics

DRAWING NO.: BSB-AV-00

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



KEY

- Harding/ Gates
- Traditional Scaffold
- Mini Excavator/ Breaker
- Site Accommodation
- Traffic Marshal
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

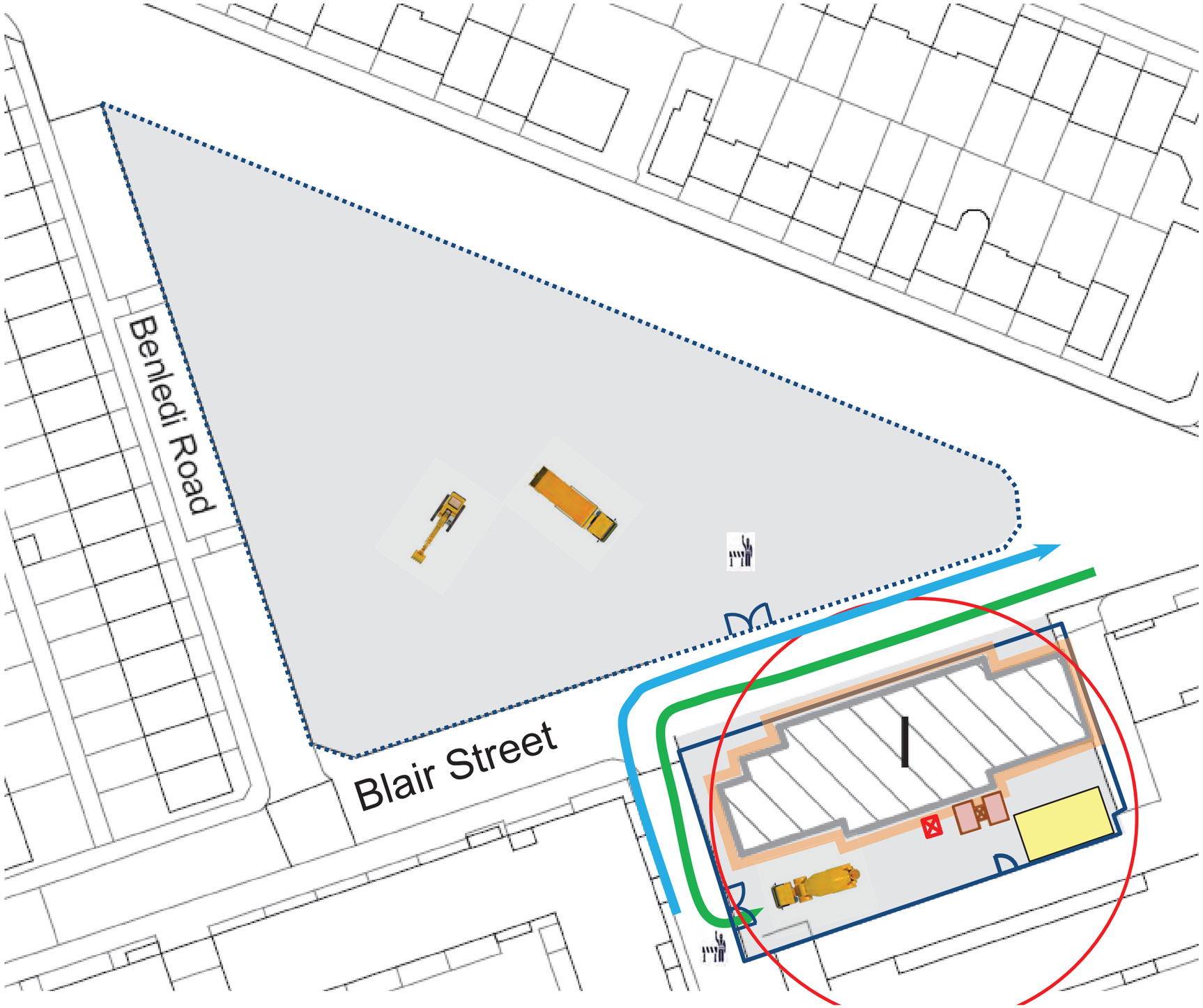
PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: **Phase A. I1. De olition Logistics**

DRAWING NO.: BSB-AV-004

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



KEY

- Harding/ Gates
- Heras Fence
- Mast Climbers
- Luffing Jib Tower Crane
- Platform Hoists
- Site Accommodation
- Traffic Marshal
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

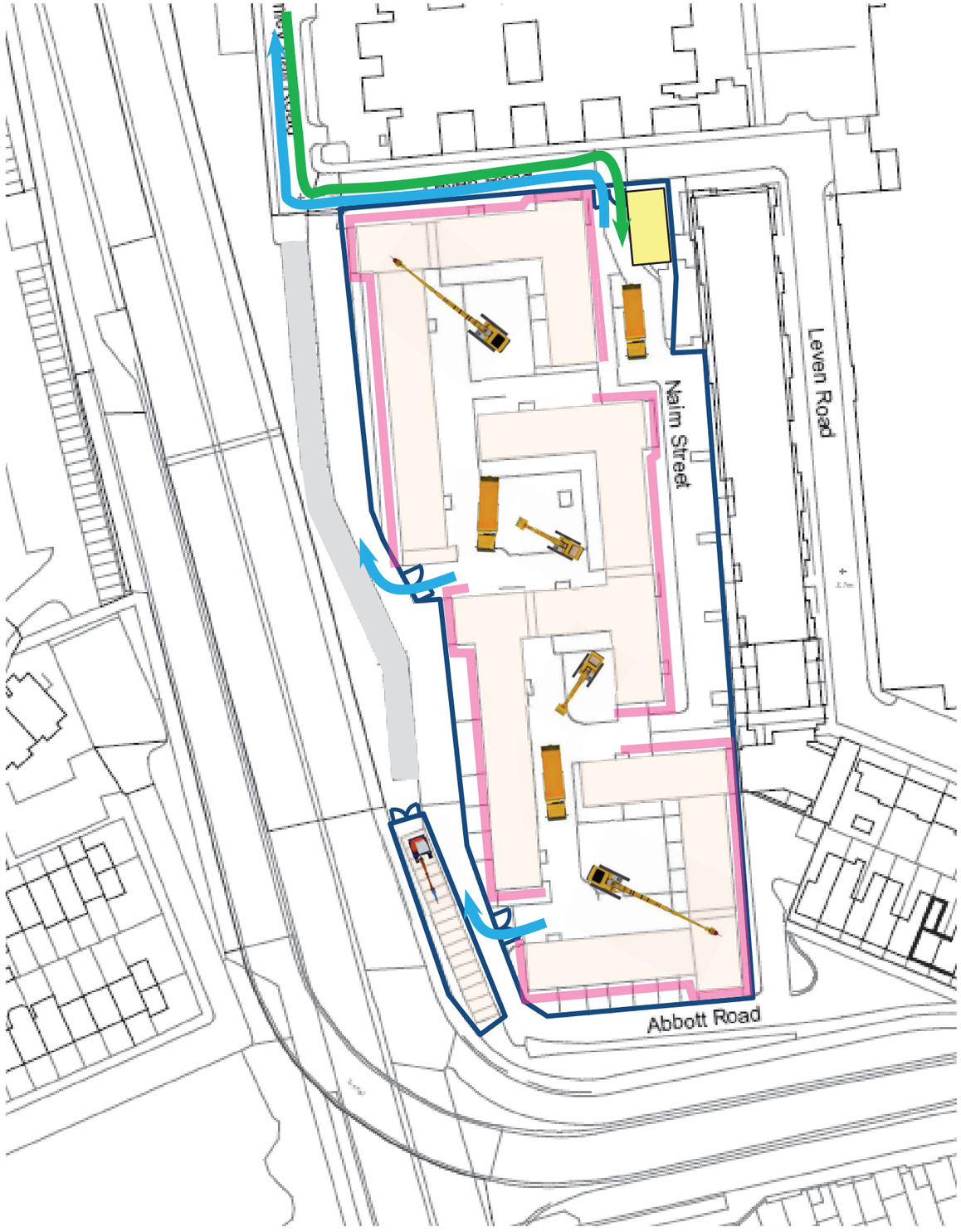
PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: Phase A. I1. Construction Logistics

DRAWING NO.: BSB-AV-00

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



Jura House – Project Office

KEY

Harding/ Gates

Traditional Scaffold

Long Reach Excavator

Loader Excavator

Mini Excavator

Site Accommodation

Vehicle Access

Vehicle Egress

BLUE SKY BUILDING
founded on excellence

PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: Phase B. A1-3 B1- . Demolition Logistics

DRAWING NO.: BSB-AV-00

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



New junction to be constructed and used for construction vehicles until through road available

Existing road layout maintained until new route fully available

Jura House – Project Office

KEY

- Harding/ Gates
- Mast Climbers
- Traditional Scaffold
- Luffing Jib Tower Crane
- Mobile Crane
- Site Accommodation
- Platform Hoists
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

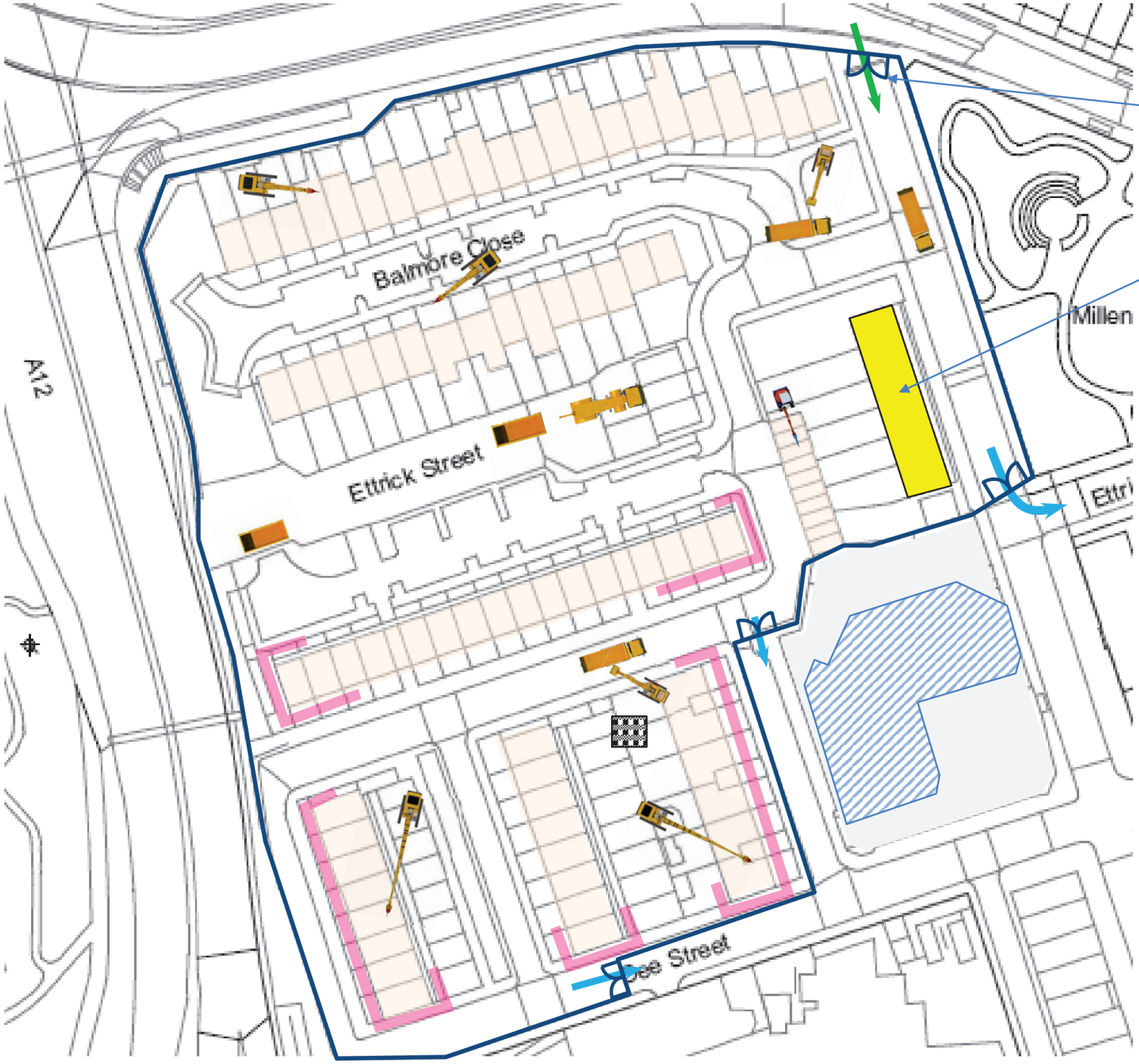
PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: Phase B. A1-3 B1- Construction Logistics

DRAWING NO.: BSB-AV-00

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



Construction access from new Abbott Road alignment

Jura House – Project Office

KEY

- Harding/ Gates
- Traditional Scaffold
- Long Reach Excavator
- Loader Excavator
- Mini Excavator
- Roll on/off skip
- Concrete Crusher
- Site Accommodation
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: **Phase C D. De olition Logistics**

DRAWING NO.: BSB-AV-00

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



BLUE SKY BUILDING
founded on excellence

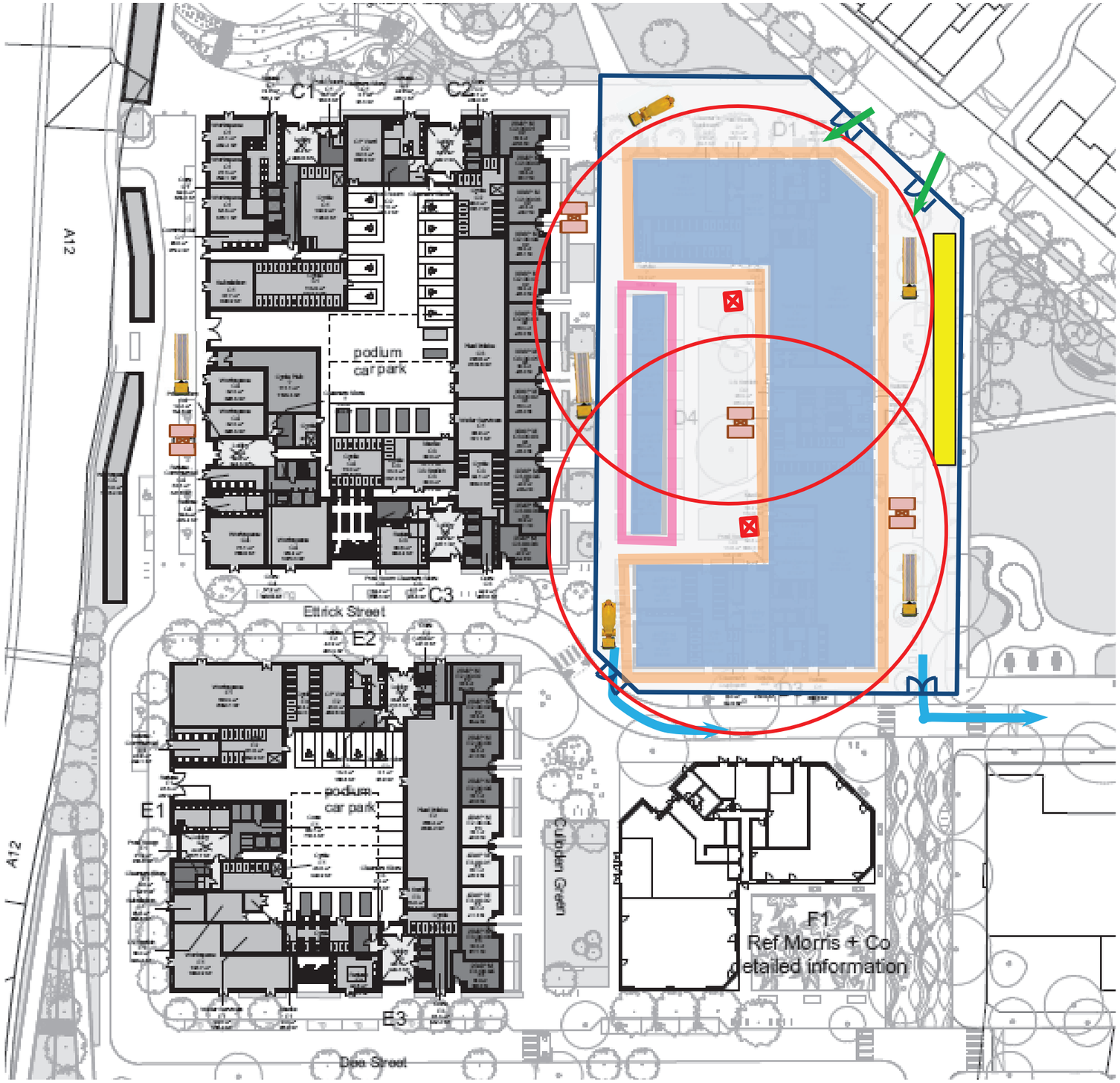
PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: Phase C. C 1- E1-3 Construction Logistics

DRAWING NO.: BSB-AV-009

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building



KEY

- Harding/ Gates
- Mast Climbers
- Traditional Scaffold
- Luffing Jib Tower Crane
- Mobile Crane
- Site Accommodation
- Platform Hoists
- Vehicle Access
- Vehicle Egress

BLUE SKY BUILDING
founded on excellence

PROJECT: Aberfeldy Village
CLIENT: EcoWorld

TITLE: Phase D. D 1- Construction Logistics

DRAWING NO.: BSB-AV-010

REVISION NO. & DATE: Rev 0 – 24/09/2021

Copyright © 2021 Blue Sky Building

8.0

TRAFFIC MANAGEMENT

This section highlights the measures by which the Contractor will avoid nuisance to the public that may arise from increases in traffic flows and temporary rearrangements of the road network associated with the construction works. Measures have been considered in relation to access routes, site access, timing of movements, environmental standards, vehicle registration and parking.

The Contractor will maintain existing public access routes and rights-of-way during construction. Any operations requiring vehicle manoeuvring or interruptions to the footway will be planned, notified and controlled. Condition surveys of highways and footpaths will be undertaken and agreed with LBTH before demolition and construction works are undertaken.

From summer 2015 the SLS (TfL & London Councils Safe Lorry Scheme) required almost all HGVs, irrespective of current exemptions, over 3.5 tonnes that drive in Greater London to be fitted or retrofitted with:

- Side guards (also known as “lateral protection devices”) irrespective of vehicle type; and
- Both Class V and VI mirrors, irrespective of vehicle age or registration date.

The contractor will ensure that all sub-contractors and suppliers delivery vehicles comply with the scheme and any non-complying vehicles are turned away from site.

CLOCS Compliance

The project will adopt Construction Logistics and Community Safety (CLOCS) standards for all delivery vehicles. (CLOCS Standard for construction logistics, V1.2 2014) Fleet Operator Recognition Scheme (FORS) Silver accreditation as a minimum will be a contractual requirement, FORS Gold operators will be appointed where possible. Where FORS Silver operators are appointed, written assurance will be sought from contractors that all vehicles over 3.5t are equipped with additional safety equipment (as per CLOCS Standard P13), and that all drivers servicing the site will have undertaken approved additional training (e.g. Safe Urban Driving + 1 x e-learning module or Work Related Road Risk Vulnerable Road User training + on-cycle hazard awareness course + 1 x e-learning module etc.). CLOCS Compliance will be included as a contractual requirement.

Desktop checks will be made against the FORS database of trained drivers and accredited companies as outlined in the CLOCS Standard Managing Supplier Compliance guide. These will be carried out as per a risk scale based on that outlined in the CLOCS Managing Supplier Compliance guide.

Checks of FORS ID numbers will form part of the periodic checks and will be carried out as per an appropriate risk scale. Random spot checks will be carried out by site staff on vehicles and drivers servicing the site at a frequency based on the aforementioned risk scale. These will include evidence of further training, license checks, evidence of routing information, and checks of vehicle safety equipment. Results from these checks will be logged and retained and enforced upon accordingly.

Collision reporting data will be requested from operators and acted upon when necessary.

Access routes

The Contractor will use designated construction traffic routes for deliveries to the site and removal of waste etc.

Access routes to and from the site to be used by heavy goods vehicles (HGVs) will be agreed with TfL and LBTH prior to initiation of the construction programme, to minimise disruption to the road and pedestrian network. The Transport for London Road Network (TLRN) will be used as far as possible to reach the site, with construction traffic making final approaches to site using the B125.

At this stage we do not know which direction specific traffic will approach from but that will become clearer once the materials are better known, and ultimately when contractors can place supply orders. However, the site is well placed for vehicle access, and we would expect that most construction traffic will approach from the A12 and A13 to reach site.

Detailed logistics plans will be developed as part of the contractor’s Final CEMP, when procurement will be further advanced, and more knowledge of vehicle origination and routes can be planned.

Pedestrian access for operatives and staff will be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided.

To minimise the likelihood of congestion during the construction period, strict monitoring and control of vehicles entering and egressing the sites will be implemented. Construction deliveries will be carefully planned with delivery times agreed with each sub-contractor and supplier using a booking system. Delivery schedules will be produced in order to look at the profiles of up

and coming deliveries, and to regulate deliveries and eliminate bottle necks.

Specific time slots will be allocated to the sub-contractors and suppliers for the use of cranes and hoists, to ensure that the main plant will be utilised efficiently, and that deliveries are not queued.

Construction Traffic Forecast

The number of lorry movements, hours of operation and any lorry holding areas will be agreed in advance with LBTH. The Contractor will maintain an up-to-date log of all drivers that will include a written undertaking from them to adhere to approved routes for construction traffic.

There will be no daytime or overnight parking of lorries within the vicinity of the construction site.

Estimated numbers of construction related vehicle journeys for the construction period will be calculated based on volumes of excavated waste material, imported concrete, brickwork, cladding and fit out materials when designs are further advanced.

Operatives Journeys to Work

Operatives should be encouraged to come to work by public transport or cycle. No parking would be permitted on site.

Bike parking and showers should be provided on site.

The site is served by Hammersmith & City, District and DLR stations, and D8 and 309 bus routes.

9.0 SITE WASTE MANAGEMENT

The Contractor will use working methods that minimise waste. Any waste arising from the site will be properly categorised and dealt with in accordance with appropriate legislation. Opportunities for re-using or recycling construction or demolition waste should be explored and implemented.

The Contractor will carry out the works in such a way that, as far as is reasonably practicable, the amount of spoil and waste (including groundwater, production water and run-off) to be disposed of is minimised.

The disposal of all waste or other materials removed from the Site will be in accordance with the requirements of the Environment Agency, Control of Pollution Act (COPA), 1974, Environment Act 1995, Special Waste Regulations 1996, Duty of Care Regulations 1991 and the Waste Management Regulations 2011.

In general, and in accordance with the principles of the UK Government's 'Waste Strategy 2010', a principal aim during enabling works and construction will be to reduce the amount of waste generated and exported from the Development site.

This approach complies with the waste hierarchy whereby the intention is first to minimise, then to treat at source or compact and, finally, to dispose of off-site as necessary. All relevant Contractors will be required to investigate opportunities to minimise and reduce waste generation, such as:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme.
- Implementation of a 'just-in-time' material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste.
- Attention to material quantity requirements to avoid over-ordering and generation of waste materials.
- Re-use of materials wherever feasible (e.g. re-use of crushed concrete from demolition for the piling platform; re-use of excavated soil for landscaping).
- The Government has set broad targets for the use of reclaimed aggregate, and in keeping with best practice, Contractors will be required to maximise the proportion of materials recycled.
- Segregation of waste at source.

- Re-use and recycling of materials off-site where re-use on-site is not practical (e.g. through use of an off-site waste segregation facility and re-sale for direct re-use or re-processing). Our expectations in this regard are shown in the following table.

The Final CEMP is to include the full environmental management requirements specified in a Site Waste Management Plan (SWMP). Should the SWMP be reviewed and updated, the waste management measures detailed here should be updated to reflect any changes.

Material	Target	Probable Location
Architectural salvage	100% re-used	Several architectural salvage companies in London.
Structural steel for re-use	100% re-used	Steel used in temporary works is likely to be previously used and will be retained for subsequent re-use. Whole steel members removed in the demolition may be similarly re-use on subsequent projects
Metals	100% recycled	Every effort will be made to recycle these materials. Waste and off-cut metals will be segregated on site and taken for recycling to a waste transfer station.
Hard-core (crushed concrete, masonry etc.)	100% recycled	Crushed on site and reused.
Excavated material/ clay etc.	100% recycled	Clay – 100% processed for re-use (subject to analysis).
Timber	Up to 80% re-used The amount re-used will depend on the material	We will attempt to salvage any re-useable timber for hoardings, battening, shuttering etc. for possible use on site with the balance being retained by the Contractors.
Glass (non-tempered, non-laminated and non-bomb proofing film etc.)	100% recycled	Processing facility in Greenwich.
Plasterboard	100% recycled	Processing plants via British Gypsum
Mixed waste	The amount recycled will depend on the material	An absolute minimum will remain for transport to landfill.
Asbestos	100% landfill	Taken to a licensed site.

10.0 NOISE AND VIBRATION

The Contractor will discuss and agree with LBTH whether to seek their formal consent in accordance with Section 61 of Control of Pollution Act 1974 to his proposed methods of work and to the steps he proposes in order to minimise noise. Notwithstanding this, the Contractor will discuss in detail and agree the proposed noise and vibration control measures with the Local Authority.

Best Practicable Means

Best Practicable Means (BPM) of noise control will be applied during construction works to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors arising from construction activities.

Designated site-based staff shall have the authority to take the steps necessary on behalf of the contractor to ensure noise and vibration is adequately controlled and managed, according to the circumstances associated with each worksite. At the commencement of their appointment on the project (or prior to start of works on site), all site staff are to be briefed on their responsibilities to the application of BPM to minimise construction noise and vibration and the content of any planning consents, codes of construction or other legal agreements. The performance of the training should then be regularly reviewed and repeated throughout the construction programme as appropriate.

The general principles of noise management are given below:

Control at source:

- Equipment – noise emissions limits for equipment brought to site.
- Equipment – method of directly controlling noise e.g. by retrofitting controls to plant and machinery.
- Equipment - indirect method of controlling noise e.g. acoustic screens.
- Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
- Follow manufacturer's guidance and measures to operate plant and equipment and use it in a manner which minimises noise.
- Equipment - indirect method of controlling noise e.g. benefits and practicality of using alternative construction methodology to achieve the objective as opposed to more conventional but noisier techniques; selection of quieter tools/machines; application of quieter processes.

- Reduce loading / unloading heights for muck away and material movement to mitigate impact noise.
- Handle all material in a manner that minimises noise
- Use all plant and equipment only for tasks for which it has been designed for.
- Maximise screening from existing features / structures or employ the use of full or partial enclosures for fixed plant. The enclosures should be well maintained. Fixed plant can include generators, compressors, pumps, batching plant and ventilation plant.

Control across site by:

- Administrative and legislative control,
- Control of working hours,
- Control of delivery areas and times,
- Careful choice of compound location,
- Locate the site access away from noise sensitive receptors. Keep internal haul routes well maintained.
- Limit material and plant loading and unloading to normal working hours.
- Physically screening site,
- Control of noise via Contract specification of limits,
- Noise Monitoring, to check compliance with noise level limits, cessation of works until alternative method is found.
- Many of the activities which generate noise can be mitigated to some degree by careful operation of machinery and use of tools. This may best be addressed by toolbox talks and site inductions.

Noise control

The Contractor's environmental team will undertake a noise assessment as part of the Construction Noise and Vibration Report, to predict noise levels at adjoining properties. This noise assessment will be carried out in accordance with BS5228-1: 2009+A1: 2014 'Code of Practice for noise and vibration on construction and open sites'.

This assessment allows the Contractor to select the most appropriate tools, methodology and controls to minimise disruptions of buildings at close proximity of the adjacent structures (sensitive receptors) and in particular live and occupied premises during the enabling, piling and excavation periods.

Noise levels will be monitored by the Contractor during the works. LBTH shall be given access to all noise readings if required as soon as they become available.

Although the noise levels to be included in a formal agreement between the Contractor and LBTH are the maximum to be allowed, at sensitive locations the Contractor will be requested to achieve, where practicable, noise levels lower than the specified limits.

Noise Control Measures

The Contractor shall comply with the recommendations set out in BS5228:2009 and in particular with the following requirements:

- Vehicles and mechanical plant will be maintained in a good and effective working order and operated in a manner to minimise noise emissions. The contractor will ensure that all plant complies with the relevant statutory requirements;
- HGV and site vehicles will be equipped with broadband, non-tonal reversing alarms;
- Compressor, generator and engine compartment doors will be kept closed and plant turned off when not in use;
- All pneumatic tools will be fitted with silencers/mufflers;
- Care would be taken when unloading vehicles to avoid un-necessary noise;
- The use of particularly noise plant will be limited, i.e. avoiding use of particularly noisy plant early in the morning;
- Restrict the number of plant items in use at any one time;
- Plant maintenance operations will be undertaken at distance from noise-sensitive receptors;
- Reduce the speed of vehicle movements;
- Ensure that operations are designed to be undertaken with any directional noise emissions pointing away from noise-sensitive receptors;
- When replacing older plant, ensure that the quietest plant available is considered;
- Drop heights will be minimised when loading vehicles with rubble;
- Vehicles should be prohibited from waiting within the site with their engines running or alternatively, located in waiting areas away from sensitive receptors;
- Local hoarding, screens or barriers should be erected to shield particularly noisy activities;
- Temporary noise screens will be used to reduce noise from particularly noisy activities and the height of perimeter hoarding will be extended where this would assist in reducing noise disturbance at sensitive receptors; and
- Hours of operation should be strictly enforced and any deviations other than those previously identified will be with the consent of the local authority;
- Limiting of high impact activities (including breaking out or piling works) to specific times of the day. For example, this may include 2 hours on – 2 hours off, or the restriction of such activities to between 09:00-12:00 and 14:00-17:00;
- Piling will be carried out with the method that minimises both noise and the transmission of vibration to sensitive receptors;
- Vehicles, plant and equipment will undergo regular servicing and maintenance to prevent irregular noise levels;

- The location of stationary plant in areas which will have a minimized impact on occupied residential and commercial properties, where feasible;
- Static plant, when in operation, is to be sound attenuated using methods based on the guidance and advice in the BS 5228, where practical;
- Implementation of Best Practice Means (as defined in Section 72 of the COPA) by trade contractors at all times, and are to carry out all work in such a manner as to reduce disturbances from noise and vibration;
- Preference for electrically powered plant, to mechanically powered alternatives, where practical;

Construction Traffic

The Contractor will incorporate the following measures into the scheme to avoid noise related impacts from construction traffic:

- Vehicles will not wait or queue up with engines running on the site or the public highway;
- Vehicles will be properly maintained to comply with noise emissions standards;
- Deliveries will be restricted to be within working hours of the site; and
- Design and routing of access routes will minimise vehicle noise and the need to perform reversing manoeuvres.

Vibration control

Vibration is a particular risk during the demolition, piling and excavation stages. The measures taken to reduce the acoustics of these two operations will also assist in mitigating the effects of vibration on neighbours and their property.

A digital seismograph measuring device will be used to measure the amount of vibration produced during the works. Where elevated levels are recorded the source will be investigated and, where possible, alternative techniques employed to reduce the levels.

The Contractor will comply with the vibration levels established by agreement with LBTH, which will consider BS 5228-2.

11.0 AIR QUALITY

The Contractors will, as far as reasonably practical, seek to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from tools and equipment used on site and dust from construction activities.

We recommend that the site activities should be assessed in accordance with the Mayor of London's SPG "The Control of Dust & emissions during Construction & Demolition". The contractors must submit a statement to Camden for approval identifying proposed dust control measures before work starts. Special precautions must be taken when materials containing asbestos are encountered.

Throughout the project, the Contractors will ensure the following:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site
- Display the name and contact details of person(s) accountable for air quality and dust issues on the Site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the LBTH.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken
- Make the complaints log available to the LBTH when asked
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
- Hold regular liaison meetings with other high-risk construction sites within 500m of the Site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised
- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the LBTH when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary

- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on site
- Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period
- Avoid site runoff of water or mud
- Keep site hoarding, barriers and scaffolding clean using wet methods
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site
- Cover, seed or fence stockpiles to prevent wind whipping
- Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards
- Ensure all vehicles switch off engines when stationary - no idling vehicles
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems
- Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate
- Use enclosed chutes and conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment
- Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods
- Avoid bonfires and burning of waste materials
- Ensure effective water suppression is used during breaking out operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water

suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground
- Avoid explosive blasting, using appropriate manual or mechanical alternatives
- Bag and remove any biological debris or damp down such material before breaking out
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable
- Only remove the cover in small areas during work and not all at once
- Avoid scabbling (roughening of concrete surfaces) if possible
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust
- Use water-assisted dust sweeper(s) on the access and local roads, if required
- Avoid dry sweeping of large areas
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable)
- Access gates to be located at least 10m from receptors where possible

12.0 GROUND CONDITIONS

This section is to be updated by the Principal Contractor in the Final CEMP.

The preparation of a Remedial Statement will direct any environmental management, monitoring and other requirements.

The contractor is also to include the management of groundwater, and potential impacts associated with the construction works.

Some of the proposed management measures are outlined below.

The management of infiltration and promotion of leaching to groundwater is to occur with regards to the following:

- Completion of a Foundation Works Risk Assessment, informed by a site investigation;
- Implement measures to minimize infiltration to groundwater (Principal and Secondary Aquifer);
- Avoid stockpiling of contaminated soil;
- Any stockpiled material is to be covered and placed on an impermeable surface.
- Remove / treat any gross contamination if identified.
- Waste characterisation (as part of the pre-commencement investigations)
- Groundwater is to be managed during excavation works.

13.0 SURFACE WATER MANAGEMENT

This section sets out the requirements on the Contractors for managing the environmental impacts of constructing the development, associated with surface water management.

The contractor will prepare a detailed Surface Water Management Plan and site-specific Erosion and Sediment Control Plan, which will minimise discharge of potentially polluted site water to nearby drains and overland flow routes;

- No polluted water is to be discharged from the site;
- Sediment and erosion controls are to be regularly inspected to ensure sufficient capacity;
- Wheel washes are to be implemented on site;
- Drainage of surface runoff and de-watering effluents to settling tanks to remove suspended solids prior to discharge to sewer or removal by a suitably licenced waste operator;
- Storage of chemicals and hazardous materials within bunded areas, with adequate capacity (of 110%);
- Bunded areas are to be regularly inspected to ensure that sufficient capacity is available;
- Prevention of spills and leaks.

Key Site Activities Using Water

Activity	Water Use	Source: Potable or Non-Potable
Site Cabins	Drinking, Kitchen, Canteen	Potable
	Toilets and urinals, showers and hand washing	Non-potable
Drainage	Flushing	Both
General Cleaning	Tool rinsing, boot washing, plant & equipment washing	Non-Potable
Site Dust Suppression	Dampening (bowsers) and misting	Non-Potable
Concrete Production	Mixing	Non-Potable
Masonry	Mortar mixing	Both
Screeds	Laying	Both
Concrete wash out	Plant wash out	Non-Potable
Commissioning	M&E pipe and plant testing	Both (as appropriate to system)

Key Options for Water Sustainability	
Activity	Options to Reduce Potable Water Demand
Site Cabins	Efficient showers, taps, toilets and urinal controls. Trigger controls on catering taps and use of vessels for washing rather than under running taps. Rainwater capture for toilet flushing. Waterless urinals
Drainage	Reuse water collected from dewatering, e.g. dewatering Use water from attenuation tanks or rainwater harvest tanks
General cleaning	Fill containers rather than use running taps or open hoses Trigger operated spray guns Use of a closed water recycling system for wheel washing.
Site Dust Suppression	Use of control systems to allow damping activities to be altered for different applications. Use of water efficient road sweepers. Use water collected from elsewhere for dust suppression (e.g. from attenuation tanks).
Masonry	Use water butts as opposed to long hose runs when mixing mortar in remote areas of the site
Screed	Apply in early morning/ late afternoon for natural cooling (reduced need for damping) Use ready mix
Concrete Production	Consider water storage where water for cleaning could be blended with potable for production.
Concrete Wash out	Consider collecting wastewater filtering and reusing

14.0 ECOLOGY

This section is to be updated upon the completion of further ground conditions investigations. The Ecology section of the construction-phase CEMP for the Proposed Development will outline the procedures that will be put into place to control and limit disturbance to areas of nature conservation interest and protected species in accordance with relevant legislative requirements and accepted industry practice, as appropriate. The following measures are to be implemented:

- Enabling works are to be undertaken outside of the bird breeding season, which runs from March to September (inclusive).
- Where this is not possible, bird nest checks will be undertaken no more than 48 hours in advance of clearing by an appropriately qualified ecologist.
- Should any active bird nests be identified within the construction works area, all works on site are to cease immediately and the area around the nest is to be protected from disturbance. A suitably qualified ecologist is to be contacted immediately.
- In accordance with the requirements of the Wildlife and Countryside Act 1981, active nests are not to be disturbed and cannot be relocated.
- A cordon of an appropriate size is to be established to avoid disturbance to the nest, for the duration it is active.
- No injury, harm or death to fauna during the construction works is to occur.

All works are to be carried out in accordance with 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (2009).

15.0 CONCLUSION

In addition to this outline CEMP, other supporting management plans have been drafted and submitted in support of the Planning Application, specifically a Construction Logistics Plan (CLP).

It is anticipated that the implementation of the CEMP and CLP as well as required management plans (e.g. Dust Management Plan) will be secured through appropriately worded planning conditions. The CEMP is based on the LBTH Code of Construction Practice and established good management principles. It is intended that the CEMP (and other plans, as relevant) will be 'live working' documents, and that the Principal Contractor's appointed representative will update the documents accordingly with any amended construction environmental management measures as the phased construction of the proposed development progresses.

REFERENCES

The contractor shall comply with all relevant legislation, standards, codes of practice, and guidance for the works being carried out including (but not exclusive to) those listed in this section.

Legislation

- The Explosives Regulations 2014
- Clean Air Act 1993
- Public Health Act 1961
- Health and Safety at Work, etc. Act 1974
- Control of Pollution Act 1974
- Control of Pollution (Amendment) Act 1989
- Environmental Protection Act 1990
- New Roads and Street Works Act 1991
- Lifting Operations and Lifting Equipment Regulations 1998
- Special Waste Regulations 1996
- Control of Lead at Work Regulations 2002
- Control of Asbestos Regulations 2012
- Ionising Radiations Regulations 2017
- Electricity at Work Regulations 1989
- Control of Noise at Work Regulations 2005
- Controlled Waste (Registration of Carriers & Seizure of Vehicles) Regulations 1991
- Environmental Protection (Duty of Care) Regulations 1991
- Management of Health & Safety at Work Regulations 1999
- Provision & Use of Work Equipment Regulations 1998
- Personal Protective Equipment at Work Regulations 1992
- Construction (Design & Management) Regulations 2015
- Control of Substances Hazardous to Health Regulations 2002
- Work at Height Regulations 2005
- Dangerous Substances and Explosive Atmosphere Regulations 2002
- Manufacture and Storage of Explosives Regulations 2005

British Standards

- BS 5228 Code of Practice for noise control on construction and open sites
- BS 5607 Code of Practice for safe use of explosives in the construction industry
- BS 6187 Code of Practice for demolition
- BS 7121 Safe use of cranes

Guidance

- HSE Guidance booklets:
- HSG 47 Avoiding danger from underground services
- L21 Management of health and safety at work
- L101 Safe work in confined spaces

HSE Guidance Notes

- GS 6 Avoidance of danger from overhead electric lines
- CS 15 The cleaning and gas freeing of tanks containing flammable residues
- EH 40 Occupational exposure limits (revised annually)

HSE Construction Information Sheet

- No.45 Establishing exclusion zones when using explosives in demolition.

Asbestos Removal

Legislation

- The Health and Safety at Work etc. Act 1974
- The Control of Pollution Act 1974
- The Special Waste Regulations 1996
- The Personal Protective Equipment at Work Regulations 1992 (as amended)
- The Control of Asbestos Regulations 2012
- Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009
- The Construction (Design and Management) Regulations 2015

Approved Codes of Practice

- L21 Management of health and safety at work: Management of Health and Safety at Work Regulations 1999 (second edition)
- L24 Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992
- L25 Personal protective equipment at work (Second edition). Personal Protective Equipment at Work Regulations 1992 (as amended). Guidance on Regulations
- L64 Safety signs and signals. The Health and Safety (Safety Signs and Signals) Regulations 1996
- L87 Safety representatives and safety committees (third edition)
- L95 A guide to the Health and Safety (Consultation with Employees) Regulations 1996
- L127 The management of asbestos in non-domestic premises (second edition)
- L143 Work with materials containing asbestos. Control of Asbestos Regulations 2012
- L144 Managing health and safety in construction: Construction (Design and Management) Regulations 2015

British Standards

- BS 8520-1:2009 Equipment used in the controlled removal of asbestos-containing materials. Controlled wetting equipment. Specification
- BS 8520-2:2009 Equipment used in the controlled removal of asbestos-containing materials. Negative Pressure Units
- BS 8520-3:2009 Equipment used in the controlled removal of asbestos-containing materials. Operation, cleaning and maintenance of class H vacuum cleaners
- BS EN ISO 13982-1:2004+A1:2010 Protective clothing for use against solid particulates. Performance requirements for chemical protective clothing providing protection to the full body against airborne solid particulates (type 5 clothing)
- BS EN ISO/IEC 17020:2012 General criteria for the operation of various types of bodies performing inspection
- BS EN ISO/IEC 17024:2012 Conformity assessment. General requirements for bodies operating certification of persons
- BS EN ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories

HSE Guidance Booklets & Leaflets

- HSG189/2 Working with asbestos cement
- HSG210 Asbestos essentials task manual. Task guidance sheets for the building, maintenance and allied trades
- HSG213 Introduction to asbestos essentials. Comprehensive guidance on working with asbestos for the building, maintenance and allied trades
- HSG227 A comprehensive guide to Managing Asbestos in Premises
- HSG247 Asbestos: The licensed contractor's guide
- HSG248 Asbestos: The analyst's guide for sampling, analysis and clearance procedures
- HSG264 Asbestos: The survey guide
- INDG188 Asbestos alert (pocket card) for building maintenance, repair and refurbishment workers
- INDG223 A short guide to managing asbestos in premises. (Rev 3)
- INDG255 Asbestos dust kills – keep your mask on (Rev 1)
- INDG289 Working with Asbestos in Buildings
- OC 282/28 Fit testing of respiratory protective equipment face pieces.

INTRODUCING BLUE SKY BUILDING
FOUNDED ON EXCELLENCE

In 2012, Julian Daniel, our Founder and Managing Director spotted the opportunity to create a company of his own, Blue Sky Building, which would embody the enthusiasm and passion he feels for the industry.

Blue Sky Building is an innovative construction management company which delivers unique solutions. Our founding directors boast a combined experience of over eight decades, uniting their background in the delivery of bespoke construction with the expertise and skills needed to manage complex engineering and construction projects, particularly in the midst of the kind of city centre environment prevalent in London and the South East.

We act as a trusted collaborator, setting the kind of standards other constructors aspire to, by offering our clients quality, professionalism and innovation. We've built our reputation upon offering a bespoke service each time, tailored to meet the individual needs of each client.

We know our industry and understand how the construction process works. We study our clients' business and we understand the wider business climate, bringing all three together in a pursuit of excellence which is as relentless as it is refreshing.

At Blue Sky Building, no resource is more valuable than the people charged with delivering our vision. The principles we work around are excellence, quality and safety and the values underpinning our work are intelligence, honesty, integrity and trust.

Our Promise:

- A focus on the client;
- Clarity of leadership and direction;
- Accessible and practical advice;
- Input and ownership up to Director level;
- Appropriate and timely communication;
- Simple solutions to complex issues;
- Advice which is independent and maintains the integrity of the clients' procurement process;
- In depth knowledge of the market and links to key trade contractors; and
- Value added throughout - from design, through procurement and on to construction.

OUR SERVICES
CONSTRUCTION DELIVERY
PRECONSTRUCTION
PROJECT MANAGEMENT
CONSULTANCY

OUR VALUES
INTELLIGENCE
HONESTY
INTEGRITY
TRUST

BLUE SKY BUILDING


PLARWORKS
31
CYCLE CAFE
ECOWORLD
LONDON
CREATING TOMORROW & BEYOND
POPLAR
HARCA

Appendix: Socio Economics

Annex 1: Socio-Economics Planning Policy Context
Annex 2: Education and Healthcare Facilities within Local Impact Area

Appendix: Socio Economics

Annex 1: Socio-Economics Planning Policy Context

Annex 2: Education and Healthcare Facilities within Local Impact Area

HATCH

Annex 1: Socio-Economics Planning Policy Context

A Final Report by Hatch
October 2021

Annex 1: Socio-Economics Planning Policy Context

October 2021

www.hatch.co.uk

National Planning Policy

National Planning Policy Framework, 2021

1.1 The National Planning Policy Framework (NPPF) sets out the Government's economic, environmental and social planning policies for England. The latest iteration of the NPPF was published in 2021 and states that the purpose of the planning system is to contribute to the achievement of sustainable development.

1.2 The NPPF advocates Sustainable Development and this should be reflected by the emerging local plan and be informed by robust evidence to support clearly defined allocations for land for employment.

1.3 The framework states that housing provisions should be reflective of current and future demographic trends and market signals i.e. size, type, tenure of housing needed for different groups in the community. Where major development involving the provision of housing is proposed, planning policies and decisions should expect at least 10% of the total number of homes to be available for affordable home ownership.

1.4 Furthermore, NPPF identifies several key principles in relation to building a strong, competitive economy and creating the conditions which can support businesses' expansion. In this regard, it recommends identifying strategic sites which can match this strategy and encourage sustainable economic growth.

1.5 Good design is also identified as a key aspect of sustainable development which has the potential to create better and healthier places in which to live and work. New developments are encouraged to include public space and to support local facilities, which can further support the integration of these new developments with existing businesses and communities.

1.6 Local planning authorities are further encouraged to promote healthy communities by supporting developments which provide social infrastructure, such as education facilities within the local area.

National Planning Practice Guidance, 2018

1.7 The Practice Guidance provides a methodology for assessing economic development needs. It states that plan makers should liaise closely with the business community to understand their current and potential future requirements.

1.8 Guidance for the effective use of land states that where a planning application is submitted, local planning authorities will need to consider whether the proposed development would have an unreasonable impact on the daylight and sunlight levels enjoyed by neighbouring occupiers, as well as assessing whether daylight and sunlight within the development itself will provide satisfactory living conditions for future occupants.

Regional Planning Policy

The London Plan, 2021

1.9 The 2021 London Plan sets out the Mayor's vision for London and outlines the strategic approach to economic, social, environmental, cultural, housing and transport development in London over the next 20 to 25 years. It is a spatial development strategy which covers London's 32 boroughs and the Corporation of the City of London.

1.10 It places an emphasis on good growth, referring to sustainable growth that works for everyone. The approach frames economic growth by its potential to improve the health and quality of life of all Londoners, to reduce inequalities and to make the city a better place to live, work and visit. Each policy area in the New Plan is informed by six Good Growth policies:

- Building strong and inclusive communities;
- Making the best use of land;
- Creating a healthy city;
- Delivering the homes Londoners need;
- Growing a good economy; and
- Increasing efficiency and resilience

1.11 The New London Plan recognises the importance of consolidating office provision in London, especially in town centres, to accommodate and support the projected growth in office employment (see Policy E1: Offices, para. 6.1.3).

1.12 The New London Plan also emphasises the important role of cultural facilities, such as music venues, in providing opportunities for all Londoners to experience and get involved in culture, stating that the capital's culture and creative sector delivers "both economic and social benefits for the capital", such as building strong communities, increasing healthy life outcomes and generating civic pride (see Policy HC5: Supporting London's culture and creative industries).

1.13 Policy G4 states development proposals should not result in the loss of protected open space and where possible create areas of publicly accessible open space, particularly in areas of deficiency.

1.14 Development and regeneration proposals for an area provide an opportunity to re-think how land and buildings are used and whether there is a more optimal configuration or use of that land. The co-location of facilities with other uses, such as other forms of social infrastructure or housing, is encouraged to use land more efficiently and to enable a more integrated service delivery (see Policy S2: Health and Social care facilities, para. 5.2.8-9).

1.15 Policy H1 sets the ten-year targets for net housing completions that each local planning authority should plan for. According to this policy, the LBTH should aim for 34,730 net housing completions in the period 2019-2029. This is the highest housing target of all London Boroughs and emphasises the role LBTH is expected to have in contributing to overall housing delivery across London.

Mayor's Economic Development Strategy, 2018

1.16 The Mayor's Economic Development Strategy sets out a plan to grow London's economy, support businesses, boost innovation and create a create a fairer, more inclusive economy that works for all Londoners.

1.17 The strategy recognises the importance of tourism for the capital, and pledges to improve the "visitor experience" by continuing to develop its tourism offer and focusing on the quality of visitor infrastructure and amenities.

1.18 Educational and lifelong learning is highlighted as an important input for a more inclusive economy. To this end, the document states that the mayor will invest in new spaces for learning to improve the quality of the learning environment for students. Similarly, the strategy is committed to continuing investing in community and social infrastructure such as schools, health services and green spaces, as well as cultural facilities to build inclusive communities.

London Environment Strategy, 2018

1.19 The London Environment Strategy sets out a plan to reduce air pollution with an aspiration to turn London into a zero carbon city by 2050. As well as cleaning up toxic air, it places importance on creating new green spaces where most needed within the city.

1.20 The strategy recognises the gradual loss of green space across London in recent years, as well as the imbalance in provision of green space in different parts of London. It states 'almost half of Londoners have poor access to parks' and that the quality of parks has declined as Council budgets have become tighter. It highlights the benefits of quality green space on people's health, quality of life and attractiveness of London as a place to 'live, visit and do business'.

1.21 One of the aims from the strategy is for London to be the world's first National Park City, where 'more than half of its area is green' and the 'natural environment is protected and the network of green infrastructure is managed to benefit all Londoners.'

1.22 The strategy recognises that Areas of Deficiency in Access in Public Open Space (AoD) have reduced in recent years in London, particularly in large regeneration areas like Kings Cross and the Olympic Park. Where there is no space to create new parks so planning guidelines have promoted the creation of pocket parks and other small open spaces less than 400m from where people live.

1.23 The London Plan includes policies that ensure any development outside of the protected green space network, including gardens, does not lead to an overall loss of green cover (proposal 5.1.1.b).

Local Planning Policy

Tower Hamlets Plan 2031

1.24 The Tower Hamlets Plan sets out how the London Borough will grow and develop until 2031. It identifies how many new homes, jobs and services are needed to support the area's growing population and where and how they should be provided.

1.25 Key strategic objectives are:

- **Managing the growth and shaping change;** Growth must contribute positively to existing needs and be delivered alongside appropriate social and transport infrastructure. As well as this growth must be balanced, well designed, optimise the use of the best available technological innovations, and enhance the environment and well-being of Tower Hamlets residents.
- **Sharing the benefits of growth;** Growth must deliver social, economic and environmental net gains jointly and simultaneously, promote community cohesion, enable community leadership and engagement as well as bring an improved quality of life, health benefits and reduce health inequalities.

1.26 The plan also sets out the policies to maximise the supply of housing in the borough to meet both local and strategic needs. It states that in the period 2016-2031 a minimum of 54,889 additional homes will be built, which is greater than the objectively assessed need of 46,458 homes. Of this total, 21,100 dwellings will be affordable (representing 45% of the overall need).

1.27 Section 4 of the Tower Hamlets Plan 2031 establishes the Vision for Lower Lea Valley. It states that by 2031, "*the Lower Lea Valley will experience comprehensive regeneration and redevelopment of former and underused industrial areas. Connectivity will be transformed with a series of new bridges and riverside walkways across the River Lea, and crossings along the A12 and A13, which will integrate existing and new communities in the area. The development of the Lea River Park (including the Leaway) will provide a new strategic publicly green space and a series of new pedestrian and cycling routes, linking the River Lea to London's wider green grid network. Development in the area will have sufficient transport and social infrastructure to facilitate the creation of thriving mixed communities alongside vibrant neighbourhood centres. Housing provision will be accelerated through the Poplar Riverside Housing Zone and delivered alongside new local employment, enterprise and business opportunities.*"

1.28 Development in the Lower Lea Valley will be required to accommodate the following uses to meet the future needs of the borough: a minimum of 5,478 residential units, 755 office jobs, 1,023 industrial jobs, a primary school, a secondary school, 1.4ha of open space as well as retail and leisure floorspace.

Tower Hamlets Growth and Economic Development Plan 2018-2023

1.29 The draft Growth and Economic Development Plan is a short-term strategy for Tower Hamlets that identifies the policies required to create a borough that delivers sustainable and inclusive economic growth in a way that enables residents and businesses to prosper.

1.30 The Plan examines the challenges facing Tower Hamlets and sets out three priorities in order to overcome these difficulties. These priorities are **preparing young people for success**, **helping working age residents thrive** and **creating the conditions for business growth**.

1.31 Despite Tower Hamlets exceeding the national average in terms of educational attainment at secondary level, the borough does experience excellent progress of sustained employment for young people. The Plan aims to alleviate this problem by equipping young people with tools to help them make the right decisions in their pursuit of further education, training and/or employment. It also aims to pilot a programme of careers education early in secondary school, before critical options and choices are made.

1.32 There is also a mismatch between residents' skills and the jobs available in the borough and beyond Tower Hamlets. The Plan outlines how the Growth and Economic Development

Partnership Board will work with employers and training partners to identify areas of skills shortage in the borough and create a pipeline of willing and able employees.

1.33 The Plan sets to improve the conditions for business growth by implementing a programme of business support for Tower Hamlets businesses and entrepreneurs, developing a Workspace Strategy to inform the provision of workspace in new developments and establishing a High Street and Town Centres Strategy that details a programme of support for the borough's town centres and high streets.

HATCH

www.hatch.co.uk
London: 0207 336 6188 Manchester: 0161 234 9910

Appendix: Socio Economics

Annex 1: Socio-Economics Planning Policy Context

Annex 2: Education and Healthcare Facilities within Local Impact Area

Annex 2

Primary Schools

Ref	School Name	Capacity	Pupils on Roll
1	Bygrove Primary School	241	255
2	Culloden Primary - A Paradigm Academy	630	683
3	Cyril Jackson Primary School	492	465
4	Lansbury Lawrence Primary School	429	469
5	Manorfield Primary School	800	730
6	Marner Primary School		690
7	Mayflower Primary School	390	389
8	Our Lady and St Joseph Catholic Primary School	472	442
9	St Paul with St Luke CofE Primary School	240	190
10	St Paul's Way Trust School	1620	1791
11	St Saviour's Church of England Primary School	240	242
12	Stebon Primary School	720	688
13	The Clara Grant Primary School	462	456
14	Woolmore Primary School	630	618

Secondary Schools

Ref	School Name	Capacity	Pupils on Roll
1	Bow School	1350	1234
2	Langdon Park Community School	950	1040
3	George Green's School	1239	1219
4	Central Foundation Girls' School	1550	1533
5	Stepney All Saints Church of England Secondary School	1540	1445
6	Bishop Challoner Boys' School	600	587
7	Canary Wharf College 3	1200	345
8	Stepney Green Mathematics and Computing College	1215	1207
9	Mulberry UTC	800	393

GP Surgeries

Ref	Practice Name	Patients	GP FTEs	Patients to GP Ratio
1	Aberfeldy Practice	10,124	5	2,025
2	The Chrisp Street Hth Ctr	15,204	7.4	2,055
3	Dr Nagappan Selvan/Gough Walk Surgery	11,576	1	11,576
4	St Andrews Health Centre	14,581	7.9	18,46
5	Star Lane Medical Centre	20,132	11.6	1,736
6	The Ruiz Medical Practice	5,806	1	5,806
7	ST PAULS WAY MEDICAL CENTRE	15,207	8.5	1,789
8	Bromley-By-Bow Health Centre	N/A	N/A	N/A

Dental Practices

Ref	Practice Name	Number of Doctors
1	All Saints Dental Care	5
2	Chrisp Street Dental Centre	3
3	Align and Smile	7
4	Sunny Smiles Dental Innovations	4
5	Nilesh Patel	-
6	The Canning Town Dental Practice	-

Community Facilities

Ref	Practice Name
1	Teviot Centre
2	Teviot Community Hall
3	Poplar Bangladeshi Community
4	Aberfeldy Neighbourhood Centre
5	The Reach Community Hub
6	Burcham Street Community Centre
7	The Teviot Action Group

Appendix: Air Quality

Annex 1: Glossary
Annex 2: Traffic Data
Annex 3: Model Verification Study

Appendix: Air Quality

Annex 1: Glossary
Annex 2: Traffic Data
Annex 3: Model Verification Study

ANNEX 1 - GLOSSARY

Term	Definition
Accuracy	A measure of how well a set of data fits the true value.
Air quality objective	Policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances within a specific timescale (see also air quality standard).
Air quality standard	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the effects of each pollutant on human health including the effects on sensitive sub groups (see also air quality objective).
Ambient air	Outdoor air in the troposphere, excluding workplace air.
Annual mean	The average (mean) of the concentrations measured for each pollutant for one year. Usually this is for a calendar year, but some species are reported for the period April to March, known as a pollution year. This period avoids splitting winter season between 2 years, which is useful for pollutants that have higher concentrations during the winter months.
AQMA	Air Quality Management Area.
DEFRA	Department for Environment, Food and Rural Affairs.
Exceedance	A period of time where the concentrations of a pollutant is greater than, or equal to, the appropriate air quality standard.
Fugitive emissions	Emissions arising from the passage of vehicles that do not arise from the exhaust system.
LAQM	Local Air Quality Management.
NO	Nitrogen monoxide, a.k.a. nitric oxide.
NO_2	Nitrogen dioxide.
NO_x	Nitrogen oxides.
O_3	Ozone.
Percentile	The percentage of results below a given value.
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
ppb parts per billion	The concentration of a pollutant in the air in terms of volume ratio. A concentration of 1 ppb means that for every billion (10^9) units of air, there is one unit of pollutant present.
ppm parts per million	The concentration of a pollutant in the air in terms of volume ratio. A concentration of 1 ppm means that for every billion (10^6) units of air, there is one unit of pollutant present.
Ratification (Monitoring)	Involves a critical review of all information relating to a data set, in order to amend or reject the data. When the data have been ratified they represent the final data to be used (see also validation).
µg/m³ micrograms per cubic metre	A measure of concentration in terms of mass per unit volume. A concentration of 1µg/m³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.
UKAS	United Kingdom Accreditation Service.
Uncertainty	A measure, associated with the result of a measurement, which characterizes the range of values within which the true value is expected to lie. Uncertainty is usually expressed as the range within which the true value is expected to lie with a 95% probability, where standard statistical and other procedures have been used to evaluate this figure. Uncertainty is more clearly defined than the closely related parameter 'accuracy', and has replaced it on recent European legislation.
Validation (modelling)	Refers to the general comparison of modelled results against monitoring data carried out by model developers.
Validation (monitoring)	Screening monitoring data by visual examination to check for spurious and unusual measurements (see also ratification).

Term	Definition
Verification (modelling)	Comparison of modelled results versus any local monitoring data at relevant locations.

Appendix: Air Quality

Annex 1: Glossary

Annex 2: Traffic Data

Annex 3: Model Verification Study

ANNEX 2 - TRAFFIC DATA

Table 2.1: Baseline Traffic Data (2019)

Road Link	AADT	HGV	Speed (kph)	
			Freeflow	Congestion/ Junction
Abbott Road (East of Underpass)	8466	0.5%	35	20
Abbott Road (East of Oban Street)	7527	0.8%	30	20
Leven Road	1398	2.4%	26	20
Oban Street	987	0.5%	24	20
Bromley Hall Road	1254	2.4%	32	20
Lochnagar Street	3079	5.9%	32	20
Zetland Street	3086	7.6%	32	20
Abbott Road Underpass (One-Way)	2767	6.0%	32	20
A1206 Preston's Road	20739	7.7%	32	20
A12 (Between Lochnagar Street and A13)	82024	4.8%	64	30
A12 (North of Lochnagar Street)	79039	5.6%	64	30
A12 On-slip from A13 (St. Leonards Road)	18462	6.1%	48	30
Trafalgar Way	2994	5.6%	32	20
Upper Bank Street	9412	12.0%	48	30
Poplar High Street	6228	3.9%	32	20
Saltwell Street	6308	3.9%	32	20
A1206 Cotton Street	30047	11.1%	32	20
A1261 Aspen Way (West of A12)	105909	15.2%	64	30
Blackwall Tunnell	71397	4.8%	48	30
Upper North Street (A13 to Cordelia Street)	5710	1.6%	32	20
Upper North Street (Cordelia Street to B140 St. Paul's Way)	6631	0.9%	32	20
B140-St. Paul's Way	11158	7.0%	32	20
Cordelia Street	2522	0.6%	32	20
Devons Road	9842	2.9%	32	20
Devas Street W of Purdy Street	9399	7.6%	32	20
Chrisp Street (South of Burcham Street)	8358	1.6%	32	20

Chrisp Street (North of Burcham Street)	10018	0.9%	32	20
Campbell Road	9842	2.9%	32	20
Devas Street (West of A12 junction)	9769	9.5%	32	20
Burcham Street/St Leonard Road	4710	3.3%	32	20
A1261 Aspen Way (West of Lower Lea Crossing rbt)	111678	14.9%	64	30
Abbott Road slip to A12	5154	7.4%	32	20
Stephenson Street	6086	7.4%	48	30
A1011 Manor Road (North of A13)	11217	16.8%	48	30
A1011 Manor Road (North of Star Lane)	9277	12.0%	48	30
Cody Road	6189	7.3%	48	30
Star Lane (East of A1011)	8827	5.0%	48	30
A124 (East of Manor Road)	18287	11.2%	48	30
A124 (East of Ordnance Road)	17235	11.0%	48	30
Lower Lea Crossing	37361	15.3%	48	30
A13 (From A12/A13 interchange to Abbott Road)	54401	6.7%	48	30
A13 (West of A12/A13 interchange)	23499	15.0%	48	30
A1020 Leamouth Road	21984	7.3%	48	30
A13 (East of Leamouth Road)	52076	6.0%	48	30
A13 Newham Way (East of Abbott Road)	107775	16.1%	48	30
A1011 Silvertown Way (South of A13)	10506	8.0%	48	30
A12 Off-slip (St. Leonard Road from Blackwall Tunnel)	11714	4.9%	48	30
A102 On-slip (to Blackwall Tunnel)	11389	6.7%	48	30
A102 Off-slip (to A13 east and west)	15270	8.6%	48	30
A102 off-slip (to A13 west)	15989	5.2%	48	30
A102 on-slip (from A13 east)	18561	7.9%	48	30

Table 2.2: Baseline + Committed Developments (2031)

Road Link	AADT	HGV	Speed (kph)	
			Freeflow	Congestion/ Junction
Abbott Road (East of Underpass)	7240	9.6%	35	20
Abbott Road (East of Oban Street)	8965	9.1%	30	20

Leven Road	3744	2.4%	26	20
Oban Street	3333	0.5%	24	20
Bromley Hall Road	1254	2.4%	32	20
Lochnagar Street	2581	7.4%	32	20
Zetland Street	2304	6.7%	32	20
Abbott Road Underpass (One-Way)	5539	8.8%	32	20
A1206 Preston's Road	25156	9.2%	32	20
A12 (Between Lochnagar Street and A13)	88575	9.7%	64	30
A12 (North of Lochnagar Street)	85389	9.1%	64	30
A12 On-slip from A13 (St. Leonards Road)	16237	10.9%	48	30
Trafalgar Way	2343	0.0%	32	20
Upper Bank Street	10250	14.8%	48	30
Poplar High Street	5041	5.3%	32	20
Saltwell Street	4949	4.3%	32	20
A1206 Cotton Street	28339	6.4%	32	20
A1261 Aspen Way (West of A12)	109733	14.4%	64	30
Blackwall Tunnell	100330	10.1%	48	30
Upper North Street (A13 to Cordelia Street)	5898	1.2%	32	20
Upper North Street (Cordelia Street to B140 St. Paul's Way)	7678	0.8%	32	20
B140-St. Paul's Way	11670	6.5%	32	20
Cordelia Street	2327	0.8%	32	20
Devons Road	9536	4.3%	32	20
Devas Street W of Purdy Street	10192	8.2%	32	20
Chrisp Street (South of Burcham Street)	11816	3.3%	32	20
Chrisp Street (North of Burcham Street)	11649	1.1%	32	20
Campbell Road	10688	1.7%	32	20
Devas Street (West of A12 junction)	4974	14.5%	32	20
Burcham Street/St Leonard Road	4638	3.6%	32	20
A1261 Aspen Way (West of Lower Lea Crossing rbt)	130495	13.4%	64	30
Abbott Road slip to A12	1469	9.2%	32	20
Stephenson Street	5809	8.3%	48	30

A1011 Manor Road (North of A13)	14419	8.6%	48	30
A1011 Manor Road (North of Star Lane)	10818	7.3%	48	30
Cody Road	8111	5.4%	48	30
Star Lane (East of A1011)	5034	0.4%	48	30
A124 (East of Manor Road)	21195	8.7%	48	30
A124 (East of Ordnance Road)	19977	8.4%	48	30
Lower Lea Crossing	46021	12.1%	48	30
A13 (From A12/A13 interchange to Abbott Road)	58629	14.2%	48	30
A13 (West of A12/A13 interchange)	16830	12.2%	48	30
A1020 Leamouth Road	24481	11.9%	48	30
A13 (East of Leamouth Road)	29261	10.2%	48	30
A13 Newham Way (East of Abbott Road)	124173	15.2%	48	30
A1011 Silvertown Way (South of A13)	20813	7.6%	48	30
A12 Off-slip (St. Leonard Road from Blackwall Tunnel)	10113	20.9%	48	30
A102 On-slip (to Blackwall Tunnel)	8503	8.8%	48	30
A102 Off-slip (to A13 east and west)	13258	15.3%	48	30
A102 off-slip (to A13 west)	9908	8.0%	48	30
A102 on-slip (from A13 east)	13351	11.9%	48	30

Table 2.3: Baseline + Committed Developments + Construction Traffic (2026)

Road Link	AADT	HGV	Speed (kph)	
			Freeflow	Congestion/ Junction
Abbott Road (East of Underpass)	7240	9.6%	35	20
Abbott Road (East of Oban Street)	8965	9.1%	30	20
Leven Road	3744	2.4%	26	20
Oban Street	3333	0.5%	24	20
Bromley Hall Road	1408	11.2%	32	20
Lochnagar Street	2735	11.6%	32	20
Zetland Street	2304	6.7%	32	20
Abbott Road Underpass (One-Way)	5539	8.8%	32	20
A1206 Preston's Road	25156	9.2%	32	20

A12 (Between Lochnagar Street and A13)	88675	9.8%	64	30
A12 (North of Lochnagar Street)	85443	9.2%	64	30
A12 On-slip from A13 (St. Leonards Road)	16291	11.1%	48	30
Trafalgar Way	2343	0.0%	32	20
Upper Bank Street	10250	14.8%	48	30
Poplar High Street	5041	5.3%	32	20
Saltwell Street	4949	4.3%	32	20
A1206 Cotton Street	28339	6.4%	32	20
A1261 Aspen Way (West of A12)	109733	14.4%	64	30
Blackwall Tunnell	100353	10.1%	48	30
Upper North Street (A13 to Cordelia Street)	5898	1.2%	32	20
Upper North Street (Cordelia Street to B140 St. Paul's Way)	7678	0.8%	32	20
B140-St. Paul's Way	11670	6.5%	32	20
Cordelia Street	2327	0.8%	32	20
Devons Road	9536	4.3%	32	20
Devas Street W of Purdy Street	10192	8.2%	32	20
Chrisp Street (South of Burcham Street)	11816	3.3%	32	20
Chrisp Street (North of Burcham Street)	11649	1.1%	32	20
Campbell Road	10688	1.7%	32	20
Devas Street (West of A12 junction)	4974	14.5%	32	20
Burcham Street/St Leonard Road	4638	3.6%	32	20
A1261 Aspen Way (West of Lower Lea Crossing rbt)	130495	13.4%	64	30
Abbott Road slip to A12	1469	9.2%	32	20
Stephenson Street	5809	8.3%	48	30
A1011 Manor Road (North of A13)	14419	8.6%	48	30
A1011 Manor Road (North of Star Lane)	10818	7.3%	48	30
Cody Road	8111	5.4%	48	30
Star Lane (East of A1011)	5034	0.4%	48	30
A124 (East of Manor Road)	21195	8.7%	48	30
A124 (East of Ordnance Road)	19977	8.4%	48	30
Lower Lea Crossing	46033	12.1%	48	30

A13 (From A12/A13 interchange to Abbott Road)	58706	14.3%	48	30
A13 (West of A12/A13 interchange)	16830	12.2%	48	30
A1020 Leamouth Road	24504	11.9%	48	30
A13 (East of Leamouth Road)	29361	10.4%	48	30
A13 Newham Way (East of Abbott Road)	124273	15.2%	48	30
A1011 Silvertown Way (South of A13)	20825	7.7%	48	30
A12 Off-slip (St. Leonard Road from Blackwall Tunnel)	10113	20.9%	48	30
A102 On-slip (to Blackwall Tunnel)	8526	9.0%	48	30
A102 Off-slip (to A13 east and west)	13296	15.5%	48	30
A102 off-slip (to A13 west)	9908	8.0%	48	30
A102 on-slip (from A13 east)	13351	11.9%	48	30

Table 2.4: Baseline + Committed Developments + Proposed Development (2031)

Road Link	AADT	HGV	Speed (kph)	
			Freeflow	Congestion/ Junction
Abbott Road (East of Underpass)	491	10.5%	35	20
Abbott Road (East of Oban Street)	6480	7.4%	30	20
Leven Road	4477	2.4%	26	20
Oban Street	4477	0.0%	24	20
Bromley Hall Road	2128	1.7%	32	20
Lochnagar Street	3049	1.8%	32	20
Zetland Street	1919	5.1%	32	20
Abbott Road Underpass (One-Way)	0	0.0%	32	20
A1206 Preston's Road	25391	9.1%	32	20
A12 (Between Lochnagar Street and A13)	90395	10.0%	64	30
A12 (North of Lochnagar Street)	87326	9.1%	64	30
A12 On-slip from A13 (St. Leonards Road)	16287	11.9%	48	30
Trafalgar Way	2257	0.0%	32	20
Upper Bank Street	10228	14.7%	48	30
Poplar High Street	5071	5.2%	32	20

Saltwell Street	4979	4.3%	32	20
A1206 Cotton Street	27281	6.4%	32	20
A1261 Aspen Way (West of A12)	109293	14.5%	64	30
Blackwall Tunnell	101051	10.2%	48	30
Upper North Street (A13 to Cordelia Street)	6029	1.3%	32	20
Upper North Street (Cordelia Street to B140 St. Paul's Way)	7654	0.8%	32	20
B140-St. Paul's Way	11915	6.2%	32	20
Cordelia Street	2234	0.9%	32	20
Devons Road	7791	5.2%	32	20
Devas Street W of Purdy Street	10214	6.9%	32	20
Chrisp Street (South of Burcham Street)	12661	4.0%	32	20
Chrisp Street (North of Burcham Street)	12039	1.7%	32	20
Campbell Road	10158	1.5%	32	20
Devas Street (West of A12 junction)	6870	8.5%	32	20
Burcham Street/St Leonard Road	5538	4.0%	32	20
A1261 Aspen Way (West of Lower Lea Crossing rbt)	127741	13.8%	64	30
Abbott Road slip to A12	1950	8.5%	32	20
Stephenson Street	5698	7.4%	48	30
A1011 Manor Road (North of A13)	14437	9.0%	48	30
A1011 Manor Road (North of Star Lane)	10926	7.4%	48	30
Cody Road	8108	5.4%	48	30
Star Lane (East of A1011)	5001	0.3%	48	30
A124 (East of Manor Road)	20987	8.8%	48	30
A124 (East of Ordnance Road)	19863	8.5%	48	30
Lower Lea Crossing	45615	12.1%	48	30
A13 (From A12/A13 interchange to Abbott Road)	59188	14.4%	48	30
A13 (West of A12/A13 interchange)	17020	11.9%	48	30
A1020 Leamouth Road	25956	12.3%	48	30
A13 (East of Leamouth Road)	29269	10.7%	48	30
A13 Newham Way (East of Abbott Road)	123828	15.4%	48	30
A1011 Silvertown Way (South of A13)	20959	8.3%	48	30

A12 Off-slip (St. Leonard Road from Blackwall Tunnel)	9392	21.1%	48	30
A102 On-slip (to Blackwall Tunnel)	8022	9.1%	48	30
A102 Off-slip (to A13 east and west)	13887	14.8%	48	30
A102 off-slip (to A13 west)	8946	7.9%	48	30
A102 on-slip (from A13 east)	13756	11.9%	48	30

Appendix: Air Quality

Annex 1: Glossary
Annex 2: Traffic Data
Annex 3: Model Verification Study

ANNEX 3 – MODEL VERIFICATION STUDY

NO_2

Most nitrogen dioxide (NO_2) is produced in the atmosphere by reaction of nitric oxide (NO) with ozone. It is therefore most appropriate to verify the model in terms of primary pollutant emissions. Verification of concentrations predicted by the ADMS model has followed the methodology presented in LAQM.TG(16).

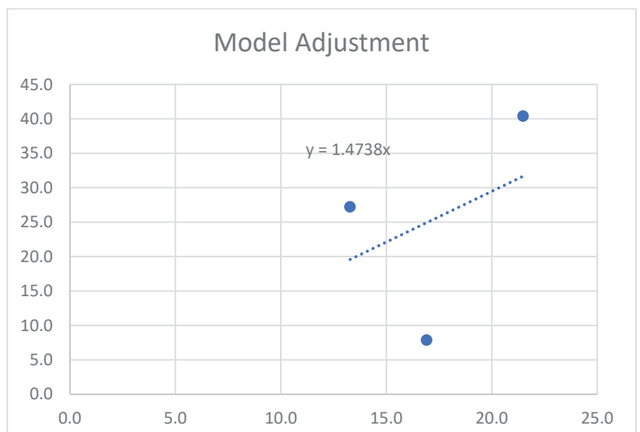
The model has been run to predict annual mean road-NO_x concentrations at three nearby monitoring sites.

The model output of road-NOx (i.e. the component of total NO_x coming from road traffic) has been compared to the 'measured' road-NO_x (Table 3.1). The 'measured' road NO_x has been calculated from the measured NO_2 concentrations by using the Defra NO_x to NO_2 calculator available on the UK-AIR website.

Table 3.1: Comparison of Modelled and Monitored NOx concentrations

Monitoring Location	Total Monitored NO_2	Background NO2	Monitored Road NOx	Modelled Road NOx	Ratio
Blackwall	47	35.5	27.2	13.3	2.05
84	39	35.5	7.9	16.9	0.46
83	52	35.5	40.4	21.5	1.88

Figure 3.1: Comparison of Modelled and Monitored Road NOx concentrations



The results in Table 3.1 and Figure 3.1 indicate that the ADMS model under-predicted the road NO_x concentrations at the selected monitoring sites. An adjustment factor was therefore determined as the ratio between the measured road-NO_x contribution and the modelled road-NO_x contribution (1.47). This factor has then been applied to the modelled road-NO_x concentration for each location to provide an adjusted modelled road-NO_x concentration.

The annual mean road-NO_2 concentration was determined using the Defra NO_x:NO_2 spread sheet calculation tool and added to the background NO_2 concentration to produce a total adjusted NO_2 concentration.

Particulate Matter (PM_{10} and $PM_{2.5}$)

There was insufficient roadside monitoring data available against which the modelling could be verified. Consequently, the verification factor determined above for adjusting the road-NO_x contribution has been applied to the predicted road-PM_{10} and road-$PM_{2.5}$ contributions, consistent with guidance provided in LAQM.TG(16).

Model Uncertainty

An evaluation of model performance has been undertaken to establish confidence in model results. LAQM.TG(16) identifies a number of statistical procedures that are appropriate to evaluate model performance and assess the uncertainty. These include root mean square error (RMSE); fractional bias (FB) and correlation coefficient (CC). These parameters estimate how the model results agree or diverge from the observations. The simplest parameter to calculate and to interpret is the RMSE, which has therefore been used in this assessment to understand the model uncertainty.

The RMSE value calculated after verification was 4.8. Guidance provided in LAQM.TG(16) indicates that for RMSE values higher than 25% of the objective level, that the model should be revisited. Ideally an RMSE value should be within 10% of the air quality objective level. For annual mean NO_2, which has an objective level of 40µg/m^3, this equates to 4µg/m^3. The RMSE value calculated for this assessment is therefore considered to fall within the acceptable limits, therefore the final predictions can be considered to be robust.

Appendix: Climate Change

Annex 1: Trium Climate Change Technical Note

Appendix: Climate Change

Annex 1: Trium Climate Change Technical Note

TRIUM

Climate Change

Technical Note

Contents

1
Contents 2
1. Introduction 3
Climate Projections 3
Emission Scenarios 3
Adopted Emissions Scenario: RCP8.5 4
2. Approach to Assessment 5
Step 1: Define the Future Climate Condition 5
Step 2: Define Receptor Vulnerability 5
Step 3: Magnitude of Impact, Nature and Scale of Effects and Effect Significance 6
Step 4: Identify any Mitigation Needed 6
3. The Future Climate Condition for EIA 7
Future London Climate Condition 7
Summary 8
Appendix A: Future Climate Projection Data 9
Appendix B: Examples of Defining Effect 'Scale within an EIA 10
Example 1 10
Example 2 10
Example 3 11
Example 4 11
Appendix C: Policy and Guidance 11
Policy and Guidance 11

1. Introduction

1.1 This technical note describes a future climate scenario which has been developed using the future climate projections data published by the Met Office (UKCP18) in November 2018. UKCP18 projections consider the climate effects arising from a series of 'Representative Concentration Pathways' (RCP) emissions scenarios.

1.2 The purpose of this technical note is to present projection data for the future climate and to provide guidance to the EIA technical team on how to consider whether the effects of the Proposed Development (defined under the current climate conditions) may alter under the future climate scenario. In the context of the future climate condition, consideration needs to be given to:

- The change in the magnitude of impact of the Proposed Development;
- Receptor vulnerability;
- Vulnerability of the Proposed Development; and
- Resilience of the Proposed Development.

Climate Projections

1.3 UKCP18 gives probabilistic projections[1] for a number of atmospheric variables, with different temporal and spatial averaging, for several future time periods, under four different future RCP emissions scenarios.

1.4 In general, the longer the lifetime of a development, the greater the uncertainty about the impact of climate change over time. Uncertainty is dealt with by presenting projections which are probabilistic in nature, and which give the probability of different climate outcomes.

1.5 To make use of the probabilistic projections, an emissions scenario and percentile outcome (i.e. the likelihood of the change in climate occurring) needs to be identified.

1.6 The emissions scenario and probabilistic projection are detailed within this document and have been used by all technical disciplines contributing to the Environmental Impact Assessment (EIA), to ensure consistency in approach.

Emission Scenarios

1.7 The RCP emission scenarios represent four distinct Representative Concentration Pathways (RCP2.6, RCP4.5, RCP6.0 and RCP8.5) available in the UKCP18 climate projections. These are named according to the concentration of greenhouse gas modelled to occur in the atmosphere in 2100. The RCPs have been developed for long-term and near-term climate modelling and provide time-dependant projections of atmospheric greenhouse gas concentrations. These pathways were developed based on a literature review of current climate modelling research and have been chosen to represent the full range of climate outcomes presented within the literature.

1.8 The emission scenarios represent assumptions in terms of climate policy, land use and technological development, with RCP2.6 representing the 'optimum' emission scenario (i.e. measures aimed at achieving the maximum reduction in GHG emissions).

1.9 RCP 8.5 is the most conservative, highest emission, and highest-impact scenario. It assumes that technological development will slow and that there will be little to no decarbonisation of world power from new technology. It also assumes that no further climate mitigation or regulations to reduce climate change or air pollution will be implemented.

1.10 More information on the RCPs can be found in the UKCP18 Guidance: Representative Concentration Pathways[2].

[1] Probabilistic projections give a range of possible climate change outcomes and their relative likelihoods i.e. unlikely, likely or very likely ranging across 10th to 90th percentiles.

[2] UKCP18 Guidance: Representative Concentration Pathways https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-guidance-rcp.pdf

Adopted Emissions Scenario: RCP8.5

1.11 RCP8.5 has been used in the climate projections presented in this technical note as it represents a suitably conservative emissions scenario with regards to climate policy, land use, and technological development. This is in accordance with the Institute of Environmental Management and Assessment's (IEMA's) Climate Change Resilience and Adaptation guidance[3], which states that *"Recommended best practice is to use the higher emissions scenario (RCP 8.5 in the latest UKCP18 projections) at the 50th percentile, for the 2080s timelines, unless a substantiated case can be made for not doing this (e.g. anticipated lifespan of the project is shorter than 2080s)"*.

1.12 The use of RCP8.5 is also in accordance with *"the National Policy Statement on National Networks, which states that developments should use the UKCP09 high emissions scenario at the 50% probability level"*[3]; therefore, this RCP has been identified as the most reasonable conservative emissions scenario for identifying future climate change projections.

[3] Institute of Environmental Management and Assessment, (2020); Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation.

2. Approach to Assessment

1.13 These steps provide a guide to assessing climate change within the EIA. More information and guidance can be found in references listed in Appendix C.

Step 1: Define the Future Climate Condition

1.14 Within the "Climate Change" section of the chapter, firstly identify the climate variables that are relevant to the assessment. So, for example, the variables of relevance might be 'wind', 'temperature', 'humidity' etc.

1.15 The next stage is to determine how these variables change under the future climate scenario based on the information presented in appendix A. The future climate condition should be discussed in terms of the 50% probability level, but also acknowledge the predicted extremes at the 10% and 90% probability levels.

1.16 This stage defines the future climate condition that is relevant to your assessment.

Step 2: Define Receptor Vulnerability

1.17 Receptors that have been identified for inclusion within the technical assessment need to be considered in terms of their vulnerability[4] (i.e. susceptibility or resilience) to changes in the future climate. The vulnerability of the resource / receptors (including identifying individual receptors / sub-groups) should be defined using the definitions provided below.

1.18 Vulnerability of a receptor should generally be defined as follows and presented in tabular format:

- **High vulnerability**: the receptor is directly dependent on existing and/or prevailing climatic factors, and reliant on these specific existing climate conditions continuing in future (e.g. river flows and groundwater level); or only able to tolerate a very limited variation in climate conditions.
- **Moderate vulnerability**: the receptor is dependent on some climatic factors, but able to tolerate a range of conditions (e.g. a species which has a wide geographic range across the entire UK).
- **Low vulnerability**: climatic factors have little influence on receptors.

1.19 Table 1 provides an example of receptor sensitivity and vulnerability presented within a table.

[4] Please note that 'receptor sensitivity' is different to the consideration of 'vulnerability'. Reference to **sensitivity** of a resource / receptor in the EIA assessment reflects the receptor's **value** in terms of its quality or condition, and expresses its **proneness** to being potentially impacted through a change in the existing environment (i.e. existing climate conditions) in which is resides, as a result of the implementation of a Proposed Development.
Vulnerability is defined as a receptor's **susceptibility** or **resilience** to a change in climate (i.e. change in the existing environment).
By way of an example to highlight this difference, a highly sensitive receptor does not mean that it is highly vulnerable to climate change, while conversely a low sensitive receptor may be highly vulnerable to climate change.
Taking account of receptor vulnerability within the assessment requires consideration of whether climate change will alter the existing environment (i.e. existing climate conditions) within which the resource / receptor resides, and as a result, making a judgement as to whether climate change will alter the magnitude of the impact (defined under the current climate conditions) experienced by the resource / receptor (based on its vulnerability) because of the implementation of the Proposed Development. The higher the vulnerability of an individual resource / receptor to climate change, the greater the change in the magnitude of the impact.
For example, climate change alters the environment and for a high vulnerability receptor, results in amplifying the impact (of the Proposed Development) experienced by the receptor.
Conversely, an individual resource / receptor with a greater resilience (low vulnerability) to changes in the existing climate conditions is not likely to experience a change in the impact experienced as a result of the Proposed Development (i.e. no change in the magnitude of impact).
Please also note that there may be instances when a broad description of a resource / receptor group may comprise of sub-groups which may vary in their vulnerability to climate change. Where relevant, individual resource / receptors may need to be identified and considered as part of the climate change assessment.

TRIUM

Table 1. Summary of Receptor Sensitivity and Vulnerability for Assessment

Resource / Receptor *(include as groups or as individual receptors as relevant)*	Sensitivity *(as per standard EIA criteria)*	Vulnerability *(as per the criteria cited above)*

Step 3: Magnitude of Impact, Nature and Scale of Effects and Effect Significance

1.20 Consider whether the magnitude of impact and resultant nature and scale of the effects of the Proposed Development (as defined earlier on in the chapter) during the operational phase will be worse or improved under the future climate conditions, and whether the changes alter the overall significance of effects identified for the Proposed Development, without climate change.

1.21 In most cases, there is likely to be an absence of published, accepted quantifiable methods for considering climate change effects for technical topics.

1.22 Therefore, this 'assessment' is likely to be qualitative and based on professional opinion which draws on the information available and acknowledges the level of uncertainty surrounding climate change projections.

1.23 Present the assessment as a narrative. Tables and supporting figures can be presented if helpful but are not essential. Appendix B gives examples of calculating the effect.

Step 4: Identify any Mitigation Needed

1.24 If any adverse significant effects are identified (as a result of the impact of climate change), appropriate mitigation will need to be identified.

1.25 When considering the adoption of mitigation to address any significant effects arising from changes in climate, consideration should be given to when the mitigation might be most usefully implemented over the duration of the scheme.

1.26 Mitigation measures include identifying appropriate resilience and adaptive management measures.

1.27 Resilience measures include design features (e.g. habitable rooms within residential units located above the flood level which accounts for climate change) and construction materials (e.g. materials resistant to increases in temperature), to provide an appropriate resilience to changes in the existing climatic conditions, as well as occurrences of extreme weather.

1.28 Adaptive management measures allow for the uncertainty surrounding climate change and its impact to be accounted for. Consideration should be given as to whether there are opportunities to introduce mitigation measures later into the project when there is more certainty over future climate projections. These measures could be secured through a commitment to prepare a management plan / strategy (or equivalent) which would periodically review the need for such measures and their integration into the scheme if / when required.

1.29 Where mitigation is proposed, consideration of the effectiveness of the measures should be taken into account, with reference to the resulting magnitude of impact and the resulting residual effect and its significance.

3. The Future Climate Condition for EIA

1.30 A summary of the future climate projections based on RCP8.5 is presented in Appendix A and described below for the climatic variables temperature, precipitation, and total cloud cover. Table 2 provides a breakdown of the data provided for each climatic variable in appendix A. UKCP18 data for wind is not yet available, so UKCP09 data has been presented.

Table 2. Climatic Variables for which Future Climate Projection Data is Provided

Climatic Variable	Climate Projection	Variable	Temporal Average
Temperature	**UKCP18 RCP8.5**	Mean	Annual
			Seasonal
		Mean Daily Max	Annual
			Seasonal
		Mean Daily Min	Annual
			Seasonal
Precipitation	**UKCP18 RCP8.5**	Mean	Annual
			Seasonal
Wind*	**UKCP09 A1B**	Mean	Annual
			Seasonal
Total Cloud	**UKCP18 RCP8.5**	Mean	Annual
			Seasonal

***Note**: UKCP18 probabilistic data for wind is not available, nor any RCP8.5 data for wind through alternative projections. For this reason, UKCP09 wind data has been presented for the A1B scenario, as it is comparable to RCP8.5.

Future London Climate Condition

1.31 The following description provides a high level overview of the future climate in London in 2100 under the UKCP18 using RCP8.5. Appendix A provides the data underlying this description.

Temperature[5]

1.32 Changes in temperature can have implications for the built and natural environment, built infrastructure, and human health. Increases in temperature can lead to impacts on human health, especially in urban areas such as London, where buildings can retain heat, leading to increased night-time temperatures. This is of particular interest when assessing developments within London, with its urbanised character and high population density.

1.33 The projected trends of climate changes in the 21st century indicate a move towards warmer, wetter winters and hotter, drier summers. Probabilistic projections show that there will be more warming in the summer than in the winter.

1.34 In summer, there is a pronounced north / south contrast when considering temperature changes, with greater increases in maximum summer temperatures over the southern UK compared to northern Scotland.

Precipitation[6]

1.35 Precipitation can have significant socio-economic impacts on various timescales, and can have implications related to pluvial or surface flooding, as surface run-off inundates the urban landscape. Flooding is one of the most socially and economically disruptive hazards within the UK, and has impacts on energy supply, transport and infrastructure.

[5] UKCP18 Factsheet: Temperature (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-temperature.pdf

[6] UKCP18 Factsheet: Precipitation (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-precipitation.pdf

TRIUM

1.36 Year to year, a high level of variability in precipitation has been observed, with a slight overall increase in UK winter precipitation over the last few decades.

1.37 Probabilistic projections show that while the probability of dry summers increases, the probability of wet summers reduces only slightly. Trends indicate drier summers, with reductions in rainfall, are largest in the south of England.

Wind [7]

1.38 Wind data is not available for RCP8.5, nor probabilistic projections for any of the RCP emissions scenarios. UKCP09 A1B data has been presented in Appendix A.

1.39 UKCP18 guidance reports no significant trends in 'storminess', which is determined by maximum gust speeds, from the UK over the last four decades. Global projections over the UK suggest an increase in near surface wind speeds for the second half of the 21st century during the winter season. An increase in frequency of winter storms is also predicted. Though, it should be noted that the increase in wind speeds is modest compared to the variability observed.

Summary

1.40 This note provides a future climate condition for the technical assessment of the Proposed Development in relation to climate change. It has been developed to ensure consistency across the technical topics covered in the EIA.

1.41 The data provided within this technical note is up to date 3 August 2020 2020. It is acknowledged that more information will become available on the UKCP18 interface over time, and revisions of this note shall be provided as appropriate.

[7] UKCP18 Factsheet: Wind https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-wind.pdf

Appendix A: Future Climate Projection Data

Table 3. UKCP18 Future Climate Projections: RCP8.5 Emissions Scenario

Climate Variable	Predicted Change from Baseline 2080s			Absolute Values 2080s		
	10th Percentile	50th Percentile	90th Percentile	10th Percentile	50th Percentile	90th Percentile
Mean Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	2.41	4.11	5.98	12.86	14.56	16.43
Winter Average	1.45	3.47	5.65	6.07	8.09	10.27
Spring Average	1.44	2.92	4.57	10.63	12.11	13.76
Summer Average	2.73	5.41	8.15	19.41	22.09	24.83
Autumn Average	2.26	4.29	6.56	13.47	15.50	17.77
Maximum Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	2.44	4.33	6.38	16.55	18.44	20.49
Winter Average	1.59	3.30	5.25	8.91	10.62	12.57
Spring Average	1.44	3.35	5.44	14.63	16.54	18.63
Summer Average	2.79	6.04	9.52	23.97	27.22	30.70
Autumn Average	1.80	4.48	7.44	16.64	19.32	22.28
Minimum Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	2.17	3.96	6.07	8.79	10.58	12.69
Winter Average	1.31	3.50	6.19	3.13	5.32	8.01
Spring Average	1.43	3.01	4.94	6.48	8.06	9.99
Summer Average	2.74	4.96	7.5	14.67	16.89	19.43
Autumn Average	1.98	4.36	6.91	9.55	11.93	14.48
Precipitation	%	%	%	mm / day	mm / day	mm / day
Annual Average	-13.00	-1.79	9.66	1.52	1.72	1.92
Winter Average	-3.04	21.46	52.25	1.68	2.11	2.64
Spring Average	-23.42	-8.27	8.41	1.25	1.50	1.78
Summer Average	-71.24	-35.57	3.62	0.49	1.10	1.77
Autumn Average	-12.05	5.75	24.61	1.68	2.02	2.38
Total Cloud Anomaly	%	%	%	(0-1)	(0-1)	(0-1)
Annual Average	-16.47	-8.15	-0.28	0.57	0.63	0.68
Winter Average	-3.78	0.25	4.24	0.70	0.73	0.76
Spring Average	-17.25	-6.24	4.67	0.56	0.64	0.71
Summer Average	-39.02	-19.02	1.03	0.40	0.53	0.66
Autumn Average	-16.89	-7.27	1.50	0.55	0.62	0.68

TRIUM

Table 4. UKCP09 Future Climate Projections for Wind: A1B Emissions Scenario

Climate Variable	Predicted Change from Baseline 2080s			Absolute Values 2080s		
	10th Percentile	50th Percentile	90th Percentile	10th Percentile	50th Percentile	90th Percentile
Wind	n/a	M s-1^2	n/a	n/a	n/a	n/a
Annual Average	n/a	-0.065	n/a	n/a	n/a	n/a
Winter Average	n/a	-0.052	n/a	n/a	n/a	n/a
Spring Average	n/a	-0.154	n/a	n/a	n/a	n/a
Summer Average	n/a	-0.01	n/a	n/a	n/a	n/a
Autumn Average	n/a	-0.044	n/a	n/a	n/a	n/a

Appendix B: Examples of Defining Effect 'Scale within an EIA

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

Example 1

'Normal EIA'
Receptor A = High Sensitive
Magnitude of Impact = Low
Resultant Effect = Moderate

Climate Change
Receptor A = High Sensitive
Vulnerability = Low
(*climate change has little influence on receptor as resilient to changes in existing environment / climate, so climate change unlikely to alter the magnitude of impact*)
Magnitude of Impact = Low
Resultant Effect = Moderate

Example 2

'Normal EIA'
Receptor A = High Sensitive
Magnitude of Impact = Low
Resultant Effect = Moderate

Climate Change
Receptor A = High Sensitive
Vulnerability = High
(*receptor directly dependent on existing environment / climate, so change is likely to alter the magnitude of impact, i.e. change in the environment as a result of the Proposed Development)*
Magnitude of Impact = High
(*qualitative judgement*)
Resultant Effect = Major

Example 3

‘Normal EIA’	Climate Change
Receptor A = Low Sensitive	Receptor A = Low Sensitive
Magnitude of Impact = Low	Vulnerability = Low
Resultant Effect = Negligible	(*climate change has little influence on receptor as resilient to changes in existing environment / climate, so climate change unlikely to alter the magnitude of impact*)
	Magnitude of Impact = Low
	Resultant Effect = Negligible

Example 4

‘Normal EIA’	Climate Change
Receptor A = Low Sensitive	Receptor A = Low Sensitive
Magnitude of Impact = Low	Vulnerability = High
Resultant Effect = Negligible	(*receptor directly dependent on existing environment / climate, so change is likely to alter the magnitude of impact, i.e. change in the environment as a result of the Proposed Development)*
	Magnitude of Impact = High
	(*qualitative judgement*)
	Resultant Effect = Moderate

Appendix C: Policy and Guidance

Policy and Guidance

- EU Guidance on Integrating Climate Change and Biodiversity into the Environmental Impact Assessment (2013)[8]
- IEMA Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation (Nov 2015)[9]
- UK Climate Change Risk Assessment Evidence Report (2017)[10]
- 2017 EIA Regulations[11]

[8] EU Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessments http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf
[9] IEMA EIA Guide to Climate Change Resilience and Adaptation https://www.iema.net/assets/templates/documents/iema_guidance_documents_eia_climate_change_resilience_and_adaptation%20(1).pdf
[10] UK Climate Change Risk Assessment (2017) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf
[11] EIA 2017 Regulations http://www.legislation.gov.uk/uksi/2017/571/introduction/made

Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

ANNEX 1: INTRODUCTION TO NOISE

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB.

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs. For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest.

In the UK, traffic noise is measured as the L_{A10}, the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq}. This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound.

To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows represent changes of 1dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS 4142 specifies background noise measurement periods of 1 hour during the day and 5 minutes during the night. The noise levels are commonly symbolised as $_{A90(1hour)}$ and $L_{A90(5mins)}$. The noise measurement should be recorded using a ‘FAST’ time response equivalent to 0.125 ms.

Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

ANNEX 2: GLOSSARY OF TERMS

Term	Definition
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s1 and s2 is given by 20 log10 (s1/s2). The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is 20μPa.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period T. This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,F}$	A noise level index defined as the maximum noise level during the period T. L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
$L_{90,T}$	A noise level index. The noise level exceeded for 90% of the time over the period T. L_{90} can be considered to be the ‘average minimum’ noise level and is often used to describe the background noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Ambient Noise Level	The totally encompassing sound in a given situation at a given time, usually composed of a sound from many sources both distant and near ($L_{Aeq,T}$).
Residual Noise Level	The ambient noise remaining at a given position in a given situation when specified sources are suppressed to a degree such that they do not contribute to the ambient noise level ($L_{Aeq,T}$)
Specific Noise Level	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source (the noise source under investigation) over a given time interval ($L_{Aeq,T}$)
Rating Noise Level	The specific noise level plus any adjustment for the characteristic features of the noise ($L_{Ar,Tr}$).

Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

ANNEX 3: LEGISLATION, POLICY AND GUIDANCE

National Policy: National Planning Policy Framework

1.1 The National Planning Policy Framework (NPPF) (February 2021) sets out the Government's economic, environmental and social planning policies for England. It attempts to summarise in a single document all previous national planning policy advice. Taken together, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

1.2 Under Section 15; Conserving and enhancing the natural environment, the following is stated in paragraph 174:

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by: …*
>
> *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability…"*

1.3 The NPPF goes on to state in paragraph 185 that:

> *"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
>
> *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
>
> *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason"*

Noise Policy Statement for England, 2010 (NPSE)

1.4 The NPSE seeks to clarify the underlying principles and aims in existing policy documents, legislation and guidance that relate to noise. It also sets out the long-term vision of Government noise policy:

1.5 "To promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".

1.6 The NPSE clarifies that noise should not be considered in isolation of the wider benefits of a scheme or development, and that the intention is to minimise noise and noise effects as far as is reasonably practicable having regard to the underlying principles of sustainable development.

1.7 The first two aims of the NPSE follow established concepts from toxicology that are applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level - the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise; and

LOAEL – Lowest Observed Adverse Effect Level - the level above which adverse effects on health and quality of life can be detected.

1.8 The NPSE extends these to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level - The level above which significant adverse effects on health and quality of life occur.

1.9 The NPSE notes:

> *"it is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times".*

Planning Practice Guidance (PPG) – Noise

1.10 The Government's PPG on noise provides guidance on the effects of noise exposure, relating these to people's perception of noise, and linking them to the NOEL and, as exposure increases, the LOAEL and SOAEL.

1.11 As exposure increases above the LOAEL, the noise begins to have an adverse effect and consideration needs to be given to mitigating and minimising those effects, taking account of the economic and social benefits being derived from the activity causing the noise. As the noise exposure increases, it will then at some point cross the SOAEL boundary.

1.12 The LOAEL is described in PPG as the level above which "noise starts to cause small changes in behaviour and / or attitude e.g. turning up the volume of the television, speaking more loudly, or, where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life."

1.13 PPG identifies the SOAEL as the level above which "noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area."

Acoustics Ventilation and Overheating Residential Design Guide

10.1 The Association of Noise Consultants' Acoustics, Ventilation and Overheating (AVO) Group produced the AVO Guide in 2020 for use by acoustics practitioners and those involved in the planning, development, design and commissioning of new dwellings.

10.2 The AVO Guide provides risk categories which can be used to assist designers to adopt an integrated approach to the acoustic design within the context of the ventilation and thermal comfort requirements.

10.3 For overheating, the AVO Guide provides thresholds where there is the potential that the noise causes a 'material change in behaviour'. The AVO Guide does not propose limits or onsets between risk categories though it does present a graphical illustration of the evolution between low, medium and high-risk categories. The AVO guidance levels are implemented as follows:

AVO Risk Category	External Noise Level, $L_{Aeq,T}$ dB	
	Daytime	Night-time
Negligible	< 50	< 45
Low	50 - 57	45 - 51
Medium	58 - 65	51 - 57
High	> 65	> 57

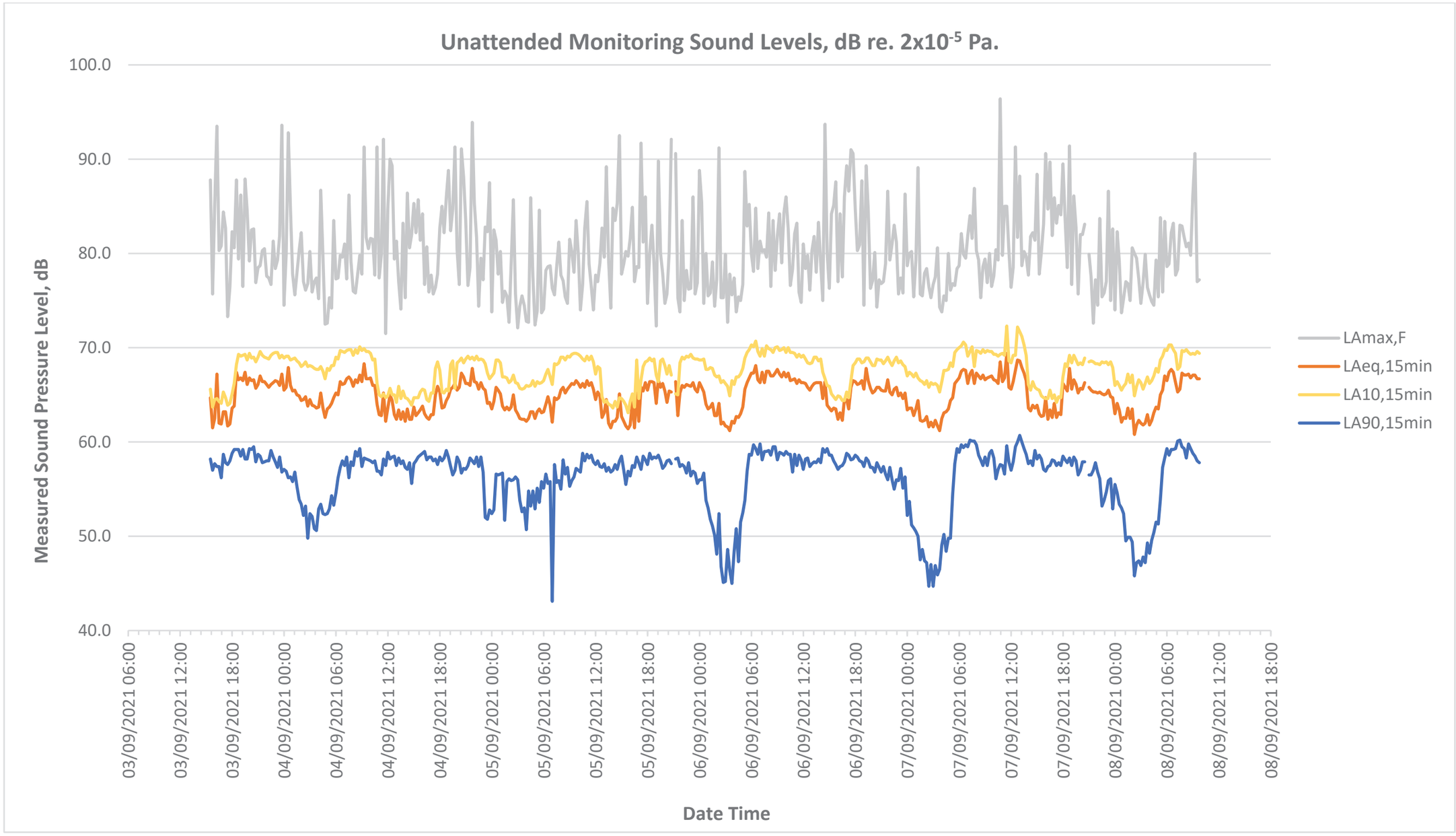
10.4 Based on the guidance, overheating should be considered at least for the medium and high categories. All ventilation across the development should provide adequate airflow, in compliance with Approved Document F.

10.5 Additionally, where windows need to remain closed to achieve the noise criteria they can still be opened for purge or rapid ventilation or indeed at the occupants' discretion.

Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

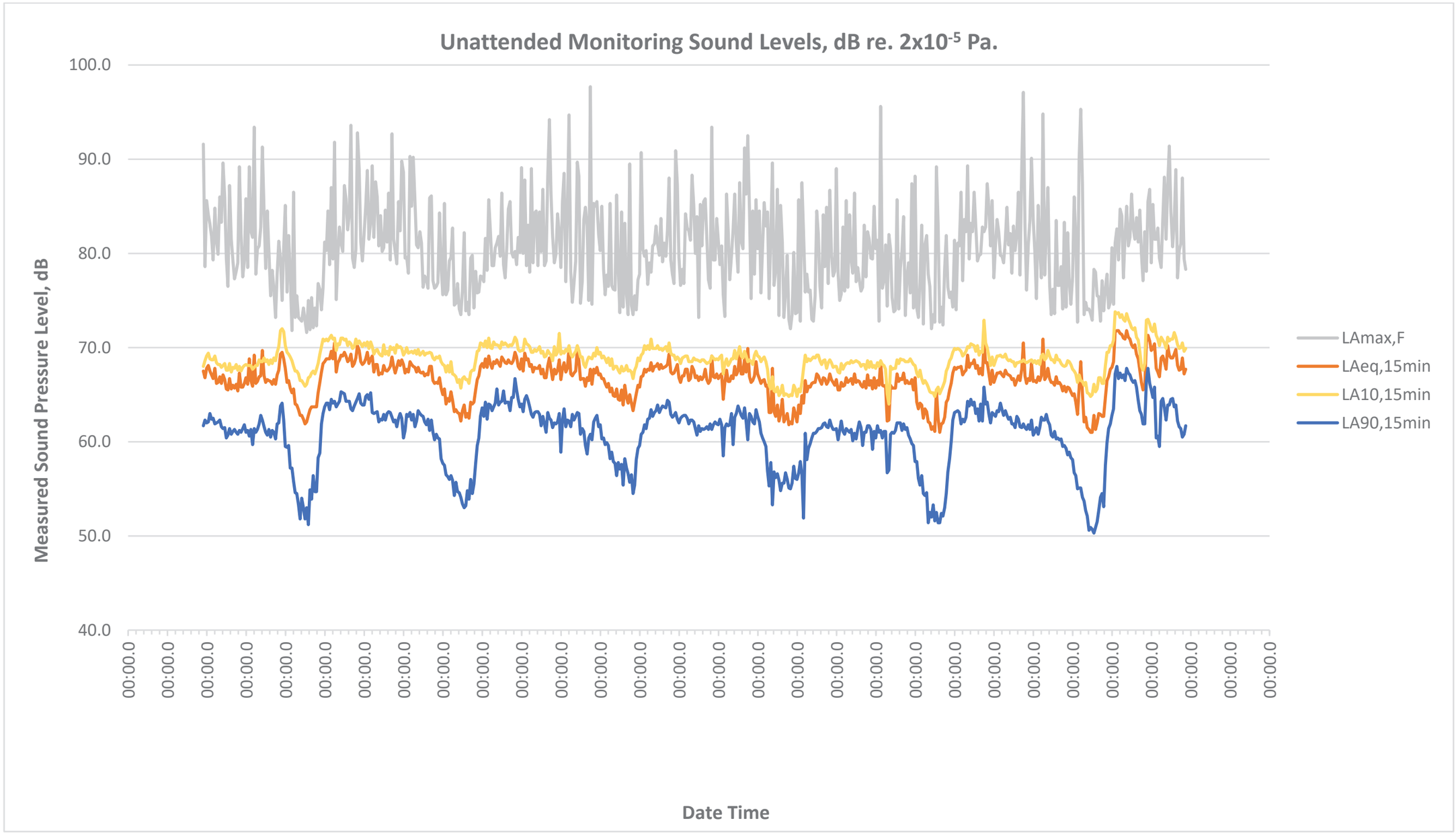
ANNEX 4: UNATTENDED SURVEY RESULTS – P1



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

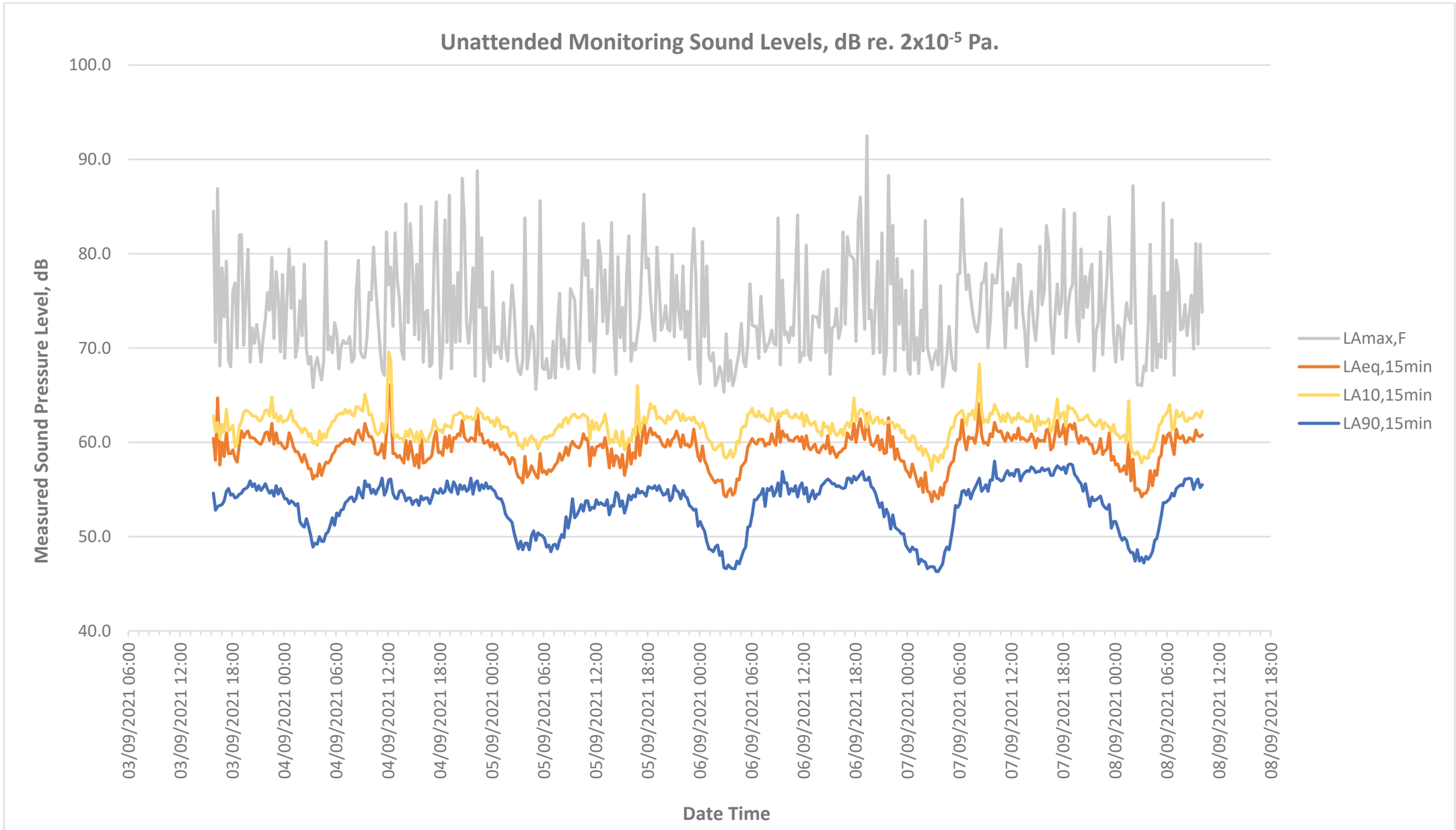
ANNEX 5: UNATTENDED SURVEY RESULTS – P2



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

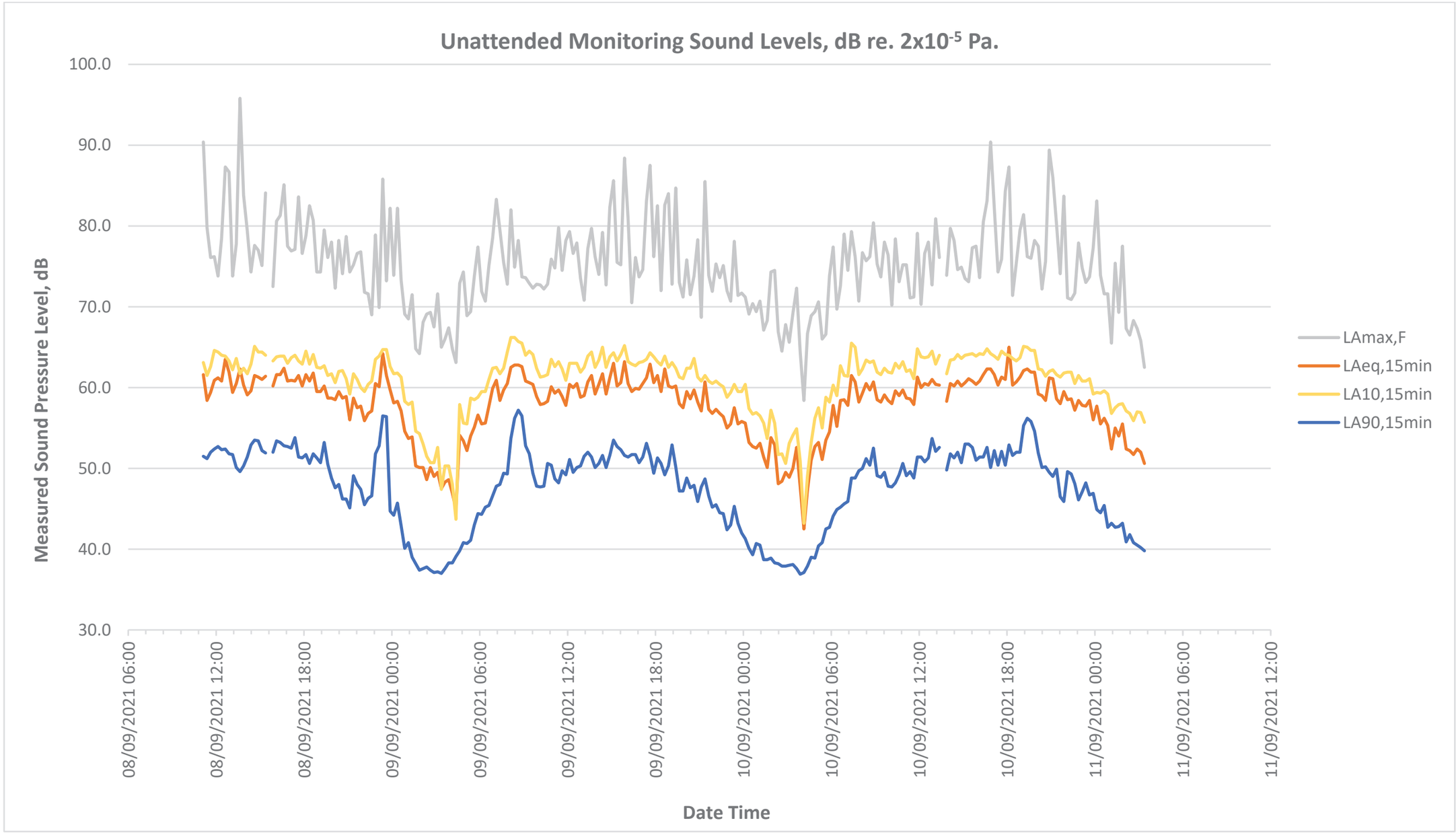
ANNEX 6: UNATTENDED SURVEY RESULTS – P3



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

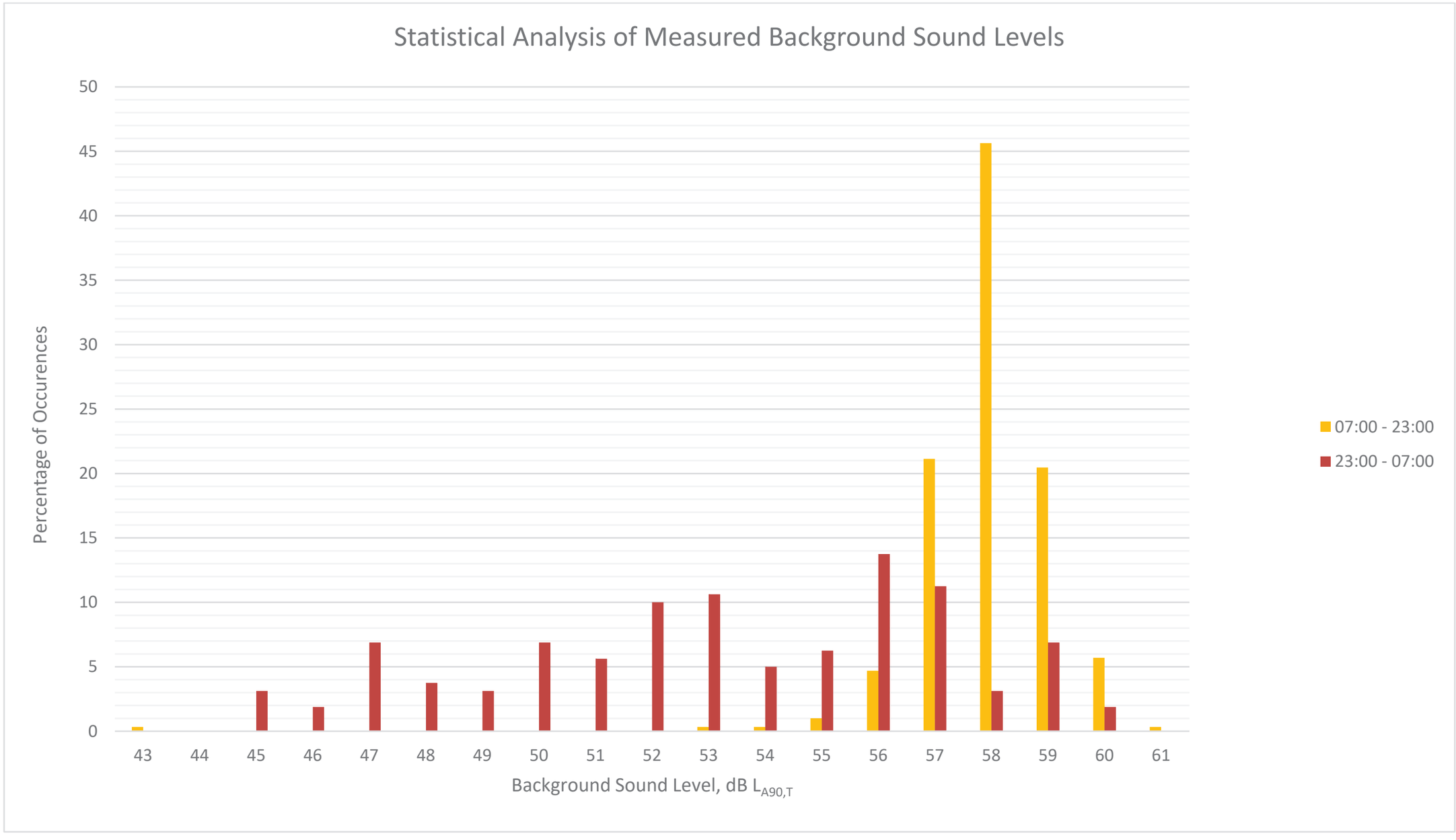
ANNEX 7: UNATTENDED SURVEY RESULTS – P4



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

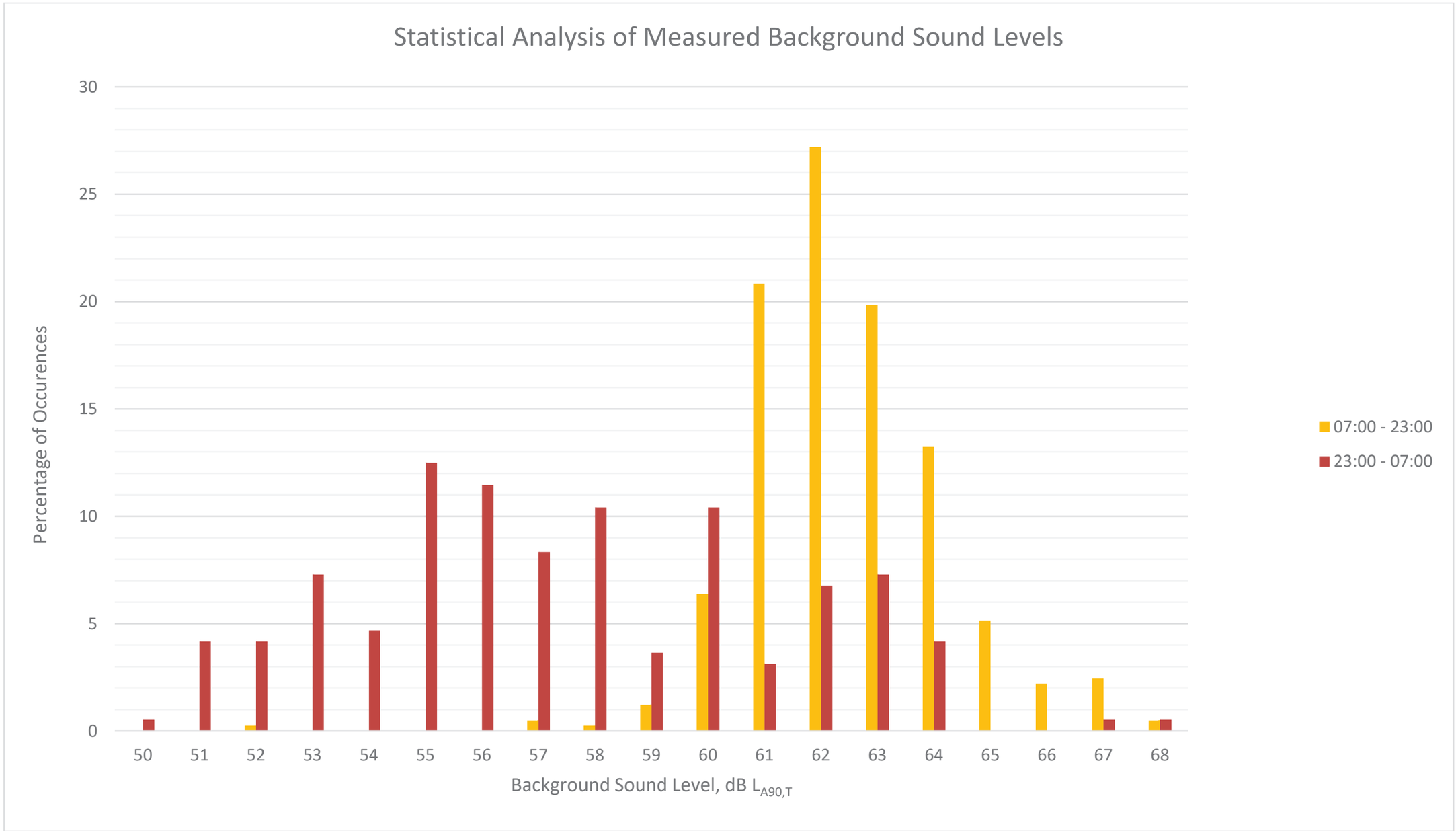
ANNEX 8: STATISTICAL ANALYSIS OF BACKGROUND SOUND LEVELS – P1



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

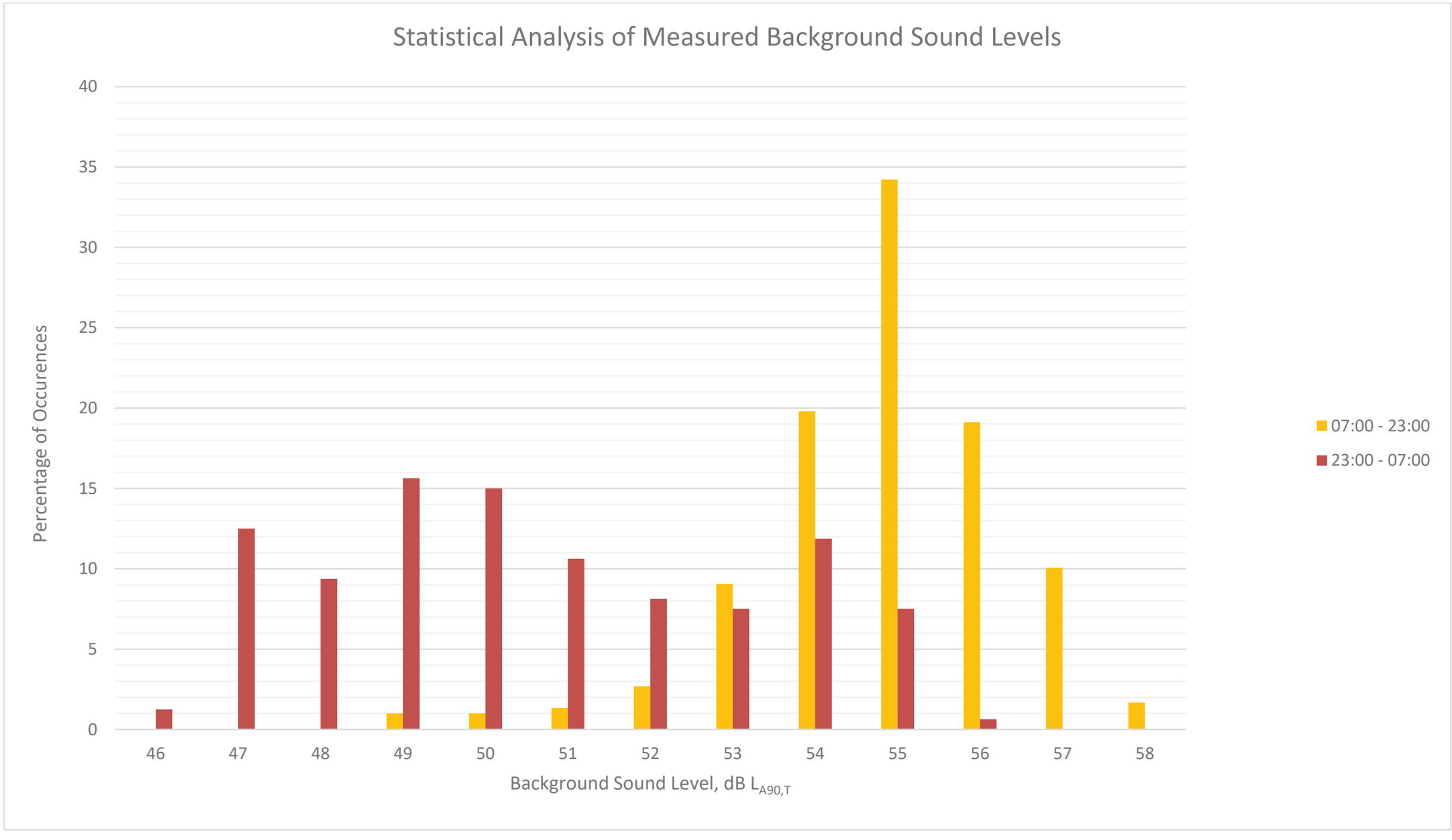
ANNEX 9: STATISTICAL ANALYSIS OF BACKGROUND SOUND LEVELS – P2



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

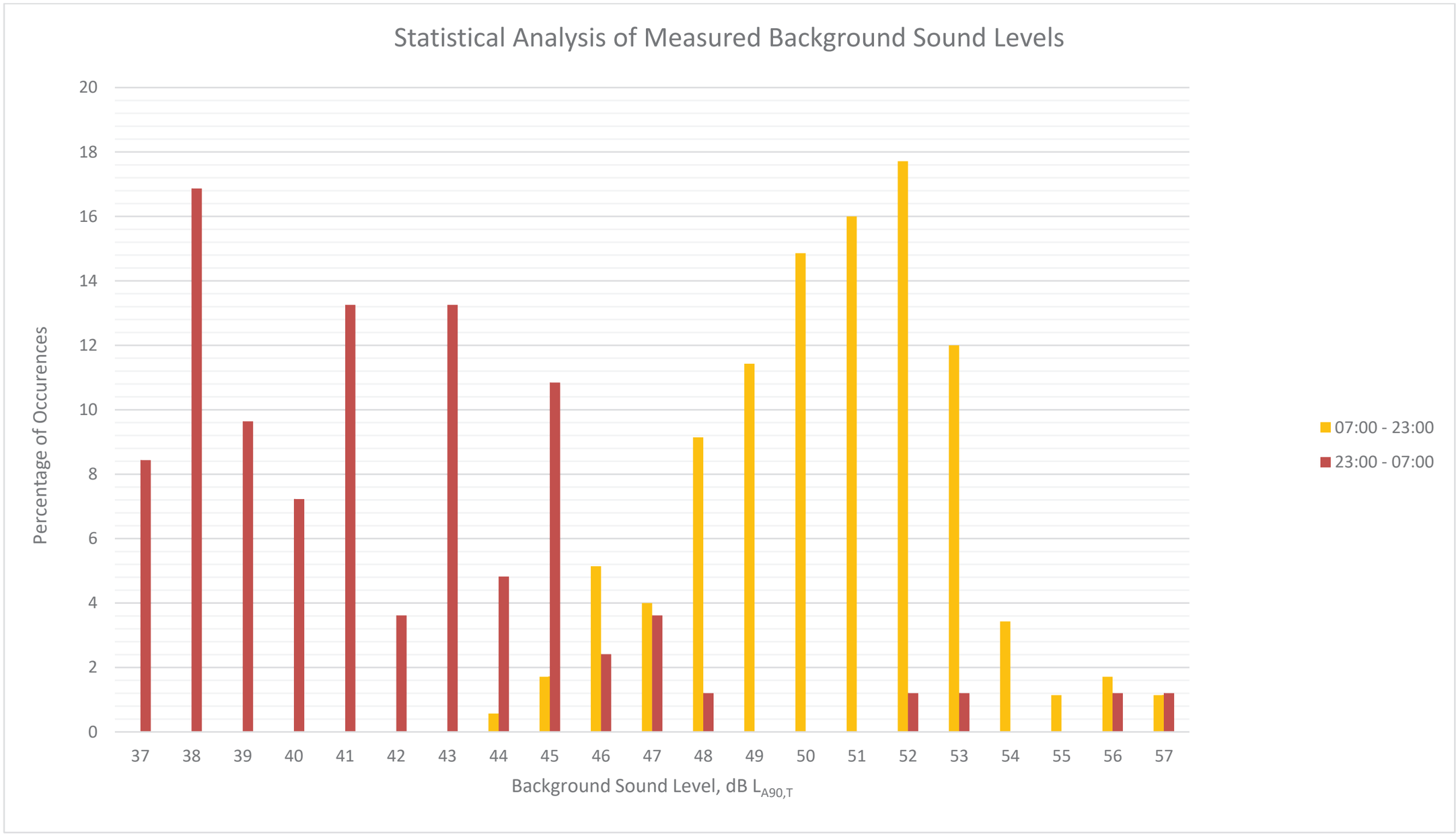
ANNEX 10: STATISTICAL ANALYSIS OF BACKGROUND SOUND LEVELS – P3



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

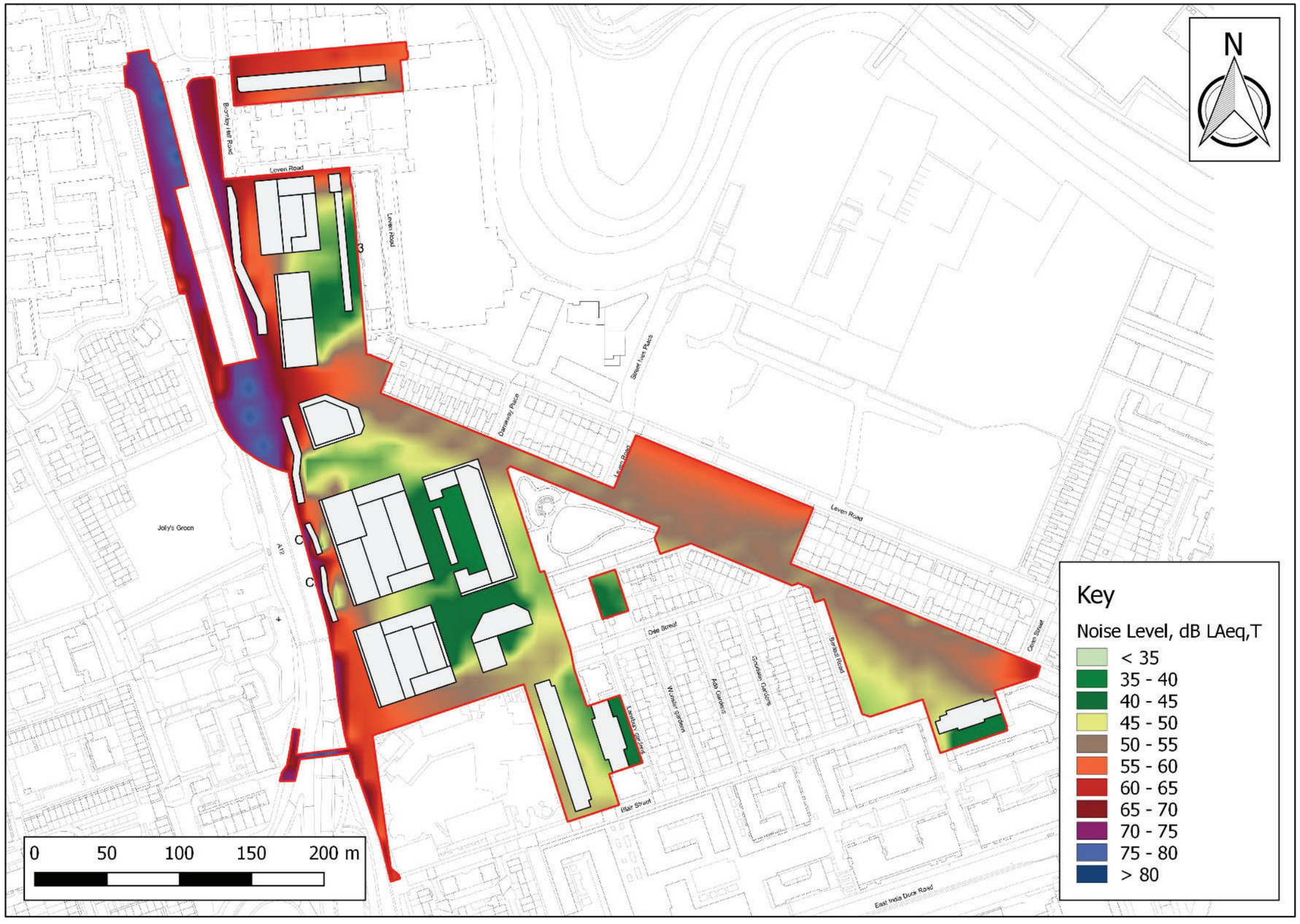
ANNEX 11: STATISTICAL ANALYSIS OF BACKGROUND SOUND LEVELS – P4



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

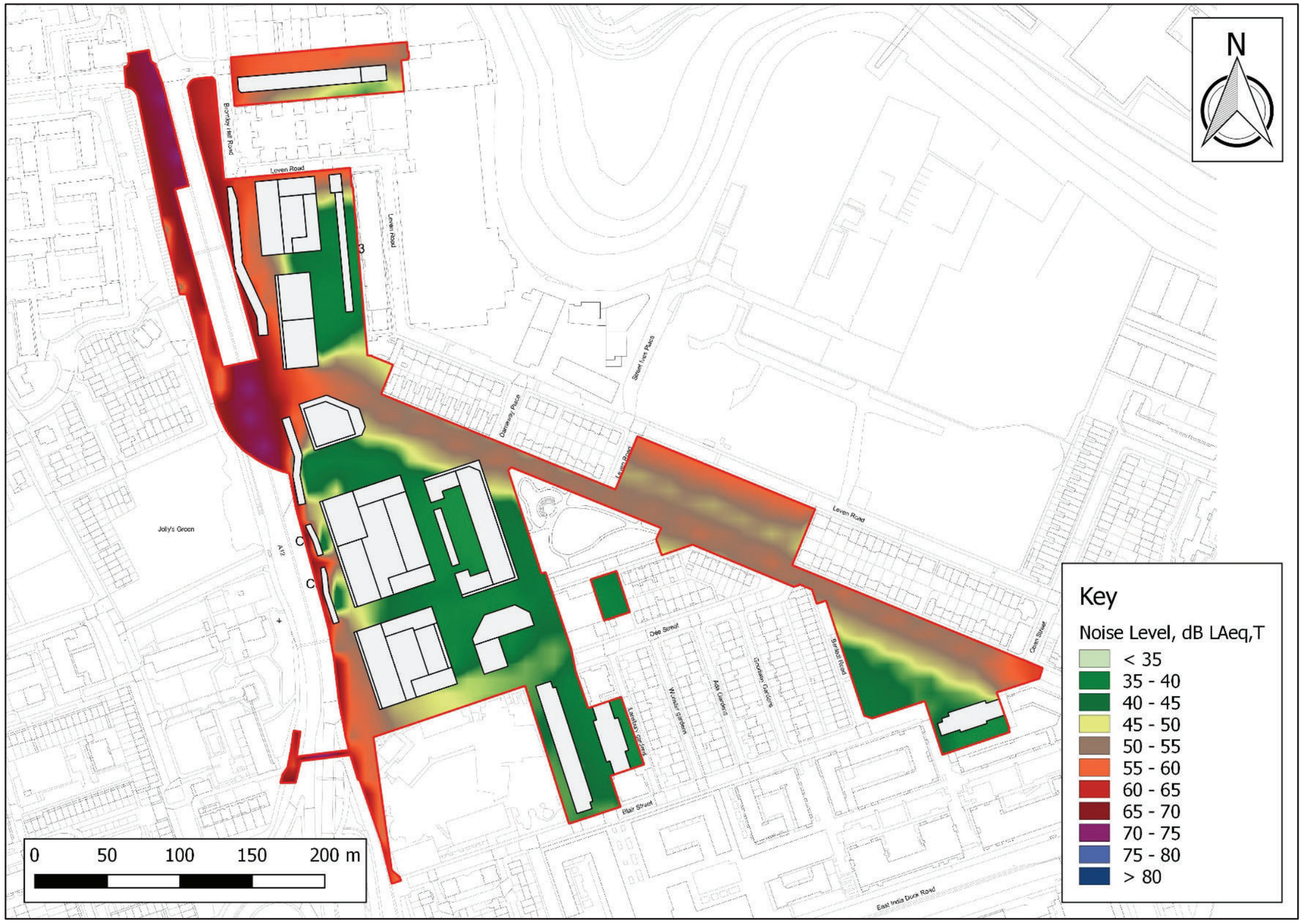
ANNEX 12: DAYTIME NOISE CONTOUR, 1.5M



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

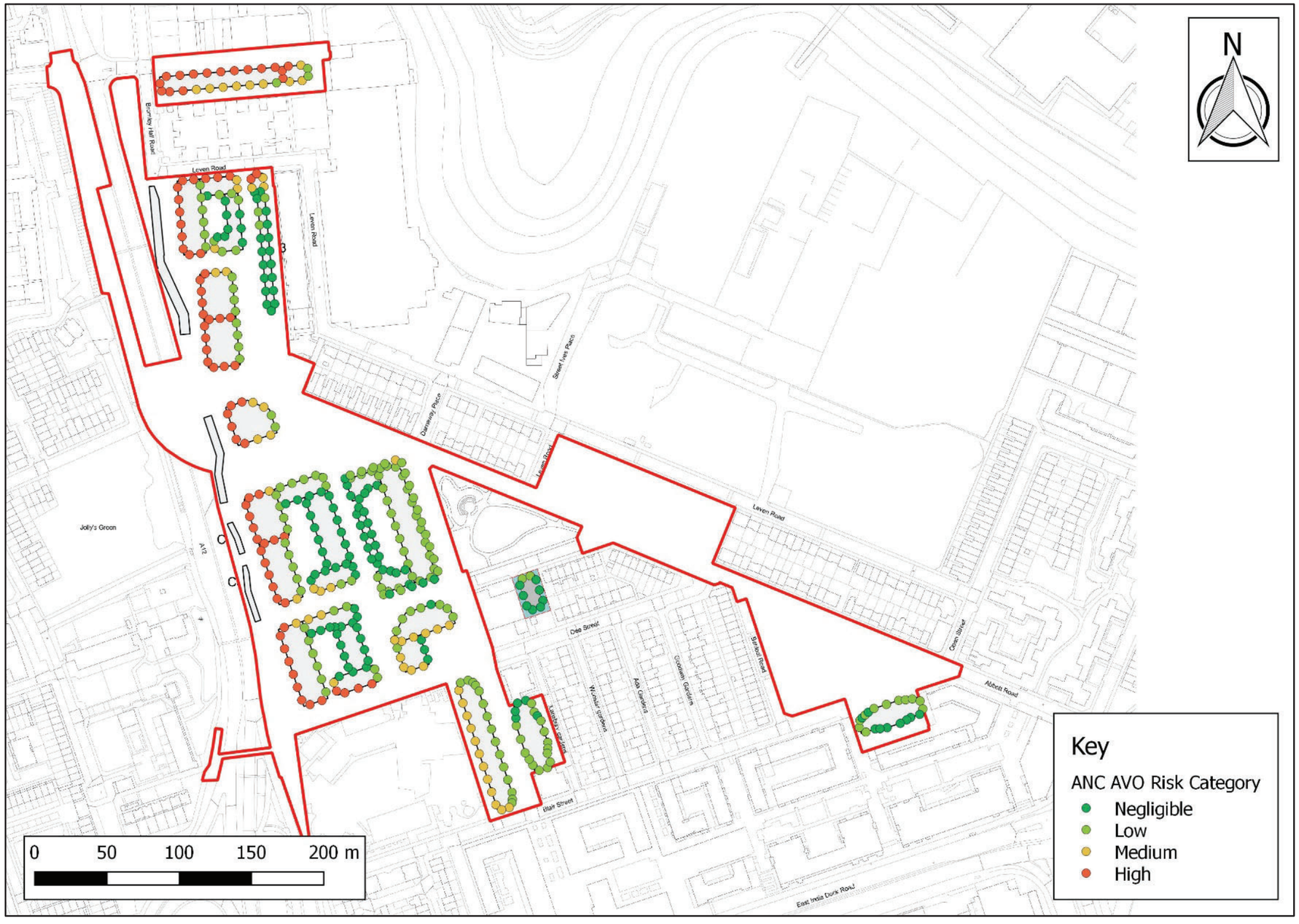
ANNEX 13: NIGHT-TIME NOISE CONTOUR, 1.5M



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

ANNEX 14: ANC ACOUSTICS VENTILATION AND OVERHEATING RISK CATEGORIES



Appendix: Noise and Vibration

Annex 1: Introduction to Noise
Annex 2: Glossary of Terms
Annex 3: Legislation, Policy and Guidance
Annex 4: Unattended Survey Results – P1
Annex 5: Unattended Survey Results – P2
Annex 6: Unattended Survey Results – P3
Annex 7: Unattended Survey Results – P4
Annex 8: Statistical Analysis of Background Sound Levels – P1
Annex 9: Statistical Analysis of Background Sound Levels – P2
Annex 10: Statistical Analysis of Background Sound Levels – P3
Annex 11: Statistical Analysis of Background Sound Levels – P4
Annex 12: Daytime Noise Contour, 1.5m
Annex 13: Night-time Noise Contour, 1.5m
Annex 14: ANC Acoustics Ventilation and Overheating Risk Categories
Annex 15: Traffic Data

ANNEX 15: TRAFFIC DATA

Road Link	AAWT (2031)	
	Do Minimum	With Development
Abbott Road (East of Underpass)	6569	425
Abbott Road (East of Oban Street)	7903	5898
Leven Road	3778	4340
Oban Street	3278	4341
Bromley Hall Road	1087	1992
Lochnagar Street	2294	2847
Zetland Street	2004	1663
Abbott Road Underpass (One-Way)	4800	0
A1206 Preston's Road	21800	22004
A12 (Between Lochnagar Street and A13)	75806	77364
A12 (North of Lochnagar Street)	73080	74738
A12 On-slip from A13 (St. Leonards Road)	13896	13939
Trafalgar Way	2031	1956
Upper Bank Street	8883	8864
Poplar High Street	4368	4394
Saltwell Street	4289	4315
A1206 Cotton Street	24559	23642
A1261 Aspen Way (West of A12)	93914	93537
Blackwall Tunnell	85867	86483
Upper North Street (A13 to Cordelia Street)	5112	5225
Upper North Street (Cordelia Street to B140 St. Paul's Way)	6654	6633
B140-St. Paul's Way	10114	10326
Cordelia Street	2017	1936
Devons Road	8264	6752
Devas Street W of Purdy Street	8832	8852
Chrisp Street (South of Burcham Street)	10239	10972
Chrisp Street (North of Burcham Street)	10095	10433
Campbell Road	9263	8803
Devas Street (West of A12 junction)	4311	5953
Burcham Street/St Leonard Road	4019	4799
A13 (From A12/A13 interchange to Abbott Road)	50178	50656
A13 (West of A12/A13 interchange)	14404	14567
A1020 Leamouth Road	21215	22494
A13 (East of Leamouth Road)	25043	25050
A13 Newham Way (East of Abbott Road)	106272	105978
A1011 Silvertown Way (South of A13)	18037	18163
A12 Off-slip (St. Leonard Road from Blackwall Tunnel)	8655	8038
A102 On-slip (to Blackwall Tunnel)	7277	6866
A102 Off-slip (to A13 east and west)	11347	11885
A102 off-slip (to A13 west)	8480	7656
A102 on-slip (from A13 east)	11426	11773

Appendix: Water Resources, Drainage and Flood Risk

Annex 1: Flood Risk Assessment
Annex 2: Drainage Strategy
Annex 3: Thames Water – Potable Water Supply Correspondence
Annex 4: Sustainable Urban Drainage System (SuDS) Proforma

Appendix: Water Resources, Drainage and Flood Risk

Annex 1: Flood Risk Assessment
Annex 2: Drainage Strategy
Annex 3: Thames Water – Potable Water Supply Correspondence
Annex 4: Sustainable Urban Drainage System (SuDS) Proforma

parmarbrook



ECOWORLD
INTERNATIONAL
CREATING TOMORROW & BEYOND

New Aberfeldy Masterplan
Flood Risk Assessment

Job No: 2272

Date: 08th October 2021

Revision: 1.1

Project name	New Aberfeldy Masterplan	Job Number
Report Name	Flood Risk Assessment	2272

Document Revision History

Revision Ref	Issue Date	Purpose of issue / description of revision
1.0	06/09/2021	Issued for Information
1.1	08/10/2021	Issued for Planning Approval

Document Validation (latest issue)

Revision	Issue Date	Purpose of issue / description of revision / version			
1.1	8/10/2021	Issued for Planning Approval			
			Prepared by	Checked by	Verified by
		Initials	JA/TP	TP	CP

This report was prepared by Parmarbrook Ltd within the terms of its engagement and in direct response to a scope of services. This report is strictly limited to the purpose and the facts and matters stated in it and does not apply directly or indirectly and must not be used for any other application, purpose, use or matter. In preparing the report, Parmarbrook may have relied upon information provided to it at the time by other parties. Parmarbrook accepts no responsibility as to the accuracy or completeness of information provided by those parties at the time of preparing the report. The report does not take into account any changes in information that may have occurred since the publication of the report. If the information relied upon is subsequently determined to be false, inaccurate or incomplete then it is possible that the observations and conclusions expressed in the report may have changed. Parmarbrook does not warrant the contents of this report and shall not assume any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report howsoever. No part of this report, its attachments or appendices may be reproduced by any process without the written consent of Parmarbrook. All enquiries should be directed to Parmarbrook.

parmarbrook

Contents

1.0 Introduction 3

2.0 Planning Policy and guidance 4

3.0 Site Description & Context 8

4.0 Assessment of Flood Risk 14

5.0 Flood Risk Mitigation Measures 23

6.0 Summary and Recommendations 24

1 Introduction

1.1 Purpose of Report

Parmarbrook has been instructed by EcoWorld London Development Company Ltd. to prepare a Flood Risk Assessment (FRA) in support of a hybrid planning application for the New Aberfeldy Masterplan.

The scope of this report is limited to an assessment of flood risk at the site and the measures required to appropriately mitigate flood risk for the lifetime of the development, taking into consideration the vulnerability of the proposed use to flood risk. A preliminary surface water drainage scheme is reported separately.

1.2 Information Source

The assessment has been undertaken in accordance with the below documents and guidance detailed within the National Planning Policy Framework (NPPF) and the accompanying Planning Practice Guidance (PPG).

- Ordnance Survey (OS);
- British Geological Survey (BGS);
- Environment Agency (EA);
- Department for Environment, Food and Rural Affairs (DEFRA);
- Thames Water Sewer Records;
- National Planning Policy Framework, July 2021
- National Planning Practice Guidance (NPPG) August 2021
- Policy SI 12 Flood Risk Management, The London Plan 2021
- Policy SI 13 Sustainable Drainage, The London Plan 2021
- London Borough of Tower Hamlets Local Plan 2020
- London Borough of Tower Hamlets Strategic Flood Risk Assessments
- London Borough of Tower Hamlets Preliminary Flood Risk Assessment
- London Borough of Tower Hamlets Local Flood Risk Management Strategy
- London Borough of Tower Hamlets Surface Water Management Plan

It is to be noted that this FRA has been undertaken as a desktop study and no intrusive site investigations have been undertaken to inform this report.

parmarbrook

2 Planning Policy and Guidance

2.1 National Planning Policy Framework

At a national level, the National Planning Policy Framework (NPPF), July 2021 and associated Planning Practice Guidance (PPG), ensures flood risk is taken into account at all stages of the planning process. The aim of this is to avoid inappropriate development in areas at risk of flooding and to direct development towards areas at lowest flood risk. The updates to this document do not fundamentally alter the previous work undertaken with respect to flood risk or surface water drainage.

The NPPF retains a risk based approach to the planning process and defines four flood zones. These zones are to be used as the basis for applying the sequential test to consider a development in terms of Flood Risk Vulnerability Classifications. These define the type of development that is considered appropriate within each zone.

The NPPF and associated PPG establishes the flood zones as the starting point for assessment with the overarching aim to steer new development to areas with the lowest probability of flooding. The flood zones are defined as follows:

- **Flood Zone 1** (Low Probability) comprises land assess as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%);
- **Flood Zone 2** (Medium Probability) comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year;
- **Flood Zone 3a** (High Probability) comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year; and
- **Flood Zone 3b** (The Functional Floodplain) typically is considered to have an annual probability of flooding of 1 in 20 of greater (>5%) in any year.

2.2 The London Plan 2021: Policies SI 12 & SI 13

The London Plan 2021 provides an overall strategic plan for the Mayor of London, 32 London boroughs and the City of London Corporation. The plan sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20 – 25 years.

Policies SI 12 and SI 13 are related to improving water quality, flood mitigation and reducing flood risk through sustainable urban drainage systems.

Policy SI 12 (Flood Risk Management) states that:

A. Current and expected flood risk from all sources (as defined in paragraph 9.2.12) across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.
B. Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Local Flood Risk Management Strategies, where necessary, to identify areas where

particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should cooperate and jointly address cross-boundary flood risk issues including with authorities outside London.

C. Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.
D. Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.
E. Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.

Policy SI 13 (Sustainable Drainage) states that:

A. Lead Local Flood Authorities should identify – through their Local Flood Risk Management Strategies and Surface Water Management Plans – areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed.
B. Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:
    1) rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
    2) rainwater infiltration to ground at or close to source
    3) rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens).
    4) rainwater discharge direct to a watercourse (unless not appropriate)
    5) controlled rainwater discharge to a surface water sewer or drain
    6) controlled rainwater discharge to a combined sewer.
C. Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.
D. Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

2.3 London Borough of Tower Hamlets Local Plan 2031

The Local Plan was adopted in January 2020, it sets out how the borough of Tower Hamlets will grow and develop until 2031 and identifies how many new homes, jobs and services are needed to support our growing population, and where and how they should be provided. It will also shape how our places will look and feel and influence the way that our communities interact with each other and the spaces around them. It also provides a series of policies to ensure development is well-designed, accessible, safe and respects and enhances the environment, and can be delivered alongside new infrastructure and local services.

parmarbrook

Policy D.ES4 (Flood Risk) states that:

1. Development is required to be located in areas suitable for the vulnerability level of the proposed uses with:
    a. highly vulnerable uses not allowed within flood zone 3a
    b. essential infrastructure and more vulnerable uses within flood zone 3a required to pass the exception test, and
    c. highly vulnerable uses within flood zone 2 required to pass the exception test.
2. Development is required to provide a flood risk assessment if it meets any of the following criteria:
    a. The development site is over 1 hectare in size within flood zone 1
    b. The site is within flood zones 2 or 3a
    c. The development may be subject to other sources of flooding, as defined in the Tower Hamlets Strategic Flood Risk Assessment.
3. The flood risk assessment should include:
    a. A sequential test if the development is in flood zone 2 or 3
    b. The risks of both on and off-site flooding to and from the development for all sources of flooding including fluvial, tidal, surface run-off, groundwater, ordinary watercourse, sewer and reservoir
    c. An assessment of tidal risk in the event of a breach in the River Thames defences
    d. The impact of climate change using the latest government guidance
    e. Demonstration of safe access and egress, and
    f. Mitigation measures, taking account of the advice and recommendations set out in the Tower Hamlets Strategic Flood Risk Assessment.
4. Site design of development which meets criteria outlined in Part 2 above is required to:
    a. undertake a sequential approach to development layout to direct highest vulnerability uses to areas of the site with lowest flood risk, and
    b. incorporate flood resilience and/or resistance measures.
5. Development is required to protect and where possible increase the capacity of existing water spaces and flood storage areas to retain water.
6. Development is required to enable effective flood risk management through:
    a. requiring development along the River Thames and the River Lea and its tributaries to be set back by the following distances unless significant constraints are evidenced:
        i. A minimum of a 16-metre buffer strip along a tidal river, and
        ii. A minimum of a 8-metre buffer strip along a fluvial river.
    b. optimising opportunities to realign or set back defences and improve the riverside frontage to provide amenity space and environmental enhancement.

Policy D.ES5 (Sustainable Drainage) states that:

1. Development is required to reduce the risk of surface water flooding, through demonstrating how it reduces the amount of water run-off and discharge from the site through the use of appropriate water reuse and sustainable drainage systems techniques.
2. Major development is required to submit a drainage strategy which should demonstrate that surface water will be controlled as near to its source as possible in line with the sustainable drainage systems hierarchy.
3. Development is required to achieve the following run-off rates:
    a. New development in critical drainage areas is required to achieve a greenfield run-off rate and volume leaving the site

b. All other development should seek to achieve greenfield runoff rate and volume leaving the site. Where this is not possible, the minimum expectation is to achieve at least 50% attenuation of the site's surface water run-off at peak times prior to redevelopment.

2.4 London Borough of Tower Hamlets Strategic Flood Risk Assessments

The LBTH Strategic Flood Risk Assessment was published in August 2017 to determine flood risk across the borough.

The Level 1 SFRA aims to collate and review all information available regarding flood risk for the borough, to enable the Sequential Test to be undertaken. In addition, it identifies areas at risk of flooding from all sources and provides information to allow the LBTH to set suitable policies to address flood risk management.

The Level 2 SFRA allows the Exception Test to be undertaken for Sites which cannot be located within a lower flood risk area. This report also provides enough information to assist each borough with strategic planning for their administrative area.

Information from both SFRAs regarding tidal, fluvial, surface water, sewer and groundwater flooding is included within Section 2 of this FRA.

2.5 London Borough of Tower Hamlets Preliminary Flood Risk Assessment

The LBTH's Preliminary Flood Risk Assessment (PFRA) was published in May 2011, to provide a high-level summary of flood risk to the borough.

The report describes the probability and subsequent consequences of past and future flooding, and considers flooding from overland surface water runoff, groundwater, sewers and ordinary watercourses. Information from the PFRA regarding flooding is included within Section 2 of this FRA.

2.6 London Borough of Tower Hamlets Local Flood Risk Management Strategy

The LBTH Local Flood Risk Management Strategy (LFRMS)xii was published in June 2015, to provide guidance and information for residents, businesses and developers regarding Tower Hamlets strategy for dealing with flooding within the borough.

It was completed to fulfil LBTH's requirement and duties as Lead Local Flood Authority (LLFA) and sets out how LBTH plan to manage flood risk across the Borough. In general, the LFRMS describes LBTH's commitment to work to address local flood risk and provides a framework of how local flood risk will be managed.

parmarbrook

3 Site Description & Context

3.1 Site Location

The Aberfeldy estate is located in Lansbury ward in the south-east of Tower Hamlets. Aberfeldy is one of the most physically and geographically segregated parts of the borough, with the A12 and A13 road networks splitting the estate from the rest of Poplar and Blackwall.

The site is located to the south of the River Lea and the Leven Yard Gasworks site. It is bounded to its west by the A12 and borders the Aberfeldy Village Development and Culloden Primary School to the south.

The site is centred on the approximate National Grid Reference TQ 38483 81132, as shown in **Figure 1**.

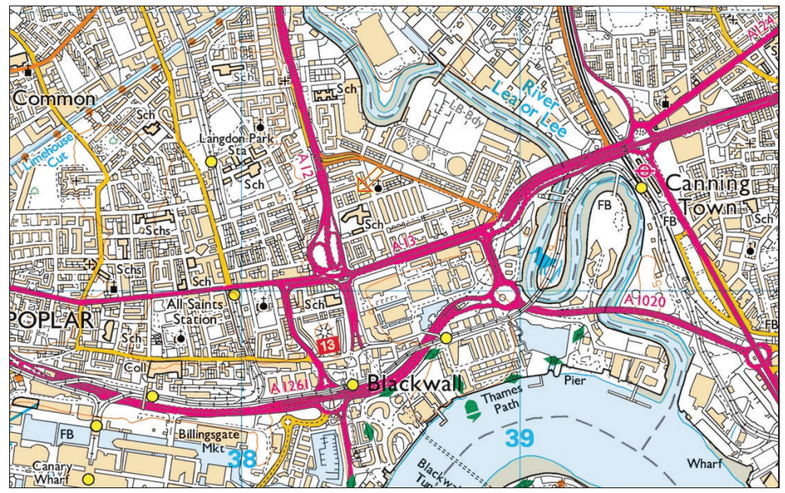


Figure 1 - Site Location

3.2 Existing and Proposed Development

The existing site includes:

- Existing homes on the Aberfeldy estate, including the properties and land around Balmore Close
- The Nairn Street Estate to the north and the new Poplar Works development adjacent to the A12.
- Land at Lochnagar Street to the north of Bromley Hall School
- Abbott Road and the existing green spaces or Braithwaite Park and Leven Road Open Space
- Land along Blair Street, adjacent to Braithwaite Park, which will complete the courtyard building within the built phase of Aberfeldy Village; and
- The existing vehicular underpass, Jollys Green, land parallel to the A12 and the pedestrian underpass at Dee Street.



Figure 2 - Site Aerial View

A portion of the site benefits from an extant outline planning permission (ref: PA/11/02716/PO) for the construction of 1,176 residential units, of which 901 will have been constructed following completion of phase 3.

The proposed new masterplan is a once in a generation opportunity to reshape the heart of Poplar by maximising the LLP, Poplar HARCA and Tower Hamlets' landholdings which will deliver:

- A neighbourhood that fosters growth through high quality mixed use redevelopment
- A revitalised local centre with new retail, commercial workspace, civic and faith facilities
- Considerable public realm focused on walkability, healthy streets and creating a child friendly place
- Opportunity for improved connectivity to, from and through the site
- A significant number of new high quality homes providing a significant contribution to LBTH housing targets.

The proposals comprise a hybrid planning application seeking detailed permission for Phase A and outline planning permission for future phases, comprising:

Outline planning permission (all matters reserved) for the demolition of all existing structures and redevelopment to include a number of buildings (up to 100 m AOD) and up to 141,014 m2 (GEA) of floorspace comprising the following mix of uses:

- Residential (C3);
- Retail, workspace, food and drink uses (Class E);
- Car and cycle parking;
- Formation of new pedestrian route through the conversion of the existing vehicular underpass;
- Landscaping including open spaces and public realm; and

- New means of access, associated infrastructure and highways works.

In Full, for residential (Class C3), retail, food and drink uses and a temporary marketing suite (Class E and Sui Generis), together with access, car and cycle parking, associated landscaping and new public realm, and private open space.

The NPPG classifies residential uses as More vulnerable to flood risk, and retail uses as Less Vulnerable to flood risk.

Refer to **Appendix A** for the illustrative Aberfeldy New Masterplan Layout.

3.3 Waterbodies in the Vicinity of the Site

Waterbodies in the vicinity of the site are identified in **Figure 3**.

The River Lee is located a minimum of approximately 160 m east of the site and flows in a generally southerly direction to its confluence with the River Thames. The River Thames is located approximately a 550 m south of the site and flows in an easterly direction towards the Thames Estuary.

According to the main river map both the River Lee and the River Thames are classified as a 'main river'. The Environment Agency carries out maintenance, improvement and construction work on main rivers to manage flood risk.

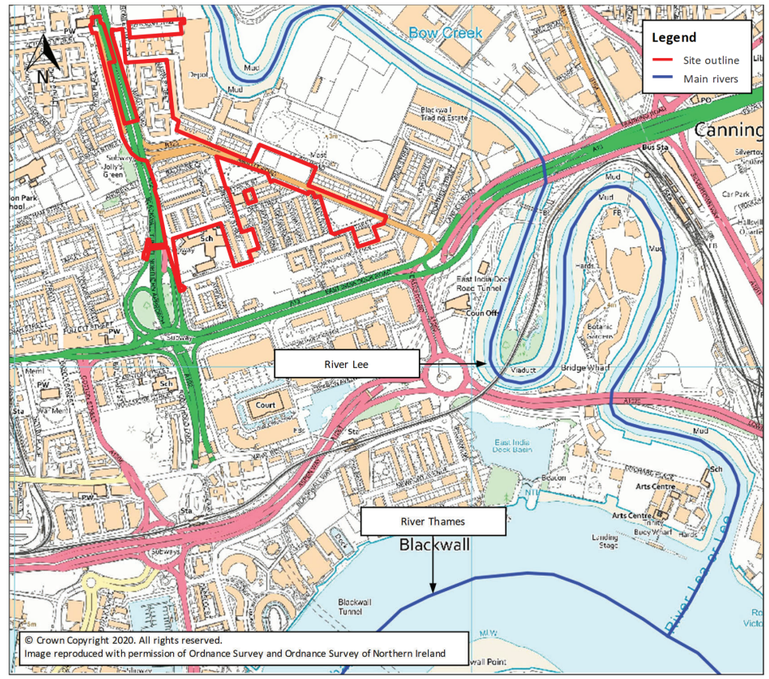


Figure 3 – Location and Designation of Waterbodies

3.4 Site Levels and Topography

The existing site levels have been extracted from the Lidar Digital Terrain Model (DTM) provided by the Department for Environment, Food & Rural Affairs (DEFRA) Survey Data portal. The maps identify the existing levels to Ordnance datum as illustrated in Figure 4.

The DTM indicates that the site levels range between approximately 1.4 and 5.3 metres Above Ordnance Datum (m AOD), with the northern site parcel situated approximately 2.0 m higher than the southern parcel.

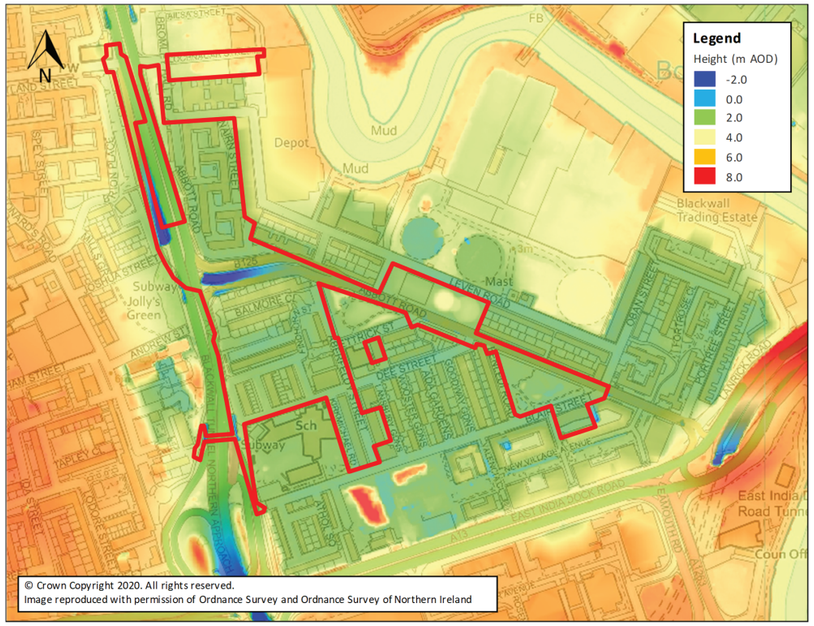


Figure 4 – Lidar level data

3.5 Site Geology and Hydrogeology

British Geological Survey (BGS) mapping indicates that the superficial deposits at the site comprise alluvium - clay, silt, sand and peat formed up to 2 million years ago in the Quaternary Period. (Figure 5).

The bedrock geology at the site comprises clay, silt and sand of the London Clay formation - sedimentary bedrock formed approximately 48 to 56 million years ago in the Palaeogene Period (Figure 6).

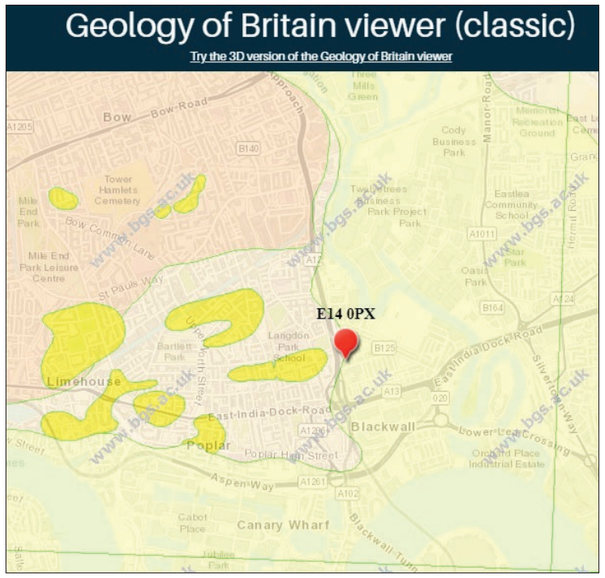


Figure 5 - Site Superficial deposits

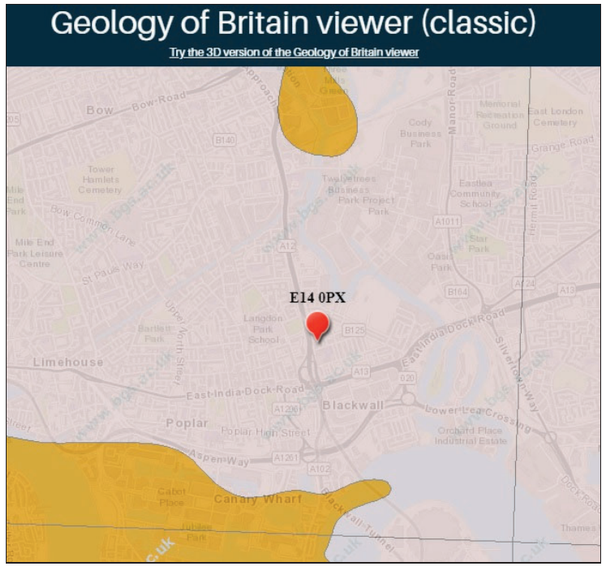


Figure 6 - Site Bedrock Geology

The National Geoscience Data Centre's Single Onshore Borehole Index holds five records of boreholes within the site boundary. These indicate that made ground is present to a maximum depth of 2.5 m below ground level (bgl) underlain by silty sandy clay interlaid with gravel to a depth of 25.0 m bgl.

According to the MAGIC website the superficial deposits at the site are classified as a Secondary (undifferentiated) aquifer whilst the underlying London Clay Formation bedrock is classified as an Unproductive aquifer.

The site is not shown to be located within a designated groundwater source protection zone.

4 Assessment of Flood Risk

4.1 Flood Zone Designation

Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. The NPPF and PPG defines Flood Zones as follows:

a. Flood Zone 1 (Low Probability): Land having a less than 1 in 1,000 annual probability of river or sea flooding.
b. Flood Zone 2 (Medium Probability): Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
c. Flood Zone 3a (High Probability) Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.
d. Flood Zone 3b (The Functional Floodplain): This zone comprises land where water has to flow or be stored in times of flood.

The flood zones are shown on the Environment Agency Flood Map for Planning (Rivers and Sea). The flood zones shown on the flood map are defined by the predicted extent of flooding during the present day 1 in 100 (non-tidal rivers), 1 in 200 (tidal rivers and sea) and 1 in 1,000 (rivers and sea) annual exceedance probability (AEP) events. The zones do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding.

Flood zone 3b (functional floodplain) is not separately distinguished on the Flood Map for Planning but is usually identified by local planning authorities in their SFRAs. The boundary of flood zone 3b is normally defined as land that would flood during the present day 1 in 20 AEP event, although definitions may vary particularly in some districts and in urban areas.

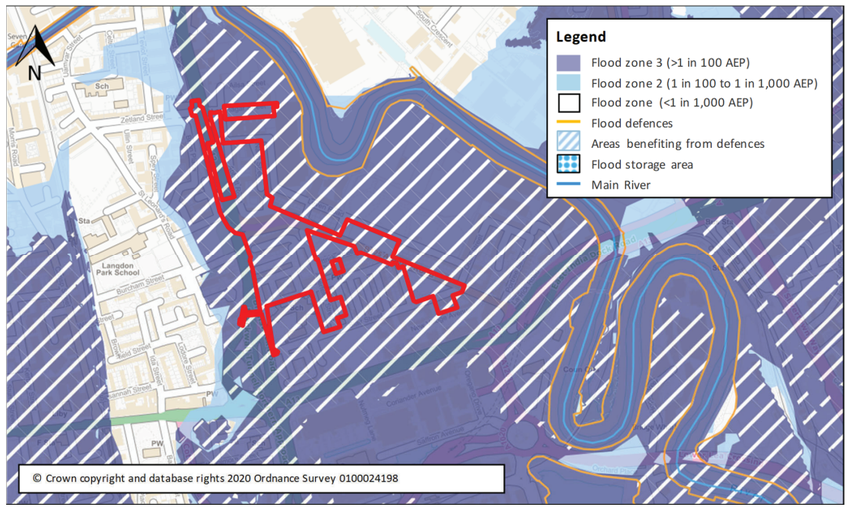


Figure 7 – EA Flood Map from Rivers & Sea

Where an area benefits from formal flood defences providing a minimum standard of protection, the defended area may be indicated as an area benefiting from flood defences. However, not all areas are shown as such, and unless specifically indicated, the Flood Map for Planning conservatively shows land at risk of flooding in the absence of flood defences. The Flood Map for Planning **(Figure 7)** indicates the site to be located in flood zone 3 and is in an area benefiting from the presence of flood defences.

4.2 Historical Records of Flooding

The Environment Agency historic flood map indicates that extensive flooding of the site occurred in 1928 and that land beyond the south-east corner of the site was also flooded in 1947 (**Figure 8**).

It should be noted that raised defences were not present along the River Lee when flooding occurred at the site. The London Borough of Tower Hamlets SFRA indicates that flood defences were constructed following the 1947 flood event.

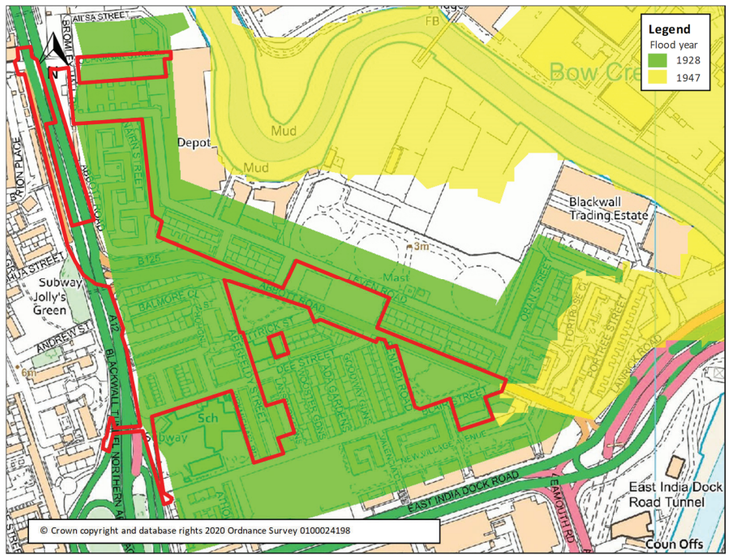


Figure 8 – Recorded Flood Outlines.

4.3 Flood Risk – River Lee

As detailed in Section 3.3, the River Lee is located a minimum of approximately 160 m east of the site and flows in a generally southerly direction to its confluence with the River Thames.

The Environment Agency (EA) has confirmed that the flood defences along the River Lee prevent flooding in up to the 1 in 1,000 AEP event and that the planning application should be informed by an assessment of flood risk from the River Thames.

parmarbrook

4.4 Flood Risk – River Thames

As detailed in Section 3.3, the River Thames is located approximately a 550 m south of the site and flows in an easterly direction towards the Thames Estuary.

The extent of flooding presented by the Flood Map for Planning does not take into account the presence of flood defences. However, the site is located in an area benefitting from formal defences, including the Thames Barrier.

The Thames Barrier and the raised defences along the banks of the River Thames and are designed to provide a 1 in 1,000 annual probability Standard of Protection (SoP) and therefore mitigate the risk of flooding from the River Thames in up to the present day 1 in 1,000 annual probability event.

The crest level of the defences situated adjacent to the site is currently 5.23 m AOD. It is expected that the crest level of the defences will be raised to 6.20 m AOD in accordance with the TE2100 Plan in order to maintain the current SoP up to 2100.

Based upon the above, the site is assessed to be at a low risk of flooding form the River Thames. However, a residual risk of flooding exists due to potential overtopping of the defences for events exceeding the SoP, due to a structural failure of the flood defence walls, or due to a failure of Thames Barrier to operate as intended.

The Environment Agency has provided outputs from its 2017 Thames Tidal Upriver Breach Inundation Modelling Study. The extents of flooding resulting from a breach of the River Thames flood defences for the present day and 2100 climate change scenarios are presented by **Figure 9** and indicate that the site is at risk of flooding.

Maximum flood levels for the present day and 2100 climate change scenarios are presented by **Figure 10** and **Figure 11** respectively. The model results indicate that peak flood levels across the southern site parcel for the present day and 2100 climate change scenarios are 2.80 m AOD and 3.68 m AOD respectively. Peak flood levels within the northern site parcel are shown to range from 3.18 – 3.55 m AOD in the present day scenario and 3.65 – 5.10 m AOD in the 2100 climate change scenario.

Flood hazard mapping for the present day and 2100 climate change scenarios are presented by **Figure 12** and **Figure 13** respectively. The flood hazard at the site is generally shown to be significant (i.e. dangerous for most people), with areas of extreme hazard (i.e. dangerous for all) identified along the site access roads in the 2100 climate change scenario. Refer to **Appendix B** for the EA Product 4 Detailed Flood Risk Maps.

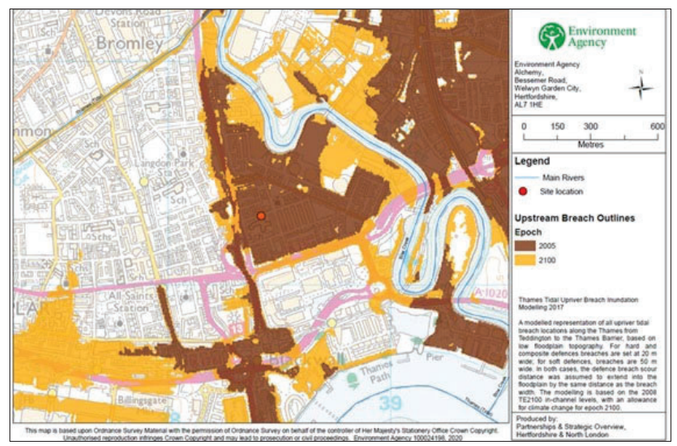
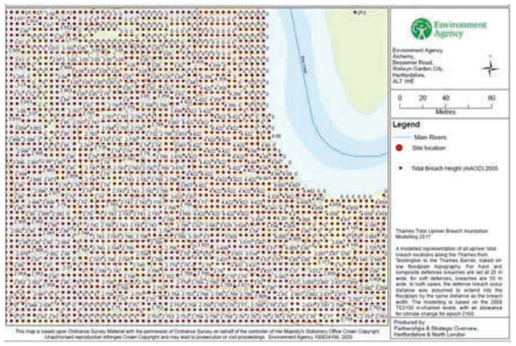
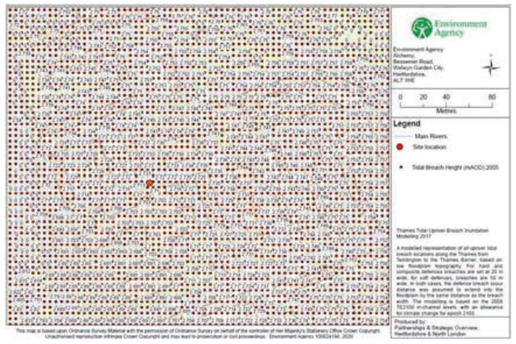


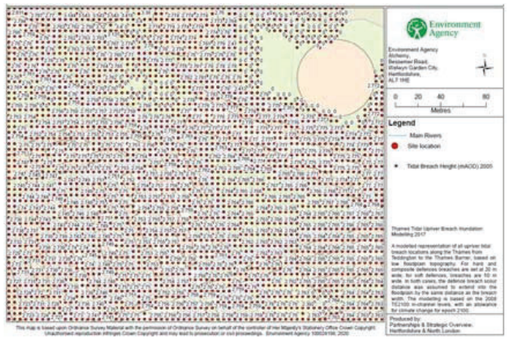
Figure 9 – Modelled Flood Extent – Breach. Tidal Upriver Breach Inundation Modelling Study 2017



North Aberfeldy Village

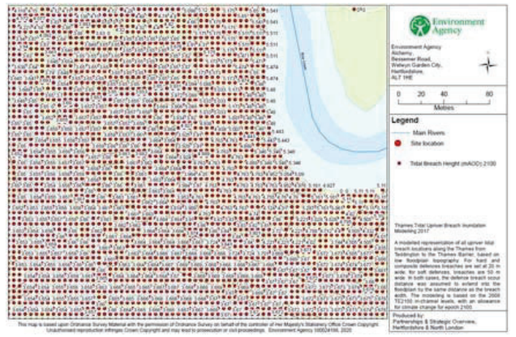


South-west Aberfeldy Village

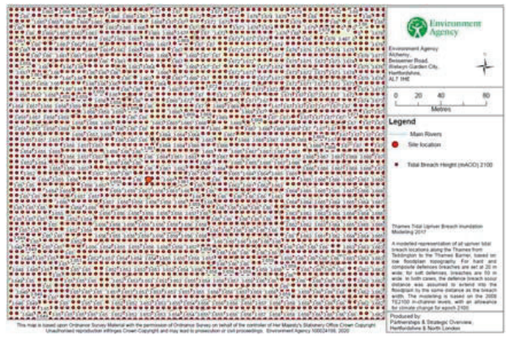


South-east Aberfeldy Village

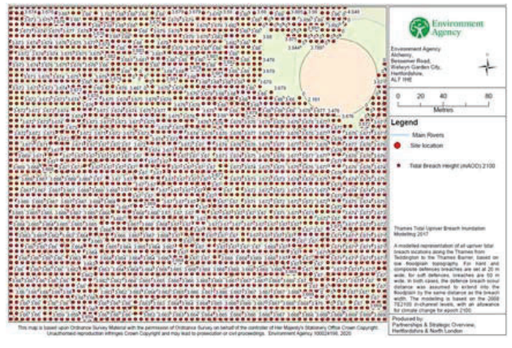
Figure 10 – Maximum Water Level – Breach (2005). Tidal Upriver Breach Inundation Modelling Study 2017



North Aberfeldy Village



South-west Aberfeldy Village



South-east Aberfeldy Village

Figure 11 – Maximum Water Level – Breach (2100). Tidal Upriver Breach Inundation Modelling Study 2017

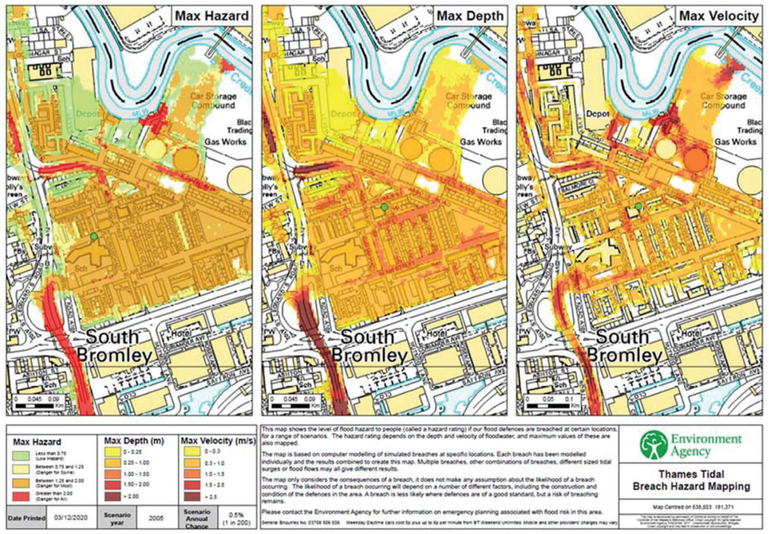


Figure 12 – River Thames Hazard Mapping Breach (2005). Tidal Upriver Breach Inundation Modelling Study 2017

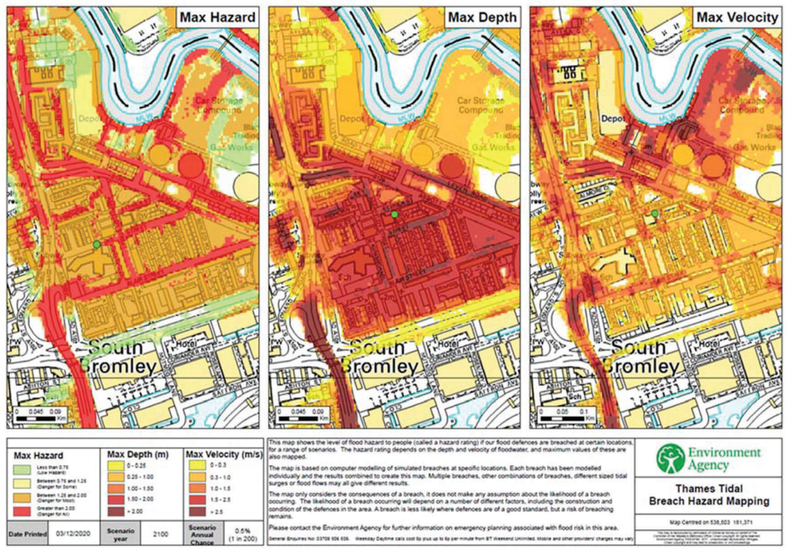


Figure 13 – River Thames Hazard Mapping Breach (2100). Tidal Upriver Breach Inundation Modelling Study 2017

4.5 Surface Water Flooding

Pluvial flooding occurs when natural and engineered systems have insufficient capacity to deal with the volume of rainfall. Pluvial flooding can sometimes occur in urban areas during an extreme, high intensity, low duration summer rainfall event which overwhelms the local surface water drainage systems. This flood water would then be conveyed via overland flow routes dictated by the local topography.

Appendix A, Map 006, of the SFRA indicates that the site is located within a Critical Drainage Area.

The Flood Risk from Surface Water map (Figure 14) shows the majority of the site to be at very low risk of flooding from surface water, with the site access roads identified as being at increased risk.

Potential flood depths along the site access roads for the low, medium and high risk events are presented by Figure 15. Flood depths are shown to be approximately 300 mm, with the exception of the A12 underpass where flood depths are expected to exceed 900 mm.

It should be noted that the modelling approach used to generate the Flood Risk from Surface Water map generally underestimates the capacity of urban drainage networks. It is typically assumed that drainage networks provide a surface water removal rate of 12 mm per hour, equivalent to 33 litres per second per hectare of impermeable area. As such, it is likely that the Flood Risk from Surface Water map overstates the risk of flooding at the site from this source.

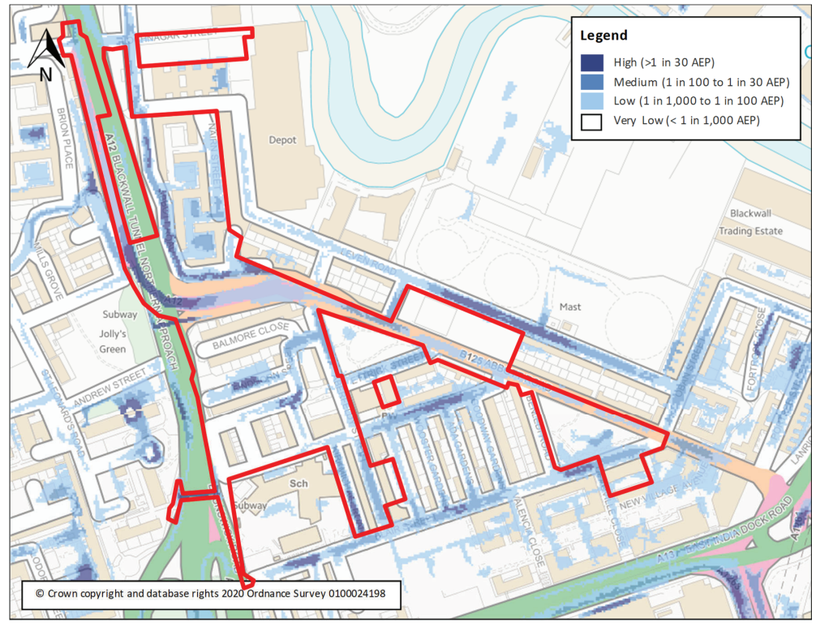


Figure 14 – EA Flood Risk from Surface Water

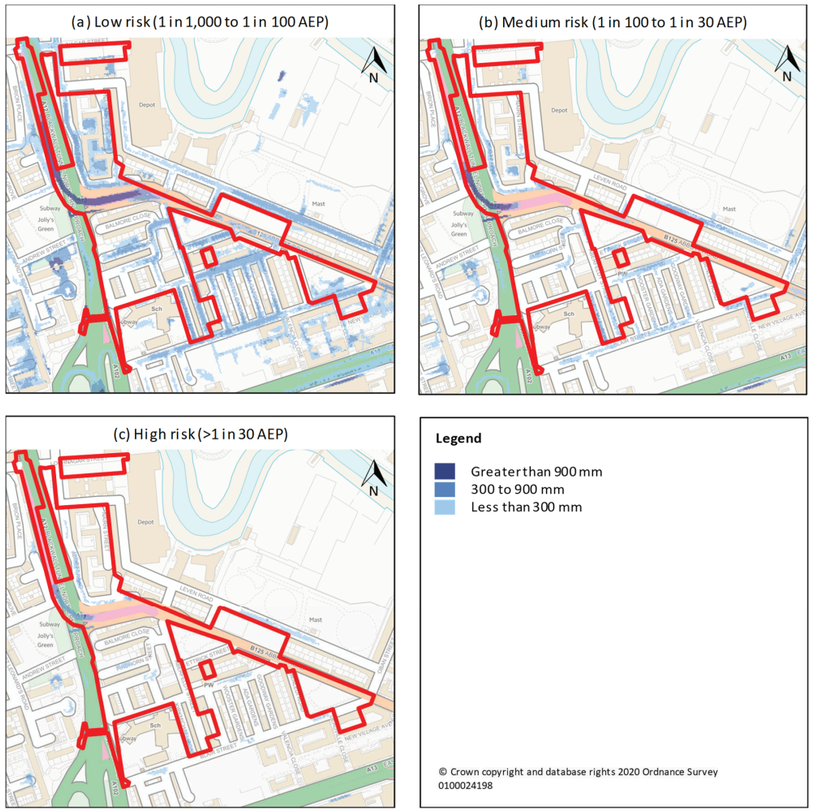


Figure 15 – EA Flood Risk from Surface Water - Depth

4.6 Flood Risk from Reservoirs, Canals and Other Artificial Sources

The Flood Risk from Reservoirs map (**Figure 16**) indicates that the site may be at risk of flooding from reservoirs. However, all large reservoirs are regularly inspected by reservoir panel engineers with essential safety work carried out as required. As detailed on the gov.uk website, reservoir flooding is therefore extremely unlikely to occur.

There are no canals or other artificial sources located within the vicinity of the site that are expected to present a risk of flooding.

parmarbrook

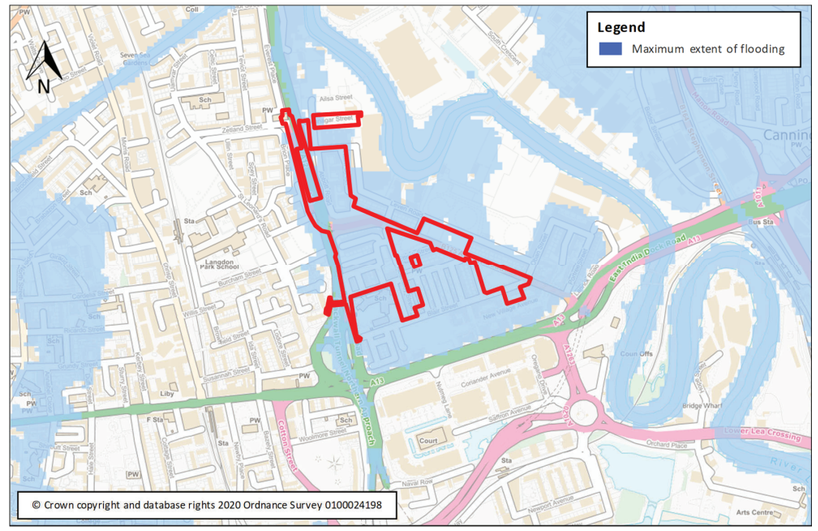


Figure 16 – Flood Risk from Reservoirs Map

4.7 Ground Water Flooding

The British Geological Survey Groundwater Flooding Hazard map (**Figure 17**) indicates that the majority of the site is at a very low risk of flooding from this source, with the western most side of the site at a significant risk of groundwater flooding.

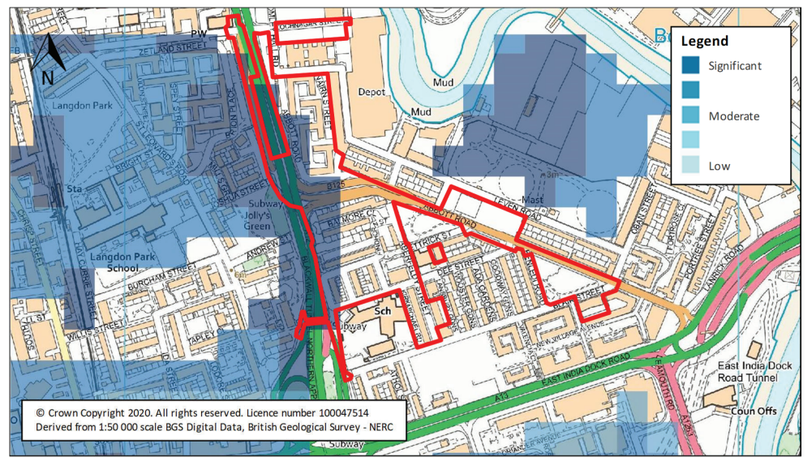


Figure 17 – Groundwater Flooding Hazard Map

5 Flood Risk Mitigation Measures

The risk of flooding to the proposed development will be mitigated through the implementation of the measures proposed within the following section of this report.

5.1 Finished Flood Levels

For the Residential Development the Finished floor levels of the proposed units should be set a minimum of 0.15 m above adjacent ground levels and above peak flood levels in the 2100 climate change breach scenario. Where it is not practicable to raise finished floor levels to this degree, sleeping accommodation (i.e. bedrooms) should be provided at first floor level to ensure that safe refuge is available.

For the Retail Development the Finished floor levels of the proposed units should be set a minimum of 0.15 m above adjacent ground levels.

5.2 Safe Refuge

Evacuation of the site is unlikely to be feasible given that the risk of flooding is principally associated with defence failure, the occurrence of which cannot be predicted. As such, areas of safe refuge should be provided at first floor level for the proposed retail units.

5.3 Flood Resistant and Resilient Construction

Flood resistant and resilient construction techniques should be incorporated into the design of the buildings where appropriate, in line with the CIRIA Code of Practice for Property Flood Resilience (C790). These include design features and finish materials to minimise the entry of water and/or reduce the damage in the unlikely event of the development being inundated.

5.4 Flood Plan

It is recommended that a Flood Plan is prepared in consultation with London Borough of Tower Hamlets emergency planning team. The objectives of the plan would be to reduce the risk to property and life by ensuring that all residents are aware of the potential risk of flooding and the procedures that should be implemented in the event that flooding is expected or has occurred.

This would be achieved by:

- Setting out the measures that would need to be taken if flooding is forecast, during flooding and following an 'all-clear' notification;
- Summarising the roles and responsibilities for flood response and management; and
- Describing how flood warnings are issued, flood warning codes and what they mean, and other sources of flood information

The site is included in an Environment Agency flood alert and warning area. This provides the opportunity for the relevant response procedures set out in the Flood Plan to be invoked in response to receipt of a flood warning from the Environment Agency.

parmarbrook

6 Summary and Recommendations

Parmarbrook has been instructed by EcoWorld London Development Company Ltd. to prepare a Flood Risk Assessment (FRA) in relation to the proposed redevelopment of Aberfeldy Village, East India Dock E14 within the London Borough of Tower Hamlets.

The Flood Map for Planning shows the proposed development site is located within the 1 in 100 / 1 in 200 annual probability flood outline and is therefore defined by the NPPF as being situated within flood zone 3.

The River Lee is located a minimum of approximately 160 m east of the site. The Environment Agency has confirmed that the flood defences along the River Lee prevent flooding in up to the 1 in 1,000 AEP event.

The Thames Barrier and the raised defences along the banks of the River Thames provide a present day 1 in 1,000 standard of protection. The TE2100 Plan states that the crest levels of the defences will be raised to maintain this standard of protection to the year 2100.

The site is shown to be at a residual risk of flooding in the event of a failure of the River Thames flood defences. The maximum flood levels at the site are shown to range between 3.65 and 5.10 m AOD in the 2100 climate change scenario.

The Flood Risk from Surface Water map indicates the majority of the site is at a very low risk of flooding from surface water. However, the site access roads identified as being at increased risk.

The Flood Risk from Reservoirs map indicates that the site may be at risk of flooding from reservoirs. However, all large reservoirs are regularly inspected by reservoir panel engineers with essential safety work carried out as required and reservoir flooding is therefore extremely unlikely to occur.

There may be some susceptibility to groundwater flooding at the site.

This report has demonstrated that the proposed development may be completed in accordance with the requirements of planning policy subject to the following:

- Finished floor levels of the residential units set a minimum of 0.15 m above adjacent ground levels;
- Finished floor levels of the residential units raised above the peak flood levels in the 2100 climate change breach scenario, or sleeping accommodation to be provided at first floor level;
- Finished floor levels of the proposed retail units set a minimum of 0.15 m above adjacent ground levels and safe refuge to be provided at first floor level;
- The latest best practice flood resistant and resilient construction techniques to be incorporated into the design of the building where appropriate; and
- Flood Plan to be developed in consultation with London Borough of Tower Hamlets.

APPENDIX A

ILLUSTRATIVE NEW ABERFELDY MASTERPLAN LAYOUT

Z:\7198_ABERFELDY_VILLAGE_MASTERPLAN\7CAD\DRAWINGS\AVL-LDA-SBX-XX-XX-DR-L-0004_CMP.DWG



LEGEND

GENERAL

- OUTLINE PLANNING APPLICATION BOUNDARY
- DETAILED PLANNING APPLICATION BOUNDARY

0 50m

REV. DESCRIPTION APP. DATE

LDĀDESIGN

PROJECT TITLE
NEW ABERFELDY MASTERPLAN
STAGE 2 OUTLINE PLANNING APPLICATION

DRAWING TITLE
ILLUSTRATIVE COLOUR MASTERPLAN
FOR SUPPORT

ISSUED BY	London	T: 020 7467 1470	
DATE	Sept '21	DRAWN	LS
SCALE@A1	1:1,250	CHECKED	BG
STATUS	Draft	APPROVED	AH

DWG. NO **AVL-LDA-SBX-XX-XX-DR-L-0004**

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

© LDA Design Consulting Ltd. Quality Assured to BS EN ISO 9001 : 2015

Sources Ordnance Survey

This drawing may contain: Ordnance Survey material by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown Copyright 2019. All rights reserved. Reference number 0100031673.
OS Open data / © Natural England / © DEFRA / © DECC / © English Heritage. Aerial Photography - ESRI, DigitalGlobe, GEOEye, i-cubed, USDA FSA,USGD, AEX, Getmapping, Aerogrid, IGN,IGP,swisstopo, the GIS User Community

APPENDIX B

ENVIRONMENT AGENCY PRODUCT 4 DETAILED FLOOD RISK MAPS

Product 4 (Detailed Flood Risk) for: Aberfeldy Village, London, E14 0PT
Reference: HNL 195148 AS
Date: 03/12/2020

Contents

- Flood Map for Planning (Rivers and Sea)
- Flood Map Extract
- Thames Estuary 2100 (TE2100)
- Thames Tidal Upriver Breach Inundation Modelling 2017
- Thames Tidal Upriver Breach Inundation Modelling Map
- Site Node Locations Map
- Defence Details
- Recorded Flood Events Data
- Recorded Flood Events Outlines Map
- Additional Information

The information provided is based on the best data available as of the date of this letter.

You may feel it is appropriate to contact our office at regular intervals, to check whether any amendments/ improvements to the data for this location have been made. Should you re-contact us after a period of time, please quote the above reference in order to help us deal with your query.

Please refer to the Open Government Licence which explains the permitted use of this information.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Flood Map for Planning (Rivers and Sea)

The Flood Map:

Our Flood Map shows the natural floodplain for areas at risk from river and tidal flooding. The floodplain is specifically mapped ignoring the presence and effect of defences. Although flood defences reduce the risk of flooding they cannot completely remove that risk as they may be over topped or breached during a flood event.

The Flood Map indicates areas with a 1% (0.5% in tidal areas), Annual Exceedance Probability (AEP) - the probability of a flood of a particular magnitude, or greater, occurring in any given year, and a 0.1% AEP of flooding from rivers and/or the sea in any given year. In addition, the map also shows the location of some flood defences and the areas that benefit from them.

The Flood Map is intended to act as a guide to indicate the potential risk of flooding. When producing it we use the best data available to us at the time and also take into account historic flooding and local knowledge. The Flood Map is updated on a quarterly basis to account for any amendments required. These amendments are then displayed on the internet at https://www.gov.uk/check-flood-risk

At this Site:

The Flood Map shows that this site lies within Flood Zone 3 - with a 1% chance of flooding from rivers (fluvial flooding) and a 0.5% chance of flooding from the sea (tidal flooding) in any given year.

Enclosed is an extract of our Flood Map which shows this information for your area.

Method of production

The Flood Map at this location has been derived using detailed modelling of the tidal River Thames through the Thames Tidal Defences Study completed in 2006 by Halcrow Ltd.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Thames Estuary 2100 (TE2100)

You have requested in-channel flood levels for the tidal river Thames. These have been taken from the Thames Estuary 2100 study completed by HR Wallingford in 2008. The modelled Thames node closest to your site is **2.46**; the locations of nearby nodes on the River Thames are also shown on the enclosed map.

Details about the TE2100 plan

The Plan sets out how the Environment Agency and our partners can work together to manage tidal flood risk, from now until the end of the century. It is an adaptive plan for managing the Thames Estuary, including the tidal defence system, until 2100 so that current standards of flood protection are maintained or improved taking into account climate change effects e.g. sea level rise. The Plan has 3 phases of activity:

- Until 2035 – maintain and improve current defences, safeguard areas required for future improvements, and monitor climate change indicators.
- 2035-2050 – raise existing walls, defences & smaller barriers whilst reshaping the riverside environment.
- 2050-2100 – determine and implement an option for the future of the Thames Barrier, and adapt other defences as required to work alongside this to protect the estuary.

The Thames Estuary 2100 Plan can be found at: https://www.gov.uk/government/publications/thames-estuary-2100-te2100

Details about the TE2100 in-channel levels

The TE2100 in-channel levels take into account operation of the Thames Barrier when considering future levels. The Thames Barrier requires regular maintenance and with additional closures the opportunity for maintenance will be reduced. When this happens, river levels – for which the Barrier would normally shut for the 2008 epoch – will have to be allowed through to ensure that the barrier is not shut too often. For this reason, levels upriver of the barrier will increase and the tidal walls will need to be heightened to match.

Why is there no return period for levels upriver of the barrier?

The levels upriver of the barrier are the highest levels permitted by the operation of the Thames Barrier. If levels and flows are forecast to be any higher, the Thames Barrier would shut, ensuring that the tide is blocked and the river maintained to a low level. For this reason the probability of any given water level upriver of the Barrier is controlled and therefore any associated return period becomes irrelevant. The Thames Barrier and associated defence system has a 1 in 1000 year standard which means it ensures that flood risk is managed up to an event that has a 0.1% annual probability. The probability of water levels upriver is ultimately controlled by the staff at the Thames Barrier.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

TE2100 2008 levels:

Levels downriver of the Thames Barrier are 0.1% AEP (1 in 1000) and levels upriver are the highest levels permitted by the Thames Barrier, described as the Maximum Likely Water Levels (MLWLs). The defence levels (left defence, right defence) are the minimum levels to which the defences should be built.

Node	Easting	Northing	Extreme water level (m)	Present Day Statuatory Defence Level (Thames Left Bank) (m)	Allow for future 2100 defence raising to a level of... (Thames Left Bank)
2.46	538943	180471	4.67	5.23	6.20
2.46au	539436	180390	4.66	5.18	6.20

TE2100 climate change levels:

			2065 to 2100		2100	
Node	Easting	Northing	Design water level	Defence level (both banks)	Design water level	Defence level (both banks)
2.46	538943	180471	5.16	5.70	5.65	6.20
2.46au	539436	180390	5.15	5.70	5.64	6.20

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Thames Tidal Upriver Breach Inundation Modelling

The map attached displays site-specific modelled flood levels at your site. These have been taken from the Thames Tidal Upriver Breach Inundation Modelling Study 2017 completed by Atkins Ltd. in May 2017.

We have developed a modelling approach where all upriver breach locations along the Thames are equitably modelled, to ensure a consistent approach across London. This modelling simulates 5679 continuous tidal breaches along the entire extent of the Thames from Teddington to the Thames Barrier. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width.

For breaches upriver of the Thames Barrier, there is no return period for modelled levels as the levels are controlled by barrier closures. The levels used are referred to as Maximum Likely Water Levels (MLWLs). Therefore 2005 and 2100 epochs were modelled on that basis.

This modelling has two epochs to consider; the 2005 epoch is a representation of today's flood levels without climate change considerations taken into account, and the 2100 epoch which takes into account changes likely to be seen due to climate change.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Defence Details

The design standard of protection of the flood defences in this area of the Thames is 0.1% AEP; they are designed to defend London up to a 1 in 1000 year **tidal** flood event. The defences are all raised, man-made and privately owned. It is the riparian owners' responsibility to ensure that they are maintained to a crest level of **5.23m** mAODN (the Statutory Flood Defence Level in this reach of the Thames). We inspect them twice a year to ensure that they remain fit for purpose. The current condition grade for defences in the area is **3 (fair),** on a scale of 1 (very good) to 5 (very poor). For more information on your rights and responsibilities as a riparian owner, please see our document 'Living on the edge' found on our website at:

https://www.gov.uk/government/publications/riverside-ownership-rights-and-responsibilities

There are no planned improvements in this area. Please see the 'Thames Estuary 2100' document on our website for the short, medium and long term Flood Risk Management strategy for London:

https://www.gov.uk/government/publications/thames-estuary-2100-te2100

Areas Benefiting from Flood Defences

This site is within an area benefiting from flood defences, as shown on the enclosed extract of our Flood Map. Areas benefiting from flood defences are defined as those areas which benefit from formal flood defences specifically in the event of flooding from rivers with a 1% (1 in 100) chance in any given year, or flooding from the sea with a 0.5% (1 in 200) chance in any given year.

If the defences were not there, these areas would be flooded. An area of land may benefit from the presence of a flood defence even if the defence has overtopped, if the presence of the defence means that the flood water does not extend as far as it would if the defence were not there.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Recorded Flood Events Data

We hold records of historic flood events from rivers and the sea. Information on the floods that may have affected the area local to your site are provided in the enclosed map.

Due to the fact that our records are not comprehensive, we would advise that you make further enquiries locally with specific reference to flooding at this location. You should consider contacting the relevant Local Planning Authority and/or water/sewerage undertaker for the area.

We map flooding to land, not individual properties. Our historic flood event record outlines are an indication of the geographical extent of an observed flood event. Our historic flood event outlines do not give any indication of flood levels for individual properties. They also do not imply that any property within the outline has flooded internally.

Please be aware that flooding can come from different sources. Examples of these are:

- from rivers or the sea;
- surface water (i.e. rainwater flowing over or accumulating on the ground before it is able to enter rivers or the drainage system);
- overflowing or backing up of sewer or drainage systems which have been overwhelmed,
- groundwater rising up from underground aquifers

Currently the Environment Agency can only supply flood risk data relating to the chance of flooding from rivers or the sea. However you should be aware that in recent years, there has been an increase in flood damage caused by surface water flooding and drainage systems that have been overwhelmed.

Other Sources of Flood Risk

The Lead Local Flood Authority for your area are responsible for local flood risk (i.e. surface runoff, ground water and ordinary watercourse) and may hold further information .

You may also wish to consider contacting the appropriate relevant Local Planning Authority and/or water/sewerage undertaker for the area. They may be able to provide some knowledge on the risk of flooding from other sources.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Additional Information

Use of Environment Agency Information for Flood Risk / Flood Consequence Assessments

Important

If you have requested this information to help inform a development proposal, then we recommend that you undertake a formal pre-application enquiry using the form available from our website:-

https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion

Depending on the enquiry, we may also provide advice on other issues related to our responsibilities including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

In **England**, you should refer to the Environment Agency's Flood Risk Standing Advice, the technical guidance to the National Planning Policy Framework and the existing PPS25 Practice Guide for information about what flood risk assessment is needed for new development in the different Flood Zones. These documents can be accessed via:

https://www.gov.uk/flood-risk-standing-advice-frsa-for-local-planning-authorities

https://www.gov.uk/government/publications/national-planning-policy-framework-technical-guidance

https://www.gov.uk/government/publications/development-and-flood-risk-practice-guide-planning-policy-statement-25

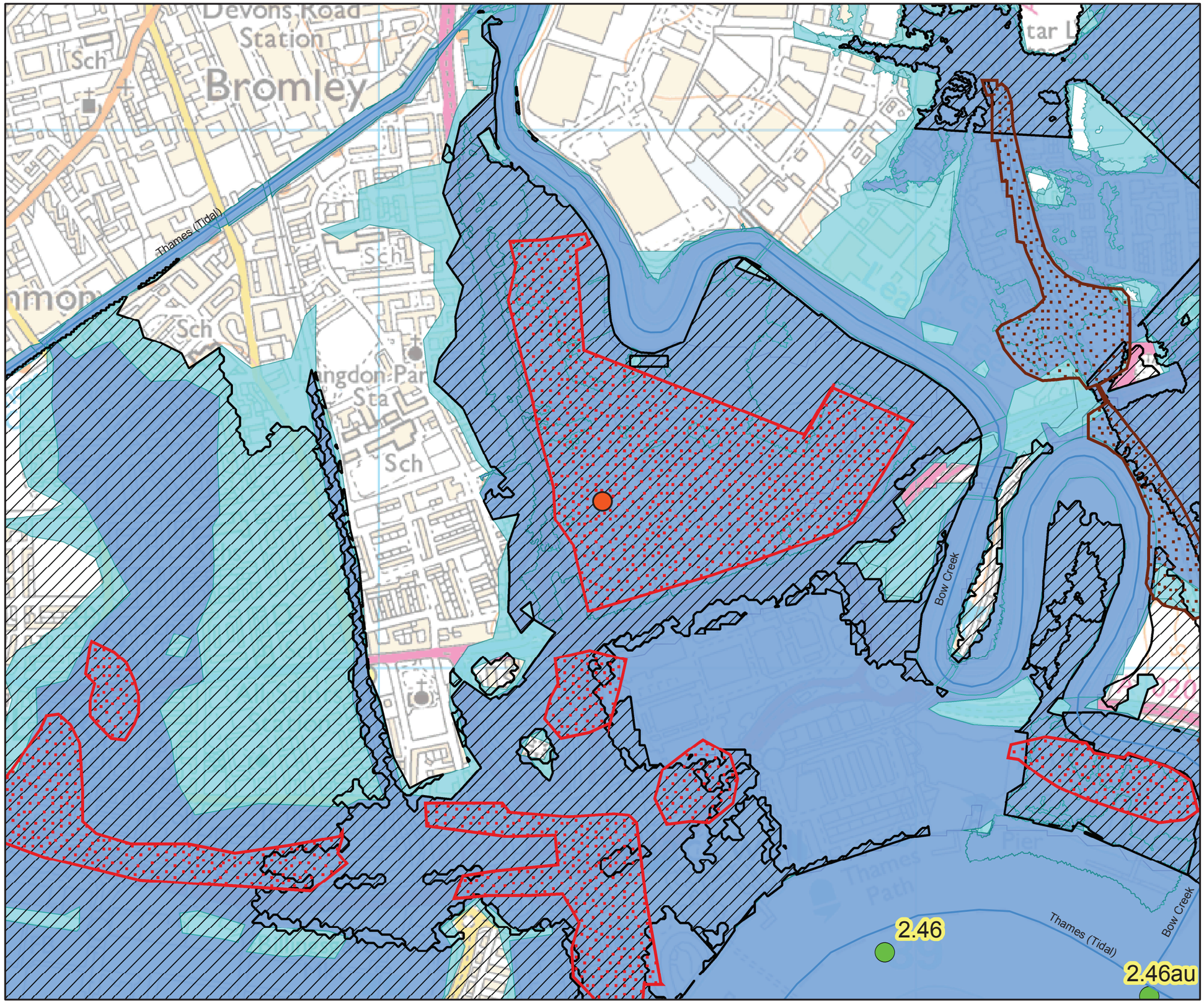
You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

You should note that:

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk / Consequence Assessment (FRA / FCA) where one is required, but does not constitute such an assessment on its own.
2. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or overland runoff. The information produced by the local planning authority referred to above may assist here.
3. Where a planning application requires a FRA / FCA and this is not submitted or deficient, the Environment Agency may well raise an objection.
4. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your local planning authority.

Alchemy, Bessemer Road, Welwyn Garden City, Hertfordshire, AL7 1HE
Customer services line: 03708 506 506
Email: NETenquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

Detailed FRA/FCA for: Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency

Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 150 300 600
Metres

Legend

- Main Rivers
- Site location
- TE2100Nodes
- 1707 Flood Outline
- 1928 Flood Outline
- 1953 Flood Outline
- Areas Benefiting from Flood Defences
- Flood Zone 3
- Flood Zone 2

Flood Map for Planning (assuming no defences)

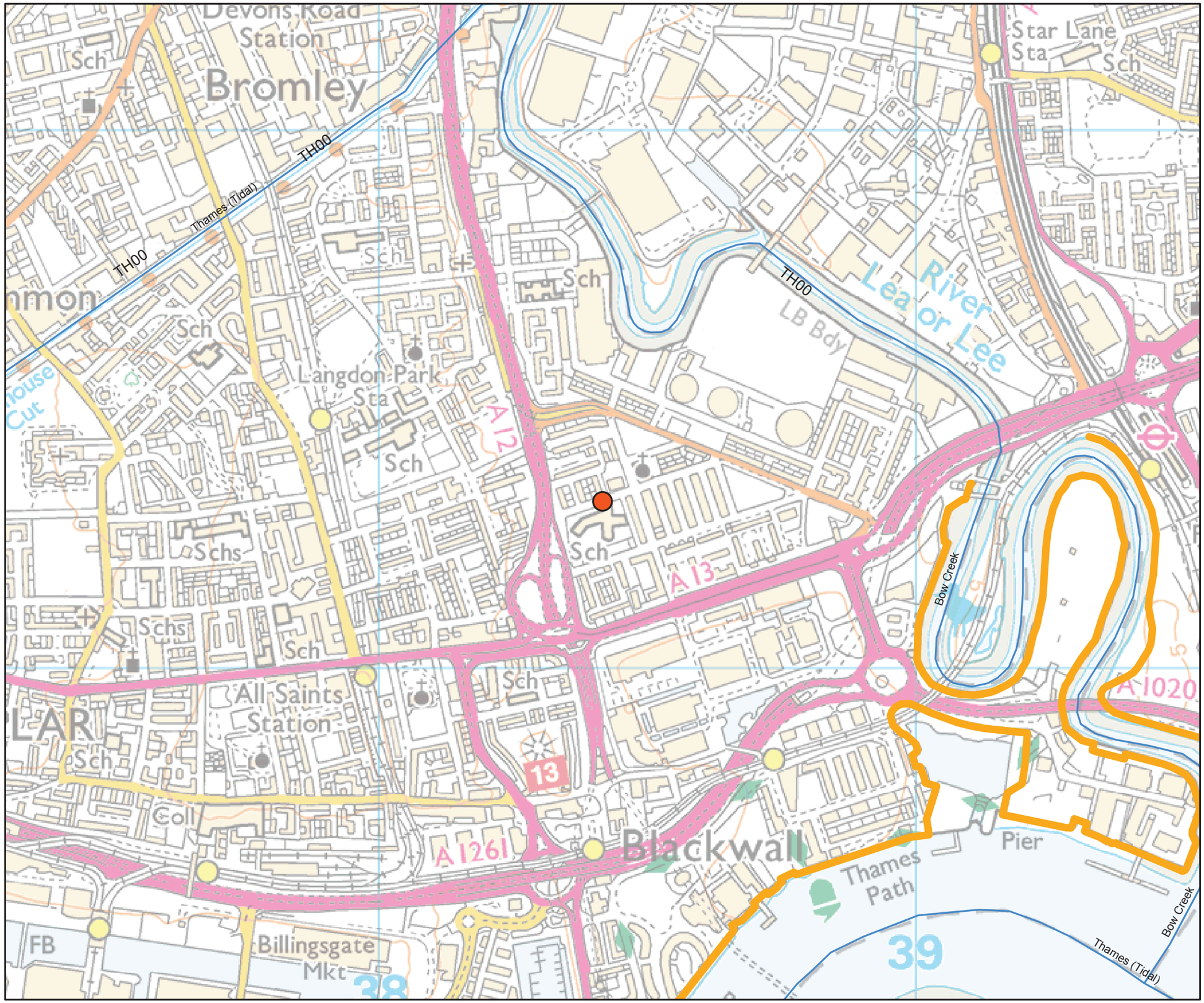
Flood Zone 3 shows the area that could be affected by flooding:
- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

Flood Zone 2 shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright.
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Detailed FRA/FCA for: Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 150 300 600
Metres

Legend

Main Rivers

Site location

TTD Defences SDL (mAODN)

SDL

5.23

Flood Map for Planning (assuming no defences)

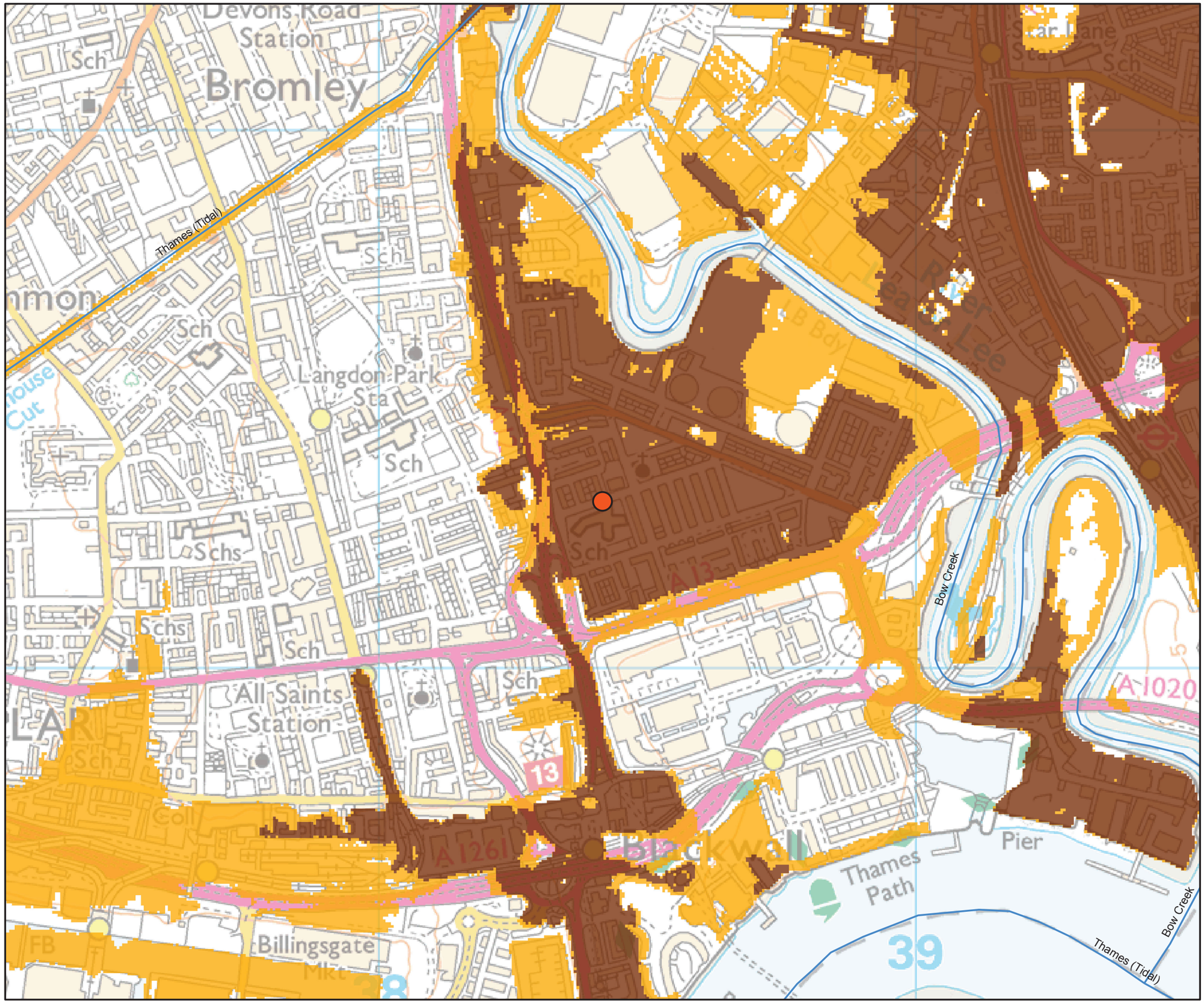
Flood Zone 3 shows the area that could be affected by flooding:
- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

Flood Zone 2 shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Breach Modelling Map for: Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 150 300 600
Metres

Legend

Main Rivers

Site location

Upstream Breach Outlines

Epoch

2005

2100

Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Modelled Flood Levels For: South West Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 20 40 80

Metres

Legend

- Main Rivers
- Site location
- Tidal Breach Height (mAOD) 2005

Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Modelled Flood Levels For: South West Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 20 40 80

Metres

Legend

- Main Rivers
- Site location
- Tidal Breach Height (mAOD) 2100

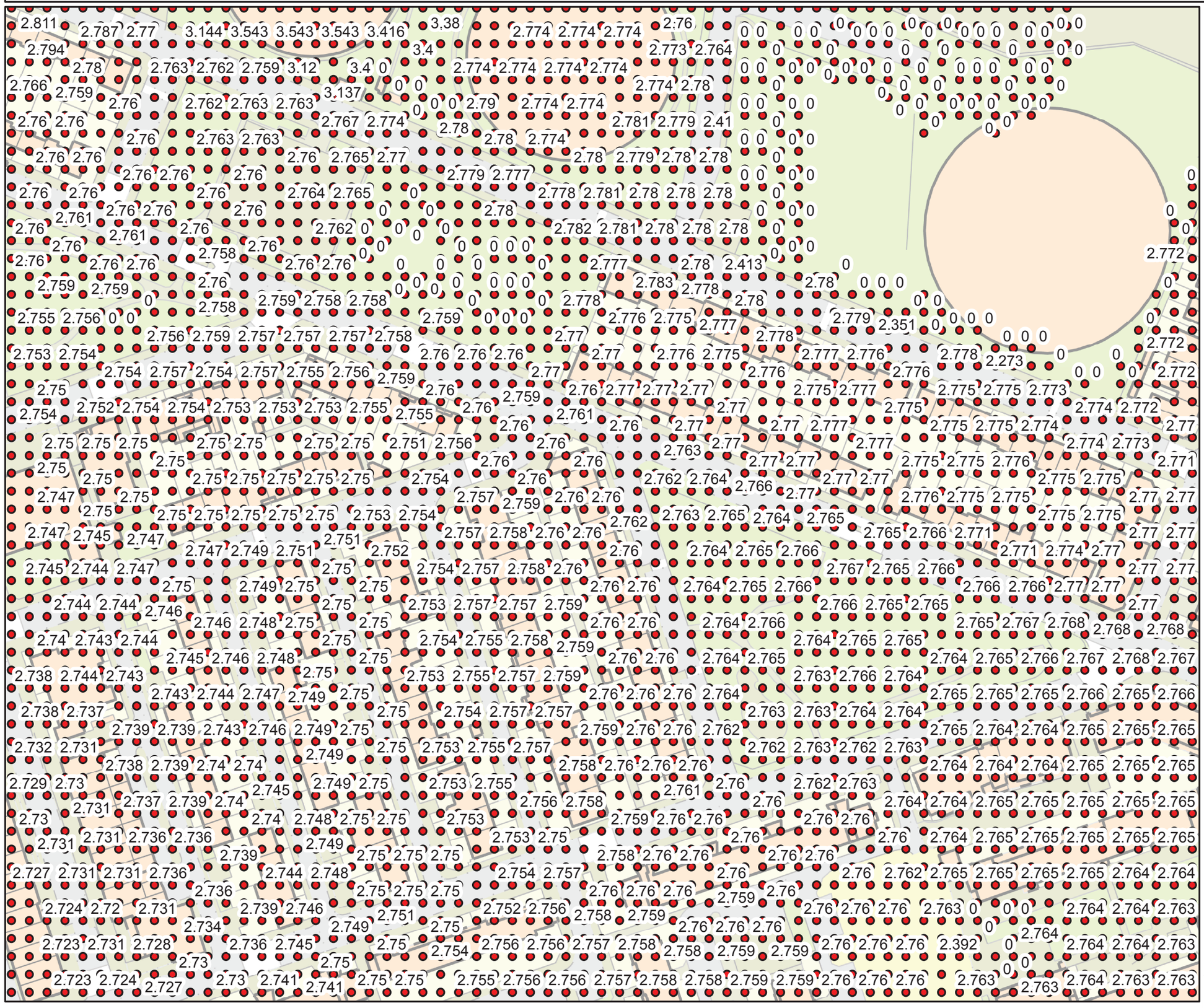
Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Modelled Flood Levels For: South East Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright.
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Environment Agency

Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 20 40 80
Metres

Legend

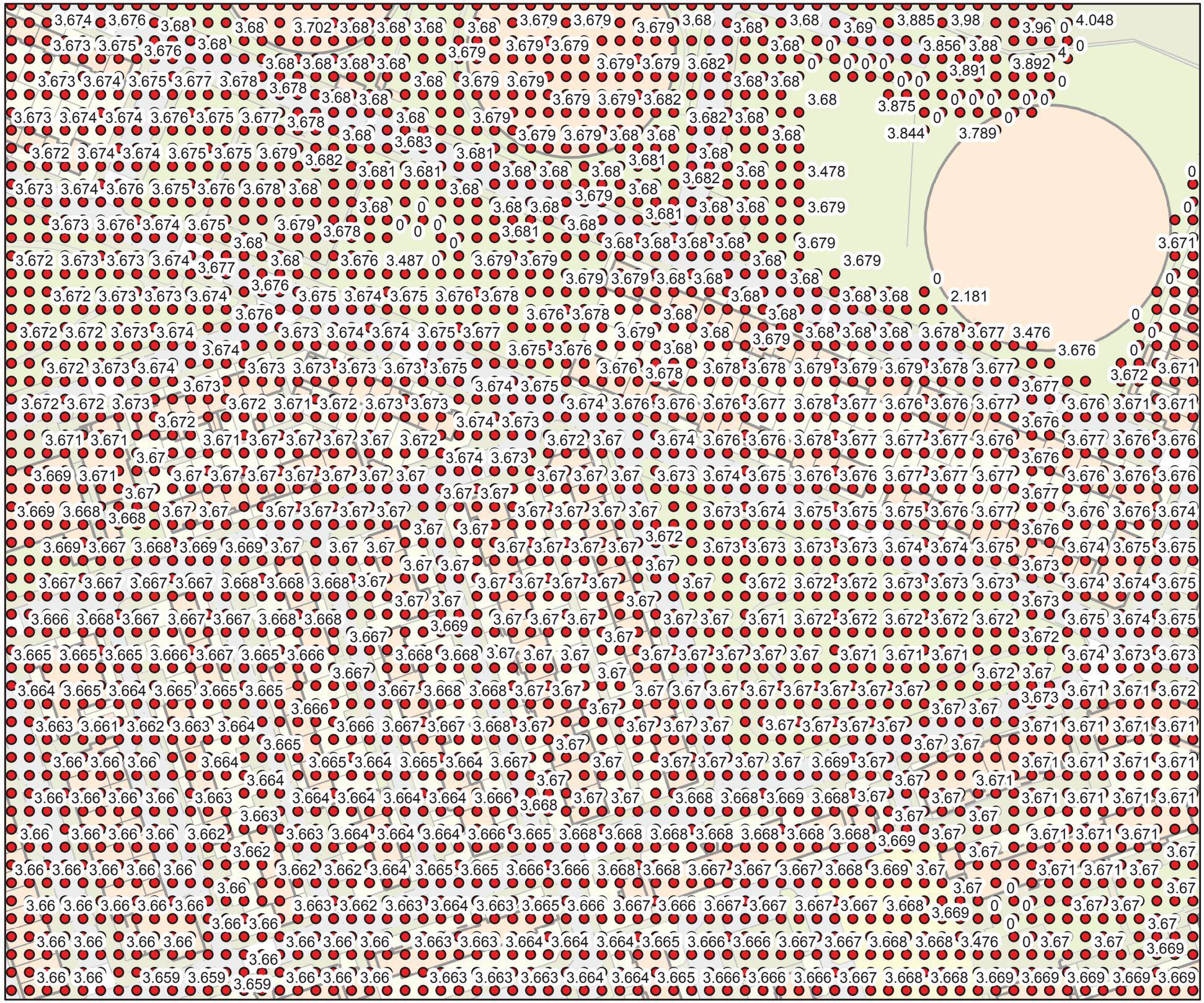
- Main Rivers
- Site location
- Tidal Breach Height (mAOD) 2005

Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

Modelled Flood Levels For: South East Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 20 40 80
Metres

Legend

- Main Rivers
- Site location
- Tidal Breach Height (mAOD) 2100

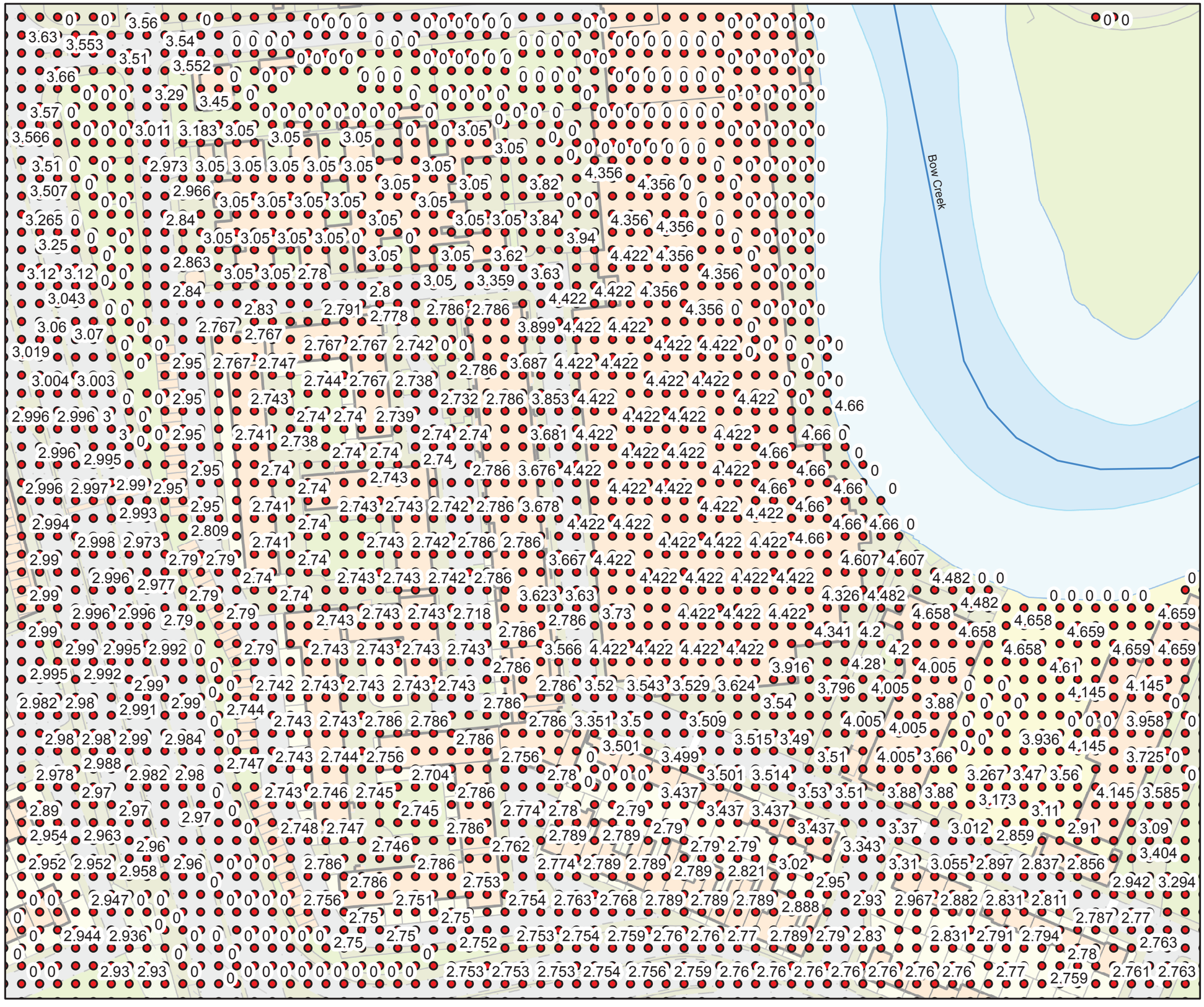
Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Modelled Flood Levels For: North Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 20 40 80
Metres

Legend

- Main Rivers
- Site location
- Tidal Breach Height (mAOD) 2005

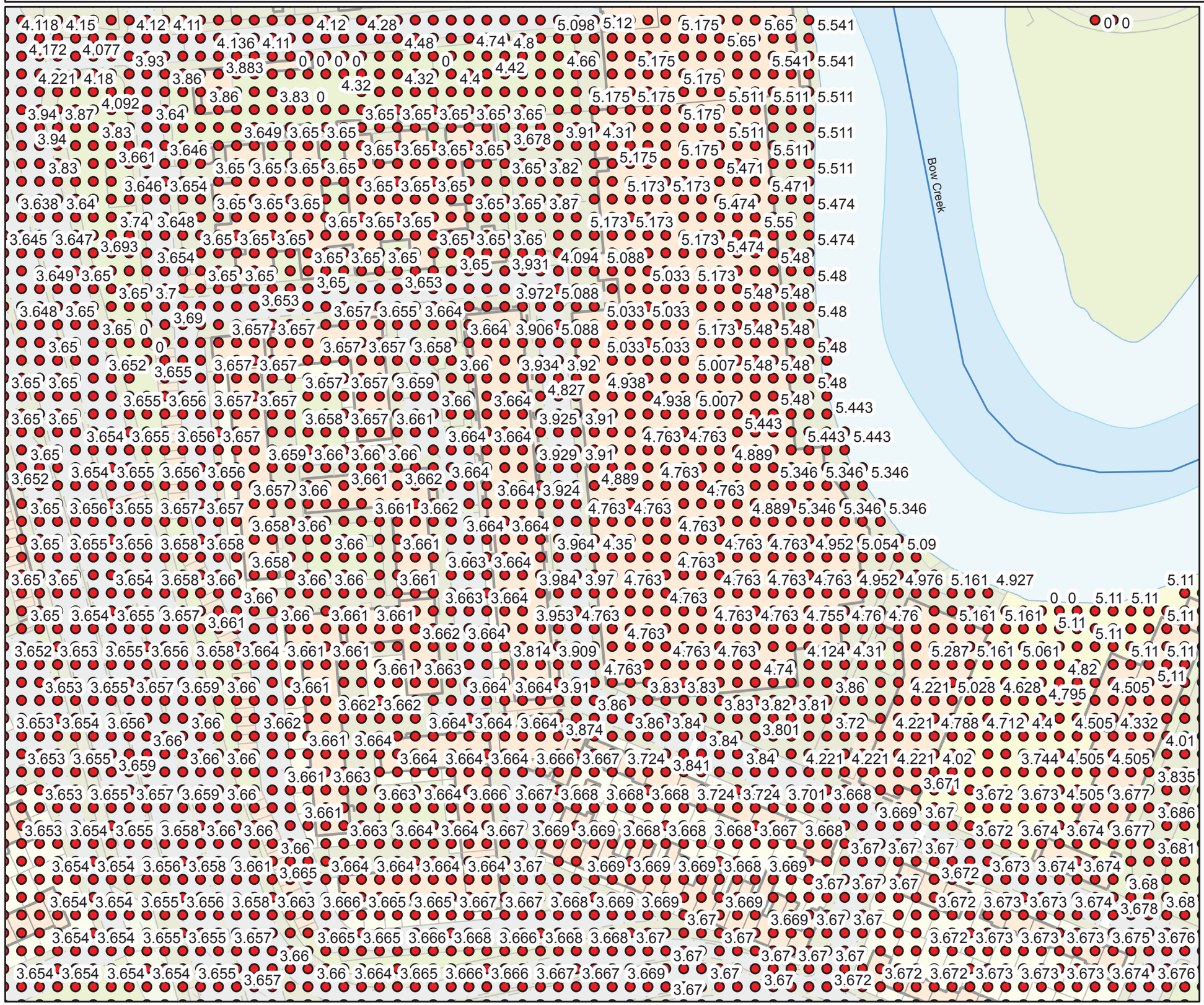
Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020

Modelled Flood Levels For: North Aberfeldy Village, London, E14 0PT - 03/12/2020 - HNL 195148 AS



Environment Agency
Environment Agency
Alchemy,
Bessemer Road,
Welwyn Garden City,
Hertfordshire,
AL7 1HE

N

0 20 40 80
Metres

Legend

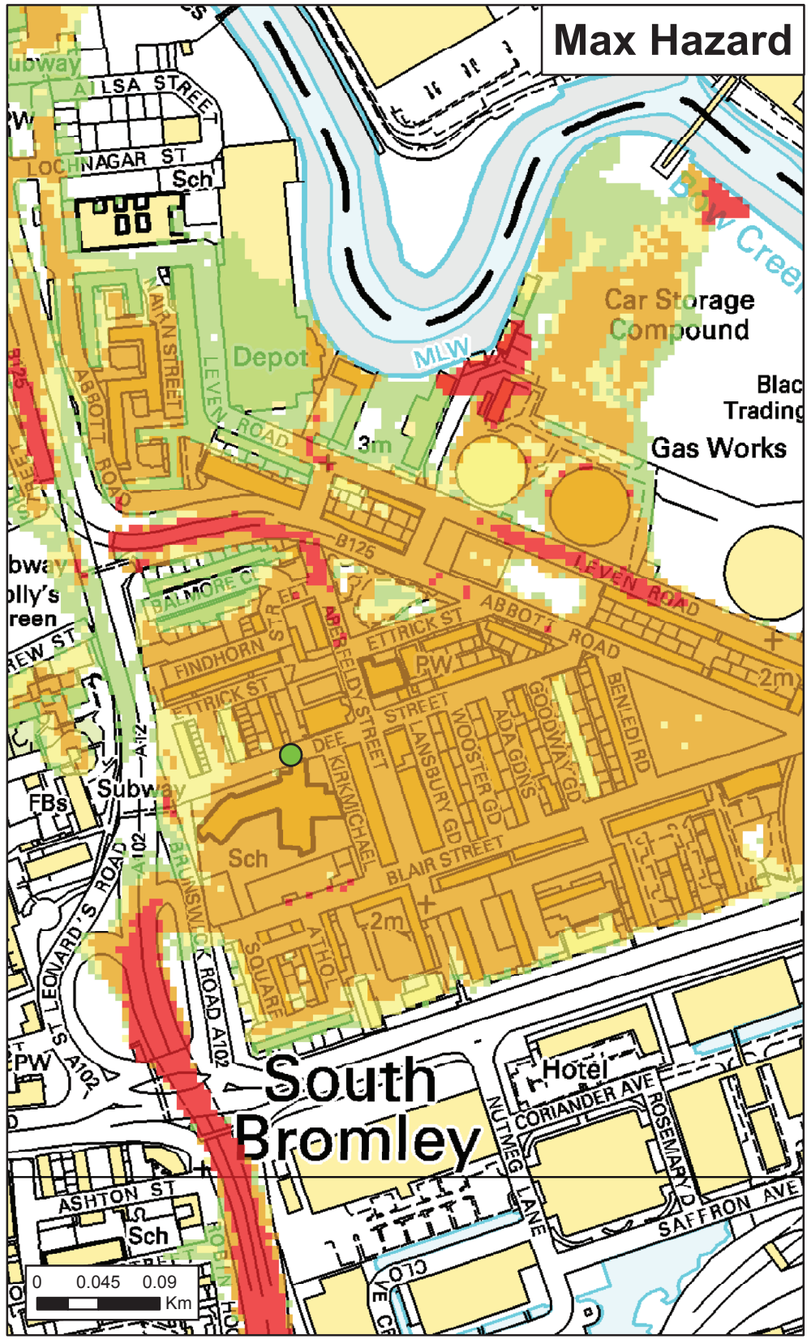
- Main Rivers
- Site location
- Tidal Breach Height (mAOD) 2100

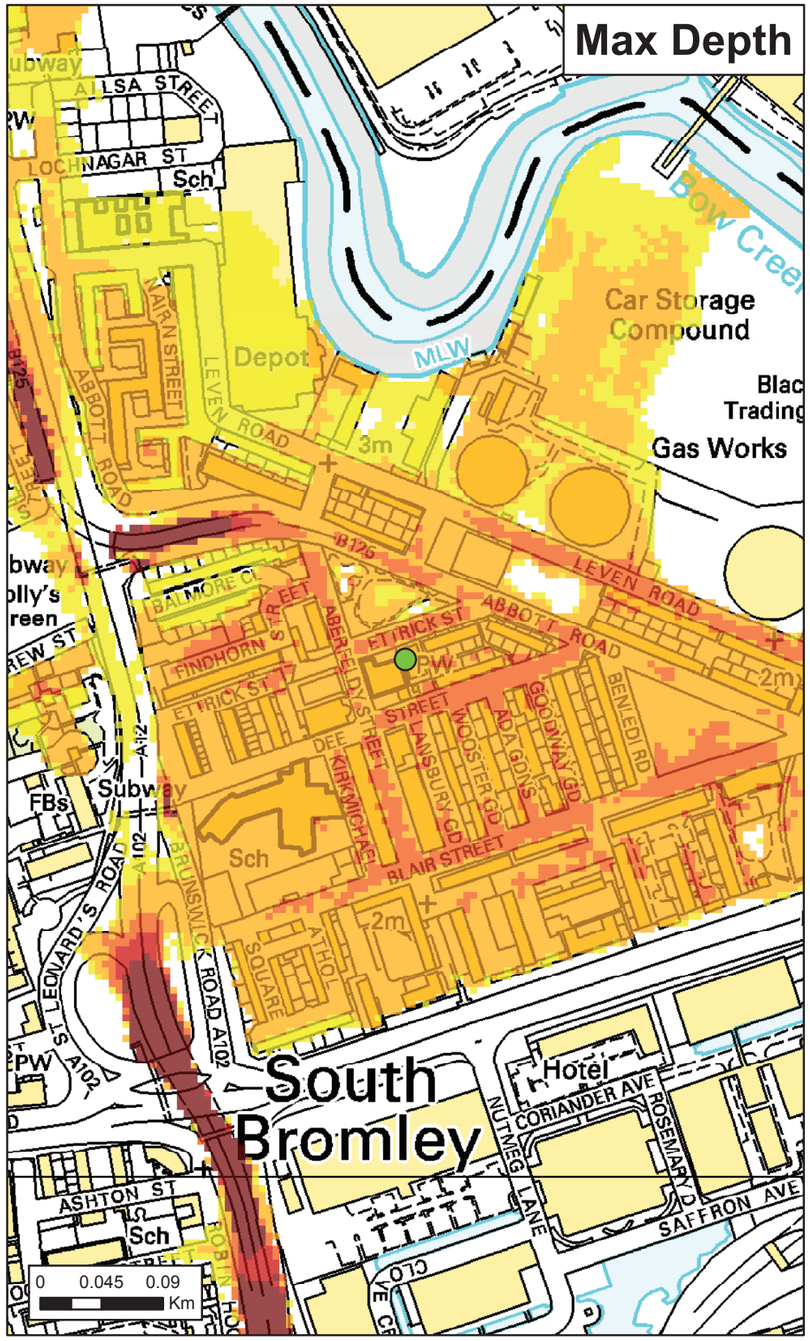
Thames Tidal Upriver Breach Inundation Modelling 2017

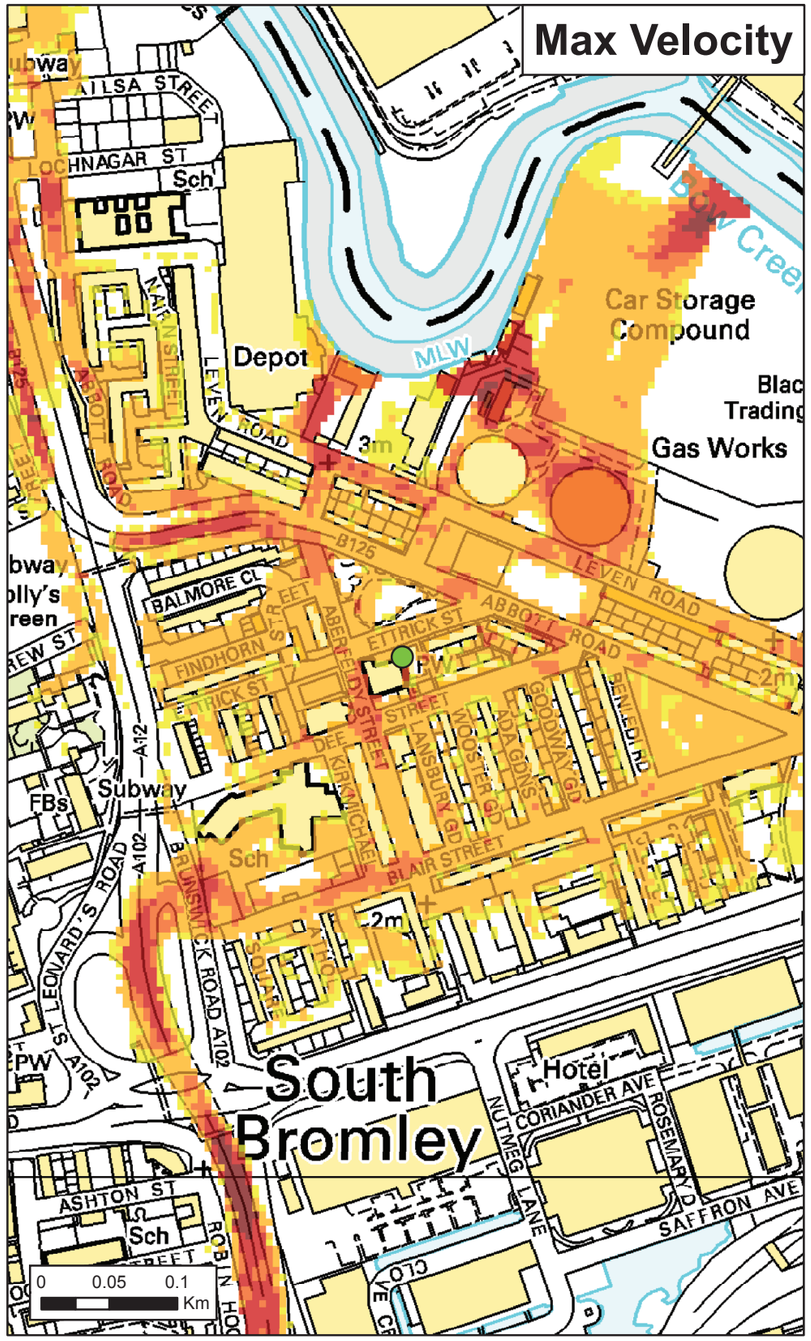
A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
Partnerships & Strategic Overview,
Hertfordshire & North London

This map is based upon Ordnance Survey Material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office Crown Copyright.
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Environment Agency 100024198, 2020







Max Hazard

- Less than 0.75 (Low Hazard)
- Between 0.75 and 1.25 (Danger for Some)
- Between 1.25 and 2.00 (Danger for Most)
- Greater than 2.00 (Danger for All)

Max Depth (m)

- 0 - 0.25
- 0.25 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

Max Velocity (m/s)

- 0 - 0.3
- 0.3 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- > 2.5

Date Printed	03/12/2020	**Scenario year**	2005	**Scenario Annual Chance**	0.5% (1 in 200)

This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.

The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.

Please contact the Environment Agency for further information on emergency planning associated with flood risk in this area.

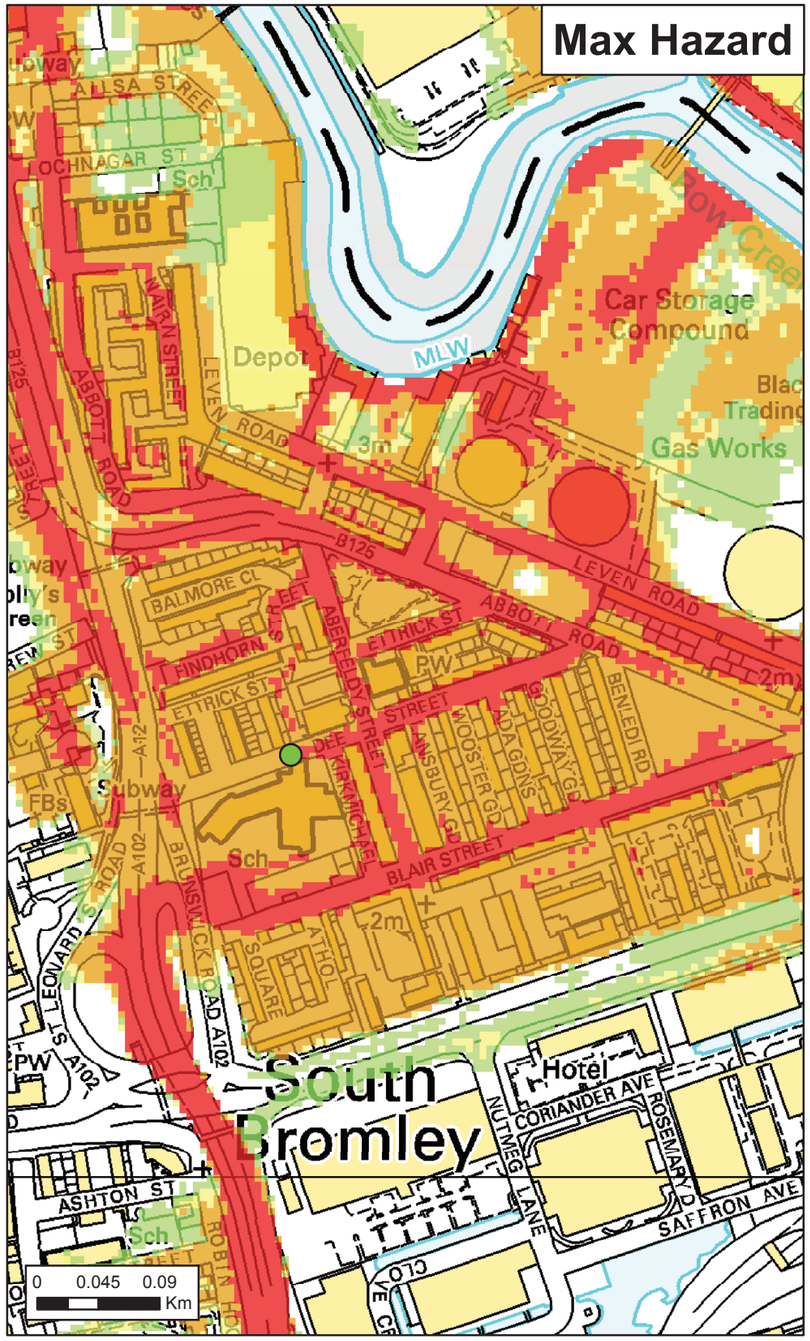
General Enquiries No: 03708 506 506. Weekday Daytime calls cost 5p plus up to 6p per minute from BT Weekend Unlimited. Mobile and other providers' charges may vary

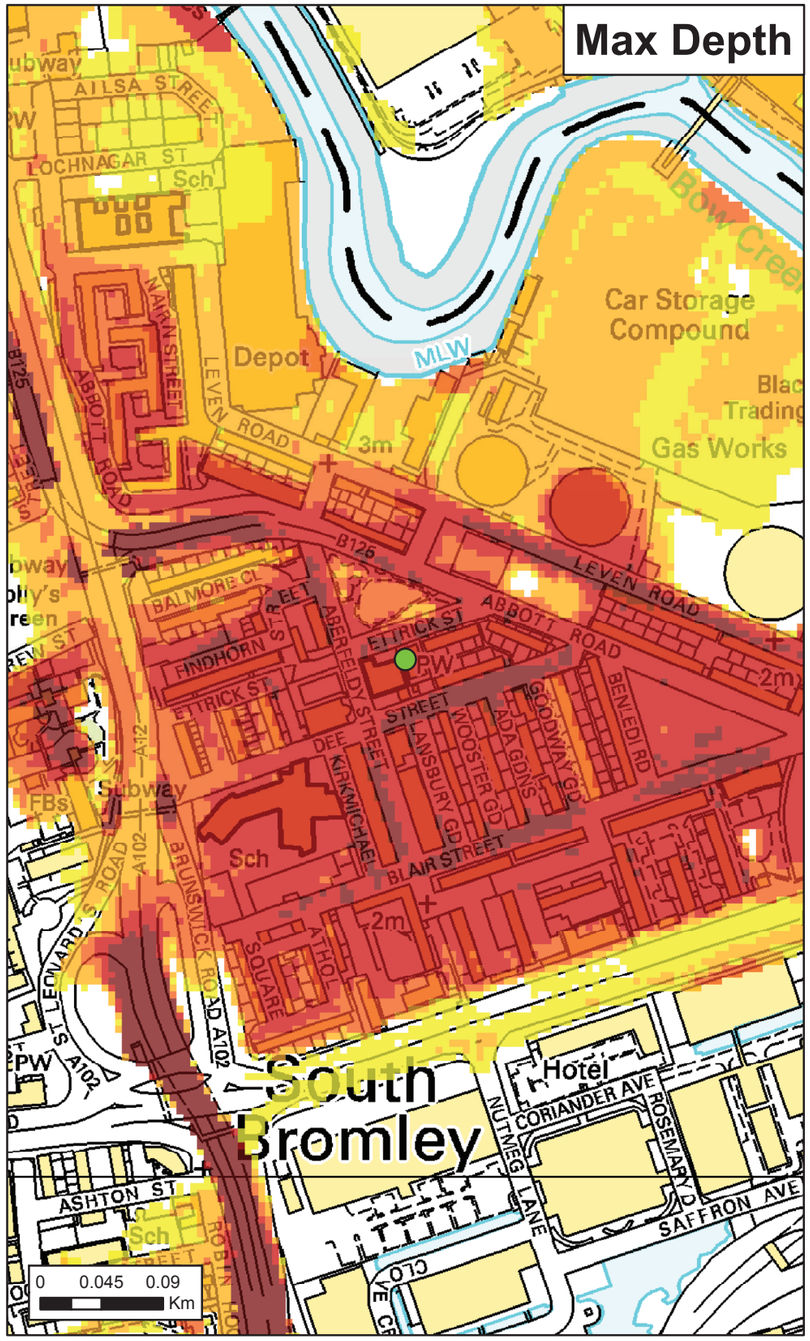
Environment Agency

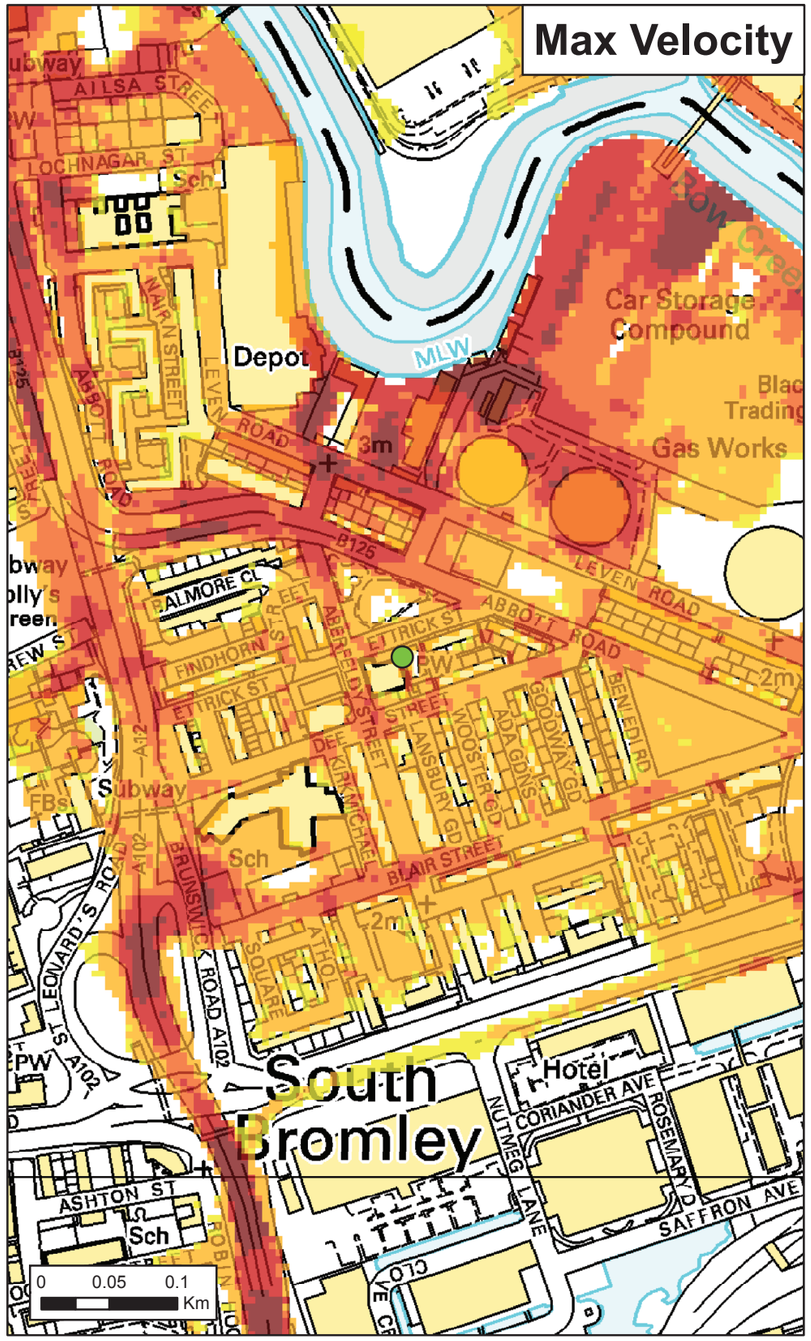
Thames Tidal Breach Hazard Mapping

Map Centred on 538,503 181,371

This map is reproduced by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationary Office. Crown copyright. All rights reserved. Environment Agency 100024198. 2017. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.







Max Hazard

- Less than 0.75 (Low Hazard)
- Between 0.75 and 1.25 (Danger for Some)
- Between 1.25 and 2.00 (Danger for Most)
- Greater than 2.00 (Danger for All)

Max Depth (m)

- 0 - 0.25
- 0.25 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

Max Velocity (m/s)

- 0 - 0.3
- 0.3 - 1.0
- 1.0 - 1.5
- 1.5 - 2.5
- > 2.5

Date Printed	03/12/2020	**Scenario year**	2100	**Scenario Annual Chance**	0.5% (1 in 200)

This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.

The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.

Please contact the Environment Agency for further information on emergency planning associated with flood risk in this area.

General Enquiries No: 03708 506 506. Weekday Daytime calls cost 5p plus up to 6p per minute from BT Weekend Unlimited. Mobile and other providers' charges may vary

Environment Agency

Thames Tidal Breach Hazard Mapping

Map Centred on 538,503 181,371

This map is reproduced by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationary Office. Crown copyright. All rights reserved. Environment Agency 100024198. 2017. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.

APPENDIX C

ENVIRONMENT AGENCY EIA RESPONSE LETTER

creating a better place

Environment Agency

Clare Richmond
Development Management
Planning & Building Control
Town Hall, Mulberry Place
5 Clove Crescent
London
E14 2BG

Our ref: NE/2021/133603/01-L01
Your ref: PA/21/01820/NC

Date: 14 September 2021

Dear Clare,

Aberfeldy Estate, Abbott Road, Land to the north of East India Dock Road (A13), London E14

Request for an Environmental Impact Assessment (EIA) scoping opinion under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) regulations 2017 (as amended), in respect of a hybrid planning application for the demolition of existing buildings and the redevelopment of the site to comprise approximately 1,600 residential units, 7,500sqm of non-residential uses, new and improved access arrangements, associated servicing and landscaping, and public open space. Full planning permission will be sought for approximately 270 residential units and 2,500sqm of non-residential uses.

Thank you for consulting us on the above Environmental Impact Assessment (EIA) on 16 August 2021.

The site is located within **Flood Zone 3** and is protected to a very high standard by the Thames tidal flood defences up to a 1 in 1000 (0.1%) chance in any year flood event. Our latest flood modelling shows the site would be at risk if there was to be a breach in the defences or they were to be overtopped.

We would require an assessment of the most up to date breach data to be included within the Flood Risk Assessment (FRA) to ensure there is appropriate consideration of the residual flood risk. The submitted FRA will need to demonstrate that there will be no sleeping accommodation below the modelled tidal breach flood level OR that there will be a permanent fixed barrier in place at or above the modelled tidal breach flood level to prevent floodwater entering any sleeping accommodation below the modelled breach flood level.

The FRA will need to demonstrate how the proposed development and the site users will be kept safe for the lifetime of the development. The proposal will need to consider a safe means of access and/or egress in the event of flooding from all new buildings to an area wholly outside the floodplain. Lastly, to improve flood resilience, we recommend that, where feasible, finished floor levels are set above the 2100 breach flood level.

Cont/d..

INVESTOR IN PEOPLE

Advice to LPA

Sequential Test
In accordance with the NPPF (paragraph 158), development should not be permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. It is for the local planning authority to determine if the sequential test has to be applied and whether or not there are other sites available at lower flood risk. Our flood risk standing advice reminds you of this and provides advice on how to apply the test.

Insurance eligibility
New homes built in flood risk areas after 1 January 2009 are not covered by the Flood Re-insurance scheme and may not be eligible for home insurance. We advise contacting an insurance provider to discuss whether your development would qualify for insurance.

Flood Risk Management Scheme Funding eligibility
New properties and buildings converted to housings within areas of flood risk after 1 January 2012 will not be counted towards the outcome measures of any proposed future flood alleviation scheme. This is to avoid inappropriate development in flood risk areas. Further information can be found at https://www.gov.uk/government/publications/calculate-grant-in-aid-funding-flood-risk-management-authorities

Flood resistance and resilience
We strongly recommend the use of flood resistance and resilience measures. Physical barriers, raised electrical fittings and special construction materials are just some of the ways you can help reduce flood damage.

To find out which measures will be effective for this development, please contact your building control department. If you'd like to find out more about reducing flood damage, visit the Flood Risk and Coastal Change pages of the planning practice guidance. Further guidance on flood resistance and resilience measures can also be found in:

Government guidance on flood resilient construction
https://www.gov.uk/government/publications/flood-resilient-construction-of-new-buildings

CIRIA Code of Practice for property flood resilience
https://www.ciria.org/Research/Projects_underway2/Code_of_Practice_and_guidance_for_property_flood_resilience_.aspx

British Standard 85500 – Flood resistant and resilient construction
https://shop.bsigroup.com/ProductDetail/?pid=000000000030299686

Advice to applicant

Water Resources
Increased water efficiency for all new developments potentially enables more growth with the same water resources. Developers can highlight positive corporate social responsibility messages and the use of technology to help sell their homes. For the homeowner lower water usage also reduces water and energy bills.

We endorse the use of water efficiency measures especially in new developments. Use of technology that ensures efficient use of natural resources could support the environmental benefits of future proposals and could help attract investment to the area. Therefore, water efficient technology, fixtures and fittings should be considered as part of new developments.

Residential developments
All new residential development are required to achieve a water consumption limit of a maximum of 125 litres per person per day as set out within the Building Regulations &c. (Amendment) Regulations 2015.

However, we recommend that in areas of serious water stress (as identified in our report Water stressed areas - final classification) a higher standard of a maximum of 110 litres per person per day is applied. This standard or higher may already be a requirement of the local planning authority.

Commercial/Industrial developments
We recommend that all new non-residential development of 1000sqm gross floor area or more should meet the BREEAM 'excellent' standards for water consumption.
We also recommend you contact your local planning authority for more information.

Signing up for flood warnings
The applicant/occupants should phone Floodline on 0345 988 1188 to register for a flood warning, or visit https://www.gov.uk/sign-up-for-flood-warnings. It's a free service that provides warnings of flooding from rivers, the sea and groundwater, direct by telephone, email or text message. Anyone can sign up.

Flood warnings can give people valuable time to prepare for flooding – time that allows them to move themselves, their families and precious items to safety. Flood warnings can also save lives and enable the emergency services to prepare and help communities.

For practical advice on preparing for a flood, visit https://www.gov.uk/prepare-for-flooding.

To get help during a flood, visit https://www.gov.uk/help-during-flood.

For advice on what do after a flood, visit https://www.gov.uk/after-flood.

Final comments
Thank you for contacting us regarding the above application. Our comments are based on our available records and the information submitted to us. Please quote our reference number in any future correspondence. Please provide us with a copy of the decision notice for our records. This would be greatly appreciated.

Should you have any queries regarding this response, please contact me.

Yours sincerely,

Hannah Malyon
Sustainable Places Planning Advisor

Direct dial: 0208 474 9666
E-mail: HNLSustainablePlaces@environment-agency.gov.uk

Appendix: Water Resources, Drainage and Flood Risk

Annex 1: Flood Risk Assessment
Annex 2: Drainage Strategy
Annex 3: Thames Water – Potable Water Supply Correspondence
Annex 4: Sustainable Urban Drainage System (SuDS) Proforma

Aberfeldy Village, London

Masterplan, Below Ground Drainage Strategy

Stage 2+ Planning Issue

Issue P04 – 22nd October 2021

Prepared For:

ECOWORLD AND HARCA

ABERFELDY VILLAGE, LONDON

BELOW GROUND DRAINAGE STRATEGY

ISSUED FOR PLANNING

Quality Assurance Page

Issue	Date	Prepared By	Checked By	Approved By	Remarks
DRAFT	18/12/2020	Mrs. M. Burca	Mr. C. Ryan	Mr. C. Ryan	Draft Issue
P01	17/09/2021	Mr. L. Hornblow	Mr. L. Boustead	Mr. C. Marchant	Draft Stage 2+ Planning Issue
P02	06/10/21	Mr. L. Boustead	Mr. C. Marchant	Mr. G. Bansal	Draft Stage 2+ Planning Issue
P03	12/10/21	Mr. L. Boustead	Mr. C. Marchant	Mr. G. Bansal	Stage 2+ Planning Issue
P04	22/10/21	Mr. L. Boustead	Mr. C. Marchant	Mr. G. Bansal	Stage 2+ Planning Issue

Table of Contents

Executive Summary **3**
1 Introduction **4**
2 Existing Drainage **5**
1.1 Existing Site 5
1.2 Existing Drainage 7
2 Drainage Strategy **10**
2.1 Surface Water Drainage 10
2.2 Foul Water Drainage 17
2.3 Proposed Combined Water Flow Rates 18
2.4 Site Wide Foul Water Drainage Coordination 18
2.5 Operations and Maintenance 18

Appendix A – Topographical & Utility Surveys
Appendix B – Thames Water Asset Records and Pre Development Enquiry Response
Appendix C – Drainage Strategy Drawings and Calculations
Appendix D – Tower Hamlets SUDS Proforma
Appendix E – Architects Plans

Executive Summary

Meinhardt UK Ltd has been appointed by Ecoworld International to undertake the foul and surface water below ground drainage design for the proposed construction of Aberfeldy Village. The scheme consists of approximately 1500 units proposed across multiple Phases. The proposals comprise of a number of blocks including podiums and some towers up to 29 stories in height. The Site is located within the London Borough of Tower Hamlets in an area known as Poplar Riverside, Aberfeldy Village, E14, London.

The proposed surface water drainage strategy for each phase has been developed to utilise sustainable drainage techniques (SuDS) to attenuate surface water at source and reduce the risk of downstream flooding of the Thames Water sewer network in the local area. A scheme has been developed that utilises blue, green and podium deck attenuation roof structures along with below ground cellular attenuation tanks designed for the 1:100 year plus 40% climate change storm event.

The developments QBAR greenfield runoff rate has been calculated to be 18.8l/s. It is proposed that the entire site will discharge at this rate as agreed with the London Borough of Tower Hamlets. Each building and associated hardstanding being proposed to discharge at a proportion of this flow rate, this has been split between 12 separate connections across the site receiving the total 18.8l/s. Each buildings associated storm water drainage is conveyed by a traditional gravity run system to the nearest Thames Water Asset, with all connection discharging into the Thames Water combined water Sewer network.

The proposed foul water drainage strategy for the site involves the MEP engineer's coordination of the superstructure drainage up until it exits the buildings and enters the below ground drainage network. A below ground drainage network of pipes and manholes will collect the foul water discharge from the buildings and convey to a demarcation chamber, before discharging via gravity to the existing Thames Water combined water sewers within the site or surrounding the site. This will be coordinated during detailed design.

A pre planning enquiry has been submitted to Thames Water stating the proposed foul and surface water discharge rates from the new development. Thames water had responded giving approval for both however, new plans have been submitted since and flow rate applied from the scheme has reduced from that agreed in the pre planning, it is therefore assumed this is still accepted.

The Thames Water asset records for the site highlighted potential foul and surface water connection points however further CCTV survey works will need to be undergone before any detailed design.

Refer to drainage drawings 2812-MHT-CV-BG-DR-100 and 2812-MHT-CV-RF-DR-101 within the appendix for proposed drainage layout.

1 Introduction

This Drainage Strategy Report has been prepared by a Meinhardt and is submitted in support of a hybrid planning application for the Aberfeldy Village Masterplan. The hybrid planning application is made in relation to the north of East India Dock Road (A13), east of the Blackwall Tunnel Northern Approach Road (A12) and to the southwest of Abbot Road (the “Site”) on behalf of The Aberfeldy New Village LLP’ (“The Applicant”). The hybrid planning application is formed of detailed development proposals in respect of Phase A for which no matters are reserved ("Detailed Proposals"), and outline development proposals for the remainder of the Site, with all matters reserved ("Outline Proposals"). The Detailed Proposals and Outline Proposals together are referred to as the “Proposed Development”.

The Proposed Development comprises the comprehensive redevelopment of the Site. The Proposed Development will provide new retail and workspace floorspace along with residential dwellings and the pedestrianisation of the A12 Abbott Road vehicular underpass to create a new east to west route. The Development will also provide significant, high quality public realm, including a new Town Square, a new High Street and a public park.

The purpose of the Drainage Strategy Report is to assist our client and the Local Planning Authority to make an informed decision regarding the drainage strategy for the proposed development in addition to assit the BREEAM assessor with the rewarding of credits under Pol 03.

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

2 Existing Drainage

1.1 Existing Site

The existing site is located in an area known as Poplar Riverside, Aberfeldy Village, E14, London, within the London Borough of Tower Hamlets.

The existing site is a mixed-use development consisting of residential housing and non-residential floor space, including shops, professional services, food and drink, residential institution, storage, community and cultural uses.

The Site is located in Poplar, within the administrative boundary of the London Borough of Tower

Hamlets. The Site is 8.14 hectares (approx. 20 acres) in total and comprises:

- Abbott Road;
- Aberfeldy Street;
- Balmore Close;
- Blairgowrie Court;
- Heather House;
- Jura House;
- Tartan House;
- Thistle House;
- Kilbrennan House;
- Nos. 33-35 Findhorn Street;
- 2a Ettrick Street;
- 384 Abbott Road;
- Lochnagar Street;
- Aberfeldy Neighbourhood Centre;
- Nairn Street Estate; and
- Leven Road Open Space and Braithwaite Park are included for their enhancement.’

The site area totals Circa 4.92ha, excluding council adopted roads and green areas the total hardstanding is 3.0ha.

The River Lee is located to the east of the site and flows in a generally southerly direction to its confluence with the River Thames. The entire site is noted on the Gov.uk website’s Flood map for planning to be wholly within flood zone 3 however benefits from the presence of flood defences.

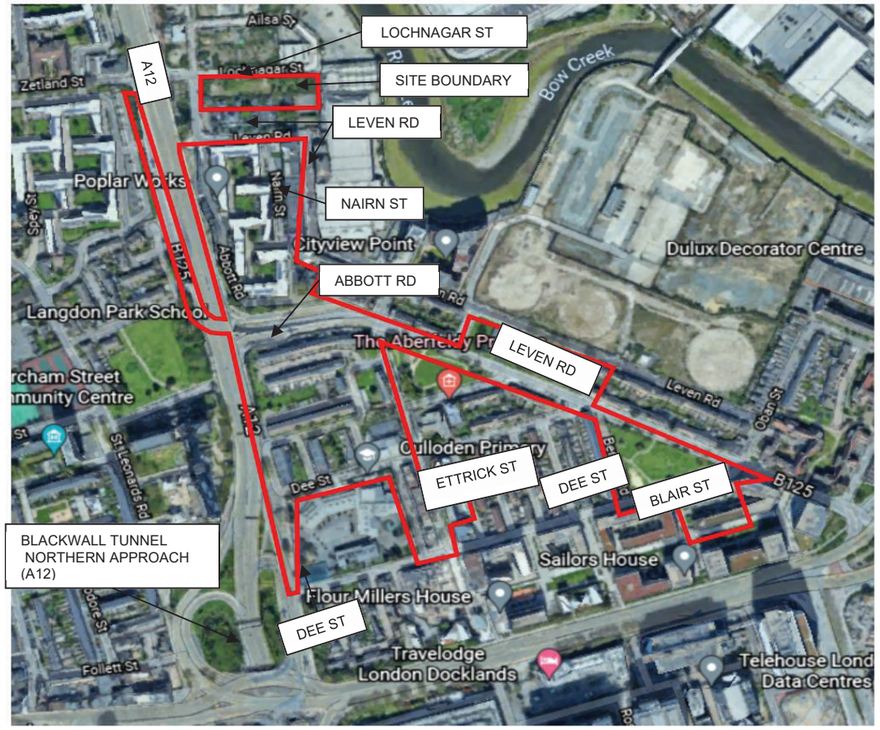


Figure 1: Site Location

1.2 Existing Drainage

1.2.1 Private Onsite Drainage

A topographical survey of the site has been completed by Aworth Survey in December 2009 and a utility survey was carried out for the site by Sumo Services Survey in August 2020.

Based on these surveys the existing private drainage network consists of surface water, foul water and combined water pipes and manholes. All of the existing private drainage has been shown to be draining to the closest Thames Water public sewer via multiple existing connections to the Thames Water surface and combined water sewers crossing through the site.



Figure 2: Topographical Survey

A CCTV survey will be undertaken to confirm the exact line, level, and condition of the connections to the surrounding public sewer network.

A copy of the topographical and utility surveys can be found in the appendices.

1.2.2 Public Sewers

Asset records obtained in November 2020 from Thames Water have revealed public surface and combined water sewers crossing through the proposed Aberfeldy Village site. The arrangement of the network is summarised below:

Thames Water Surface Water Sewers

The surface water sewers crossing the proposed site are located within:

- Abbott Road (B125) within the proposed site boundary (From MH Ref: 3406 – 3403 to 3402). The diameter of the surface water sewer is 225mm;
- Abbott Road (B125) within the proposed site boundary (From MH Ref: 2420 – 3403 to 3402). The diameter of the surface water sewer is 225mm. It is assumed to be a Thames Water pumping station for the road fly under. A CCTV survey will be required to establish what it serves.

These two sewers are assumed to be picking up Abbott Roads highway drainage and will therefore be abandoned along with the road itself as dictated by the scheme.

Thames Water Combined Water Sewers

The combined water sewers crossing the proposed site are located within:

- Lochnagar Street to the north of the site (the public combined water sewer is running west within Lochnagar Street to MH Ref: 2704). The diameter of the combined water sewer is 305mm and changes to 381mm just before connecting into Thames Water manhole 2704;
- Bromley Hall Road to the north west of the site (From MH Ref: 2630 to 2705). The diameter of the combined water sewer is 225mm and changes to 305mm just before connects to Thames Water manhole 2705;
- Leven Road to the east of the site (the public combined water sewer is running south within Leven Road: from MH Ref: 3605 to 5403). The diameter of the combined water sewer starts at 225mm and increases in size to 300mm sewer. The combined water sewer then changes into a 600mm before entering the proposed site and connecting into Thames Water combined manhole 5403;
- Leven Road to the east of the site (the public combined water sewer is running north within Leven Road: from MH Ref: 7403 to 5405). The diameter of the combined water sewer starts at 305mm, changes in size to 300mm sewer and then to 225 before connecting into Thames Water combined manhole 5405;
- Darnaway Place to the east of the site (the public combined water sewer is running south within Darnaway Place: from MH Ref: 4511 to 4407). The diameter of the combined water sewer is 229mm;
- Blair Street to the south of the site and running north through the proposed site boundary (From MH Ref: 7303 to 6302). The diameter of the combined water sewer is 305mm and changes to 457mm after the junction with Thames Water combined sewer which is running north to the combined Thames Water manhole 6302;
- Blair Street to the south of the site (the public combined water sewer is running east within Blair Street from: MH Ref: unknown-4203 to 5205). The diameter of the combined water sewer is 305mm and changes to 457 before connecting into Thames Water combined manhole 5205;
- Aberfeldy Street within the proposed site boundary (the public combined water sewer entering through the south of the site and is running north within Aberfeldy Street: from MH Ref: 5205 to 4407). The diameter of the combined water sewer starts at 457mm and changes to 533mm before connecting into Thames Water combined water manhole 4301A. The combined water sewer exiting Thames Water manhole 4301A is 610mm and changes to 686mm after Thames Water combined manhole 4420, before connecting into Thames Water combined manhole 4407;

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

- Dee Street within the proposed site boundary (the public combined water sewer is running east within Dee Street from MH Ref: 3222 to 4312). The diameter of the combined water sewer is 305mm;
- Ettrick Street within the proposed site boundary (the public combined water sewer is running east from MH Ref: 3316 to 4301A). The diameter of the combined water sewer is 300mm and changes to 305 before connecting into Thames Water combined manhole 4301A;
- Abbott Road (B125) within the proposed site boundary (From MH Ref: 8301 to the combined trunk running north within Joshua Street). The diameter of the combined water sewer is 914mm and changes to 991mm just before connects to the combined trunk in Joshua Street;
- Abbott Road (B125) within the proposed site boundary (From MH Ref: 4407 to the combined trunk running north within Joshua Street). The diameter of the combined water sewer is 991mm.

There is a combined water trunk sewer located to the west of the site within the proposed site boundary running north. The diameter of the combined water sewer is 2250mm.

Refer to the appendices for the complete Thames Water Asset Records.

Meinhardt has overlaid the existing sewer information from the Thames Water Asset Records and the proposed architectural masterplan on a sketch to determine whether there are any areas where proposed structure will sit over the existing Thames Water assets. The sketch has highlighted a number of the proposed buildings are located directly above the existing Thames Water sewers and manholes. Where this occurs either a build over agreement or a sewer diversion will be required with Thames Water to proceed with the current site layout.

Based on the Thames Water Assets Records all of the existing private drainage has been shown to be draining to the north of the site where there are multiple existing connections to the Thames Water surface and combined water sewers crossing through the site.

Refer to the sketch 2812-MHT-CV-BG-DR-050 in the appendices for details of the existing Thames Water sewers crossing the site.

2 Drainage Strategy

2.1 Surface Water Drainage

2.1.1 Drainage Design Parameters

The industry standards along with the Environment Agency and Sewers for Adoption 7th Edition dictate for below ground surface water drainage that:

- There will be no surcharging of the drainage system for a 1 in 2-year storm;
- The drainage can be surcharged with no flooding for a 1 in 30-year storm; and
- The drainage can flood on-site for a 1 in a 100-year storm with a 40% climate change allowance provided the flood water remains on site and does not flood habitable areas or affect safe ingress and egress to the site for occupiers.

All surface water drainage options outlined in this report adhere to these principles.

Hydraulic calculations have been carried out using the hydraulic modelling software Microdrainage unless otherwise specified.

2.1.2 Initial Consultations

2.1.2.1 Local Authority/Planning Authority – Tower Hamlets Council

Tower Hamlets Council were contacted on 01/09/21 to discuss the proposed drainage strategy prior to planning submissions, however, no response has been received at the time of writing.

2.1.2.2 Thames Water

A predevelopment enquiry has been submitted to Thames Water to confirm if there is sufficient capacity within the Thames Water public sewer network to accommodate the proposed development. Thames Water have confirmed there is sufficient capacity in the surrounding public sewers to accept the flows from the proposed development.

2.1.3 Proposed Surface Water Drainage Strategy

The proposed site will discharge at the equivalent QBAR greenfield rate of 18.8l/s. Hydraulic calculations indicate that the attenuation volume required for the development to discharge at the proposed discharge rate of 18.8l/s for a 1 in 100 year + 40% climate change storm event is approximately 3562m^3, to be confirmed during detail design. This strategy should also include measures to improve run-off quality whilst maximising bio-diversity, amenity and other multifunctional benefits to provide a sustainable drainage system as noted in PPG.

Table 2-1: Discharge Opportunities

London Sustainable Drainage Hierarchy	Site Specific Application
Store rainwater for later use	There are limited opportunities for rainwater harvesting on this project due to the proposed usage of the building and limited external space that requires irrigation. It has therefore been discounted.
Use infiltration techniques, such as porous surfaces in non-clay areas	Due to the underlying geology of the site being London Clay and poor infiltration rates, infiltration devices are not used on this site. Furthermore, there are limited locations that comply with the requirement of Building Regulations to be more than 5m from a highway or structure. The use of infiltration techniques has therefore been discounted.
Attenuate rainwater in ponds or open water features for gradual release	Due to the constrained nature of the site, there is little opportunity for above ground storage structures like ponds. Furthermore, the existing levels across the site do not offer any suitable locations where controlled flooding may occur.
Attenuate rainwater by storing in tanks or sealed water features for gradual release	Excess surface water flows during high intensity rainfall events are proposed to be stored using a combination of podium/blue roofs, green roofs bio-retention/SuDS planters and below ground geo-cellular storage crates.
Discharge rainwater direct to a water course	Not possible because there are no watercourses in area surrounding site
Discharge rainwater to a surface water sewer/drain	Not possible because there are no surface water drains in area surrounding site, nearby public sewers are combined.
Discharge rainwater to a combined sewer	Discharge to a combined system at the restricted rate equivalent to QBAR greenfield rates.

The proposed surface water strategy for the site will be developed to utilise sustainable drainage techniques (SuDS) to attenuate surface water at source and reduce the risk of downstream flooding. Due to the limited areas of landscaping available on the site there are constraints to which SuDS can be incorporated into the development. SuDS with large land take such as detention basins or ponds are not suitable for an urban development therefore not applicable for development. It is also found that the use of infiltration SuDS will not be feasible for the site due to the existing ground conditions. The proposed drainage strategy for the development has therefore been made sustainable through the use of blue roofs, high level podiums attenuation and below ground attenuation tanks.

It is proposed that each phase will have a separate drainage network.

Phase A Strategy – Detailed Planning Application

Based on the above, the only feasible surface water discharge location is the public sewers surrounding the site. Phase A is divided into 3 different locations therefore it is proposed that Blocks I1, J1, F1, H1&H2 and H3 to drain separately into the closest Thames Water sewer. Therefore the strategy is outlined below.

Block I1:

The proposed surface water drainage strategy for Building I1 has been made sustainable through the use of a blue roof and a below ground attenuation tank. The approximate volume of attenuation for this building is 69m^3. Of which 34.2m^3 attenuation is provided by cellular attenuation crates and 35m^3 is provided by the blue/green roof.

The surface water drainage network will drain via gravity to the northwest of Building I1 into a demarcation chamber restricting the discharge rate to 1l/s which is to be controlled via a hydrobrake, prior to discharging to the Thames Water sewer network. It is proposed that controls will be used on the blue roof to ensure that all attenuation is fully utilised. It is proposed that a new connection will be made to the northwest corner of the building into the Thames Water combined water network in Blair Street (TWMH7303). The Thames Water sewer asset records have no cover level or Invert level information for the manhole THMH7303 therefore a survey is required for the existing combined water sewer running along Blair Street.

Block J1:
The proposed surface water drainage strategy for Building J1 has been made sustainable through the use of a below ground attenuation tank. It is proposed to discharge surface water from Building J1 via gravity into Thames Water combined water sewer in Leven Road (TWMH3602) via a new connection. Surface water discharge from the building is to be restricted to 1.25l/s which is to be controlled via a hydrobrake on a demarcation manhole prior to discharging into Thames Water combined water sewer. The approximate required storage for building J1 is 346m^3 this is to be provided through the proposed cellular attenuation crates.

Block F1:
To attenuate surface water at source and reduce the risk of downstream flooding it is proposed that Building F1 will use of blue roofs, high level podium attenuation and a below ground attenuation tank. The approximate volume of attenuation is 185m^3. It is proposed that controls will be used on the blue roofs and high level podium to ensure that all attenuation is fully utilised. The surface water drainage network will drain via gravity to the northeast of the building into a demarcation chamber restricting the discharge rate to 1.25l/s which is to be controlled via a hydrobrake, prior to discharging to the Thames Water combined sewer. It is proposed that a new connection will be made to the southeast corner of the building, branching into the Thames Water combined water sewer in Aberfeldy Street between manholes TWMH4313 & TWMH4312.

Block H1/H2 & H3:
The proposed surface water drainage strategy for the buildings H1&H2 and H3 has been made sustainable through the use of two below ground attenuation tanks (one attenuation tank serving buildings H1&H2 and one attenuation tank serving building H3) and blue/green roof areas to attenuate surface water at source and reduce the risk of downstream flooding.

The proposed surface water drainage network for buildings H1&H2 will drain via gravity to the east of the buildings into a demarcation chamber restricting the discharge rate to 1.5l/s which is to be controlled via a hydrobrake, prior to discharging to the Thames Water combined sewer. The approximate volume of attenuation for buildings H1&H2 is 161m^3, of which 49m^3 is provided through the blue roof and 112m^3 is provided through the below ground cellular attenuation crates.

The same strategy is applied to Building H3 which will discharge surface water via gravity to the west of the building into a demarcation chamber restricting the discharge rate to 1.25l/s which is to be controlled via a hydrobrake, prior to discharging to the Thames Water combined sewer. The approximate volume of attenuation for building H3 is 135m^3, of which 24m^3 is provided through the blue roof and 111.2m^3 is provided through the below ground cellular attenuation crates.

Buildings H1&H2 and H3 will discharge surface water via two new separate connections into Thames Water combined sewer in Aberfeldy Street (TWMH4215).

The proposed new connections are subject to a CCTV survey which will survey the line, level and condition of the existing sewers. If this survey identifies any available existing connections in those locations there may be an opportunity to reuse. This will be explored during detailed design.

To achieve the proposed discharge rates 6.25l/s it is required to attenuate an approximate volume of 896m^3.

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

Phase B Strategy – Outline Planning Application

The proposed surface water strategy for the phase B has been developed to utilise sustainable drainage systems (SuDS) to attenuate surface water at source and reduce the risk of downstream flooding of the Thames Water sewer network. The scheme that has been developed to utilise a combination of blue roofs, high level podium attenuation and attenuation tanks.

The proposed strategy includes a total of three new connections to the existing Thames Water combined sewer network. These are outlined below:

- One connection to the Thames Water combined sewer network in Leven Road (TWMH3605), through a new connection serving the adjacent Block A1/A2 receiving a restricted discharge rate of 1.5l/s.
- One connection to the Thames Water combined sewer network in Abbott Road (TWMH3517 to TWMH2536), through a new connection serving Block A3, B1/B2 & B4 receiving a total restricted discharge rate of 3.5l/s.
- One connection to the Thames Water combined sewer network in Abbott Road (TWMH3516), through a new connection serving Blocks B3 and B5 receiving a total restricted discharge rate of 2.3l/s.

The proposed new connections are subject to a CCTV survey which will survey the line, level and condition of the existing sewers. If this survey identifies any available existing connections in those locations there may be an opportunity to reuse. This will be explored during detailed design.

To achieve the proposed discharge rates 7.3l/s it is required to attenuate an approximate volume of 862m^3.

Phase C Strategy – Outline Planning Application

The proposed drainage strategy for Phase C is similar to that of Phase B. It is proposed that surface water will be attenuated through the use of SuDS to minimise the likelihood of downstream flooding. It is proposed that the primary source of attenuation for Phase C will be below ground attenuation tanks with further attenuation to be provided via blue roofs and high levels podium attenuation.

It is proposed that surface water from the Phase C will flow via gravity to the east of this phase where a new connection to the Thames Water network in Ettrick Street (TWMH4303), will be made. This is subject to a CCTV survey which will survey the line, level and condition of the existing sewer. If this survey identifies any available existing connections in this location there may be an opportunity to reuse. This will be explored during detailed design.

Each block shall attenuate and restrict flows separately before connecting into TWMH4303, the below summaries the proposed discharge rates and required attenuation for each block within phase C;

- Block C1/C2/C3/C4 shall restrict discharge rate to 1.5l/s requiring a total 651m^3 attenuation of which 425m^3 is to be provided through below ground cellular attenuation crates and 238m^3 provided via blue roofs and high levels podium attenuation.
- Block C5 & C6 have been designed to have a shared flow control structure limiting discharge to 1l/s with attenuation however split both buildings to receive 10m^3 attenuation provided through below ground cellular attenuation crates. Flows from Blocks C5 and C6 are to be conveyed into a combined running along Ettrick Street to the east before discharging into TWMH4303.
- Block E1/E2/E3 is to restrict discharge rate to 1.5l/s requiring a total 563m^3 attenuation of which 400.4m^3 is to be provided via below ground cellular attenuation crates and 162m^3 provided via blue roofs and high levels podium attenuation.

The Phase C development shall therefore discharge at a maximum 4l/s for the 1:100 year plus 40% climate change event, this flow is all conveyed into the Thames Water Manhole TWMH4303 in Ettrick Street. The total amount of attenuation to be provided for this phase is 1233m^3.

Phase D Strategy – Outline Planning Application

The proposed surface water drainage strategy for the building Phase D has been made sustainable through the use of a below ground attenuation tank and blue roofs and high levels podium attenuation

The proposed surface water strategy for the building Phase D is to discharge surface water via gravity to the southeast of Phase D into Thames Water combined water sewer in Ettrick Street (TWMH4302) via a new connection. This is subject to a CCTV survey which will survey the line, level and condition of the existing sewer. If this survey identifies any available existing connections in this location there may be an opportunity to reuse. This will be explored during detailed design.

Surface water discharge from the site is to be restricted to 1.5l/s which is to be controlled via a hydrobrake on a demarcation manhole prior to discharging into Thames Water combined water sewer. The approximate volume of attenuation for Phase D is 576m^3, of which 490m^3 is to be provided via below ground attenuation crates and 87m^3 provided via and blue roof attenuation.

For full drainage strategy drawings refer to the appendices.

2.1.4 Proposed Discharge Rates Summary

The table below shows the volume of surface water attenuation required to suit a 1 in 100-year storm event + 40% climate change. A breakdown of the proposed discharge rates and required attenuation volumes is shown in Table 1.

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

	Storm Event	Proposed Discharge Rate	Required Surface Water Attenuation
Phase A Blocks I1, J1, F1, H1&H2 and H3	1 in 100 year + 40% CC	6 l/s	896m³
Phase B	1 in 100 year + 40% CC	7.3 l/s	865m³
Phase C	1 in 100 year + 40% CC	4 l/s	1231m³
Phase D	1 in 100 year + 40% CC	1.5 l/s	576m³
Total		18.8 l/s	3568m³

Table2-2: Proposed Surface Water Discharge Rates

2.1.5 Water Quality

The proposed drainage strategy manages pollution risk for the site based on a simple qualitative method as defined in the CIRIA SuDS Manual C753, consisting of an assessment of likely pollution hazard levels for the site and SuDS performance capacities:

Pollution hazard indices for different land use classifications

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways[1]	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways[1]	High	0.8[2]	0.8[2]	0.9[2]

Figure 2-3: Extract from CIRIA C753: Pollution Hazard Indicines

The site is predominantly roof areas and pedestrian walkways and as such, the site has a Low Pollution hazard level. Surface water run-off will be managed using a range of SuDS detailed previously that will offer water quality benefits.

The car parking a ground level is covered and therefore will be discharged to the foul network.

SuDS bio-retention planters and green roofs will provide pollution control as they assit with removing heavy metals and hydrocarbons from surface water run-off.

2.1.6 Amenity, Bio-diversity and Multi-functional benefits

The proposed drainage strategy offers a number of multifaceted benefits across amenity, biodiversity and other areas. Blue/green roofs provide a positive impact on amenity for the site and green roofs and SuDS bio-retention areas help to improve and increase bio-diversity. As discussed in the section above, the SuDS bio-retention planters and green roofs in particular in addition to other SuDS features help to improve water quality from the site.

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

2.2 Foul Water Drainage

2.2.1 Drainage Design Parameters

The below-ground foul drainage system will be designed to Sewers for Adoption 7th Edition, BS EN 752 Parts 3 and 4, and the Building Regulations Document H where appropriate.

2.2.2 Proposed Foul Water Drainage Strategy

Due to size and phasing of the development, it is proposed that foul drainage from the site will be split into 10 individual outfalls into the Thames Water combined network. Splitting the foul discharge from the site is important due to the potential increase in flow, reducing the impact on the existing Thames Water combined drainage network.

The proposed foul water drainage strategy for the site involves the MEP engineer's coordination of the superstructure drainage up until it exits the building and enters the below ground drainage network. A below ground drainage network of pipes and manholes will collect the foul water discharge from the buildings and convey to a demarcation chamber, before discharging via gravity to the existing Thames Water combined water sewers within the site or surrounding the site. This will be coordinated during detailed design.

The proposed strategy includes various connections to the existing Thames Water combined sewer network. These are outlined below.

As phase A is divided into 3 different locations it is proposed that Blocks I1, J1, F1, H1&H2 and H3 to drain separately into the closest Thames Water combined water sewer network. Therefore five connections to the Thames Water combined water sewer network are proposed for phase A:

- For the building I1 it is proposed that a new connection will be made to the northwest corner of the building into the Thames Water combined water network in Blair Street (TWMH7303);
- It is proposed that building J1 to discharge foul water into Thames Water combined water sewer in Leven Road (TWMH3602) via a new connection;
- It is proposed that a new connection will be made to the southeast corner of the building F1 into the Thames Water combined water sewer in Aberfeldy Street (TWMH4313-TWMH4312); and
- Buildings H1&H2 and H3 will discharge foul water via two new separate connections into Thames Water combined sewer in Aberfeldy Street (TWMH4215).

The proposed strategy for phase B includes a total of three connections to the existing Thames Water combined sewer network. These are outlined below:

- One connection to the Thames Water combined sewer network in Leven Road (TWMH3605), through a new connection serving building A1/A2;
- One connection to the Thames Water combined sewer network in Abbott Road (TWMH3517 to TWMH2536), through a new connection serving buildings A3, B1/B2 and B4;
- One connection to the Thames Water combined sewer network in Abbott Road (TWMH3516), through a new connection serving building B3/B5.

It is proposed that foul water from the Phase C will flow via gravity to the east of this phase where a new connection to the Thames Water network in Ettrick Street (TWMH4303) will be made. This will be serving the buildings C1/C2/C3/C4, C5, C6 & E1/E2/E3.

The proposed foul water strategy for the building Phase D is to discharge foul water via gravity to the southeast of the phase D into Thames Water combined water sewer in Ettrick Street (TWMH4302) via a new connection.

The proposed new connections are subject to a CCTV survey which will survey the line, level and condition of the existing sewers. If this survey identifies any available existing connections in those locations there may be an opportunity to reuse. This will be explored during detailed design.

The discharge locations and foul water strategy will be confirmed during detailed design and a Section 106 drainage connection application for each connection will be submitted at the construction stage to Thames Water for formal approval of the proposed connections arrangement.

2.2.3 Proposed Foul Water Discharge Rates

Based on the most recent accommodation schedule (as at 17.09.21), the peak foul water discharge rate from the site will be in the region of 75l/s. This proposed discharge rate has been calculated in accordance with BS EN 12056-2, however, this will be confirmed by Meinhardt's MEP engineer during detailed design.

Thames Water have been contacted and have confirmed they have sufficient capacity in their network to accept the proposed flows from the development (surface water and foul water).

2.3 Proposed Combined Water Flow Rates

The proposed combined water discharge rates for the site are outlined in Table 1.

Contributing Area (ha)	Proposed Surface Water Discharge Rate [1 in 100 year storm + 40% CC] (l/s)	Proposed Peak Foul Water Discharge Rate (l/s)	Proposed Combined Peak Discharge Rate (l/s)	Reduction compared to Existing Combined Discharge Rate
3.00	18.8	75.58	94.63	65%

Table 1: Proposed Combined Water Discharge Rates

The proposed discharge rates will be confirmed during detailed design.

2.4 Site Wide Foul Water Drainage Coordination

The proposed foul water drainage strategy for the site involve coordination with Meinhardts MEP engineer's to coordination the superstructure drainage up until it enters the below ground drainage network. A below ground drainage network of pipes and manholes will collect the foul water discharge from the buildings before discharging via gravity into the Thames Water combined sewer located in the surrounding roads.

Any ground floor or basement level foul water drainage that can't be drained by gravity will be routed to private basement foul water pump chambers which will lift foul water from the basements into the internal drainage network before draining via gravity into the external below ground drainage network.

2.5 Operations and Maintenance

2.5.1 Pipes (Including Oversized)

2.5.1.1 Location and Description

Pipes are proprietary products and the materials can vary across the site and as such where used the manufacturer's recommendations should be followed. Regardless of the product used, the pipes will be fully compliant with the Meinhardt drainage specification.

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

2.5.1.2 Operation

They are intended to be dry except for during rainfall events. These have been designed to be self-cleansing for smaller diameter pipes, and for larger diameters the risk is reduced due to the overall pipe size.

Access for maintenance is provided through access chambers, manholes, rodding plates and rodding eyes.

2.5.1.3 Inspection and Maintenance Regime

Regular inspection and maintenance is important to identify areas which may have been obstructed/clogged and may not be draining correctly thus exposing the development to a greater level of flood risk. Maintenance responsibility for the pipes should be placed with Ecoworld.

Sediment/material removal should be undertaken in consultation with the environmental regulator to confirm appropriate protocols, as run-off is taken from potentially contaminated areas such as car parks/service yards.

Maintenance Schedule	Required Action	Frequency
Monitoring (to be undertaken more regularly within the first year of operation and adjusted as required)	Initial inspection should be provided as post construction CCTV survey.	N/A
	Inspect for evidence of poor operation via water level in chambers. If required, take remedial action.	3-monthly, 48 hours after large storms.
Occasional maintenance	Check and remove large vegetation growth near pipe runs.	6 monthly
Remedial actions	Rod through poorly performing runs as initial remediation.	As required.
	If continued poor performance jet and CCTV survey poorly performing runs.	As required.
	Seek advice as to remediation techniques suitable for the type of performance issue and location.	As required If above does not improve performance.

2.5.2 Green/Blue Roofs, Location and Description

A green/blue roof specialist will be required at later design stages.

2.5.2.1 Inspection and Maintenance Regime

Regular inspection and maintenance is important to identify areas which may have been obstructed/clogged and may not be draining correctly thus exposing the development to a greater level of flood risk. Maintenance responsibility for the pipes should be placed with Ecoworld.

Maintenance Schedule	Required Action	Typical Frequency
Regular inspections	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes and roof structure for proper operation, integrity of waterproofing and structural stability	Annually and after severe storms
	Inspect soil substrate for evidence of erosion channels and identify and sediment sources	Annually and after severe storms
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system	Annually and after severe storms
Regular maintenance	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth	Six monthly and annually or as required
	During establishment (ie. Year one), replace dead plans as required	Monthly (but usually responsibility of manufacturer)
	Post establishment, replace dead plants as required (where >5% of coverage)	Annually (in autumn)
	Remove fallen leaves and debris from deciduous plant foliage	Six monthly and annually or as required
	Remove nuisance and invasive vegetation, including weeds	Six monthly and annually or as required
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required - clippings should be removed and not allowed to accumulate	Six monthly and annually or as required
Remedial Actions	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material and sources of erosion damage should be identified and controlled	As required
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate	As required

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

2.5.3 Bioretention Systems

2.5.3.1 Location and Description

Bio-retention systems (including rain gardens) are shallow landscaped depressions can reduce runoff rates and volumes, and treat pollution through the use of engineered soils and vegetation. They are particularly effective in delivering interception and can also provide:

- Attractive landscape features that are self-irrigating and fertilizing
- Habitat and biodiversity
- Cooling of the local microclimate due to evapotranspiration.

Bio-retention systems have been specified to be used in various privately managed public spaces throughout the site.

2.5.3.2 Operation

It has been concluded in literature (Dalrymple, 2013) that bio-retention systems will typically require approximately 2.5 times more maintenance than typical landscaped designs.

Maintenance schedule	Required Action	Typical Frequency
Regular inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary)	Quarterly
	Check operation of underdrains by inspection of flows after rain	Annually
	Assess plants for disease infection, poor growth, invasive species etc and replace if necessary	Quarterly
	Inspect inlets and outlets for blockage	Quarterly
Regular maintenance	Remove litter and surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
	Replace and plants to maintain planning density	As required
	Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly or biannually
Occasional maintenance	Infill nay holes or scour in filter medium, improve erosion protection of required	As required
	Repair minor accumulations of silt by raking away surface mulch	As required
Remedial actions	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years

2.5.4 Geocellular units

2.5.4.1 Location and Description

Geocellular units are proprietary products and therefore manufacturer's specific recommendations should also be taken in to consideration above what has been prepared in this document. Additionally, different manufacturers may have different connection types and arrangements which will need to be taken in to consideration.

2.5.4.2 Operation

The geocellular units, along with permeable paving, are intended to attenuate the discharge from the site up to and including the 1 in 100 year plus 40% climate change event.

Access for maintenance has been provided through inspection chambers.

2.5.4.3 Inspection and Maintenance Regime

Regular inspection and maintenance is important for the effective operation of geocellular units as designed. As the feature is buried a regularly inspection regime is very important to ensure the correct functionality of the surface water drainage network. Maintenance responsibility for the geocellular units and their surrounding areas should be placed with Ecoworld.

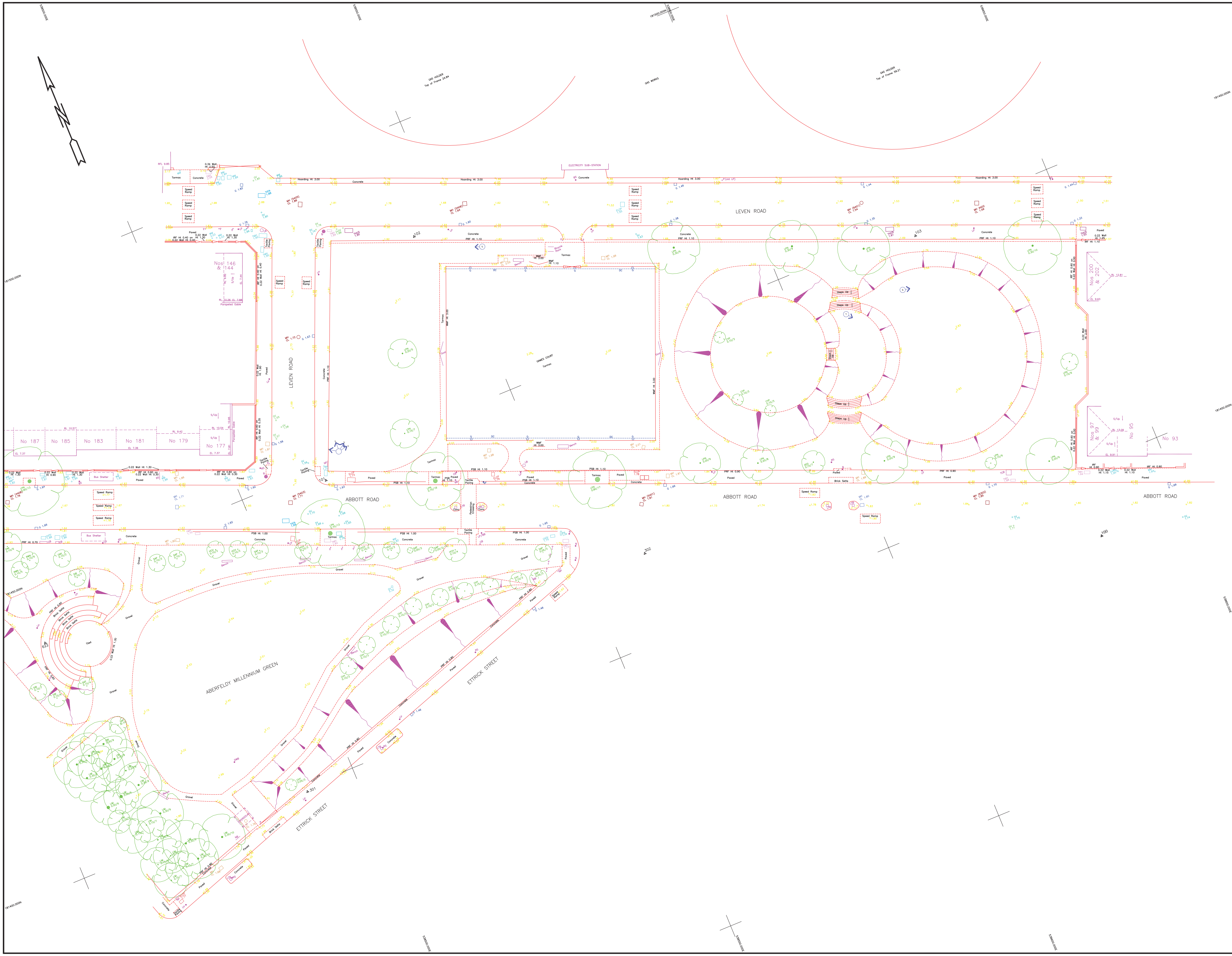
Sediment\material removal should be undertaken in consultation with the environmental regulator to confirm appropriate protocols; especially where run-off is taken from potentially contaminated areas such as car parks/service yards.

Maintenance Schedule	Required Action	Frequency
Monitoring (to be undertaken more regularly within the first year of operation and adjusted as required)	Inspect inlets, outlets and overflows for blockages, and clear if required. If faults persist jetting and CCTV survey may be required.	Monthly and after large storms.
	Check penstocks and other mechanical devices (if present).	Half yearly.
	Inspect ventilation cowl (if present)	Monthly and after large storms.
Regular maintenance\inspection	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Where rainfall infiltrates into blocks from above, check surface of filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.	Monthly (and after large storms)
	Remove sediment from pre-treatment structures	Annually (or as required after heavy rainfall events)
Remedial actions	Repair/rehabilitation of inlets, outlet, overflows and vents.	As required.

Aberfeldy Village, London
Masterplan, Below Ground Drainage Strategy

Appendix A – Topographical & Utility Surveys


FINDHORN STREET
ABERFELDY STREET
ABERFELDY MILLENNIUM GREEN
FINDHORN STREET
Nos 33-35
No 79
JURA HOUSE
KILBRENNAN HOUSE
ETTRICK STREET
BLACKWALL TUNNEL NORTHERN APPROACH
THISTLE HOUSE
HEATHER HOUSE
TARTAN HOUSE
DEE STREET
DEE STREET
ABERFELDY NEIGHBOURHOOD CENTRE
ST NICHOLAS CHURCH
CULLODEN PRIMARY SCHOOL
BRICK SHEDS
NO ACCESS (Construction in Progress)
NO ACCESS (Construction in Progress)
ELECTRICITY SUB-STATION
PLAY AREA Safety Matting
Containers
Pumped Gable
Hoarding Ht 2.50
Hoarding Ht 2.50
Hedge Ht 3.0
Hedge Ht 3.0
Speed Ramp
Speed Ramp
Speed Ramp



LEGEND

AIR CONDITIONING UNIT	ACU		FENCE DESCRIPTIONS	
ADVERTISING BOARD	AB		BARBED WIRE FENCE	BWF
AIR VALVE	AV		CHAIN LINK FENCE	CLF
BOLLARD	B		CHESTNUT PALING FENCE	CPF
BELISHA BEACON	BB		CLOSE BOARD FENCE	CBF
BOREHOLE	BH		CONCRETE SLAB FENCE	CSF
BASEMENT LIGHT	BLT		CORRUGATED IRON FENCE	CIF
BOUNDARY POST/PEG	BP		CRASH BARRIER	CBR
BUS STOP	BS		IRON RAILINGS	IRF
CABLE TELEVISION PIT	CATV		INTERWOVEN FENCE	IWF
COAL HOLE	CH		LARCH LAP FENCE	LLF
CONTROL BOX	CB		MISCELLANEOUS FENCE	Misc F
DOG WASTE BIN	DWB		OPEN BOARD FENCE	OBF
DOWN PIPE	DP		PALING FENCE	PLF
EARTHING ROD	ER		PALISADE FENCE	PAL
ELECTRICITY CABLE PIT	ELCP		PEDESTRIAN SAFETY BARRIER	PSB
ELECTRICITY CONTROL BOX	CBE		POST AND CHAIN FENCE	PCF
ELECTRICITY INSPECTION COVER	ELIC		POST AND MESH FENCE	PMF
ELECTRICITY POLE	EP		POST AND RAIL FENCE	PRF
ELECTRICITY PYLON	EL PYLON		POST AND WIRE FENCE	PWF
FIRE HYDRANT	FH		TRELLIS	TLS
FLAG STAFF	FS		WIRE MESH FENCE	WMF
FLOODLIGHT	FLT		AVERAGE	Ave
FLOWER BED	FB		HEIGHT	Ht
FOOTPATH	FP		DRAINAGE	
GAS VALVE	GV		SURFACE WATER PIPE	0.15 SW
GUIDE POST	GP		FOUL WATER PIPE	0.15 FW
GULLY	G			
INSPECTION COVER	IC		NO VISIBLE CONNECTION	NVC
INSPECTION COVER (UNKNOWN)	ICU		UNABLE TO LIFT	UTL
KERB OUTLET	KO		UNABLE TO SURVEY	UTS
LAMP HOLE	LH		TAKEN FROM RECORDS	TFR
LAMP POST	LP		DRAINAGE CHANNEL (OPEN)	DC
LIGHTED BOLLARD	LTB			
LITTER BIN	LB		DRAINAGE CHANNEL (COVERED)	DC
MANHOLE	MH			
MILESTONE	MS			
NAME PLATE	NP		OVERHEAD WIRE	O/H W
NOTICE BOARD	NB			
PARKING METER	PM		BANKING	
POST	P			
POST BOX	PB			
RAIN WATER PIPE	RWP		EXTENT OF VEGETATION	
REFLECTOR POST	RP			
ROAD SIGN	RS			
RODDING EYE	RE		HEDGES	
SERVICE MARKER POST	SMP			
SIGN POST	SP			
SLUICE VALVE	SV		MARSH	
SOIL & VENT PIPE	SVP			
SPOTLIGHT (GROUND)	SPLG			
SPOTLIGHT (TOWER)	SPLT		GATE	SINGLE DOUBLE
STOP COCK	SC			
TELECOM CONTROL BOX	CBT			
TELECOM INSPECTION CHAMBER	TIC		RETAINING WALL	RTW
TELECOM MANHOLE	TMH			
TELECOM PILLAR	TLP		SLOPING MASONRY	
TELEGRAPH POLE	TP			
TELEPHONE CALL BOX	TCB		STILE	
TICKET MACHINE	TM			
TL CABLE INSPECTION COVER	TLIC		WALL (Width drawn to scale)	
TRAFFIC LIGHT	TL			
TRAFFIC LIGHT CONTROL BOX	CBTL		BUILDING	
TRAFFIC LIGHT CONTROL POST	CPTL			
VENT PIPE	VP		OPEN SIDED/ BUILDING OVERHEAD	
WATER METER	WM			
WASH OUT	WO		CANOPY	
WATER CONTROL PILLAR	WCP			
WATER TAP	Tap		GLASS ROOFED	
WATER TROUGH	WT		ARCHWAY	

LEVELS

SPOT LEVEL(+indicates pos.)	+ 127.13		CONTOURS	25.50
BASEMENT LEVEL	BTL			
BED LEVEL	BL			
COVER LEVEL	CL		ORDNANCE SURVEY BENCH MARK	OSBM Value 12.47
EAVES LEVEL	EL			
FLOOR LEVEL	FL		TEMPORARY BENCH MARK	TBM Value 50.00
INVERT LEVEL	IL			
ROOF LEVEL	RFL		SURVEY STATION	
RIDGE LEVEL	RL			
SOFFIT LEVEL	SFL			
SPRING LEVEL	SPL			
THRESHOLD LEVEL	THL			
TOP OF WALL LEVEL	ToW			
WATER LEVEL	WL			

TREE LEGEND

ALDER	ALD	MAPLE	MPL
ASH	ASH	OAK	OAK
ASPEN	ASP	PINE	PNE
BEECH	BCH	POPLAR	POP
CEDAR	CED	PRUNUS	PRU
CHERRY	CHY	RHODODENDRONS	RDN
CONIFEROUS	CON	ROWAN	RWN
CYPRESS	CYP	SALLOW	SLW
DECIDUOUS	DEC	SAPLING	SAP
DEAD	DED	SWEET CHESTNUT	SCH
ELDERBERRY	ELD	SILVER BIRCH	SIB
ELM	ELM	SPRUCE	SPR
EUCALYPTUS	EUC	SPECIES UNKNOWN	SPU
FIR	FIR	SYCAMORE	SYC
FRUIT	FRT	TREE OF HEAVEN	TOH
HAWTHORN	HAW	WELLINGTONIA	WEL
HAZEL	HZL	WHITEBEAM	WBM
HORNBEAM	HBM	WILLOW	WLW
HORSE CHESTNUT	HCH	WALNUT	WNT
HOLLY	HLY	YEW	YEW
INDIAN BEAN TREE	IBT		
LARCH	LAR	MULTI-TRUNK	MT
LABURNUM	LBM		
LOCUST	LCS	0.2 / 6 / 3T	
LIME	LIM	Dia of Bole / Tree Height / No of Trunks	
LONDON PLANE	LPN		
MAGNOLIA	MAG		

SIZES AND SPECIES ARE INDICATIVE ONLY, WITH THE MEAN SPREAD DRAWN TO SCALE.

Coordinate Table

Aworth SURVEY CONSULTANTS

STATION	DESCRIPTION	EASTING	NORTHING	LEVEL
100	PN	538634.795	181387.889	1.889
101	PKN	538514.670	181447.628	1.737
102	PKN	538544.730	181480.753	1.873
103	PKN	538624.766	181447.996	1.674
300	??	538463.462	181378.864	1.771
301	PN	538491.308	181399.170	1.700
302	PKN	538560.752	181415.049	1.811
622	PN	538459.194	181440.085	3.221
C1	PN	538663.947	181376.651	1.940
C2	PN	538687.952	181279.286	1.783
C3	PKN	538506.884	181219.790	1.829
C4	PN	538429.831	181475.704	1.957

HN – Hilti® Nail; PM – Punch Mark; PKN – Parker Kalon® Nail; PN – Pipe Nail; PGM – Permanent Ground Marker; W – Washer (used with PKN and PN)

SHEET LAYOUT

2 1

NOTE:
PHOTO POSITIONS SHOWN THUS: (1)

FOR PHOTO'S REFER TO DRAWING 3553–7 SHEET 3.

NOTES

LEVELLING THE SURVEY LEVELS ARE BASED ON OS NEWLYN DATUM BY GPS USING OSGM02.

GRID THE SURVEY IS ON A PLANE LOCAL GRID RELATED TO OS NATIONAL GRID BY GPS USING OSTN02. THE LOCAL GRID ORIGIN IS STN C1, CO–ORDINATES 538663.947E, 181376.651N.

LLOYD'S REGISTER QUALITY ASSURANCE CERTIFICATED COMPANY

THE SURVEY ASSOCIATION

Aworth
SURVEY CONSULTANTS
LRQA Certificated Office
Norfolk House, Norfolk Way, Uckfield, TN22 1EP
Tel:– 01825 768319 Fax:– 01825 768310
www.aworth.co.uk als@aworth.co.uk
The Lansdowne Building, 2 Lansdowne Road
Croydon, CR9 2ER
Tel:– 020 8263 6046 Fax:– 020 8263 6146

Drawing No	Sheet	Revision	Surveyed	NW/CS
3553–7	1		Drawn	TP
	Scale 1:200	@ A0	Checked	PE
			Date	18/12/09

Project

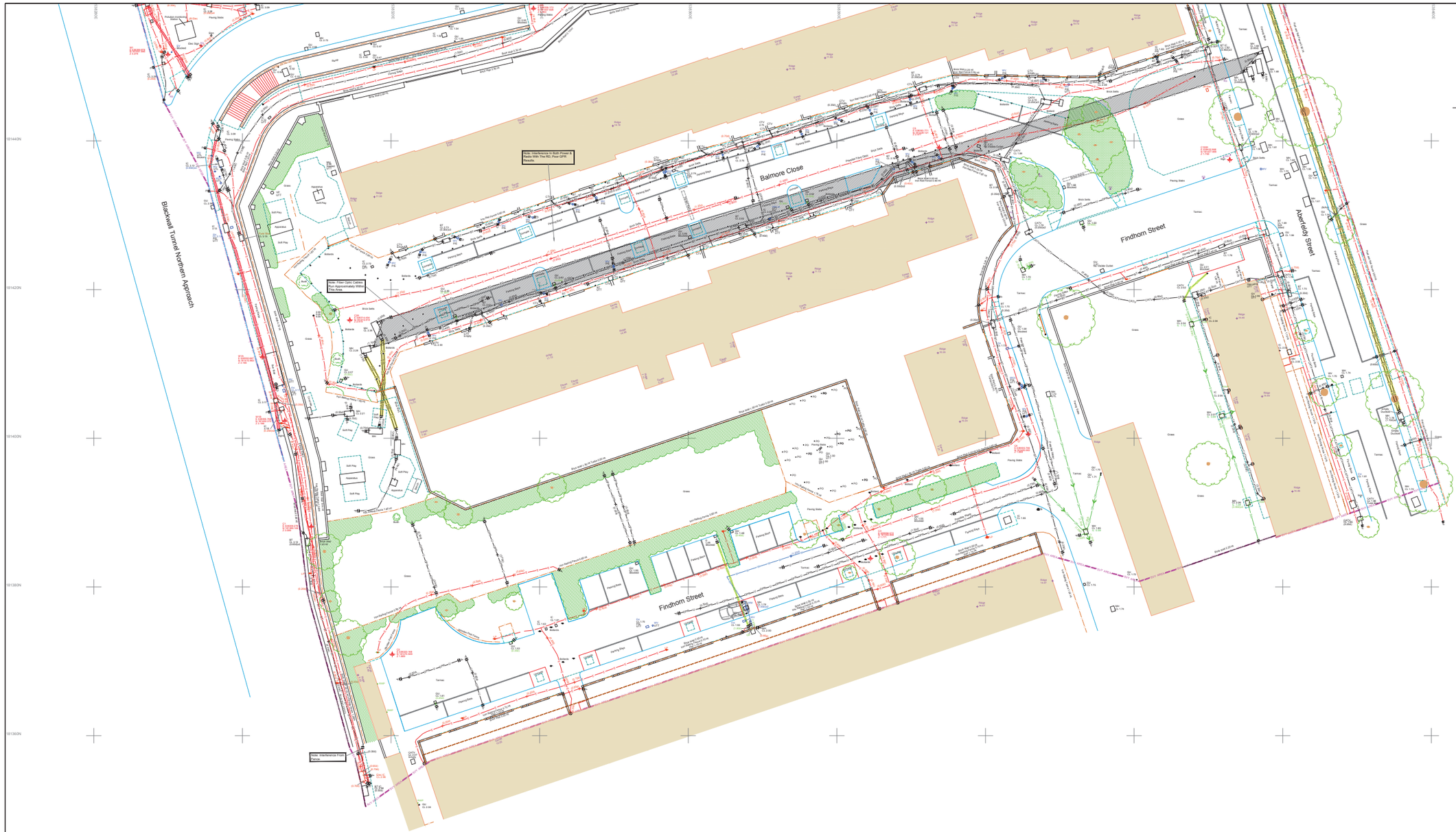
ABERFELDY VILLAGE
POPLAR
PHASE 7

Client

POPLAR HARCA
UNIT 3, QUEBEC WHARF
14 THOMAS ROAD
LONDON E14 7AF


Lochnagar Street
Leven Road
Bromley Hall Road
Blackwall Tunnel Northern Approach
A12
Nairn Street
Note: Approximate Position Of Fence Due To Vegetation & Rubbish
Note: Vegetation & Rubbish
Note: No Access, Overgrown
Note: No Access
Client Advised This Area Not Searched.
Note: Approximate Size & Position Of All Trees.
Note: Poor GPR Results In Area
Note: Poor GPR Results
Note: Unknown Pit
Note: Cable Running Above Ground
Area Of Allotments
Hedge
Fencing
Grass
Light Vegetation
Paving Slabs
Cycleway
Concrete
Tarmac
Gravel
Grassy
Manhole
Gully
Catchpit
Rodding Eye
Inspection Chamber
Soil Vent Pipe
Iron Railing Fence (Lbl) **
Overhead Line
Overhead (GPR)
Underground (GPR)
Abandoned Line1
Abandoned Line2
Abandoned Line3
Abandoned Line4
Abandoned Line5
Abandoned Line6
Abandoned Line7
Abandoned Line8
Abandoned Line9
Abandoned Line10
Abandoned Line11
Abandoned Line12
Abandoned Line13
Abandoned Line14
Abandoned Line15
Abandoned Line16
Abandoned Line17
Abandoned Line18
Abandoned Line19
Abandoned Line20
Abandoned


Oaks Mews
Leven Road
Abbott Road
Abbott Road
Abbott Road
Abbott Road
Damaway Place
Note: Unknown
Note: Cable Running Above Ground
Note: Water Control Valve
Note: Access Chamber Unable To Trace - Void Unknown Extent
Note: Void Unknown Extent
Note: Gully Approximate Only - Under Van
Note: Possible Drainage In Footpath
Note: Fallen Manhole Lid
Note: Unable To Survey Manhole In This Road
Note: Unable To Survey Further Manhole
Empty
Grass
Hedge
Fencing Rips
Paving Rips
Paving Slabs
Concrete
Tarmac
Brick Setts
Gravel
Timber
Ornamental Shrubs
Trees
Ridge
Kerb
Channel
Gully
Manhole
Inspection Chamber
Telecom Cabinet
Electric Pole
Lamp Post
Bollard
Post
Sign
Bench
Flagpole
Flower Bed
Planting Area
Play Area
Sports Pitch
Basketball Court
Tennis Court
Pond
Stream
Fence
Wall
Gate
Steps
Ramp
Bridge
Building
Porch
Canopy
Chimney
Roof
Window
Door
Step
Threshold
Cill
Lintel
Pier
Buttress
Arch
Column
Beam
Slab
Foundation
Basement
Ground Floor
First Floor
Second Floor
Third Floor
Roof
Parapet
Gutter
Downpipe
Soil Pipe
Vent Pipe
Flue
Chimney Pot
Aerial
Satellite Dish
Weather Vane
Finial
Gable
Hip
Valley
Ridge Tile
Slate
Tile
Lead
Zinc
Copper
Felt
Insulation
Render
Brick
Stone
Timber Frame
Cladding
Glazing
Curtain Wall
Louvre
Vent
Extract
Intake
Duct
Conduit
Cable
Wire
Pipe
Valve
Meter
Switch
Socket
Light
Emergency Light
Fire Alarm
Sprinkler
Hydrant
Hose Reel
Extinguisher
Alarm
Camera
Intercom
Access Control
Barrier
Gate
Turnstile
Lift
Escalator
Stairs
Ramp
Handrail
Guardrail



LEGEND

UTILITY LINETYPES

British Telecom; Cable Television; Closed Circuit Television (CCTV); Drainage; Drainage - Combined Water; Drainage - Foul Water; Drainage - Storm Water; Empty Duct; Electric; Fire Hydrant Main; Fibre Optic; Gas; Heating PIPEs; Mains Cables; Multiples Services Route; Oil; Oxygen; Street Lighting; Traffic Light Lamp; Unknown found by GPR; Unknown; Unknown Cable; Unknown PIPEline; Water; Assumed Service Route - See GENERAL NOTES (Using abbreviation of service and colour as above)

UTILITY SURVEY INFORMATION

Area of Concern; Contractual Survey Area; Previous Survey Area; Extent of (Post processed) GPR; Depth to Top of Service (metres); Unable to Survey; Unable to Lift (cover); Unable to Trace; Unable to Trace (due to blockage); End of Trace

ABBREVIATIONS used on a PAS 128 Survey

(i) 454 (SP) - 0.454 = Depth in metres, SP = Quality Level, P = Post processed GPR

TOPOGRAPHIC & UTILITY DETAILS

Barrier (symbol - dated); Bollards (symbol); Bus Stop; Business (symbol); British Telecoms IC (dated); Building (incomplete dated); Cable into Ground (symbol); Cable TV Box (symbol); CCTV Camera (symbol); Cover Level in metres; Direction of Flow (Drainage); Direction of Flow (Water); Earth Rod (symbol); Electric Cabinet (dated); Electric Pole (symbol); Electric Sign (symbol); Embankment; Feeder Pillar (dated); Finished Floor Level; Flag Pole (symbol); Flat Roof Level in metres; Flood Light (symbol); Gas Valve (symbol); Ground Level in metres; Gulley (dated); Inset Edition Cover (dated); Invert Level in metres; Junction Box - BT (dated); Junction Box - Comms (dated); Junction Box - Electric (dated); Lamp Post (symbol); Light Bollard (symbol); Light in ground (symbol); Manhole (dated); Overhead Line/Cable/Pole; Pavilion Level in metres; PIPE Diameter in millimetres; PIPE into Ground (symbol); Post (symbol); Post with PIPE (symbol); Road Sign (symbol); Rodding Eye (symbol); Sapling (symbol); Sign Post (symbol); Slot Gully (symbol); Spot Height; Stop Cock (symbol); Stop Valve (symbol); Survey Station (symbol); Telephone Pole (symbol); Traffic Bollard (symbol); Tree (dia/species/ht in metres - e.g.) Hedge/ Single or Twin (was: Tree); Traffic Light (symbol); Unknown Valve (symbol); Vent PIPE (symbol); Wall; Waste PIPE (symbol); Water Meter (symbol); Water Valve (symbol); Building Canopy; Chain Barrier; Drainage Channel; Drop Kerb (level in metres); Edge Detail (level in metres); Footpath (level in metres); Fence; Heras Fence; Kerb channel (level in metres); Kerb top (level in metres); Overhead Service Line; Pr/Guardrail+Railing

GENERAL NOTES

Ensa/PE/cive of the information provided by a utility survey and statutory plans, excavation work should be undertaken with extreme caution and in accordance with HSE Guidelines - HSG47 Avoiding Danger from Underground Services

Only sub-surface utility information is provided. Above ground utility information may be shown where it assists with positional referencing.

Utilities may continue outside of the survey area. Any paint marks outside of the area are for investigative purposes only and may not represent the full extent of the sub-surface utilities.

Where logic indicates a utility exists but which cannot be positively confirmed with the technology, an assumed route (ASR) is recorded. All assumed service routes (ASR) have been highlighted with a background yellow colour for visual enhancement.

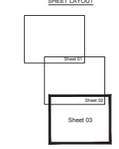
Sewer and manhole details shown on this drawing have been obtained by observation and measurement from the surface and as such cannot be guaranteed

Vertical & Horizontal Position - Vertical position (depth) is indicative to the top of the service and is not to be relied upon for digging. The lateral (X,Y) position of the service is not to be taken as exact, as this could be the surround to the service rather than the service itself. Where depth information from the technology is unclear, depth is not shown. Drains and pit/Ends/ducts may have been detected using threading and the depth indicated could be between the top (as/RS) and the bottom (invert). Horizontal position is indicative to the centre of the utility/feature and should not be taken as exact.

Warranty - Biodegradable paints are used to mark-out the position of the utilities. Markings may become illegible quickly due/FE/ding on ground, weather and traffic conditions. No warranty is given in resP/E/d of the durability of the paint markings and that they are a complete representation of the sub-surface utilities, therefore, this drawing should be used as the primary reference for the survey results.

This drawing does not provide an absolute representation of the sub-surface. Utilities have been detected using non-invasive technologies only and the P/E/rformance can be adversely affected by ground, weather and site conditions outside of SUMO's control, therefore, some utilities may be undetectable. While SUMO uses reasonable endeavours to detect all utilities, it cannot guarantee that all will be detected and it is possible to underestimate depth P/E/rformance of the technologies SUMO uses will not be greater than two metres.

SHEET LAYOUT



Rev	Notes	Drawn	Date

Notes:

Survey is referenced to OS Grid and Level Datum.

Previous Sumo Survey "SOR016539.dwg" has been inserted into this model for reference.

SUMO SERVICES Ltd
8 HAYWARD BUSINESS CENTRE
NEW LANE
HAVANT
HAMPSHIRE
PO9 2NL
TEL: 0845 458 1104
www.sumoservices.com

Title: Utility Mapping

Client: Aberfeldy New Village LLP

Project: Aberfeldy Village, Tower Hamlets, London

Date Completed:	15/08/2020	Post Code:	E14 0ND
Surveyed:	DW, JHG, MW, CE	Scale:	1/200 (A0 Sheet)
Drawn:	DM		
Checked:	DW, JHG, MW, CE		

Job No:	Dwg No:	Rev:
SOR017679	03	



LEGEND

AIR CONDITIONING UNIT	ACU	**FENCE DESCRIPTIONS**	
ADVERTISING BOARD	AB	BARBED WIRE FENCE	BWF
AIR VALVE	AV	CHAIN LINK FENCE	CLF
BOLLARD	B	CHESTNUT PALING FENCE	CPF
BELISHA BEACON	BB	CLOSE BOARD FENCE	CBF
BOREHOLE	BH	CONCRETE SLAB FENCE	CSF
BASEMENT LIGHT	BLT	CORRUGATED IRON FENCE	CIF
BOUNDARY POST/PEG	BP	CRASH BARRIER	CBR
CABLE TV	CATV	HEDGE FENCE	HF
CABLE TELEVISION PIT	CATV	INTERWOVEN FENCE	IWF
COAL HOLE	CH	LARCH LAP FENCE	LLF
CONTROL BOX	CB	MISCELLANEOUS FENCE	Misc F
DOG WASTE BIN	DWB	OPEN BOARD FENCE	OBF
DOWN PIPE	DP	PALING FENCE	PLF
EARTHING ROD	ER	PALISADE FENCE	PAL
ELECTRICITY CABLE PIT	ELCP	PEDESTRIAN SAFETY BARRIER	PSB
ELECTRICITY CONTROL BOX	CBE	POST AND CHAIN FENCE	PCF
ELECTRICITY INSPECTION COVER	ELIC	POST AND MESH FENCE	PMF
ELECTRICITY POLE	EP	POST AND RAIL FENCE	PRF
ELECTRICITY PYLON	EL PYLON	POST AND WIRE FENCE	PWF
FIRE HYDRANT	FH	TRELLIS	TLS
FLAG STAFF	FS	WIRE MESH FENCE	WMF
FLOODLIGHT	FLT	AVERAGE	Ave
FOOTBRIDGE	FB	HEIGHT	Ht
FOOTPATH	FP		
GAS VALVE	GV	**DRAINAGE**	
GUIDE POST	GP	SURFACE WATER PIPE	0.15 SW
GULLY	G	FOUL WATER PIPE	0.15 FW
INSPECTION COVER	IC	NO VISIBLE CONNECTION	NVC
INSPECTION COVER (UNKNOWN)	ICU	UNABLE TO LIFT	UTL
KERB OUTLET	KO	UNABLE TO SURVEY	UTS
LAMP HOLE	LH	TAKEN FROM RECORDS	TFR
LAMP POST	LP	DRAINAGE CHANNEL (OPEN)	DC
LIGHTED BOLLARD	LTB	DRAINAGE CHANNEL (COVERED)	DC
MANHOLE	MH		
MARKER PEG	MP	OVERHEAD WIRE	O/H W
MILESTONE	MS		
NAME PLATE	NP	BANKING	
NOTICE BOARD	NB		
PARKING METER	PM	EXTENT OF VEGETATION	
POST	P		
POST BOX	PB	HEDGES	
RAIN WATER PIPE	RWP		
REFLECTOR POST	RP	MARSH	
ROAD SIGN	RS		
RODDING EYE	RE	GATE	SINGLE DOUBLE
SIGN POST BARRIER POST	SBP		
SIGN POST	SP	RETAINING WALL	RTW
SLUICE VALVE	SV		
SOIL & VENT PIPE	SVP	SLOPING MASONRY	
SPOTLIGHT (GROUND)	SPLG		
SPOTLIGHT (TOWER)	SPLT	STILE	
STOP COCK	SC		
TELECOM CONTROL BOX	CBT	WALL (Width drawn to scale)	
TELECOM INSPECTION CHAMBER	TIC		
TELECOM MANHOLE	TMH	BUILDING	
TELECOM PILLAR	TP		
TELEGRAPH POLE	TP	OPEN SIDED/ BUILDING OVERHEAD	
TELEPHONE CALL BOX	TCB		
TICKET MACHINE	TM	CANOPY	
TL CABLE INSPECTION COVER	TLIC		
TRAFFIC LIGHT	TL	GLASS ROOFED	
TRAFFIC LIGHT CONTROL BOX	CBTL		
TRAFFIC LIGHT CONTROL POST	CPTL	ARCHWAY	
UNKNOWN	U		
WATER METER	WM	CONTOURS	25.50
WASH OUT	WO		
WATER CONTROL PILLAR	WCP	ORDNANCE SURVEY BENCH MARK	OSBM Value 12.47
WATER TAP	TAP	TEMPORARY BENCH MARK	TBM Value 50.00
WATER TROUGH	WT	SURVEY STATION	
LEVELS			
SPOT LEVEL (+indicates pos.)	+ 127.13		
BASEMENT LEVEL	BSL		
BED LEVEL	BL		
COVER LEVEL	CL		
EAVES LEVEL	EL		
FLOOR LEVEL	FL		
INVERT LEVEL	IL		
ROOF LEVEL	RFL		
RIDGE LEVEL	RL		
SOFFIT LEVEL	SFL		
TOP OF STEP	TOS		
THRESHOLD LEVEL	THL		
TOP OF WALL LEVEL	ToW		
WATER LEVEL	WL		

TREE LEGEND

ALDER	ALD	MAPLE	MPL
ASH	ASH	OAK	OAK
ASPEN	ASP	PINE	PNE
BEECH	BEH	POPLAR	POP
CEDAR	CED	PRUNUS	PRU
CHERRY	CHY	RHODODENDRONS	RDN
CONIFEROUS	CON	ROWAN	RWN
CYPRESS	CYP	SALLOW	SLW
DECIDUOUS	DEC	SAPLING	SAP
DEAD	DED	SWEET CHESTNUT	SCH
ELDERBERRY	ELD	SILVER BIRCH	SWB
ELM	ELM	SPRUCE	SPR
EUCALYPTUS	EUC	SPECIES UNKNOWN	SPU
FIR	FIR	SYCAMORE	SYC
FRUIT	FRT	TREE OF HEAVEN	TOH
HAWTHORN	HAW	WEEPING ASPONIA	WEL
HAZEL	HZL	WHITEBEAM	WBM
HORNBEAM	HBM	WILLOW	WLW
HORSE CHESTNUT	HCH	WALNUT	WNT
HOLLY	HLY	YEW	YEW
INDIAN BEAN TREE	IBT		
LARCH	LAR	MULTI-TRUNK	MT
LABURNUM	LBM		
LOCUST	LCS	0.2 / 6 / 3T	
LIME	LM		
LONDON PLANE	LPN	Dia of Tree Bole / No of Height / Trunks	
MAGNOLIA	MAG		

SIZES AND SPECIES ARE INDICATIVE ONLY, WITH THE MEAN SPREAD DRAWN TO SCALE.

Coordinate Table

Aworth SURVEY CONSULTANTS

STATION	DESCRIPTION	EASTING	NORTHING	LEVEL
7	PN	538480.864	181222.252	1.571
100	–	538634.795	181387.889	1.889
104	PNW	538456.201	181318.168	1.791
105	PNW	538471.710	181322.503	1.767
106	PKN	538480.626	181295.154	1.724
107	PNW	538502.572	181262.266	1.788
108	PN	538542.985	181243.685	1.646
109	PKN	538529.685	181282.973	1.849
110	PKN	538513.558	181338.185	1.587
C2	PN	538687.952	181279.286	1.783
C3	PKN	538506.884	181219.790	1.829

NH – Nail Hole; PKN – Parker Kalon® Nail; PGM – Permanent Ground Marker
PM – Punch Mark; PN – Pipe Nail; W – Washer (used with PKN and PM)

NOTE:
PHOTO POSITIONS SHOWN THUS: 1

FOR PHOTO'S REFER TO DRAWING 3553–2 SHEET 2.

NOTES

GRID — THE SURVEY IS ON A PLANE LOCAL GRID RELATED TO OS NATIONAL GRID BY GPS USING OSTN02. THE LOCAL GRID ORIGIN IS STN C1, CO–ORDINATES 538663.947E, 181376.651N.

LEVELLING — THE SURVEY LEVELS ARE BASED ON OS NEWLYN DATUM BY GPS USING OSGM02.

LLOYD'S REGISTER QUALITY ASSURANCE CERTIFICATED COMPANY

THE SURVEY ASSOCIATION

Aworth SURVEY CONSULTANTS
LRQA Certificated Office
Norfolk House, Norfolk Way, Uckfield, TN22 1EP
Tel:– 01825 768319 Fax:– 01825 768310
www.aworth.co.uk als@aworth.co.uk
The Lansdowne Building, 2 Lansdowne Road
Croydon, CR9 2ER
Tel:– 020 8263 6046 Fax:– 020 8263 6146

Drawing No	Sheet	Revision
3553–2	1	
Scale 1:200 @ A1		

Surveyed	NW
Drawn	DRF/TP
Checked	PDE
Date	18/12/09

Project

ABERFELDY VILLAGE
POPLAR
PHASE 2

Client

POPLAR HARCA
UNIT 3, QUEBEC WHARF
14 THOMAS ROAD
LONDON E14 7AF


ABBOTT ROAD
BLAIR STREET
BLAIRGOWRIE COURT
OBAN STREET
Nos 45-47
Nos 4-102
Nos 19-41
OFF LICENCE No 43
PORTREE STREET
EAST INDIA DOCK ROAD
INNER LONDON HOTEL
TIPPINGS
ELECTRICITY SUB-STN
Aspens Position of Art
Bus Shelter
Bollard
Tactile Paving
Brick Setts
Concrete
Tarmac
Fenced
Railings
Hedging
Overgrown
Bushes
Trees
Flower Beds
Island Ramp
Retaining Wall
Steps
Manhole
Telephone Kiosk
Electricity Pillar
Gas Valve
Water Valve
Traffic Light Control Box
Traffic Light Control Post
Lamp Post
Bench
Refuse Bin
Footbridge
Footpath
Kerb Line
Gully
Inspection Cover
Inspection Cover (Unknown)
Kerb Outlet
Lamp Post
Lighted Bollard
Manhole
Marker Post
Milestone
Parking Bay
Parking Meter
Post
Post Box
Rain Water Pipe
Road Sign
Rodding Eye
Sign Post
Soil Pipe
Sluice Valve
Soil Vent Pipe
Spot Level (Unknown)
Stop Cock
Telecom Control Box
Telecom Chamber
Telecom Manhole
Telecom Pillar
Telephone Call Box
Traffic Light
Traffic Inspection Cover
Traffic Light Control Box
Traffic Light Control Post
Tree
Water Meter
Water Pipe
Water Control Pillar
Water Tap
Water Trough
Fence
Wall
Building
Open Sided Building Overhead
Canopy
Glass Roofed
Archway
Contours
Ordnance Survey
Bench Mark
Temporary
Bench Mark
Survey Station
Water Level
NO ACCESS SURVEY NOT REQUIRED
Nos 14-25
Nos 1-113
Nos 1-29
Nos 1-13
Nos 1-15
Nos 1-11
Nos 1-9
Nos 1-7
Nos 1-5
Nos 1-3
Nos 1-2
Nos 1-4
Nos 1-6
Nos 1-8
Nos 1-10
Nos 1-12
Nos 1-14
Nos 1-16
Nos 1-18
Nos 1-20
Nos 1-22
Nos 1-24
Nos 1-26
Nos 1-28
Nos 1-30
Nos 1-32
Nos 1-34
Nos 1-36
Nos 1-38
Nos 1-40
Nos

Search address supplied: Aberfeldy Village, Aberfeldy Street, London, London, UK,

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This searchprovides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Waste Water Services

Please provide a copy extract from the public sewer map.

The following quartiles have been printed as they fall within Thames' sewerage area:

TQ3881NE
TQ3881SW
TQ3881NW
TQ3881SE

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

The following quartiles have been printed as they fall within Thames' water area:

TQ3881NE
TQ3881SW

TQ3881NW
TQ3881SE

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

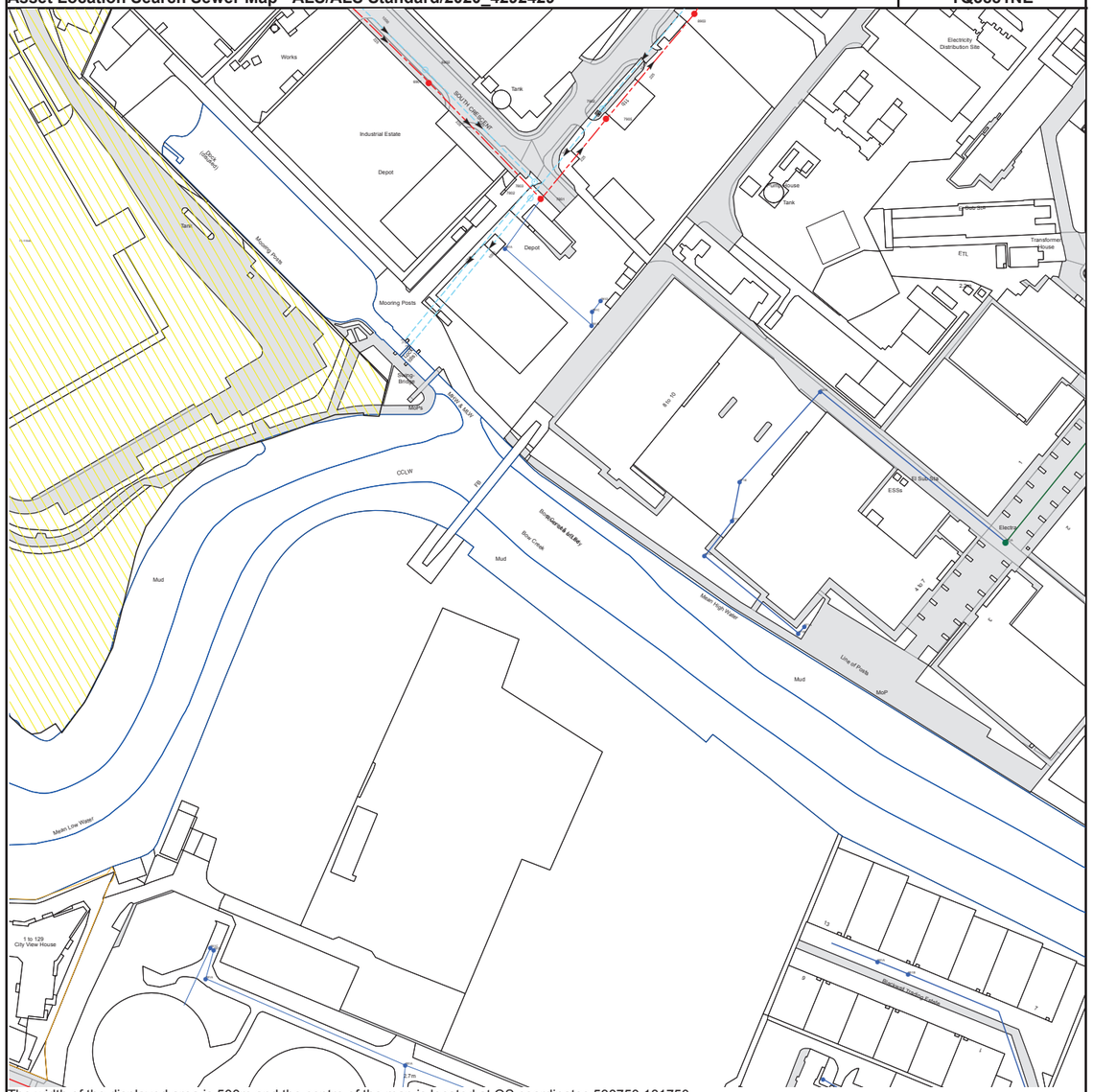
Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429

TQ3881NE



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538750,181750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
85AB	n/a	n/a
85AC	n/a	n/a
951A	n/a	n/a
951B	n/a	n/a
8904	n/a	n/a
8903	n/a	n/a
781A	n/a	n/a
7802	n/a	n/a
7803	n/a	n/a
7801	n/a	n/a
781B	n/a	n/a
781C	n/a	n/a
781D	n/a	n/a
871C	n/a	n/a
871D	n/a	n/a
871E	n/a	n/a
871B	n/a	n/a
871A	n/a	n/a
881A	n/a	n/a
971A	n/a	n/a
651A	n/a	n/a
6902	n/a	n/a
6901	n/a	n/a
7902	n/a	n/a
7905	n/a	n/a
551A	n/a	n/a
551C	n/a	n/a
551B	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881SW**


ABBOTT ROAD
BALMORE CLOSE
FINDHORN STREET
Joby's Green
Aberfeldy Millennium Green
St Nicholas Church Centre
Jamaica Court
Culloden Primary School
Subway
Gantry
Subway Shelter
Public Park
Play Area
Sub Sta
Shirley Court
Ashbee House
Tetlow Court
Tetlow House
Tetlow Court Community Hall
Cotton Street Market
Cotton Street Car Park
Poplar Recreation Ground
Poplar Baptist Church
Poplar Methodist Church
Poplar Library
Poplar Police Station
Poplar Fire Station
Poplar Mosque
Poplar Bus Station
Poplar Health Centre
Poplar Dispensary
Poplar Baths
Poplar Town Hall
Poplar Civic Centre
Poplar Recreation Ground
Poplar Park
Poplar Pumping Station
Poplar Pumping Station (Disused)
Poplar Pumping Station (Disused)
Poplar Pumping Station (Disused)

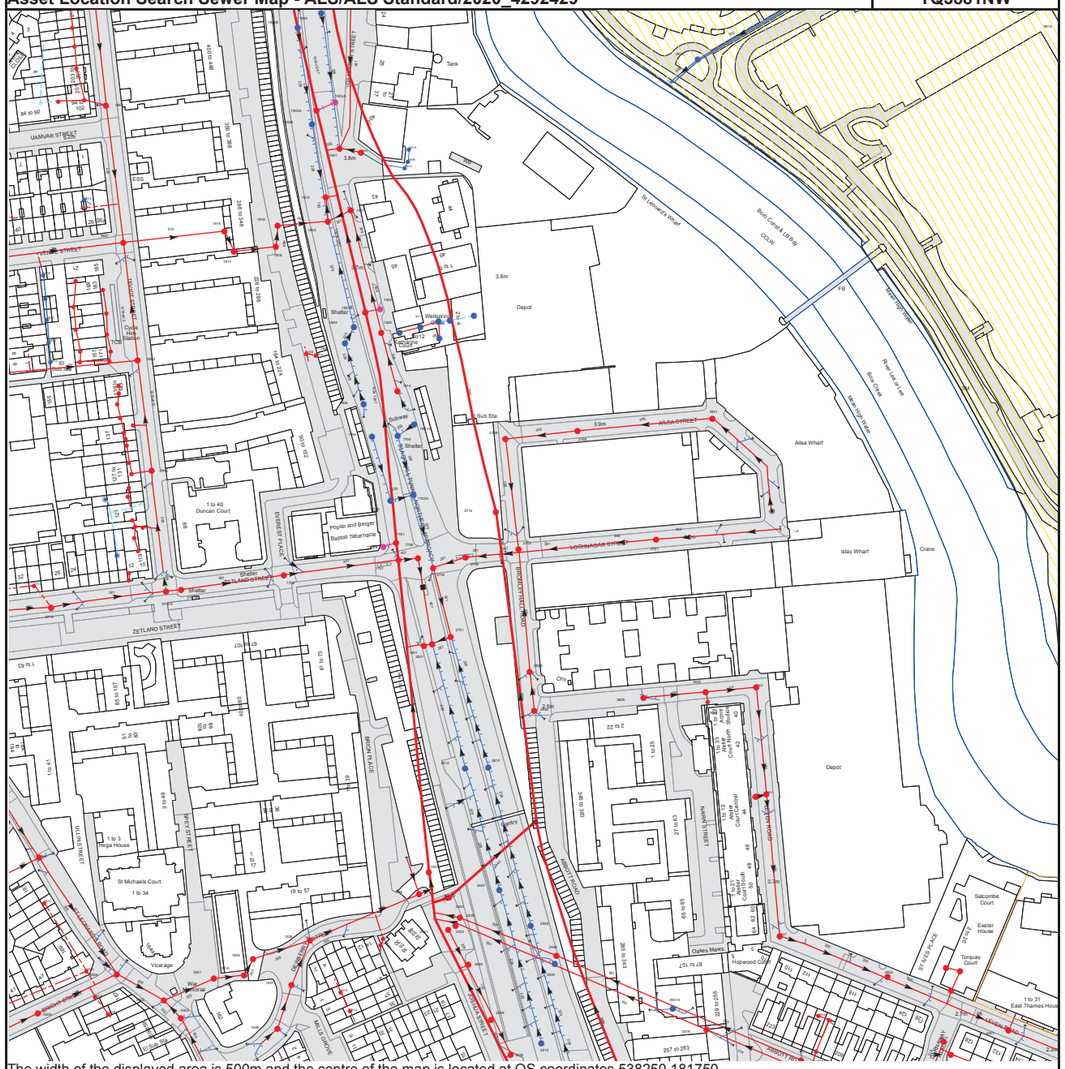
Manhole Reference	Manhole Cover Level	Manhole Invert Level
3302	2.7	.54
3301B	2.29	-1.11
33CI	n/a	n/a
3205	2.35	-4.07
33CD	n/a	n/a
3202	n/a	n/a
33CJ	n/a	n/a
33DE	n/a	n/a
33DF	n/a	n/a
33DG	n/a	n/a
33DH	n/a	n/a
33DA	n/a	n/a
33DI	n/a	n/a
3316	n/a	n/a
2102	4.37	1.67
2012	4.38	1.37
2112	4.66	-8.47
3112	n/a	n/a
3101	n/a	n/a
3102	n/a	n/a
3103	n/a	n/a
3106	n/a	n/a
311C	n/a	n/a
311B	n/a	n/a
311A	n/a	n/a
4104	1.72	-.02
411E	n/a	n/a
411A	n/a	n/a
411J	n/a	n/a
411F	n/a	n/a
411B	n/a	n/a
411I	n/a	n/a
411G	n/a	n/a
411C	n/a	n/a
4103	1.85	-.11
411D	n/a	n/a
4011	4.17	1.55
4102	1.93	-.22
4101	1.93	-.49
12BD	n/a	n/a
12BE	n/a	n/a
2208	5.19	2.74
22CE	n/a	n/a
22CD	n/a	n/a
12BF	n/a	n/a
22BH	n/a	n/a
22BI	n/a	n/a
22BJ	n/a	n/a
22CA	n/a	n/a
22CB	n/a	n/a
22CC	n/a	n/a
2207	5.18	2.47
21CE	n/a	n/a
21CD	n/a	n/a
2203	5.2	2.35
21CC	n/a	n/a
2202	3.7	1.85
2204	3.93	2.12
2201	2.97	.77
2212	2.64	1.93
3218	2.85	1.21
3217	2.94	.53
3219	2.74	1.64
3201	2.44	-8.63
3204	2.34	-.83
3203	2.47	-1.25
12EB	n/a	n/a
12EA	n/a	n/a
121I	n/a	n/a
121F	5.7	4.88
121K	5.65	4.88
121T	5.98	3.89
121J	n/a	n/a
121G	5.7	4.55
12DJ	n/a	n/a
121E	n/a	n/a
121H	n/a	n/a
121D	5.7	3.04
121O	6.31	4.9
12DI	n/a	n/a
121C	5.99	3.08
121R	6.17	4.07
12DH	n/a	n/a
12FH	n/a	n/a
12FI	n/a	n/a
12BJ	n/a	n/a
12CA	n/a	n/a
12CB	n/a	n/a
12AI	n/a	n/a
12AJ	n/a	n/a
12BA	n/a	n/a
12BB	n/a	n/a
12BC	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
11ED	n/a	n/a
11EC	n/a	n/a
11EB	n/a	n/a
21BE	n/a	n/a
11CG	n/a	n/a
11EA	n/a	n/a
21CH	n/a	n/a
21BF	n/a	n/a
11CH	n/a	n/a
11DJ	n/a	n/a
11CI	n/a	n/a
11CJ	n/a	n/a
21BG	n/a	n/a
11DA	n/a	n/a
11DB	n/a	n/a
11DI	n/a	n/a
21BH	n/a	n/a
11DC	n/a	n/a
11DH	n/a	n/a
21BI	n/a	n/a
11DF	n/a	n/a
11DG	n/a	n/a
21BJ	n/a	n/a
2110	5.27	3.03
21CA	n/a	n/a
21CB	n/a	n/a
2109	4.66	2.72
10DF	n/a	n/a
20DC	n/a	n/a
101A	n/a	n/a
20CD	n/a	n/a
10CC	n/a	n/a
10CI	n/a	n/a
20CI	n/a	n/a
1017	5.67	2.64
10CD	n/a	n/a
1016	5.23	2.03
10FD	n/a	n/a
20CJ	n/a	n/a
2019	4.77	1.79
10FE	n/a	n/a
11EI	n/a	n/a
11EJ	n/a	n/a
11FA	n/a	n/a
11FB	n/a	n/a
11FC	n/a	n/a
11FE	n/a	n/a
11FH	n/a	n/a
1102B	5.81	2.58
11EG	n/a	n/a
11EF	n/a	n/a
1101A	5.8	2.17
11EE	n/a	n/a
2103	4.5	2.19
02CH	n/a	n/a
12GD	n/a	n/a
12DG	n/a	n/a
12BI	n/a	n/a
12DF	n/a	n/a
12DD	n/a	n/a
12DC	n/a	n/a
12BH	n/a	n/a
12DB	n/a	n/a
12DA	n/a	n/a
12CJ	n/a	n/a
12GF	n/a	n/a
1205	n/a	n/a
12CI	n/a	n/a
12BG	n/a	n/a
12CH	n/a	n/a
12CC	n/a	n/a
13DH	n/a	n/a
13DE	n/a	n/a
13DG	n/a	n/a
13DF	n/a	n/a
13DD	n/a	n/a
13DI	n/a	n/a
13DC	n/a	n/a
13DB	n/a	n/a
1303	n/a	n/a
1301	5.33	3.16
1004	n/a	n/a
1009	n/a	n/a
1003	n/a	n/a
1001A	n/a	n/a
1010	5.03	1.14
2004	5.3	2.58
1013	5.52	1.82
2005	4.86	3.56
2006	4.74	3.75
1011	5.33	1.55
001D	n/a	n/a
10DH	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
2011	4.53	1.22
10FA	n/a	n/a
10EJ	n/a	n/a
10DG	n/a	n/a
10DE	n/a	n/a
10DB	n/a	n/a
101B	n/a	n/a
10DD	n/a	n/a
20DB	n/a	n/a
01FD	n/a	n/a
0102A	6.44	3.38
01FG	n/a	n/a
01FH	n/a	n/a
01FI	n/a	n/a
01FJ	n/a	n/a
01FF	n/a	n/a
01GA	n/a	n/a
01GB	n/a	n/a
01GC	n/a	n/a
01BE	n/a	n/a
01BF	n/a	n/a
0003	6.02	2.89
11CB	n/a	n/a
11GI	n/a	n/a
11GA	n/a	n/a
11CC	n/a	n/a
11GB	n/a	n/a
11GC	n/a	n/a
11GD	n/a	n/a
11GE	n/a	n/a
11GF	n/a	n/a
11GG	n/a	n/a
10FC	n/a	n/a
11HC	n/a	n/a
11HA	n/a	n/a
11HD	n/a	n/a
0302	5.99	3.98
0312	n/a	2.95
0402	5.17	2.45
0301	5.75	3.69
0311	5.81	2.78
1410	5.02	1.25
141E	n/a	n/a
1411	5.23	1.47
141D	n/a	n/a
1404	5.25	1.53
141C	n/a	n/a
1312	5.55	3.33
1405	5.47	2.46
1415	n/a	n/a
1311	5.43	2.97
1403	4.55	1.3
1414	n/a	n/a
1310	5.38	3.07
1302	n/a	n/a
141H	n/a	n/a
131A	n/a	n/a
1402	4.17	1.17
141B	n/a	n/a
1401	3.58	1.08
2315	4.46	1.69
2314	3.26	1.25
2403	2.27	-5.19
2407	2.81	2.25
0212	n/a	n/a
0201B	6.49	3.67
02CI	n/a	n/a
0202	6.24	3.38
12FD	n/a	n/a
1103B	5.94	3.13
12FC	n/a	n/a
11CD	n/a	n/a
121S	6.11	5.25
12FB	n/a	n/a
12FA	n/a	n/a
12EJ	n/a	n/a
12EI	n/a	n/a
12EH	n/a	n/a
12EG	n/a	n/a
121L	5.71	4.55
12EF	n/a	n/a
121M	5.73	4.28
121A	5.6	3.17
12EE	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881NW**


ZETLAND STREET
UAMVAR STREET
EVERSLEY PLACE
ELLENBOROUGH PLACE
ORCHARD STREET
ORCHARD PLACE
ORCHARD TERRACE
ORCHARD MEWS
ORCHARD STREET
ORCHARD ROAD
ORCHARD WAY
ORCHARD GARDENS
ORCHARD CLOSE
ORCHARD COURT
ORCHARD RISE
ORCHARD AVENUE

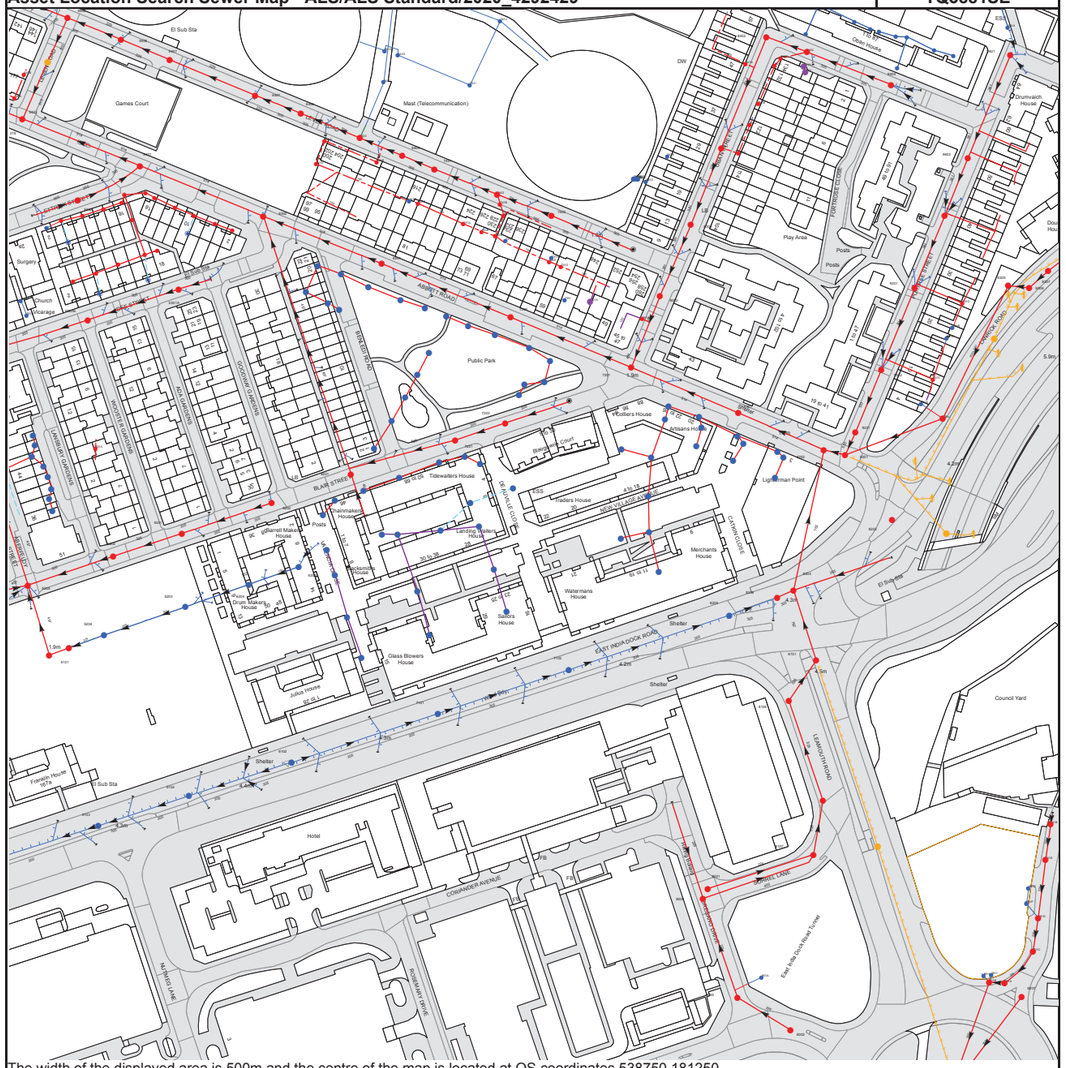
NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3701	n/a	n/a
3501A	n/a	n/a
3603	3.19	1.1
3516	n/a	n/a
3604	3.24	n/a
361A	3.5	.4
3602	3.75	.78
3601	3.55	.29
3507	3.39	n/a
3517	n/a	n/a
35CH	n/a	n/a
351A	n/a	n/a
35CG	n/a	n/a
4502	n/a	n/a
4511	n/a	n/a
45BF	n/a	n/a
45CB	n/a	n/a
45BH	n/a	n/a
45BG	n/a	n/a
4501	n/a	n/a
1705	n/a	n/a
2709	n/a	n/a
1801A	n/a	n/a
3801	n/a	n/a
1806	n/a	n/a
1814	n/a	n/a
181A	n/a	n/a
181B	n/a	n/a
1805	n/a	n/a
28AB	n/a	n/a
18CI	n/a	n/a
1820	n/a	n/a
18CH	n/a	n/a
1804	n/a	n/a
28AC	n/a	n/a
28AE	n/a	n/a
28AD	n/a	n/a
1801B	n/a	n/a
1802	n/a	n/a
1817	n/a	n/a
1818	n/a	n/a
1816	n/a	n/a
1819	n/a	n/a
1803	n/a	n/a
1917	n/a	n/a
1915	n/a	n/a
191C	n/a	n/a
191B	n/a	n/a
1914	n/a	n/a
191A	n/a	n/a
1901	n/a	n/a
1902B	n/a	n/a
1902A	n/a	n/a
1903A	n/a	n/a
391A	n/a	n/a
1903B	n/a	n/a
491A	n/a	n/a
1904	n/a	n/a
391B	n/a	n/a
2538	n/a	n/a
2510	n/a	n/a
1508	n/a	n/a
2539	n/a	n/a
0503	n/a	n/a
151A	n/a	n/a
0502	n/a	n/a
151B	n/a	n/a
1507	n/a	n/a
0501	n/a	n/a
1510	n/a	n/a
2540	n/a	n/a
2509	n/a	n/a
1509	n/a	n/a
2536	n/a	n/a
151D	n/a	n/a
1506	n/a	n/a
151C	n/a	n/a
2541	n/a	n/a
2534	n/a	n/a
2508	n/a	n/a
2535	n/a	n/a
2505	2.25	-8.8
1505	n/a	n/a
2507	n/a	n/a
1501	2.32	-5.24
2614	n/a	n/a
2615	n/a	n/a
2630	n/a	n/a
3605	n/a	n/a
2629	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
1601	n/a	n/a
2601	n/a	n/a
2701	n/a	n/a
0702A	n/a	n/a
0701B	n/a	n/a
1708	n/a	n/a
2702	n/a	n/a
1707	n/a	n/a
1706	n/a	n/a
2704	n/a	n/a
2705	n/a	n/a
1702B	n/a	n/a
1701	n/a	n/a
2714	3.24	-9.46
1703	n/a	n/a
1702A	n/a	n/a
0713	n/a	n/a
2708	n/a	n/a
1704	n/a	n/a
07CH	n/a	n/a
07DB	n/a	n/a
07DD	n/a	n/a
07DE	n/a	n/a
07DJ	n/a	n/a
07EA	n/a	n/a
07EB	n/a	n/a
07DI	n/a	n/a
07DH	n/a	n/a
08BJ	n/a	n/a
08CA	n/a	n/a
08CB	n/a	n/a
08CC	n/a	n/a
08AH	n/a	n/a
081A	n/a	n/a
08EE	n/a	n/a
08DI	n/a	n/a
0802	n/a	n/a
08DH	n/a	n/a
08ED	n/a	n/a
081B	n/a	n/a
08DG	n/a	n/a
08EC	n/a	n/a
081C	n/a	n/a
08DF	n/a	n/a
08EB	n/a	n/a
081D	n/a	n/a
08DE	n/a	n/a
08EA	n/a	n/a
081E	n/a	n/a
0801	n/a	n/a
091A	n/a	n/a
0901	n/a	n/a
09BD	n/a	n/a
09BE	n/a	n/a
09BF	n/a	n/a
09CA	n/a	n/a
09BJ	n/a	n/a
09BC	n/a	n/a
09BI	n/a	n/a
09BH	n/a	n/a
071A	n/a	n/a
0506	n/a	n/a
051C	n/a	n/a
0712	n/a	n/a
051D	n/a	n/a
07CI	n/a	n/a
0504	n/a	n/a
07AH	n/a	n/a
07BJ	n/a	n/a
07CE	n/a	n/a
07CF	n/a	n/a
07CD	n/a	n/a
07CG	n/a	n/a
07CC	n/a	n/a
051B	n/a	n/a
0505	n/a	n/a
051A	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Asset Location Search Sewer Map - ALS/ALS Standard/2020_4292429 | **TQ3881SE**


Games Court
Mast (Telecommunication)
Public Park
Play Area
Posts
Surgery
Church
Vicarage
Tidewaiters House
Thatchers House
Watermans House
Merchants House
Glass Blowers House
Sailors House
Julius House
Shelter
Hostel
Council Yard
Drumwaich House
Ropers House
Coopers House
Caulkers House
Riggers House
Mariners House
Lightermans Point
Trailers House
Gunners House
Pilots House
Carpenters House
Plumbers House
Masons House
Painters House
Sawyers House
Blacksmiths House
Turners House
Millwrights House
Ships Carpenters House
Ropers Drum House
Ships Chandlers House
Ships Painters House
Ships Riggers House
Ships Coopers House
Ships Caulkers House
Ships Masons House
Ships Blacksmiths House
Ships Turners House
Ships Millwrights House
Ships Carpenters House
Ships Plumbers House
Ships Gunners House
Ships Sawyers House
Ships Sailors House
Ships Glass Blowers House
Ships Julius House
Ships Mariners House
Ships Merchants House
Ships Tidewaiters House
Ships Thatchers House
Ships Trailers House
Ships Lightermans Point
Ships Pilots House
Ships Posts
Ships Drum House
Ships Surgery
Ships Church
Ships Vicarage
Ships Hostel
Ships Shelter
Ships Council Yard
Ships Drumwaich House
Ships Play Area
Ships Public Park
Ships Games Court
Ships Mast (Telecommunication)
Ships El Sub Sta
Ships Fresh Water Tank
Ships Foreman House
Ships Office
Ships Store
Ships Workshop
Ships Canteen
Ships Toilets
Ships Changing Rooms
Ships Mess Room
Ships Rest Room
Ships Training Room
Ships Conference Room
Ships Meeting Room
Ships Boardroom
Ships Reception
Ships Entrance
Ships Exit
Ships Car Park
Ships Parking
Ships Loading Bay
Ships Unloading Bay
Ships Storage
Ships Warehouse
Ships Workshop
Ships Office
Ships Store
Ships Canteen
Ships Toilets
Ships Changing Rooms
Ships Mess Room
Ships Rest Room
Ships Training Room
Ships Conference Room
Ships Meeting Room
Ships Boardroom
Ships Reception
Ships Entrance
Ships Exit
Ships Car Park
Ships Parking
Ships Loading Bay
Ships Unloading Bay
Ships Storage
Ships Warehouse
ABBEY ROAD
BLAIR STREET
GREENWICH HIGH ROAD
LEGION WAY
CROOM'S HILL
GREENWICH CHURCH STREET
CROOM'S HILL GROVE
CROOM'S HILL PLACE
CROOM'S HILL TERRACE
CROOM'S HILL VILLAS
CROOM'S HILL MANSIONS
CROOM'S HILL LODGE
CROOM'S HILL HOUSE
CROOM'S HILL COURT
CROOM'S HILL GARDENS
CROOM'S HILL GROVE
CROOM'S HILL PLACE
CROOM'S HILL TERRACE
CROOM'S HILL VILLAS
CROOM'S HILL MANSIONS
CROOM'S HILL LODGE
CROOM'S HILL HOUSE
CROOM'S HILL COURT
CROOM'S HILL GARDENS
EAST INDIA DOCK ROAD
LEWISHAM ROAD
CORONATION AVENUE
CORONATION GARDENS
CORONATION PLACE
CORONATION TERRACE
CORONATION VILLAS
CORONATION MANSIONS
CORONATION LODGE
CORONATION HOUSE
CORONATION COURT
CORONATION GARDENS
CORONATION GROVE

Manhole Reference	Manhole Cover Level	Manhole Invert Level
731I	n/a	n/a
731H	n/a	n/a
72AH	n/a	n/a
7301	n/a	n/a
831A	n/a	n/a
82CB	n/a	n/a
82CC	n/a	n/a
8302	n/a	n/a
83CB	n/a	n/a
83CC	n/a	n/a
8303	n/a	n/a
8004	n/a	n/a
8003	n/a	n/a
801A	6.29	5.79
8002	n/a	n/a
9007	n/a	n/a
8001	n/a	n/a
8107	n/a	n/a
8106	n/a	n/a
6102	n/a	n/a
7101	n/a	n/a
8105	n/a	n/a
7102	n/a	n/a
8101	n/a	n/a
61BC	n/a	n/a
62DF	n/a	n/a
62CJ	n/a	n/a
8205	n/a	n/a
72CB	n/a	n/a
8206	n/a	n/a
62DE	n/a	n/a
8204	n/a	n/a
62DA	n/a	n/a
82BJ	n/a	n/a
72CA	n/a	n/a
6203	n/a	n/a
62DB	n/a	n/a
72AG	n/a	n/a
62DD	n/a	n/a
62DC	n/a	n/a
82CA	n/a	n/a
72BJ	n/a	n/a
72BI	n/a	n/a
6202	n/a	n/a
63DI	n/a	n/a
63DJ	n/a	n/a
62CA	n/a	n/a
63EI	n/a	n/a
62CB	n/a	n/a
63FA	n/a	n/a
63EA	n/a	n/a
6201	n/a	n/a
62CE	n/a	n/a
63ED	n/a	n/a
62EF	n/a	n/a
6301	n/a	n/a
63EG	n/a	n/a
62CD	n/a	n/a
63EC	n/a	n/a
63EF	n/a	n/a
63EH	n/a	n/a
63EB	n/a	n/a
63EE	n/a	n/a
72BA	n/a	n/a
73CF	n/a	n/a
7201	n/a	n/a
731A	n/a	n/a
72AJ	n/a	n/a
73CH	n/a	n/a
72CC	n/a	n/a
53AE	n/a	n/a
53BG	n/a	n/a
53BH	n/a	n/a
5402	n/a	n/a
54DI	n/a	n/a
5302B	n/a	n/a
521A	n/a	n/a
53BI	n/a	n/a
54BH	n/a	n/a
53BJ	n/a	n/a
5406	n/a	n/a
54DH	n/a	n/a
54DJ	n/a	n/a
53CC	n/a	n/a
5401	n/a	n/a
53CA	n/a	n/a
54EA	n/a	n/a
54EB	n/a	n/a
53CB	n/a	n/a
5407	n/a	n/a
54EC	n/a	n/a
5301A	n/a	n/a
54ED	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
53CD	n/a	n/a
63CF	n/a	n/a
6401	n/a	n/a
6302	n/a	n/a
5101	n/a	n/a
511B	n/a	n/a
5204	n/a	n/a
5203	n/a	n/a
5205	n/a	n/a
6204	n/a	n/a
5202	n/a	n/a
5201	n/a	n/a
52CH	n/a	n/a
52CI	n/a	n/a
52CJ	n/a	n/a
52DA	n/a	n/a
52DB	n/a	n/a
5403	n/a	n/a
541A	n/a	n/a
541B	n/a	n/a
52DC	n/a	n/a
52DE	n/a	n/a
52DD	n/a	n/a
531B	n/a	n/a
531A	n/a	n/a
5103	n/a	n/a
5102	n/a	n/a
901H	5.1	4.21
901B	5.1	2.1
901I	5.1	4.39
901A	4.91	2.2
901F	5.59	4.52
901G	5.59	2.97
901C	4.96	2.37
901D	4.82	2.43
901E	4.68	2.58
911B	4.6	3.15
94DF	n/a	n/a
94DE	n/a	n/a
941A	n/a	n/a

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Storm Relief

Vent Pipe

Proposed Thames Surface Water Sewer

Gallery

Surface Water Rising Main

Sludge Rising Main

Vacuum

Trunk Foul

Trunk Combined

Bio-solids (Sludge)

Proposed Thames Water Foul Sewer

Foul Rising Main

Combined Rising Main

Proposed Thames Water Rising Main

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

- Air Valve
- Dam Chase
- Fitting
- Meter
- Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

- Control Valve
- Drop Pipe
- Ancillary
- Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

- Outfall
- Undefined End
- Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

- Public/Private Pumping Station
- Change of characteristic indicator (C.O.C.I.)
- Invert Level
- Summit

Areas

Lines denoting areas of underground surveys, etc.

- Agreement
- Operational Site
- Chamber
- Tunnel
- Conduit Bridge

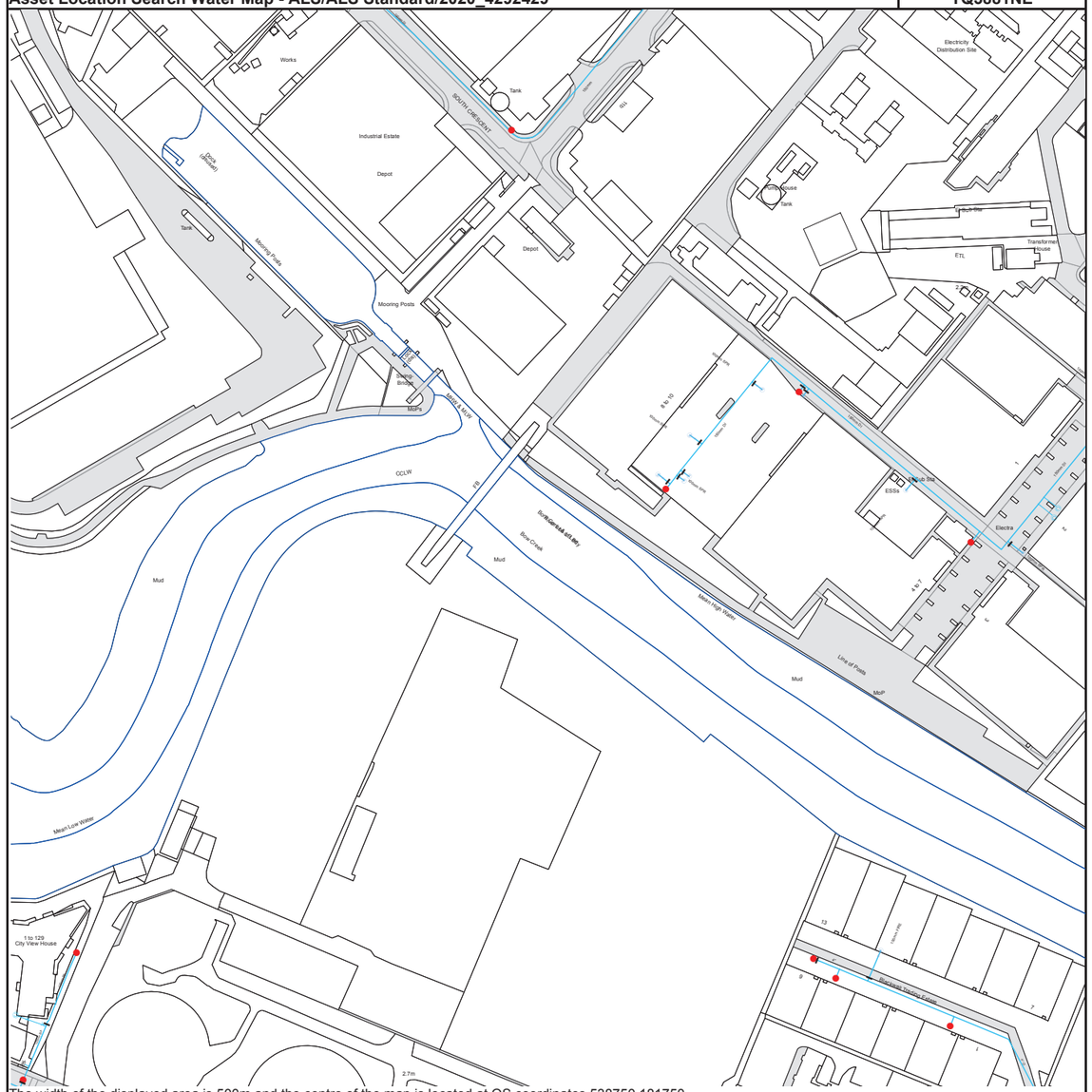
Other Sewer Types (Not Operated or Maintained by Thames Water)

- Foul Sewer
- Combined Sewer
- Culverted Watercourse
- Surface Water Sewer
- Gulley
- Proposed
- Abandoned Sewer

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plans are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
5) 'na' or '0' on a manhole level indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429 | **TQ3881NE**



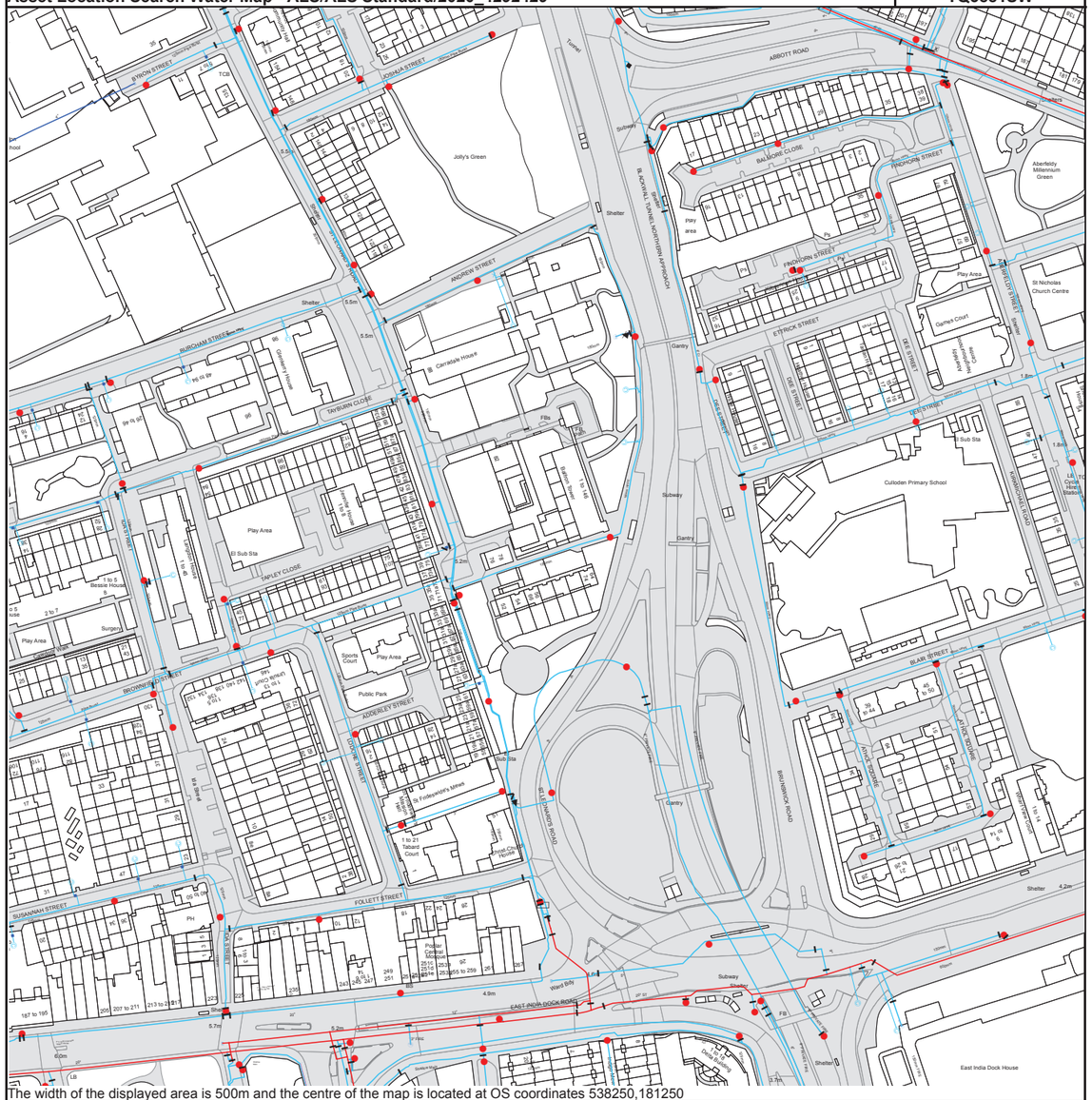
The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538750,181750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429

TQ3881SW



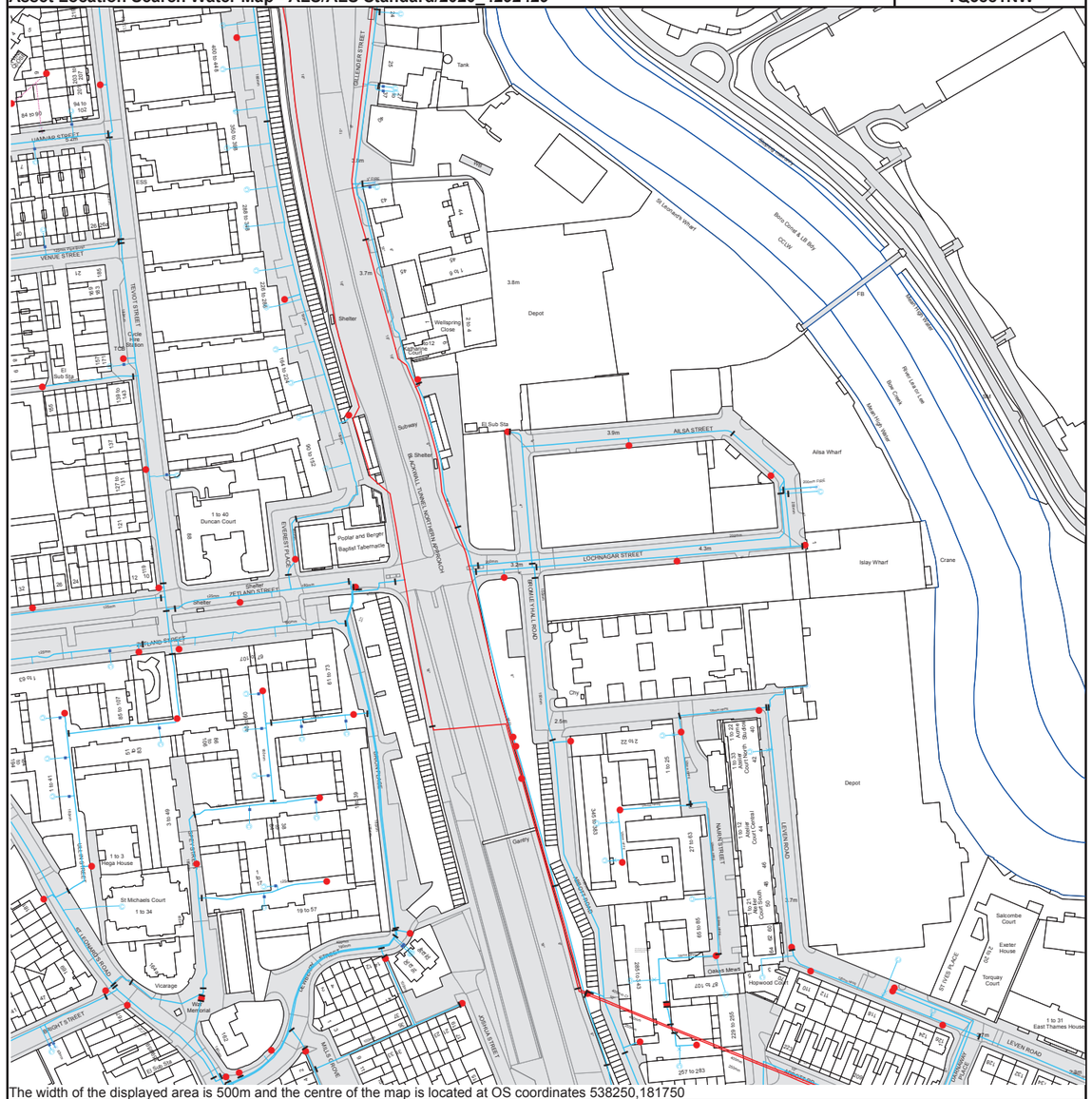
The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538250,181250

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429

TQ3881NW

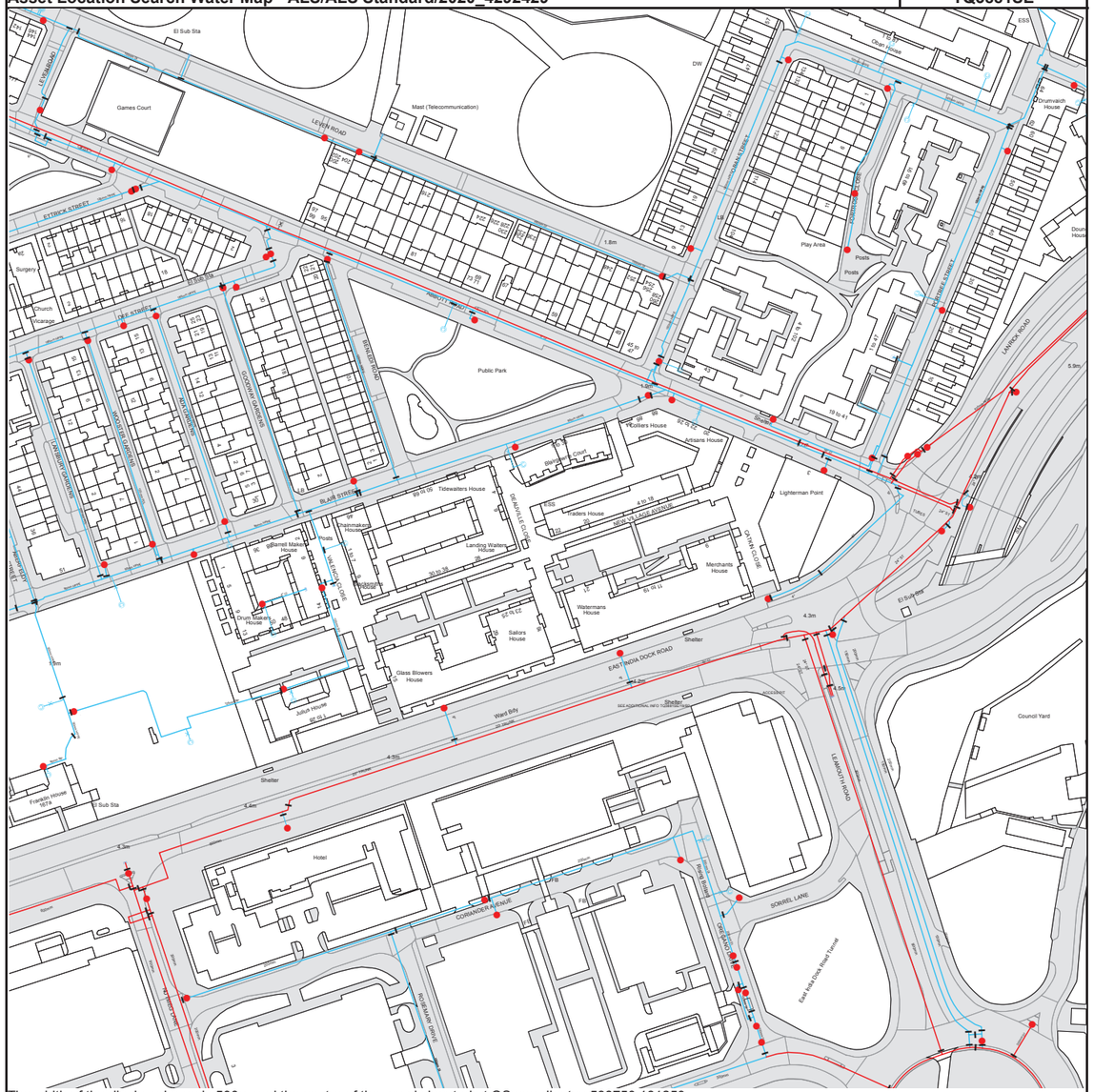


The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538250,181750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

Asset Location Search Water Map - ALS/ALS Standard/2020_4292429 | **TQ3881SE**



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 538750,181250

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

Symbol indicating what happens at the end of a water main.

- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger

Other Water Pipes (Not Operated or Maintained by Thames Water)

Other Water Company Main: Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

Private Main: Indiates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL`s terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to her at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	**BACS Payment**	**Telephone Banking**	**Cheque**
Call **0845 070 9148** quoting your invoice number starting CBA or ADS / OSS	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number	Made payable to '**Thames Water Utilities Ltd**' Write your Thames Water account number on the back. Send to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW** or by DX to **151280 Slough 13**

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.

Mrs Maria Magdalena Burca
Ecoworld and Poplar Harca C/O Meinhardt (UK) Ltd
10 Aldersgate Street
London
EC1A 4HJ

Wastewater pre-planning
Our ref DS6080631

24 March 2021

Pre-planning enquiry: Confirmation of sufficient capacity

Dear Mrs Burca,

Thank you for providing information on your development:

Aberfeldy Village, Area known as Poplar Riverside, London, E14 0HT.

Existing: 297 dwellings, primary school and commercial space (2,217sqm).

Proposed: Demolition of existing site. Phase A – 250 residential units. Foul water discharging by gravity. 50 units to MH7303, 23 units to MH3605, 75 units to MH4301A, 102 units to MH4215. Surface water discharging by gravity attenuated to 8.59l/s to manholes 7303, 3605, 4301A and 4215.

Phase B – 573 residential units, 920.3sqm of workspace, 1,894.9sqm of residential hub, 344,8sqm of estate management space and 443.3sqm of retail space. Foul water discharging by gravity. 79 units to MH3605, 222 units to MH3517 and MH2536, 160 units to MH3516. Surface water discharging by gravity attenuated to 8l/s to manholes 3605, 3517, 2536 and 3516.

Phase C – 622 residential units and 4,816.7sqm workspace. Foul water discharging by gravity to manhole 4303. Surface water discharging by gravity attenuated to 6l/s to manhole 4303.

Phase D – Primary school. Foul water discharging by gravity to manhole 4302. Surface water discharging by gravity attenuated to 3l/s to manhole 4302.

Phase E – 427 residential units and 2,808.3sqm of workspace. Foul water discharging by gravity. 220 units to the manhole upstream of MH4203 in Blair Street, 151 units to MH4202 and 78 units to MH4216.

Overall surface water discharge rates for the development will be restricted to 33.59l/s.

We have completed the assessment of the foul water flows and surface water run-off based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent combined sewer network to serve your development.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

Surface Water

Please note that discharging surface water to the public sewer network should only be considered after all other methods of disposal have been investigated and proven to not be viable. In accordance with the Building Act 2000 Clause H3.3, positive connection to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. The disposal hierarchy being: 1st Soakaways; 2nd Watercourses; 3rd Sewers.

Only when it can be proven that soakage into the ground or a connection into an adjacent watercourse is not possible would we consider a restricted discharge into the public combined sewer network.

If the peak surface water run-off discharge is then restricted to Greenfield run-off rates/a maximum of 33.59l/s as your drainage strategy indicates, then we would have no objections to the proposals.

Thames Water Planning team would ask to see why it is not practicable on the site to restrict to Greenfield run-off rates if they are consulted as part of any planning application.

In considering your surface water needs, we support the use of sustainable drainage on development sites. You'll need to show the local authority and/or lead local flood authority how you've taken into account the surface water hierarchy that we've included.

Please see the attached 'Planning your wastewater' leaflet for additional information.

What happens next?

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you've any further questions, please contact me on 0203 577 9811.

Yours sincerely

Siva Rajaratnam - Adoptions Engineer

Thames Water

Appendix C – Drainage Strategy Drawings and Calculations

Proposed Surface Water Discharge rates

Total Site Area = 48334m² = 4.83 ha
Calculated Green field runoff rate = 18.8 l/s

Phase A

1. **Block F1:** Hard standing area (excluding green areas, roads): 2145m²
2. **Block H1/H2:** Hard standing area (excluding green areas, roads): 2025m²
3. **Block H3:** Hard standing area (excluding green areas, roads): 1700m²
4. **Block I1:** Hard standing area (excluding green areas, roads): 905m²
5. **Block J1:** Hard standing area (excluding green areas, roads): 2624m²

Phase B

1. **Block A1/A2:** Hard standing area (excluding green areas, roads): 3570m²
2. **Block A3:** Hard standing area (excluding green areas, roads): 1265m²
3. **Block B1/B2:** Hard standing area (excluding green areas, roads): 2225m²
4. **Block B3:** Hard standing area (excluding green areas, roads): 1525m²
5. **Block B4:** Hard standing area (excluding green areas, roads): 1255m²
6. **Block B5:** Hard standing area (excluding green areas, roads): 321m²

Phase C

1. **Block C1/C2/C3/C4:** Hard standing area (excluding green areas, roads): 6005m²
2. **Block C5:** Hard standing area (excluding green areas, roads): 210m²
3. **Block C6:** Hard standing area (excluding green areas, roads): 148m²
4. **Block E1/E2/E3:** Hard standing area (excluding green areas, roads): 5185m²

Phase D

1. **Block D1/D2/D3/D4:** Hard standing area (excluding green areas, roads): 5310m²

Phase	Storm Event	Proposed Surface Water Discharge Rate	Proposed connections For connection location refer to Proposed Discharge Location Section	Required Surface Water Attenuation
Phase A Block F1	1 in 100 year + 40% CC	1.25 l/s	1 connection	185m³
Phase A Block H1/H2	1 in 100 year + 40% CC	1.5 l/s	1 connection	161m³
Phase A Block H3	1 in 100 year + 40% CC	1.25 l/s	1 connection	135m³
Phase A Block I1	1 in 100 year + 40% CC	1 l/s	1 connection	69m³
Phase A Block J1	1 in 100 year + 40% CC	1 l/s	1 connection	260m³
Phase B Block A1/A2	1 in 100 year + 40% CC	1.5 l/s	1 connections	343m³
Phase B Block A3	1 in 100 year + 40% CC	1 l/s	Shared Connection with Block B1/B2/B4 (0.33')	98m³
Phase B Block B1/B2	1 in 100 year + 40% CC	1.5 l/s	Shared Connection with Block A3/B4 (0.33')	183m³
Phase B Block B3	1 in 100 year + 40% CC	1.3 l/s	Shared connection with Block B5 (0.5)	129m³
Phase B Block B4	1 in 100 year + 40% CC	1 l/s	Shared Connection with Block A3/B1/B2 (0.33')	97m³
Phase B Block B5	1 in 100 year + 40% CC	1 l/s	Shared connection with Block B3 (0.5)	13m³
Phase C Block C1/C2/C3/C4	1 in 100 year + 40% CC	1.5 l/s	Shared Connection with Block E1/E2/E3 & C5 (0.25)	651m³
Phase C Block C5	1 in 100 year + 40% CC	0.75 l/s	Shared Connection with Block E1/E2/E3 & C1/C2/C3/C4 (0.25)	10m³
Phase C Block C6	1 in 100 year + 40% CC	0.25 l/s	Shared Connection with Block E1/E2/E3 & C1/C2/C3/C4 (0.25)	10m³
Phase C Block E1/E2/E3	1 in 100 year + 40% CC	1.5 l/s	Shared Connection with Block C1/C2/C3/C4 & (0.25)	562m³
Phase D Block D1/D2/D3/D4	1 in 100 year + 40% CC	1.5 l/s	1 connection	576m³
Total		19.05 l/s	12 connections	3568m³

Proposed Discharge Locations

It is proposed to discharge surface water from all blocks via gravity to the surrounding Thames Water combined water sewers, the below are the locations of proposed connections and the proposed discharge rate, please also refer to the below ground drainage masterplan drawing (2812-MHT-CV-BG-DR-100);

- One new connection to the northwest corner of the building I1 into the Thames Water combined water network in Blair Street (TWMH7303); Proposed discharge rate is 1l/s;
- One new connection to the southeast corner of the building J1 into Thames Water combined water sewer in Leven Road (TWMH3602); Proposed discharge rate is 1.25l/s;
- One new connection to the northeast of building A1/A2 into the Thames Water combined water sewer in Leven Road (TWMH3605); Proposed discharge rate 1.5l/s:
- One new connection serving blocks A3, B1/B2 and B4 located to the south of the buildings discharging into Thames Water manhole (TWMH3501A); Proposed discharge rate 3.5l/s:
- One new connection north of block B3 downstream of Thames Water combined water manhole (TWMH3516); Proposed discharge rate is 2.3l/s:
- One new connection to the Thames Water combined sewer manhole in Ettrick Street (TWMH4303); Proposed discharge rate is 4l/s.
- One new connection to the Thames Water combined sewer manhole in Ettrick Street (TWMH4302); Proposed discharge rate is 1.5l/s.
- One new connection to the southeast corner of the building F1 into the Thames Water combined water sewer in Aberfeldy Street (TWMH4312); Proposed discharge rate is 1.25l/s; and
- Two new connections for Building H1&H2 and H3 which will discharge surface water via two new separate connections into Thames Water combined sewer in Aberfeldy Street (TWMH4215). Proposed discharge rate for Building H1&H2 connection is 1.5l/s and for Building H3 is 1.25l/s.

The proposed new connections are subject to a CCTV survey which will survey the line, level and condition of the existing sewers. If this survey identifies any available existing connections in those locations there may be an opportunity to reuse. This will be explored during detailed design.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block F1

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51403° N
Longitude:	0.00616° W
Reference:	4120047975
Date:	Jul 28 2021 09:11

Site characteristics

Total site area (ha):	0.2145
Significant public open space (ha):	0
Area positively drained (ha):	0.2145
Impermeable area (ha):	0.2145
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.21
Net impermable area for storage volume design (ha):	0.21
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.25

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.83	0.83
Q_{BAR} for net site area (l/s):	0.83	0.83

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.3	1.3
1 in 30 years (l/s):	1.9	1.9
1 in 100 year (l/s):	2.7	2.7

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m^3):	163	163
Long term storage 1/100 years (m^3):	22	22
Total storage 1/100 years (m^3):	185	185

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

28/07/2021 Surface water storage volume estimation - member's only area

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block H1/H2

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51341° N
Longitude:	0.00573° W
Reference:	1349361017
Date:	Jul 28 2021 09:09

Site characteristics

Total site area (ha):	0.2025
Significant public open space (ha):	0
Area positively drained (ha):	0.2025
Impermeable area (ha):	0.2025
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.2
Net impermable area for storage volume design (ha):	0.2
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.5

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.78	0.78
Q_{BAR} for net site area (l/s):	0.78	0.78

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.5	1.5
1 in 30 years (l/s):	1.8	1.8
1 in 100 year (l/s):	2.5	2.5

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m^3):	140	140
Long term storage 1/100 years (m^3):	21	21
Total storage 1/100 years (m^3):	161	161

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block H3

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51344° N
Longitude:	0.0053° W
Reference:	210401556
Date:	Jul 28 2021 09:13

Site characteristics

Total site area (ha):	0.17
Significant public open space (ha):	0
Area positively drained (ha):	0.17
Impermeable area (ha):	0.17
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.17
Net impermable area for storage volume design (ha):	0.17
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.3	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.66	0.66
Q_{BAR} for net site area (l/s):	0.66	0.66

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.25

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.3	1.3
1 in 30 years (l/s):	1.5	1.5
1 in 100 year (l/s):	2.1	2.1

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	115	118
Long term storage 1/100 years (m³):	18	18
Total storage 1/100 years (m³):	133	135

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

28/07/2021 Surface water storage volume estimation - member's only area

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block I1

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51300° N
Longitude:	0.00466° W
Reference:	3474697233
Date:	Jul 28 2021 09:18

Site characteristics

Total site area (ha):	0.0905
Significant public open space (ha):	0
Area positively drained (ha):	0.0905
Impermeable area (ha):	0.0905
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.09
Net impermable area for storage volume design (ha):	0.09
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.3	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.35	0.35
Q_{BAR} for net site area (l/s):	0.35	0.35

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1	1
1 in 30 years (l/s):	1	1
1 in 100 year (l/s):	1.1	1.1

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	69	70
Long term storage 1/100 years (m³):	0	0
Total storage 1/100 years (m³):	69	70

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

https://www.uksuds.com/drainage-tools-members/surface-water-storage-tool.html#report-close 1/1

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Boustead
Site name:	Aberfeldy Village Block J1
Site location:	Tower Hamlets

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51363° N
Longitude:	0.00553° W
Reference:	3951692199
Date:	Sep 17 2021 15:08

Site characteristics

Total site area (ha):	0.2624
Significant public open space (ha):	0
Area positively drained (ha):	0.2624
Impermeable area (ha):	0.2624
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.26
Net impermable area for storage volume design (ha):	0.26
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	1.02	1.02
Q_{BAR} for net site area (l/s):	1.02	1.02

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1
Volume control approach	Flow control to max of 2 l/s/ha or Qbar
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1	1
1 in 30 years (l/s):	1	1
1 in 100 year (l/s):	1	1

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	259	259
Long term storage 1/100 years (m³):	0	0
Total storage 1/100 years (m³):	259	259

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block A1/A2

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51676° N
Longitude:	0.00846° W
Reference:	1572811697
Date:	Jul 28 2021 09:19

Site characteristics

Total site area (ha):	0.357
Significant public open space (ha):	0
Area positively drained (ha):	0.357
Impermeable area (ha):	0.357
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.36
Net impermable area for storage volume design (ha):	0.36
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.33	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	1.38	1.38
Q_{BAR} for net site area (l/s):	1.38	1.38

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.5

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.5	1.5
1 in 30 years (l/s):	3.2	3.2
1 in 100 year (l/s):	4.4	4.4

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	302	299
Long term storage 1/100 years (m³):	44	44
Total storage 1/100 years (m³):	346	343

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block A3

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51678° N
Longitude:	0.00758° W
Reference:	1287391727
Date:	Jul 28 2021 09:21

Site characteristics

Total site area (ha):	0.1265
Significant public open space (ha):	0
Area positively drained (ha):	0.1265
Impermeable area (ha):	0.1265
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.13
Net impermable area for storage volume design (ha):	0.13
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.33	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.49	0.49
Q_{BAR} for net site area (l/s):	0.49	0.49

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1	1
1 in 30 years (l/s):	1.1	1.1
1 in 100 year (l/s):	1.6	1.6

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m^3):	86	85
Long term storage 1/100 years (m^3):	13	13
Total storage 1/100 years (m^3):	99	98

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

28/07/2021 Surface water storage volume estimation - member's only area

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block B1/B2

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51599° N
Longitude:	0.00819° W
Reference:	4120295627
Date:	Jul 28 2021 09:23

Site characteristics

Total site area (ha):	0.2225
Significant public open space (ha):	0
Area positively drained (ha):	0.2225
Impermeable area (ha):	0.2225
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.22
Net impermable area for storage volume design (ha):	0.22
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.5

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.33	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.86	0.86
Q_{BAR} for net site area (l/s):	0.86	0.86

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.5	1.5
1 in 30 years (l/s):	2	2
1 in 100 year (l/s):	2.7	2.7

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m^3):	161	160
Long term storage 1/100 years (m^3):	23	23
Total storage 1/100 years (m^3):	185	183

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by: Luke Hornblow
Site name: Aberfeldy Village
Site location: Block B3

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51486° N
Longitude:	0.00776° W
Reference:	1258750634
Date:	Jul 28 2021 09:25

Site characteristics

Total site area (ha):	0.1525
Significant public open space (ha):	0
Area positively drained (ha):	0.1525
Impermeable area (ha):	0.1525
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.15
Net impermable area for storage volume design (ha):	0.15
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.3

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.59	0.59
Q_{BAR} for net site area (l/s):	0.59	0.59

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.3	1.3
1 in 30 years (l/s):	1.4	1.4
1 in 100 year (l/s):	1.9	1.9

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	113	113
Long term storage 1/100 years (m³):	16	16
Total storage 1/100 years (m³):	129	129

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

28/07/2021 Surface water storage volume estimation - member's only area

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by: Luke Hornblow
Site name: Aberfeldy Village
Site location: Block B4

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51562° N
Longitude:	0.00723° W
Reference:	2940151236
Date:	Jul 28 2021 09:26

Site characteristics

Total site area (ha):	0.1255
Significant public open space (ha):	0
Area positively drained (ha):	0.1255
Impermeable area (ha):	0.1255
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.13
Net impermable area for storage volume design (ha):	0.13
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.33	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.49	0.49
Q_{BAR} for net site area (l/s):	0.49	0.49

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1	1
1 in 30 years (l/s):	1.1	1.1
1 in 100 year (l/s):	1.6	1.6

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	85	84
Long term storage 1/100 years (m³):	13	13
Total storage 1/100 years (m³):	98	97

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block B5

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51494° N
Longitude:	0.00801° W
Reference:	3040714113
Date:	Aug 18 2021 12:02

Site characteristics

Total site area (ha):	0.0321
Significant public open space (ha):	0
Area positively drained (ha):	0.0321
Impermeable area (ha):	0.0321
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.03
Net impermable area for storage volume design (ha):	0.03
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	83.16
FEH / FSR conversion factor:	1.32	1.08
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.12	0.12
Q_{BAR} for net site area (l/s):	0.12	0.12

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1	1
1 in 30 years (l/s):	1	1
1 in 100 year (l/s):	1	1

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	16	13
Long term storage 1/100 years (m³):	0	0
Total storage 1/100 years (m³):	16	13

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block C1/C2/C3/C4

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51448° N
Longitude:	0.00776° W
Reference:	632757355
Date:	Jul 28 2021 09:30

Site characteristics

Total site area (ha):	0.6005
Significant public open space (ha):	0
Area positively drained (ha):	0.6005
Impermeable area (ha):	0.6005
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.6
Net impermable area for storage volume design (ha):	0.6
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	2.33	2.33
Q_{BAR} for net site area (l/s):	2.33	2.33

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.5

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	2	2
1 in 30 years (l/s):	5.4	5.4
1 in 100 year (l/s):	7.4	7.4

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	526	526
Long term storage 1/100 years (m³):	125	125
Total storage 1/100 years (m³):	651	651

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block C5

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51494° N
Longitude:	0.00801° W
Reference:	2977012526
Date:	Aug 18 2021 12:45

Site characteristics

Total site area (ha):	0.0210
Significant public open space (ha):	0
Area positively drained (ha):	0.021
Impermeable area (ha):	0.021
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.02
Net impermable area for storage volume design (ha):	0.02
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	83.16
FEH / FSR conversion factor:	1.32	1.08
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.08	0.08
Q_{BAR} for net site area (l/s):	0.08	0.08

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	0.75

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	0.8	0.8
1 in 30 years (l/s):	0.8	0.8
1 in 100 year (l/s):	0.8	0.8

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	10	8
Long term storage 1/100 years (m³):	0	0
Total storage 1/100 years (m³):	10	8

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

18/08/2021 Surface water storage volume estimation - member's only area

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block C6

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51434° N
Longitude:	0.00799° W
Reference:	4129630892
Date:	Aug 18 2021 10:42

Site characteristics

Total site area (ha):	0.0148
Significant public open space (ha):	0
Area positively drained (ha):	0.0148
Impermeable area (ha):	0.0148
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.02
Net impermable area for storage volume design (ha):	0.01
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	0.06	0.06
Q_{BAR} for net site area (l/s):	0.08	0.08

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	0.25

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	0.3	0.3
1 in 30 years (l/s):	0.3	0.3
1 in 100 year (l/s):	0.3	0.3

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	10	10
Long term storage 1/100 years (m³):	0	0
Total storage 1/100 years (m³):	10	10

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block E1/E2/E3

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51448° N
Longitude:	0.00776° W
Reference:	294567894
Date:	Jul 28 2021 09:34

Site characteristics

Total site area (ha):	0.5185
Significant public open space (ha):	0
Area positively drained (ha):	0.5185
Impermeable area (ha):	0.5185
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.52
Net impermable area for storage volume design (ha):	0.52
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.5

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	2.01	2.01
Q_{BAR} for net site area (l/s):	2.01	2.01

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.7	1.7
1 in 30 years (l/s):	4.6	4.6
1 in 100 year (l/s):	6.4	6.4

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	454	454
Long term storage 1/100 years (m³):	108	108
Total storage 1/100 years (m³):	562	562

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

28/07/2021 Surface water storage volume estimation - member's only area

Surface water storage requirements for sites

www.uksuds.com | Storage estimation tool

Calculated by:	Luke Hornblow
Site name:	Aberfeldy Village
Site location:	Block D1/D2/D3/D4

This is an estimation of the storage volume requirements that are needed to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). It is not to be used for detailed design of drainage systems. It is recommended that hydraulic modelling software is used to calculate volume requirements and design details before finalising the design of the drainage scheme.

Site Details

Latitude:	51.51448° N
Longitude:	0.00776° W
Reference:	1709419245
Date:	Jul 28 2021 09:36

Site characteristics

Total site area (ha):	0.531
Significant public open space (ha):	0
Area positively drained (ha):	0.531
Impermeable area (ha):	0.531
Percentage of drained area that is impermeable (%):	100
Impervious area drained via infiltration (ha):	0
Return period for infiltration system design (year):	10
Impervious area drained to rainwater harvesting (ha):	0
Return period for rainwater harvesting system (year):	10
Compliance factor for rainwater harvesting system (%):	66
Net site area for storage volume design (ha):	0.53
Net impermable area for storage volume design (ha):	0.53
Pervious area contribution to runoff (%):	30

* where rainwater harvesting or infiltration has been used for managing surface water runoff such that the effective impermeable area is less than 50% of the 'area positively drained', the 'net site area' and the estimates of Q_{BAR} and other flow rates will have been reduced accordingly.

Design criteria

Climate change allowance factor:	1.4
Urban creep allowance factor:	1.1
Volume control approach	Use long term storage
Interception rainfall depth (mm):	5
Minimum flow rate (l/s):	1.5

Methodology

esti	IH124
Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	4	4
SPR:	0.47	0.47

Hydrological characteristics

	Default	Edited
Rainfall 100 yrs 6 hrs:	--	63
Rainfall 100 yrs 12 hrs:	--	101.64
FEH / FSR conversion factor:	1.32	1.32
SAAR (mm):	580	580
M5-60 Rainfall Depth (mm):	20	20
'r' Ratio M5-60/M5-2 day:	0.4	0.4
Hydological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 10 year:	1.62	1.62
Growth curve factor 30 year:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Q_{BAR} for total site area (l/s):	2.06	2.06
Q_{BAR} for net site area (l/s):	2.06	2.06

Site discharge rates

	Default	Edited
1 in 1 year (l/s):	1.7	1.7
1 in 30 years (l/s):	4.7	4.7
1 in 100 year (l/s):	6.6	6.6

Estimated storage volumes

	Default	Edited
Attenuation storage 1/100 years (m³):	465	465
Long term storage 1/100 years (m³):	110	110
Total storage 1/100 years (m³):	576	576

This report was produced using the storage estimation tool developed by HRWallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at http://uksuds.com/terms-and-conditions.htm. The outputs from this tool have been used to estimate storage volume requirements. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

https://www.uksuds.com/drainage-tools-members/surface-water-storage-tool.html#report-close 1/1

ISO A1 841mm x 594mm

J1
Ref Morris + Co
detailed information

Bromley School

Leven Road

A1

A2

podium car park

Nairn Street

A3

Enterprise Yard

B1

B2

B3

B4

A12

STRATEGIC 2No. 991mm DIA THAMES WATER SEWERS TO BE ABANDONED AND DIVERTED AS SHOWN. SEWER DIVERSION AGREEMENT REQUIRED FROM THAMES WATER PRIOR TO ANY WORKS BEING UNDERTAKEN.

991mm DIA

2250mm DIA

TOWER HAMLETS SWS REF:3407
CL=2.25
IL=0.86

TOWER HAMLETS SWS REF:2420
CL=3.36
IL=1.54

TOWER HAMLETS SWS REF:3403
CL=1.94
IL=-0.54

STRATEGIC 2250mm THAMES WATER SEWER BUILDOVER AGREEMENT WILL BE REQUIRED. GYROSCOPIC SURVEY WILL ALSO BE REQUIRED AS PART OF CONSULTATION WITH THAMES WATER TO ACHIEVE FORMAL BUILD OVER AGREEMENT.

914mm DIA

Abbot Road

ABBOT ROAD AND ASSOCIATED HIGHWAY DRAINAGE TO BE ABANDONED, AGREEMENT TO BE PROVIDED FROM THE LONDON BOROUGH OF TOWER HAMLETS.

225mm DIA

Highland Place

TOWER HAMLETS SWS REF:3406
CL=2.76
IL=-1.11

THAMES WATER CWS REF:4407
CL=1.66
IL=-3.55

C1

C2

D1

THAMES WATER SWS REF:3401
TO BE RELOCATED OUTSIDE OF BUILDING FOOTPRINT AS SHOWN. ASSOCIATED EXISTING CONNECTIONS BE DIVERTED AS NECESSARY, WITH FURTHER SURVEY WORKS REQUIRED.

TOWER HAMLETS SWS REF:3405
CL=1.72
IL=0.13

TOWER HAMLETS SWS REF:4401
CL=1.76
IL=-0.05

TOWER HAMLETS SWS REF:3404
CL=1.67
IL=-0.33

Liffler Road

Abbott Road

686mm DIA

STRATEGIC 2250mm THAMES WATER SEWER BUILDOVER AGREEMENT WILL BE REQUIRED. GYROSCOPIC SURVEY WILL ALSO BE REQUIRED AS PART OF CONSULTATION WITH THAMES WATER TO ACHIEVE FORMAL BUILD OVER AGREEMENT.

THAMES WATER SWS REF:3432
CL=1.66
IL=-1.72

305mm DIA

C4

D4

D2

THAMES WATER CWS REF:4420
CL=1.66
IL=-3.16

SEWERS TO BE ABANDONED
APPLICATION TO THAMES WATER REQUIRED

FURTHER SURVEY WORKS REQUIRED TO CONFIRM EXISTING PUBLIC SURFACE WATER SEWER CAN BE ABANDONED PRIOR TO FORMAL APPLICATION AND AGREEMENT FROM THAMES WATER.

Elrick Street

C3

E2

300mm DIA

610mm DIA

E1

E3

SEWERS TO BE ABANDONED
FOLLOWING CONSULTATION AND AGREEMENT WITH THAMES WATER. FORMAL APPLICATIONS AND AGREEMENTS TO BE COMPLETED DURING LATER DESIGN STAGES.

THAMES WATER CWS REF:4312
CL=1.77
IL=-2.54

Hilton Tower

THAMES WATER CWS REF:3222
CL=2.29
IL=0.55

Dee Street

THAMES WATER CWS REF:4313
CL=2.00
IL=-1.04

Kentidy Street

457mm DIA

THAMES WATER SEWER TO BE ABANDONED AND REDIRECTED AS SHOWN CONNECTING TO THAMES WATER MANHOLE REF: 4312. SEWER DIVERSION AGREEMENT REQUIRED FROM THAMES WATER PRIOR TO ANY WORKS BEING UNDERTAKEN.

H1
Ref Morris + Co
detailed information

SEWERS TO BE ABANDONED
APPLICATION TO THAMES WATER REQUIRED

H3
Ref Morris + Co
detailed information

THAMES WATER CWS REF:4216
CL=1.56
IL=-1.33

car park

H2
Ref Morris + Co
detailed information

THAMES WATER CWS REF:4215
CL=1.61
IL=-2.24

Blair Street

Benedi Street

Braithwaite Park

I1
Ref Morris + Co
detailed information

Lochnagar Street

J1
Ref Morris + Co
detailed information

Bromley School

Leven Road

ISSUED FOR INFORMATION

REV	DESCRIPTION	BY	DATE
P01	STAGE 2 ISSUE	LH	20/08/21
P02	DRAFT STAGE 2+ ISSUED FOR PLANNING	LH	17/09/21
P03	ISSUED FOR PLANNING	LB	14/10/21

NOTES:

1. DO NOT SCALE FROM THIS DRAWING
2. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING IS FOR INFORMATION ONLY.
4. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND CONSULTANTS DRAWINGS AND SPECIFICATIONS.
5. THIS DRAWING IS BASED ON:
   - THAMES WATER ASSET RECORDS DATED NOVEMBER 2020
   - LEVITT BERNSTEIN ARCHITECTURAL MASTERPLAN 3663 - 100A - Proposed LGF Plan - Scenario A - P10, DATED: 10/08/21
   - TOPOGRAPHICAL & UTILITIES COMBINED SURVEY FULL SITE V2

KEY:

- SITE BOUNDARY
- EXISTING SURFACE WATER SEWER
- EXISTING COMBINED WATER SEWER
- PROPOSED COMBINED WATER SEWER
- EXISTING SURFACE WATER MANHOLE
- EXISTING COMBINED WATER MANHOLE
- PROPOSED COMBINED WATER MANHOLE
- SEWER TO BE ABANDONED
- SEWER TO BE PASSED THROUGH STRATEGIC THAMES WATER SEWER BUILD OVER AGREEMENT
- SEWER TO BE DIVERTED & ABANDONED

CDM RESIDUAL CIVIL / STRUCTURAL DESIGN RISKS

MEINHARDT
10 Aldersgate Street, London EC1A 4JU
Telephone: +44 (0)20 7831 7969
www.meinhardt.co.uk

PROJECT
ABERFELDY VILLAGE MASTERPLAN

CLIENT
ECOWORLD

TITLE
THAMES WATER SEWER ABANDONMENT AND BUILDOVER MAP

DISCIPLINE			SCALE
CIVIL			1:1000
DRAWN	DESIGNED	CHECKED	APPROVED
LH	LH	LB	CM
DRAWING No			ISSUE
2812-MHT-CV-BG-DR-050			P03

DATE: 14/10/2021
FILE LOCATION: \\MEINHARDT-DC1\PROJECTDATA\PROJECTS\2812 - ABERFIELDY VILLAGE\1. MHT\CIVIL\DRAWINGS\DRAWINGS\2812-MHT-CV-BG-DR-050.DWG

© MEINHARDT (UK). ALL RIGHTS RESERVED

ISO A1 841mm x 594mm

THAMES WATER SWS REF:3605
CL=n/a
IL=n/a
(SURVEY REQUIRED)

J1
Ref Morris + Co
THAMES WATER SWS REF:3602
CL=3.75
IL=0.78

PHASE B - BLOCK A1/A2
POSITIVELY DRAINED AREA =3570m²
STORM WATER DISCHARGE RATE = 1.5l/s
REQUIRED ATTENUATION VOLUME = 343m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =200m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 228m³
BLUE/GREEN ROOF ATTENUATION:
VOLUME = 116m³

TOTAL ATTENUATION PROVIDED = 344m³

PHASE B - BLOCK B1/B2
POSITIVELY DRAINED AREA =2225m²
STORM WATER DISCHARGE RATE = 1.5l/s
ATTENUATION VOLUME = 183m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =112.8m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 128.6m³
BLUE/GREEN ROOF:
VOLUME = 55m³

TOTAL ATTENUATION = 183.6

PHASE B - BLOCK B3
POSITIVELY DRAINED AREA =1525m²
STORM WATER DISCHARGE RATE = 1.3l/s
REQUIRED ATTENUATION VOLUME = 129m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =35m²
DEPTH = 2.4m (95% VOID RATIO)
VOLUME = 79.8m³
BLUE/GREEN ROOF:
VOLUME = 52m³

TOTAL ATTENUATION PROVIDED = 131.8m³

PHASE B - BLOCK B5
POSITIVELY DRAINED AREA =321m²
STORM WATER DISCHARGE RATE = 1l/s
REQUIRED ATTENUATION VOLUME = 13m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =13.2m²
DEPTH =1.2 m (95% VOID RATIO)
VOLUME = 15m³

PHASE C - BLOCK C1/C2/C3/C4
POSITIVELY DRAINED AREA =6005m²
STORM WATER DISCHARGE RATE = 1.5l/s
REQUIRED ATTENUATION VOLUME = 651m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =364m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 426m³
BLUE/GREEN ROOF:
VOLUME = 238m³

TOTAL ATTENUATION PROVIDED = 653m³

PHASE C - BLOCK C6
POSITIVELY DRAINED AREA =148m²
STORM WATER DISCHARGE RATE = 0.25l/s
(SHARED FLOW CONTROL STRUCTURE WITH BOLCK C5 LIMITING FLOW TO TOTAL 1l/s)
REQUIRED ATTENUATION VOLUME = 10m³
BELOW GROUND CELLULAR ATTENUATION CRATE:
AREA=17.6m²
DEPTH =0.6 m (95% VOID RATIO)
VOLUME = 10.03m³

PHASE C - BLOCK C5
POSITIVELY DRAINED AREA =210m²
STORM WATER DISCHARGE RATE = 0.75l/s
(SHARED FLOW CONTROL STRUCTURE WITH BOLCK C6 LIMITING FLOW TO TOTAL 1l/s)
REQUIRED ATTENUATION VOLUME = 10m³
BELOW GROUND CELLULAR ATTENUATION CRATE:
AREA=17.6m²
DEPTH =0.6 m (95% VOID RATIO)
VOLUME = 10.03m³

PHASE C - BLOCK E1/E2/E3
POSITIVELY DRAINED AREA =5185m²
STORM WATER DISCHARGE RATE = 1.5l/s
REQUIRED ATTENUATION VOLUME = 562m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =351.36m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 400.5m³
BLUE/GREEN ROOF:
VOLUME = 162m³

TOTAL ATTENUATION PROVIDED = 562.5m³

PHASE A - BLOCK J1
POSITIVELY DRAINED AREA = 2624m²
STORM WATER DISCHARGE RATE = 1.0l/s
REQUIRED ATTENUATION VOLUME = 260m³
CELLULAR ATTENUATION CRATES:
AREA = 228m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 260m³

PHASE B - BLOCK A3
POSITIVELY DRAINED AREA = 1265m²
STROM WATER DISCHARGE RATE = 1l/s
REQUIRED ATTENUATION VOLUME = 98m³
CELLULAR ATTENUATION CRATES:
AREA = 86.4m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 98m³

THAMES WATER CWS REF:2536
CL=N/A
IL=N/A
(SURVEY REQUIRED)

THAMES WATER CWS REF:3501A
CL=N/A
IL=N/A
(SURVEY REQUIRED)

PHASE B - BLOCK B4
POSITIVELY DRAINED AREA = 1255m²
STORM WATER DISCHARGE RATE = 1l/s
REQUIRED ATTENUATION VOLUME = 97m³
CELLULAR ATTENUATION CRATES:
AREA = 68.8m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 78.4m³
BLUE/GREEN ROOF:
VOLUME = 19m³

TOTAL ATTENUATION PROVIDED = 97.4m³

THAMES WATER CWS REF:3516
CL=N/A
IL=N/A
(SURVEY REQUIRED)

THAMES WATER CWS REF:4407
CL=1.66
IL=-3.55

PHASE D - BLOCK D1/D2/D3/D4
POSITIVELY DRAINED AREA = 5310m²
STORM WATER DISCHARGE RATE = 1.5l/s
REQUIRED ATTENUATION VOLUME = 576m³
CELLULAR ATTENUATION CRATES:
AREA = 430m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 490.2m³
BLUE/GREEN ROOF:
VOLUME = 87m³

TOTAL PROVIDED ATTENUATION = 577.2m³

THAMES WATER CWS REF:4301A
CL=1.77
IL=-2.82

PHASE A - BLOCK F1
POSITIVELY DRAINED AREA = 2145m²
STORM WATER DISCHARGE RATE = 1.25l/s
REQUIRED ATTENUATION VOLUME = 185m³
CELLULAR ATTENUATION CRATES:
AREA = 114m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 130m³
BLUE/GREEN ROOF:
VOLUME = 56m³

TOTAL ATTENUATION PROVIDED = 185m³

THAMES WATER CWS REF:4302
CL=N/A
IL=N/A
(SURVEY REQUIRED)

THAMES WATER CWS REF:4303
CL=N/A
IL=N/A
(SURVEY REQUIRED)

THAMES WATER CWS REF:4312
CL=1.77
IL=-2.54

THAMES WATER CWS REF:4313
CL=2.00
IL=-1.04

PHASE A - BLOCK H3
POSITIVELY DRAINED AREA = 1700m²
STORM WATER DISCHARGE RATE = 1.25l/s
REQUIRED ATTENUATION VOLUME = 135m³
CELLULAR ATTENUATION CRATES:
AREA = 97.52m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 111.2m³
BLUE/GREEN ROOF:
VOLUME = 24m³

TOTAL ATTENUATION PROVIDED = 135.2m³

PHASE A - BLOCK H1/H2
POSITIVELY DRAINED AREA =2025m²
STORM WATER DISCHARGE RATE = 1.5l/s
REQUIRED ATTENUATION VOLUME = 161m³
BELOW GROUND CELLULAR ATTENUATION CRATES:
AREA =98.4m²
DEPTH = 1.2m (95% VOID RATIO)
VOLUME = 112m³
BLUE/GREEN ROOF:
VOLUME = 49m³

TOTAL ATTENUATION VOLUME PROVIDED = 161m³

THAMES WATER CWS REF:4215
CL=1.61
IL=-2.24

THAMES WATER CWS REF:7303
CL=N/A
IL=N/A
(SURVEY REQUIRED)

PHASE A - BLOCK I1
POSITIVELY DRAINED AREA = 905m²
STORM WATER DISCHARGE RATE = 1l/s
REQUIRED ATTENUATION VOLUME = 69m³
CELLULAR ATTENUATION CRATES:
AREA = 24m²
DEPTH = 1.5m (95% VOID RATIO)
VOLUME = 34.2m³
BLUE/GREEN ROOF:
VOLUME = 35m³

TOTAL ATTENUATION PROVIDED = 69.2m³

THAMES WATER CWS REF:2705
CL=N/A
IL=N/A
(SURVEY REQUIRED)

THAMES WATER CWS REF:2704
CL=N/A
IL=N/A
(SURVEY REQUIRED)

THAMES WATER CWS REF:3701
CL=N/A
IL=N/A
(SURVEY REQUIRED)

J1
Ref Morris + Co
detailed information

Lochnagar Street
Bromley School
Leven Road
Leven Road
Abbott Road
Highland Place
Ellrick Street
Dee Street
Dee Street
Blair Street
Blair Street
Blair Street
Berwick Street
Berwick Street
Braithwaite Park
Millenium
Joky's Green
Nairn Street
Perpetual Park
Perpetual Park
A12
A12
A12

ISSUED FOR INFORMATION

REV	DESCRIPTION	BY	DATE
P01	STAGE 2 ISSUE	LH	20/08/21
P02	SUSTAINABILITY PRESENTATION	LB	25/08/21
P03	DRAFT STAGE 2+ ISSUED FOR PLANNING	LH	17/09/21
P04	ISSUED FOR PLANNING	LB	14/10/21

NOTES:

1. DO NOT SCALE FROM THIS DRAWING
2. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING IS FOR INFORMATION ONLY.
4. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND CONSULTANTS DRAWINGS AND SPECIFICATIONS.
5. PERMEABLE PAVING TO BE UTILIZED IN PRIVATELY MANAGED PUBLIC SPACE WHERE FEASIBLE.
6. THIS DRAWING IS BASED ON:
   - THAMES WATER ASSET RECORDS DATED NOVEMBER 2020
   - LEVITT BERNSTEIN ARCHITECTURAL MASTERPLAN 3663 - 100A - Proposed LGF Plan - Scenario A - P10, DATED: 10/08/21
   - TOPOGRAPHICAL & UTILITIES COMBINED SURVEY FULL SITE V2

TOTAL DISCHARGE RATE FROM SITE IS EQUAL TO THE GREENFEILD RUNOFF RATE OF 18.73 L/S.

KEY:

- ASSUMED PROPERTY BOUNDARY
- PROPOSED SURFACE WATER SEWER
- EXISTING SURFACE WATER SEWER
- PROPOSED FOUL WATER SEWER
- EXISTING COMBINED WATER SEWER
- PROPOSED COMBINED WATER SEWER
- ABANDONED SEWER
- PROPOSED SURFACE WATER MANHOLE
- EXISTING FOUL WATER MANHOLE
- PROPOSED FOUL WATER MANHOLE
- EXISTING COMBINED WATER SEWER
- PROPOSED COMBINED WATER MANHOLE
- PROPOSED BELOW GROUND SURFACE WATER ATTENUATION TANK
- SUDS PLANTER (BIO-RETENTION)
- ASSUMED POSITIVELY DRAINED BLOCK AREA

CDM RESIDUAL CIVIL / STRUCTURAL DESIGN RISKS

MEINHARDT
10 Aldersgate Street, London EC1A 4JU
Telephone: +44 (0)20 7831 7969
www.meinhardt.co.uk

PROJECT
ABERFELDY VILLAGE MASTERPLAN

CLIENT
ECOWORLD

TITLE
BELOW GROUND DRAINAGE MASTERPLAN

DISCIPLINE			SCALE
CIVIL			1:1000
DRAWN	DESIGNED	CHECKED	APPROVED
LH	LH	LB	LB
DRAWING No			ISSUE
2812-MHT-CV-BG-DR-100			P04

DATE: 14/10/2021
FILE LOCATION: \\MEINHARDT-DC1\PROJECTDATA\PROJECTS\2812 - ABERFIELDY VILLAGE\1. MHT\CIVIL\DRAWINGS\DRAWINGS\2812-MHT-CV-BG-DR-100.DWG

© MEINHARDT (UK). ALL RIGHTS RESERVED

ISO A1 841mm x 594mm

BLOCK A1/A2

ROOF AREA = 2110m²

BLUE/GREEN ROOF ATTENUATION:
ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 1386 x 0.5 = 693m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 65m³

PODIUM BLUE ROOF:
PODIUM BLUE ROOF AREA = 543m²

ATTENUATION VOLUME PROVIDED BY PODIUM BLUE ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 51m³

TOTAL ATTENUATION VOLUME PROVIDED = 116m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK B1/B2

ROOF AREA = 1289m²

ASSUMED ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 1175 x 0.5 = 587.5m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 55m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK B4

ROOF AREA = 488m²

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 409 x 0.5 = 204.5m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 19m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK B3

ROOF AREA = 1095m²

ROOF AREA USED BY MEP PLANT/FIXED FURNITURE = 85m²
<50% TOTAL BLUE/GREEN ROOF AREA THEREFORE ASSUMPTION OKAY.

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 1095 x 0.5 = 547.5m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 52m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK C1/C2/C3/C4

ROOF AREA = 4349m²

BLUE/GREEN ROOF ATTENUATION:
ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 2598 x 0.5 = 1299m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 123.4m³

PODIUM BLUE ROOF:
PODIUM BLUE ROOF AREA = 1210m²

ATTENUATION VOLUME PROVIDED BY PODIUM BLUE ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 114.95m³

TOTAL ATTENUATION VOLUME PROVIDED = 238m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK D1/D2/D3/D4

ROOF AREA = 2320m²

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 1833 x 0.5 = 916.5m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 87m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK E1/E2/E3

ROOF AREA = 3062m²

BLUE/GREEN ROOF ATTENUATION:
ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 1948 x 0.5 = 974m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 92m³

PODIUM BLUE ROOF:
PODIUM BLUE ROOF AREA = 746m²

ATTENUATION VOLUME PROVIDED BY PODIUM BLUE ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 70m³

TOTAL ATTENUATION VOLUME PROVIDED = 162m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK F1

ROOF AREA = 1017m²

ROOF AREA USED BY MEP PLANT/FIXED FURNITURE = 235m²

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 834 - 235 = 599m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 56m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK H1/H2

ROOF AREA = 1184m²

ROOF AREA USED BY MEP PLANT/FIXED FURNITURE = 72m²

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 593 - 72 = 521m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 49m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK H3

ROOF AREA = 723m²

ROOF AREA USED BY MEP PLANT/FIXED FURNITURE = 163m²

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 415 - 163 = 252m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 24m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

BLOCK I1

ROOF AREA = 609m²

ROOF AREA USED BY MEP PLANT/FIXED FURNITURE = 135m²

ROOF AREA AVAILABLE FOR BLUE/GREEN ROOF = 511 - 135 = 376m²

ATTENUATION VOLUME PROVIDED BY BLUE/GREEN ROOF AT 0.1m DEPTH & 0.95 VOID RATIO = 35m³

BLUE/GREEN ROOF DISCHARGE RATE DESIGNED BY SPECIALIST AT LATER DESIGN STAGE.

NOTE:

A 50% REDUCTION IN BLUE/GREEN ROOF PLAN AREA IS APPLIED WHERE ROOF PLANT AREAS ARE UNKNOWN. THIS REDUCTION IS EXCLUDING PODIUM BLUE ROOF AREAS.

KEY:

- PROPOSED PODIUM DECK BLUE ROOF AREA
- PROPOSED BLUE OR GREEN ROOF AREA
- PROPOSED BLUE ROOF AREA

CDM RESIDUAL CIVIL / STRUCTURAL DESIGN RISKS

ISSUED FOR INFORMATION

REV	DESCRIPTION	BY	DATE
P01	STAGE 2 ISSUE	LH	20/08/21
P02	DRAFT STAGE 2+ FOR PLANNING	LH	17/09/21
P03	ISSUED FOR PLANNING	LB	14/10/21

NOTES:

1. DO NOT SCALE FROM THIS DRAWING
2. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
3. THIS DRAWING IS FOR PLANNING PURPOSES.
4. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND CONSULTANTS DRAWINGS AND SPECIFICATIONS.
5. THIS DRAWING IS BASED ON:
   - LEVITT BERNSTEIN ARCHITECTURAL MASTERPLAN DWG REF; 3663 - 130 - Proposed Roof plan - Scenario A - P6.
   - MORRIS AND COMPANY ROOF PLANS A303-MCO-BF-R1-DR-A-01122, A303-MCO-BH-R1-DR-A-01138 & A303-MCO-BI-R1-DR-A-01158.

MEINHARDT
10 Aldersgate Street, London EC1A 4JU
Telephone: +44 (0)20 7831 7969
www.meinhardt.co.uk

PROJECT
ABERFELDY VILLAGE MASTERPLAN

CLIENT
ECOWORLD

TITLE
ROOF MASTERPLAN

DISCIPLINE			SCALE
CIVIL			1:1000
DRAWN	DESIGNED	CHECKED	APPROVED
LH	LH	LB	CM
DRAWING No			ISSUE
2812-MHT-CV-BG-DR-101			P03

DATE: 14/10/2021
FILE LOCATION: \\MEINHARDT.DC1\PROJECTDATA\PROJECTS\2812 - ABERFIELDY VILLAGE\1. MHT\CIVIL\DRAWINGS\DRAWINGS\2812-MHT-CV-RF-DR-101.DWG

© MEINHARDT (UK). ALL RIGHTS RESERVED

Appendix D – Tower Hamlets SUDS Proforma

GREATER**LONDON**AUTHORITY

1. Project & Site Details

Project / Site Name (including sub-catchment / stage / phase where appropriate)	Aberfeldy Village
Address & post code	Poplar Riverside, Aberfeldy Village, E14, London
OS Grid ref. (Easting, Northing)	E 538365
	N 181398
LPA reference (if applicable)	
Brief description of proposed work	The Aberfeldy Village Masterplan aims to deliver, up to 1628 new homes, new workspace, a new high street, new and improved open space and the pedestrianisation of the A12 Abbott Road
Total site Area	48334 m^2
Total existing impervious area	37000 m^2
Total proposed impervious area	36418 m^2
Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	no
Existing drainage connection type and location	Traditional piped system, multiple connection points
Designer Name	Luke Boustead
Designer Position	Senior Engineer
Designer Company	Meinhardt

2. Proposed Discharge Arrangements

2a. Infiltration Feasibility

Superficial geology classification	Alluviam - Clay, Silt, S
Bedrock geology classification	London Clay Formation
Site infiltration rate	1.12x10 -4 and 2.55x10 m/s
Depth to groundwater level	m below ground level
Is infiltration feasible?	No

2b. Drainage Hierarchy

	Feasible (Y/N)	*Proposed (Y/N)*
1 store rainwater for later use	N	N
2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
3 attenuate rainwater in ponds or open water features for gradual release	N	N
4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
5 discharge rainwater direct to a watercourse	N	N
6 discharge rainwater to a surface water sewer/drain	N	N
7 discharge rainwater to the combined sewer.	Y	Y

2c. Proposed Discharge Details

Proposed discharge location	locations to Thames Water public combine
Has the owner/regulator of the discharge location been consulted?	o Thames Water. Response received confirr

TOWER HAMLETS

GREATER**LONDON**AUTHORITY

LoDEG

3. Drainage Strategy

3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	*Existing discharge rate (l/s)*	*Required storage for GF rate (m^3)*	*Proposed discharge rate (l/s)*
Qbar	18.8			
1 in 1				18.8
1 in 30				18.8
1 in 100				18.8
1 in 100 + CC				18.8
Climate change allowance used		40%		
3b. Principal Method of Flow Control		Vortex Flow control (Hydro-Brake or similar)		

3c. Proposed SuDS Measures			
	Catchment area (m^2)	*Plan area (m^2)*	*Storage vol. (m^3)*
Rainwater harvesting	0		0
Infiltration systems	0		0
Green roofs	7000	3500	335
Blue roofs	11000	6500	620
Filter strips	0	0	0
Filter drains	0	0	0
Bioretention / tree pits	3500	730	0
Pervious pavements	0	0	0
Swales	0	0	0
Basins/ponds			0
Attenuation tanks	48334		2000
Total	**69834**	**10730**	**2955**

4. Supporting Information

4a. Discharge & Drainage Strategy	*Page/section of drainage report*
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Section 2.1.3
Drainage hierarchy (2b)	Section 2.1.3
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Appendix B
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Appendix C
Proposed SuDS measures & specifications (3b)	Throughout report

4b. Other Supporting Details	*Page/section of drainage report*
Detailed Development Layout	Appendix B
Detailed drainage design drawings, including exceedance flow routes	Appendix B
Detailed landscaping plans	Appendix E
Maintenance strategy	Section 2.5
Demonstration of how the proposed SuDS measures improve:	Section 2
a) water quality of the runoff?	Section 2.1.5
b) biodiversity?	Section 2.1.6
c) amenity?	Section 2.1.6

Appendix E – Architects Plans

Proposed tree

Existing tree (remained)

Existing tree (removed)

Lawn

Screening planting

Planting

River Lea or Lee

Bow Creek

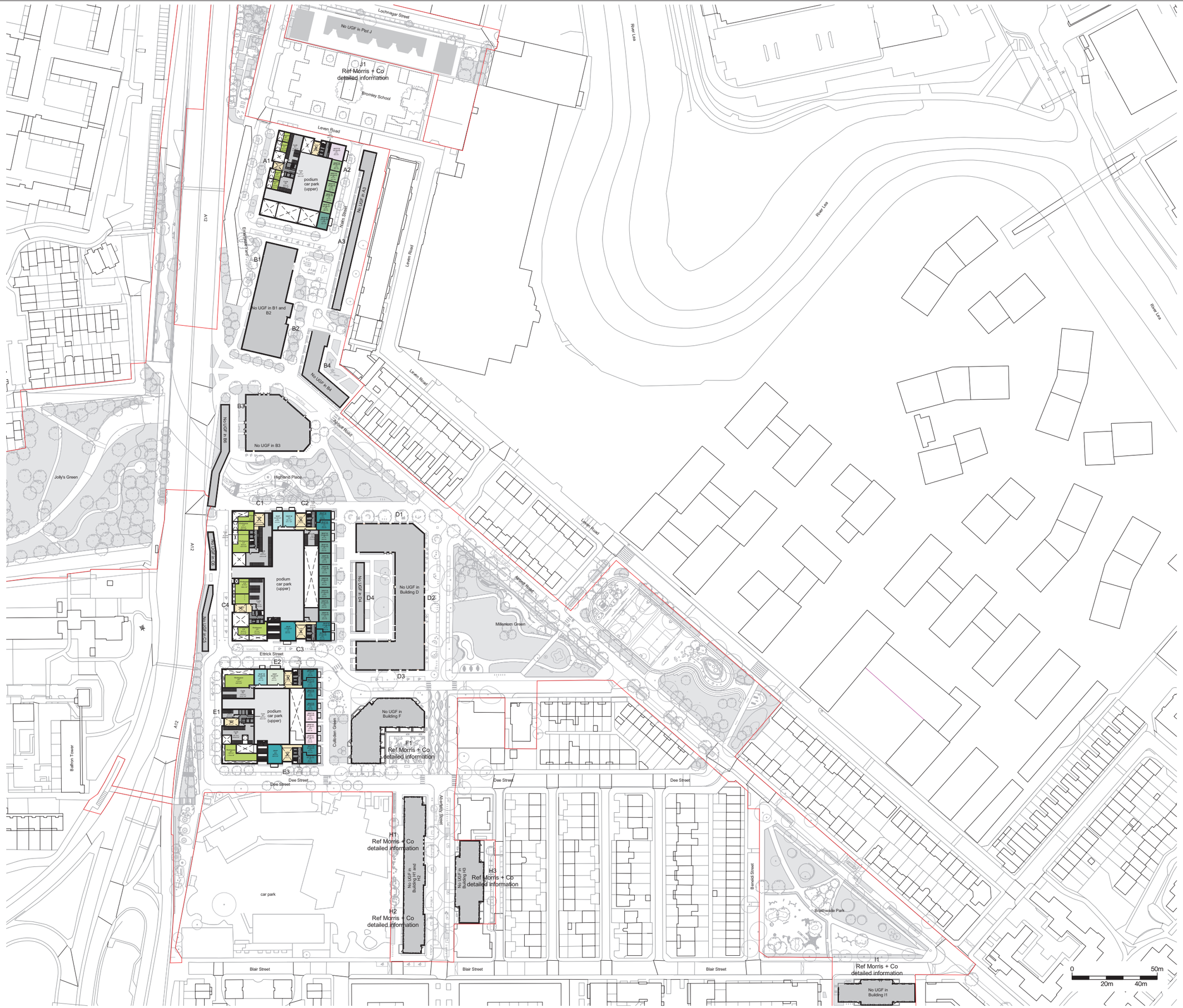
Mud

Ettrick Street

Dee Street

1:1,000

50m



Notes

1. Do not scale this drawing.
2. All dimensions must be checked on site and any discrepancies verified with the architect.
3. Unless shown otherwise, all dimensions are to structural surfaces.
4. Drawing to be read with all other issued information. Any discrepancies to be brought to the attention of the architect.
5. This drawing is the copyright of Levitt Bernstein and may not be copied, altered or reproduced in any form, or passed to a third party without license or written consent.
6. This document is prepared for the sole use of EcoWorld London and no liability to any other persons is accepted by Levitt Bernstein. Levitt Bernstein accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.

This is not a construction drawing, it is unsuitable for the purpose of construction and must on no account be used as such.

Accommodation Key

- 1B2P
- 1B2P W
- 2B4P
- 2B4P M
- 3B5P
- 3B5P H
- 3B5P M
- 3B6P M
- 4B7P H
- 4B7P M
- 4B8P M
- Core
- Cycle
- Estate Management Hub
- Lobby
- Plant
- Post Room
- Refuse
- Residents Amenity Hub
- Retail
- Workspace

Rev	Date	Description	Drawn / Checked
P2	06/08/21	Design Freeze Issue	LA
P1	05/07/21	For Information	LS

Project name

Aberfeldy New Masterplan

Drawing number — Rev

3663 - LBA - Site - 01 - DR - A - 100B — **P2**

Drawing

Proposed UGF Plan - Scenario A

Purpose of issue

Information

Scale — Date

1 : 1000 @ A1 — 20/11/20

Client

EcoWorld London

London
Thane Studios
2-4 Thane Villas
London N7 7PA
+44 (0)20 7275 7676

Manchester
Bonded Warehouse
18 Lower Byrom Street
Manchester M3 4AP
+44 (0)161 669 8740

Levitt Bernstein
levittbernstein.co.uk

J:\3663 Aberfeldy New MP\CAD\Revit\Architecture\Model Files\3663-DOC-R20-Central.rvt

Appendix: Water Resources, Drainage and Flood Risk

Annex 1: Flood Risk Assessment
Annex 2: Drainage Strategy
Annex 3: Thames Water – Potable Water Supply Correspondence
Annex 4: Sustainable Urban Drainage System (SuDS) Proforma

Clean Water

Your reference: DS6085769

Your site address: Aberfeldy, Abbott Road, Poplar E14 0NE

Mr Kiel Jordaan
Aberfeldy New Village LLP
25 Victoria Street
London
SW1H 0EX

Clean water capacity report

Status: Capacity concerns
Date: 20th July 2021
Validity: Valid until 19th July 2022 or for the duration of your Local Authority planning permission when this report is used to support your application.

We confirm that there will be sufficient capacity on our clean water network to serve the following properties on your development: 99 residential houses.

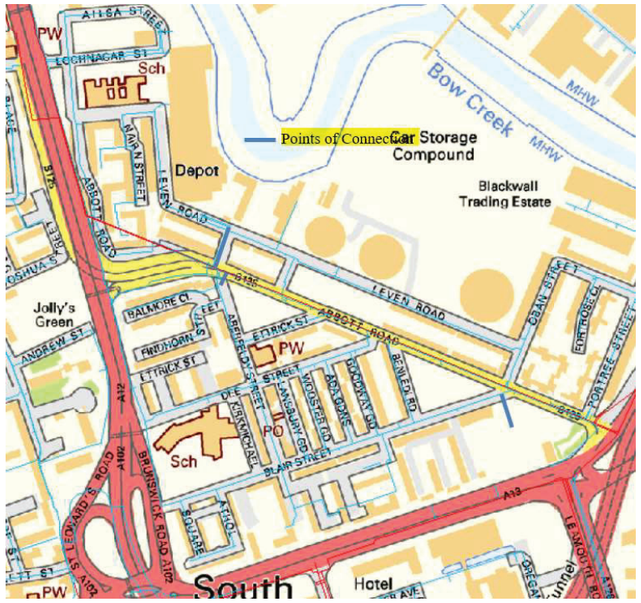
However, we're unable to confirm capacity for your whole development consisting of 219 residential houses and 1,379 residential flats without further investigation. How to make a request for us to progress with network modelling activity is listed in the accompanying email.

Please be aware that this report is based upon the details and drawings provided. If there are any subsequent changes to these, then the contents of this report will become invalid and a new assessment will be needed.

Please note that the below POC is based on desktop study and it might change after capacity check study or site-specific survey.

Nearest point of connection / Your preferred point of connection

9" main on Abbott Road.



Clean Water

Contaminated land

If your site is on contaminated land, any new water pipes laid should be barrier pipe which is more expensive. If you think this is not the case you will need to provide a soil report when applying for new mains and services.

Diversions

From our records we don't anticipate that any clean water assets need to be diverted to accommodate your proposals.

Building water

It's important that you apply for a building water supply before you start using water on site even if you believe your supply is already metered. We need to ensure your account is properly set up and you have the correct meter for your supply or fines maybe imposed. Apply here.

Fire hydrant and sprinkler demand

Please note that we cannot confirm whether a fire hydrant or sprinkler demand can be accommodated on a new connection. You'll need to contact an independent consultant or specialist company for hydrant testing for fire-fighting purposes. Valve operations must be carried out by our Network Service Technician which can be booked on 0800 316 9800.

Asset location search

If you need help in identifying the location of existing water mains and sewers, you can get this information from any property search provider. We have a Property Searches team who will carry out an asset location search, which provides information on the location of known Thames Water clean and/or wastewater assets, including details of pipe sizes, direction of flow and depth (for which a fee is payable). You can find out more online or by calling us on 0845 070 9148.

Issued on behalf of the Clean Water Pre-Planning team, Developer Services, Thames Water, Clearwater Court, Vastern Road, Reading, RG1 8DB

Appendix: Water Resources, Drainage and Flood Risk

Annex 1: Flood Risk Assessment
Annex 2: Drainage Strategy
Annex 3: Thames Water – Potable Water Supply Correspondence
Annex 4: Sustainable Urban Drainage System (SuDS) Proforma

The London Sustainable Drainage Proforma

Introduction

This proforma is intended to accompany a drainage strategy prepared for a planning application where required by national or local planning policy. It should be used to summarise the key outputs from the strategy to allow assessing officers at the Lead Local Flood Authority (LLFA) to quickly assess compliance with sustainable drainage (SuDS)

The proforma is divided into 4 sections, which are intended to be used as follows:

1. Site and project information - Provide summary details of the development, site and drainage
2. Proposed discharge arrangement – Summarise site ground conditions to determine potential for infiltration. Select a surface water discharge method (or mix of methods) following the hierarchical approach set out in the London Plan.
3. Drainage strategy – Prioritise SuDS measures that manage runoff as close to source as possible and contribute to the four main pillars of SuDS; amenity, biodiversity, water quality and water quantity.
4. Supporting information – Provide cross references to the page or section of the drainage strategy report where the detailed information to support each element can be found. This may be more than one reference

Policy

Drainage strategies for developments in the London Borough of Tower Hamlets need to comply with the following policies on SuDS:

1. London Borough of Tower Hamlets Local Plan policy DM13
2. London Plan policy 5.13 and draft New London Plan policy SI13
3. The National Planning Policy Framework (NPPF)

Technical Guidance

- Post-development surface water discharge rate should be limited to greenfield runoff rates. Proposals for higher discharge rates should be agreed with the LLFA ahead of submission of the Planning Application. Clear evidence should be provided with the Planning Application to show why greenfield rates cannot be achieved.
- Greenfield runoff rate is the runoff rate from a site in its natural state, prior to any development. This should be calculated using one of the runoff estimation methods set out in Table 24.1 of CIRIA C753 The SuDS
- Attenuation storage volumes required to reduce post-development discharge rates to greenfield rates should be calculated using one of the runoff estimation methods set out in Table 24.1 of CIRIA C753 The SuDS
- 'CC' refers to climate change allowance from the current Environment Agency guidance.
- An operation and maintenance strategy for proposed SuDS measures should be submitted with the Planning Application and include the details set out in section 32.2 of CIRIA C753 The SuDS Manual. The manual should be site-specific and not directly reproduce parts of The SuDS Manual.
- Other useful sources of guidance are:
  - Tower Hamlets Sustainable Drainage guidance
  - The London Plan Sustainable Design and Construction SPG
  - DEFRA non-statutory technical standards for sustainable drainage
  - Environment Agency climate change guidance
  - CIRIA C753 The SuDS Manual

1. Project & Site Details

Project / Site Name (including sub-catchment / stage / phase where appropriate)	Aberfeldy Village
Address & post code	Poplar Riverside, Aberfeldy Village, E14, London
OS Grid ref. (Easting, Northing)	E 538365
	N 181398
LPA reference (if applicable)	
Brief description of proposed work	The Aberfeldy Village Masterplan aims to deliver, up to 1628 new homes, new workspace, a new high street, new and improved open space and the pedestrianisation of the A12 Abbott Road vehicular underpass
Total site Area	48334 m^2
Total existing impervious area	37000 m^2
Total proposed impervious area	36418 m^2
Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	no
Existing drainage connection type and location	Traditional piped system, multiple connection points
Designer Name	Luke Boustead
Designer Position	Senior Engineer

2. Proposed Discharge Arrangements

2a. Infiltration Feasibility

Superficial geology classification	Alluviam - Clay, Silt, S
Bedrock geology classification	London Clay Formation
Site infiltration rate	1.12x10 -4 and 2.55x10 m/s
Depth to groundwater level	m below ground level
Is infiltration feasible?	No

2b. Drainage Hierarchy

	Feasible (Y/N)	*Proposed (Y/N)*
1 store rainwater for later use	N	N
2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
3 attenuate rainwater in ponds or open water features for gradual release	N	N
4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
5 discharge rainwater direct to a watercourse	N	N
6 discharge rainwater to a surface water sewer/drain	N	N
7 discharge rainwater to the combined sewer.	Y	Y

2c. Proposed Discharge Details

Proposed discharge location	locations to Thames Water public combine
Has the owner/regulator of the discharge location been	o Thames Water. Response received confirr

	Designer Company	Meinhardt		consulted?	

3. Drainage Strategy

3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	*Existing discharge rate (l/s)*	*Required storage for GF rate (m^3)*	*Proposed discharge rate (l/s)*
Qbar	18.8			
1 in 1				18.8
1 in 30				18.8
1 in 100				18.8
1 in 100 + CC				18.8
Climate change allowance used		40%		
3b. Principal Method of Flow Control		Vortex Flow control (Hydro-Brake or similar)		

3c. Proposed SuDS Measures			
	Catchment area (m^2)	*Plan area (m^2)*	*Storage vol. (m^3)*
Rainwater harvesting	0		0
Infiltration systems	0		0
Green roofs	7000	3500	335
Blue roofs	11000	6500	620
Filter strips	0	0	0
Filter drains	0	0	0
Bioretention / tree pits	3500	730	0
Pervious pavements	0	0	0
Swales	0	0	0
Basins/ponds			0
Attenuation tanks	48334		2000
Total	**69834**	**10730**	**2955**

4. Supporting Information

4a. Discharge & Drainage Strategy	*Page/section of drainage report*
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Section 2.1.3
Drainage hierarchy (2b)	Section 2.1.3
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Appendix B
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Appendix C
Proposed SuDS measures & specifications (3b)	Throughout report

4b. Other Supporting Details	*Page/section of drainage report*
Detailed Development Layout	Appendix B
Detailed drainage design drawings, including exceedance flow routes	Appendix B
Detailed landscaping plans	Appendix E
Maintenance strategy	Section 2.5
Demonstration of how the proposed SuDS measures improve:	Section 2
a) water quality of the runoff?	Section 2.1.5
b) biodiversity?	Section 2.1.6
c) amenity?	Section 2.1.6

Appendix: Archaeology

Annex 1: Archaeological Desk Based Assessment

Appendix: Archaeology

Annex 1: Archaeological Desk Based Assessment

THAMES VALLEY

ARCHAEOLOGICAL

SERVICES

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets

Archaeological Desk-based Assessment

by Steve Preston

Site Code: AVL 20/188
(TQ 3850 8140)

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets

Archaeological Desk-based Assessment

for Ecoworld London

by Steve Preston

Thames Valley Archaeological Services Ltd

Site Code AVL 20/188

December 2020

revised October 2021

Summary

Site name: Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets

Grid reference: TQ 3850 8140

Site activity: Archaeological desk-based assessment

Project coordinator: Elspeth St John-Brooks

Site supervisor: Steve Preston

Site code: AVL20/188

Area of site: *c.* 7.8 ha

Summary of results: There are no known heritage assets on the site itself. It is not considered that the development would have any negative impact on the settings of several nearby listed buildings. The site lies in the Lea Valley Archaeological Priority Area which may hold evidence from the earliest prehistory onwards, and in which the chance of exceptional organic survival in waterlogged conditions where the potential for palaeoenvironmental reconstruction is also high. Within the immediate environs of the site, there is significant evidence of Neolithic and Bronze Age occupation, although later periods are less well represented, until the important post-medieval industrial and commercial history of the area, chiefly focussed on shipbuilding. The size of the area increases the chances of archaeological remains of some period being present simply by chance. While the area has been repeatedly redeveloped since the late 19th century, which will probably have removed most if not all shallow archaeological remains, previous work in the area has demonstrated the presence of often quite deep alluvial deposits which may have protected archaeologically relevant levels below or within them, and the development of the area may also have involved raising the ground rather than cutting down in some instances, further protecting deeply buried levels. It is considered that it will be necessary to provide further information about the archaeological potential of the site from field observations in order to draw up a scheme to mitigate the impact of development on any below-ground archaeological deposits where necessary.

This report may be copied for bona fide *research or planning purposes without the explicit permission of the copyright holder. All TVAS unpublished fieldwork reports are available on our website: www.tvas.co.uk/reports/reports.asp.*

Report edited/checked by: Steve Ford✓ 31.12.20

Thames Valley Archaeological Services Ltd, 47–49 De Beauvoir Road, Reading RG1 5NR
Tel. (0118) 926 0552; email: tvas@tvas.co.uk; website: www.tvas.co.uk

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets Archaeological Desk-based Assessment

by Steve Preston

Report 20/188

Introduction

This archaeological desk-based assessment has been prepared by Thames Valley Archaeological Services and is submitted in support of a hybrid planning application for the Aberfeldy Village Masterplan. The hybrid planning application is made in relation to the north of East India Dock Road (A13), east of the Blackwall Tunnel Northern Approach Road (A12) and to the south west of Abbot Road (the "Site") on behalf of The Aberfeldy New Village LLP' ("The Applicant"). The hybrid planning application is formed of detailed development proposals in respect of Phase A for which no matters are reserved ("Detailed Proposals"), and outline development proposals for the remainder of the Site, with all matters reserved ("Outline Proposals"). The Detailed Proposals and Outline Proposals together are referred to as the "Proposed Development".

The Proposed Development comprises the comprehensive redevelopment of the Site. The Proposed Development will provide new retail and workspace floorspace along with residential dwellings and the pedestrianisation of the A12 Abbott Road vehicular underpass to create a new east to west route. The Development will also provide significant, high quality public realm, including a new Town Square, a new High Street and a public park.

This report is an assessment of the archaeological potential of the Site. The project was commissioned by Ms Gemma Hale of EcoWorld London, 25 Victoria Street London SW1H 0EX and comprises the first stage of a process to determine the presence/absence, extent, character, quality and date of any archaeological remains which may be affected by redevelopment of the area. This assessment will form the basis of an input into an Environmental Statement that will accompany the application in order to inform the planning process with regard to potential archaeological implications.

Site description, location and geology

The site is located at Aberfeldy Village in Poplar, within the London Borough of Tower Hamlets in central London (Fig. 1) and is formally described as comprising: Abbott Road; Aberfeldy Street; Balmore Close; Blairegowrie House; Heather House; Jura House; Tartan House; Thistle House; Kilbrennan House; Blairgowrie House; Nos. 33-35 Findhorn Street; Nairn Street Estate; while Leven Road Open Space and Braithwaite [Brathewaite] Park are included for their enhancement.

The Site effectively consists of one large irregularly shaped area of land made up of many smaller plots, and three much smaller detached portions to the north, east and south-east, all just south of the river Lea (or Lee), to the north of its confluence with the Thames. Limehouse Cut is also located to the north-west. The overall area is bounded by the A12 (Blackwall Tunnel northern approach) to the west, Blair Street (beyond which is the A13) to the south, and is within an area of mostly modern development (Fig. 2). The smaller area to the north is bounded by Lochnagar Street to the north, Bromley Hall Road to the west and Leven Road to the south. Of the two areas to the east, the smaller is located between Ettrick Street and Dee Street and the slightly larger one is on the south side of Blair Street.

The Proposed Development Area is centred on NGR TQ 385 814 and totals some *c* 7.8ha. A site visit conducted on 27th November 2020 showed that the site covers four distinct zones (Pls 1–6). In the south and south west the area is primarily residential with houses along Ettrick Street, Dee Street, Aberfeldy Road, Kirkmichael Road and Baltimore Close. The boundary of this area skirts a park (Millennium Green) to the east and educational facilities in the south. To the east just beyond the proposed development area there is an open space/games area on the east side of Abbott Road and south of Leven Road and another park Brathewaite Park also on Abbott Road. The northern part of the main development area is primarily occupied by large blocks of flats, bounded by Leven Road on the north, Abbott Road to the south, Nairn Road to the east and the A12 to the west. The detached area north of this between Leven Road and Lochnagar Road, is separated from the main area by Bramley Hall School. The site is located on alluvium overlying London Clay, with a thin strip of Kempton Park gravel in the extreme west roughly on the line of the A12 (BGS 1994 and Geoindex). The site lies at a height between approximately 1-7m above Ordnance Datum, the site slightly rises towards the northern end.

Planning background and development proposals

Planning permission is to be sought from the London Borough of Tower Hamlets for the comprehensive redevelopment of the Site. The Proposed Development will provide new retail and workspace floorspace along with residential dwellings and the pedestrianisation of the A12 Abbott Road vehicular underpass to create a new east to west route. The Development will also provide significant, high quality public realm, including a new Town Square, a new High Street and a public park.

The Ministry of Housing, Communities and Local Government's *National Planning Policy Framework* as revised in 2021 (NPPF 2021) sets out the framework within which local planning authorities should consider the importance of conserving, or enhancing, aspects of the historic environment, within the planning process. It

requires an applicant for planning consent to provide, as part of any application, sufficient information to enable the local planning authority to assess the significance of any heritage assets that may be affected by the proposal.

The Historic Environment is defined (NPPF 2021, 67) as:

> 'All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.'

Paragraphs 194 and 195 state that

> '194. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.
>
> '195. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.'

A 'heritage asset' is defined (NPPF 2021, 67) as

> 'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing).'

'Designated heritage asset' includes (NPPF 2021, 66) any

> 'World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.'

'Archaeological interest' is glossed (NPPF 2021, 65) as follows:

> 'There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.'

Specific guidance on assessing significance and the impact of a proposal is contained in paragraphs 197 to 203:

> '197. In determining planning applications, local planning authorities should take account of:
>
> 'a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
>
> 'b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
>
> 'c) the desirability of new development making a positive contribution to local character and distinctiveness.'

...

‘199. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.

‘200. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;

b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional[68].

Footnote 68 extends the application of this provision considerably:

‘Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.’

‘201. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

‘a) the nature of the heritage asset prevents all reasonable uses of the site; and

‘b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and

‘c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and

‘d) the harm or loss is outweighed by the benefit of bringing the site back into use.

‘202. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.

‘203. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.’

Paragraph 205 requires local planning authorities to ensure that any loss of heritage assets advances understanding, but stresses that advancing understanding is not by itself sufficient reason to permit the loss of significance:

‘205. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.’

‘206. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a

positive contribution to the asset (or which better reveal its significance) should be treated favourably.’

‘207. Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 200 or less than substantial harm under paragraph 201, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.’

In determining the potential heritage impact of development proposals, ‘significance’ of an asset is defined (NPPF 2021, 71–2) as:

‘The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site’s Statement of Outstanding Universal Value forms part of its significance.’

while ‘setting’ is defined (NPPF 2021, 71) as:

‘The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.’

The Tower Hamlets Local Plan (THBC 2020) contains detailed policy (and explanation) relating to heritage and the historic environment:

‘Policy S.DH3 Heritage and the historic environment

‘1. Proposals must preserve or, where appropriate, enhance the borough’s designated and non-designated heritage assets in a manner appropriate to their significance as key and distinctive elements of the borough’s 24 places.

‘2. Proposals to alter, extend or change the use of a heritage asset or proposals that would affect the setting of a heritage asset will only be permitted where:

‘a. they safeguard the significance of the heritage asset, including its setting, character, fabric or identity

‘b. they are appropriate in terms of design, height, scale, form, detailing and materials in their local context

‘c. they enhance or better reveal the significance of assets or their settings

‘d. they preserve strategic and locally important views and landmarks, as defined in Policy D.DH4, and

‘e. in the case of a change of use from a use for which the building was originally designed, a thorough assessment of the practicability of retaining its existing use has been carried out outlining the wider public benefits of the proposed alternative use.

‘3. Applications affecting the significance of a heritage asset will be required to provide sufficient information to demonstrate how the proposal would contribute to the asset’s conservation. Any harm to the significance of a heritage asset must be justified having regard to the public benefits of the proposal: whether it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long term use of the asset. Factors that will be considered can include:

‘a. The significance of the asset, architecturally, historically and contextually

‘b. The adequacy of efforts made to retain the asset in use, and

‘c. The merits of any alternative proposal for the site.

‘4. Substantial harm to or the total loss of significance of a designated heritage asset will only be supported where it is necessary to achieve substantial public benefits that outweigh that harm or loss, or the following criteria can be satisfied:

‘a. The nature of the heritage asset prevents all reasonable uses of the site

‘b. No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation

‘c. Conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible

‘d. The harm or loss is outweighed by the benefit of bringing the site back into use.

‘5. Alterations, extensions or changes of use, or development in the vicinity of listed buildings (as shown on the Policies Map) will be expected to have no adverse impact on those elements which contribute to their special architectural or historic interest, including their settings.

‘6. Significant weight will be given to the protection and enhancement of the borough’s conservation areas (as shown on the Policies Map), including their setting. Development within a conservation area will be expected to preserve or, where appropriate, enhance those elements which contribute to their special character or appearance. There will be a presumption in favour of the retention of unlisted buildings that make a positive contribution to the character and appearance of a conservation area. Planning applications should explore opportunities from new development within conservation areas and their setting to enhance or better reveal their significance.

‘7. Significant weight will be given to the protection and enhancement of scheduled monuments (as shown on the Policies Map) and other archaeological sites of equivalent importance. Any harm to their significance must be justified having regard to the public benefits of the proposal: whether it has been demonstrated that all reasonable efforts have been made to mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to sustain the asset.

‘8. Applications affecting the significance of the archaeology will be required to provide sufficient information to demonstrate how the proposal would contribute to the asset’s conservation. Where the development includes or has the potential to include heritage assets with archaeological interest, an appropriate desk-based assessment and, where necessary, field evaluation will be required. Where harm can be fully justified, we will require archaeological excavation and/or recording as appropriate, followed by analysis and publication of the results.

‘9. Development that lies in or adjacent to archaeological priority areas (as shown on the Policies Map) will be required to include an archaeological evaluation report and will require any nationally important remains to be preserved permanently in situ, subject to consultation with Historic England.

‘10. We will seek to ensure the protection and appropriate enhancement of the borough’s historic parks and gardens (as shown on the Policies Map). Development proposals should therefore safeguard those features which form an integral part of the special character or appearance of the park or garden and ensure they do not detract from the enjoyment, layout, design, character, appearance or setting of the park or garden, key views into and out of the park, or prejudice its future restoration. Where development is likely to affect a historic park and garden or its setting, applications should include a heritage impact assessment setting out the likely impact which it would have upon its significance and the means by which any harm might be mitigated.’

‘Explanation

…

‘8.26 Tower Hamlets has a higher proportion of scheduled monuments, listed buildings and conservation areas compared to that of other London boroughs. Some of the key elements of the borough’s heritage include:

‘a. Military and naval buildings (e.g. Tower of London)

‘b. Museums, art galleries, music halls and breweries (e.g. Bethnal Green Museum of Childhood and Wiltons Music Hall)

‘c. Squares, cemeteries and parks and gardens

‘d. Indoor and outdoor markets (e.g. Spitalfields)

‘e. Industrial heritage and archaeology

‘f. Residential streets and buildings of Georgian and Victorian origin

‘g. Innovative post-war housing (e.g. Keeling House and Balfron Tower)

‘h. Religious and education institutions (e.g. Christ Church, Spitalfields and Tonybee Hall).

…

‘8.29 In order to satisfy the criteria set out in Parts 2 to 9, developments will need to demonstrate an understanding of the significance of the relevant asset, including the contribution setting makes to its significance, as part of the planning application process. It should also include an assessment of group value, as well as the individual significance of heritage assets. As a minimum, this should include both desktop analysis and on-site investigation, with reference to the Greater London Historic Environment Record and other relevant documentation. The borough has a local history library, which provides a useful resource. Research undertaken into the heritage asset affected should describe the significance of the heritage asset in sufficient detail to determine its historic, archaeological, architectural or artistic interest to a level proportionate to its importance. The Greater London Historic Environment Record will help inform whether a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest.

…

‘8.31 Where a new heritage asset is discovered, the developer will be expected to work with us to seek a solution that protects the significance of the new discovery, so far as is practicable within the existing scheme. Depending on the importance of the discovery, modifications to the scheme being implemented may be required

‘8.32 In relation to Parts 1 and 4, designated heritage assets include listed buildings and structures, registered parks and gardens and conservation areas. We will not permit harm to or total loss of a designated heritage asset unless the benefits of the proposal outweigh the harm or the criteria set out in Part 4 can be met.

‘8.33 In particular, listed buildings and structures in the borough make an important and valued contribution to the character and appearance of the borough and provide places to live and work in, well-known visitor attractions and cherished local landmarks. We have a duty to preserve and maintain these assets for present and future generations.

‘8.34 Proposals relating to works to a listed building or within the vicinity of a listed building will be required to demonstrate that it will not affect the special interest of the listed building. In addition to planning permission, listed building consent may also be required for works that will affect the special character of a listed building.

‘8.35 When considering proposals within conservation areas, as set out in Part 6, consideration will be given to the relative significance of the element affected and its contribution to the significance of the conservation area as a whole and its setting.

…

‘8.37 In relation to Part 9, any development in or adjacent to archaeological priority areas is required to investigate and consider any archeological interests in the area. The archaeology of the borough can best be protected if as much information as possible is available at the planning application stage. The evaluation, which may involve fieldwork, is needed so that we can assess the archaeological implications of proposals. Where appropriate, the evaluation may show how developments can be designed so that they do not harm a site of archeological interest and/or how the remains will be preserved at the site, and where appropriate, preserve the archaeological findings at the site.

Policy S.DH5 also deals with heritage but relates specifically to World Heritage Sites, not relevant in this instance. The site lies within the Lea Valley Archaeological Priority Area. There are no Scheduled Monuments, Conservation Areas, nor Registered Parks/Gardens or Battlefields nearby.

Methodology

The assessment of the site was carried out by the examination of pre-existing information from a number of sources recommended by the Chartered Institute for Archaeologists' paper *Standards in British Archaeology* covering desk-based studies (CIfA 2020). These sources include historic and modern maps, the Greater London Historic Environment Record, geological maps and any relevant publications or reports.

Archaeological background

General background

Tower Hamlets was originally part of the county of Middlesex with its southern and eastern boundaries being defined by the rivers Thames and Lea respectively. From the Mesolithic period onwards, a marsh landscape developed along the river valleys. It comprised small areas of dry land separated by numerous water channels. When these marshes were reclaimed in the 19th and 20th centuries, large expanses were buried under made ground, leaving their archaeological content intact. The wetland environment preserves a rich palaeoenvironmental record and there is potential for evidence for human activity to be preserved on contemporary land surfaces and within the peat deposits that are recorded in the borough. The geoarchaeology of the Lea Valley has been extensively studied and modelled in recent years as a result of developments including at the Olympic Park (Single *et al.* 2017, 10-11).

However, evidence for early prehistoric activity in the immediate vicinity of the proposal site is fairly sparse. It comprises several findspots for Palaeolithic flintwork at Bromley-by-Bow and Old Ford while Mesolithic finds have been discovered at Old Ford and Poplar. During the Neolithic period small settlements developed on drier areas in the marsh and the Neolithic burial found on Yabsley Street in Blackwall (Coles *et al.* 2008) indicates the presence of a more permanent settlement in the valleys. Blackwall has also produced a Neolithic axe while finds of Bronze Age metalwork in Bromley indicate activity there. Old Ford and Stepney have produced evidence for Iron Age occupation while Iron Age findspots are recorded at Blackwall (Single *et al.* 2017).

Lying beyond the eastern edge of Roman London, the borough had satellite settlements at Old Ford on the Colchester Road and at Shadwell on a Roman route now followed by The Highway. Well-preserved remains of the Colchester road have been found at Old Ford, where it forded the Lea, along with structural, funerary and agricultural remains dated between the 1st-2nd and 4th centuries. The Shadwell settlement comprised a bath house dating from the mid-2nd to mid-3rd century as well as evidence of riverside commercial activity and a cemetery (Single *et al.* 2017, 12).

Due to its location and the presence of the river, the borough became a main provider of various services for London. The earliest documentary evidence of milling on the Lea dates from the Saxon period. The Lea's mills ground flour for London while other industries included cloth dyeing and fulling as well as livestock for the City's markets. In 1110 the Lea was bridged at Bow, replacing the ford at Old Ford, and the road east from London realigned on a route south of the old Roman road. During the later Middle Ages, there were five monastic sites in the borough including the Benedictine convent of St Leonard's Priory founded in Bromley-by-Bow in the late 11th or early 12th century (Single *et al.* 2017, 13).

Historic maps suggest that the area remained marshland until the late 19th and early 20th centuries, although it was divided into fields from at least the mid-18th century. Reclamation of the land for use as docks would be expected to have required the laying of some depth of made ground. Due to the proximity of London's docks, the area was heavily bombed during the Second World War, with most of the houses and buildings demolished by the late 20th century.

Development of the Aberfeldy Estate has already seen several phases of archaeological investigation (Taylor 2012; McNicoll-Norbury 2015; Wallis 2017). The first two of these revealed nothing of archaeological interest except a buried soil horizon, while the third located a single, poorly dated, prehistoric pit.

The site is within the Lea Valley Archaeological Priority Area (which carries a tier 3, or low, grading). Extensive excavations at the Olympic Park (to the north) demonstrated that the Lower Lea Valley had potential for prehistoric sites, although finds were relatively few, while in later periods the area saw the establishment of numerous industries which required water for power or used the river as a method of transport. The wetland environment may also have high potential for palaeoenvironmental reconstruction and organic survival, though deeply buried (Single *et al.* 2017, 141).

Greater London Historic Environment Record

A search was made on the Greater London Historic Environment Record (HER) on 27th November 2020 for a radius of 750m around the proposal site. This revealed 103 entries within the search radius, comprising: 51 'monuments', 6 Archaeological Priority Areas, 46 'events' (archaeological investigations) within the search radius. Excluding 12 entries for desk-based assessments, these are summarized as Appendix 1 and their locations are plotted on Figure 1, where multiple entries for one site, or sites which are very close together, have been combined.

Palaeolithic/Mesolithic

There are no GLHER entries relating to the earliest prehistoric periods within the search radius.

Neolithic/Bronze Age

Archaeological investigations took place as part of previous phases of development at what was then referred to as the Aberfeldy Estate **[Fig. 1: 1].** Trial trenches were excavated within the south-western corner of the current proposal area in 2017 (Wallis 2017). These revealed that, other than small undulations in the underlying gravel geology, the area was relatively flat before being covered with alluvial deposits, which may suggest that the area was part of the western floodplain of the River Lea. A possible buried soil or peat horizon was recorded which had also been seen in other work nearby. A small pit was recorded in the north-east part of the site, containing tiny fragments of prehistoric pottery that could belong to the Bronze Age or Iron Age. A similar deposit sequence was also recorded in trenching towards the northern end of the site **[5]** along with a few cut features possibly of Bronze Age date. More significant evidence came from an excavation at Yabsley Street to the south **[3]** in 2002 (Coles *et al*. 2008), where an Early Neolithic burial of a possible woman accompanied by pottery and flints was radiocarbon dated to 4220-3979 cal BC. This represented London's earliest known inhabitant at that time. Peat deposits showed evidence for arable farming, suggesting a settlement may have existed nearby. A hearth near the grave contained early Bronze Age pottery, and analysis of the peat deposits showed the growth of grasslands (and later cereals) and decline in woodland cover through the Middle Bronze Age.

There have been two finds of Bronze age metalwork from the River Thames, a sword and a socketed axe. The location given for these finds **[2]** is likely imprecise but in any case they could have been moved considerable distances by the river since their original deposition (or loss). Prehistoric pottery and flints were also found at Culloden Street **[6]** to the south-west.

Iron Age

There are no records of Iron Age finds or sites in the vicinity.

Roman

Roman evidence within the search radius is rather sparse. An excavation in 2009 on Gillender Street **[7]** north-west of the proposal site revealed a single ditch containing early Roman pottery and there is a record for a Roman wine jug donated to the Museum of London in 1912 from the Blackwall area **[8]**, probably to the south. One of a series of Roman watchtowers supposedly stood at Shadwell **[9]**, also to the south, but it is not clear exactly what the evidence for this is.

Saxon

There are no entries in the GLHER within the search radius relating to the Saxon period.

Medieval

Much of the medieval evidence recorded in the GLHER for the area is documentary rather than archaeological. This includes entries for the first naming of Blackwall and Poplar in the 14th century **[3, 10]**, and tidal mills being recorded up to the 16th century **[3]** and general use of the area throughout the medieval period, including known routes of roads **[4, 11, 12, 14, 15]**. Only one medieval feature has been recorded archaeologically, a pit below what may be chapel walls at St Matthias Centre **[10]**. Timbers in Bromley Hall **[13]** to the north-west of the proposal area have been dated by dendrochronology to the period 1482–95 and the building is Listed, Grade II*. Besides the Lea valley APA, there are two further Archaeological Priority Areas within the search radius, with specific potential for the medieval period, at the Limmo to the south-east **[15]** and Poplar to the west **[16]**.

Post-medieval, Victorian

The majority of the GLHER entries in the area are for post-medieval features. Virtually all archaeological investigations in central London uncover evidence for post-medieval, 19th-century and early 20th-century occupation, little of which is of much archaeological significance. In this area, there is much evidence for successive raising of the ground level or efforts at drainage, both designed to permit occupation or industry on the river front and in the tidal zone, recorded in multiple observations, including within the site itself or adjacent to it **[5, 17, 27, 36, 37]**. Several entries refer to elements associated with the very extensive construction and activity of the East India Docks to the south **[21–25, 28]**. There are also specific entries for some other industrial sites: a casting hall and kilns were excavated at the Thames Plate Glass Company site in 2007 **[18]**. A post-medieval fishpond **[19]** is recorded below the gas holders immediately north of the site. Three gas holders dating from the 1870s, 1920s and 1970s on Leven Road were recorded prior to demolition **[29]**. The Blackwall Tunnel **[31]**, to the south, dates from the 1890s; its entrance **[33]** is a listed building.

There are also entries covering documentary evidence for the importance of the shipbuilding industry and other commercial enterprises along the river **[3, 10, 15, 16]**, or continuing post-medieval use of medieval roads

[11, 12, 14, 15]. The medieval gatehouse at Bromley Hall **[13]** was remodelled after 1700 and more timbers have been dated by dendrochronology to the period from the end of the 17th to early 18th century: these appear to have been imported from Scandinavia. Other 19th-century finds such as masonry foundations are of less interest **[32, 36, 37]**.

Other 19th-century listed buildings include St Michael's Church **[34]** the East India Dock House **[35], and** Dowgate Wharf **[38]**.

Modern, undated, negative

Dumping to raise the ground level continued in the 20th century and again is recorded in multiple archaeological investigations in the area, along with records for undated alluvial layers **[17, 27, 36, 37, 41, 48, 51, 53, 54]**. Modern Listed Buildings in the area include the war memorial at St Michael's Church **[34]**, Carradale House **[39]** and Balfron Tower **[42]** to the west, Poplar Library **[40]**, where there are also Second World War civil defence structures, the former Bromley Hall School for the Physically Handicapped **[43]**, Glenkerry House, and the former fire station on Gillender Street **[44]**. A 1970s tower block **[45]** is also recorded in the HER though not listed.

Many archaeological investigations in the area have revealed modern features and finds, or truncations, or undated features **[26, 30, 41, 47–54]**.

Scheduled Ancient Monuments

There are no Scheduled Monuments in the immediate area.

Cartographic and documentary sources

The place-name Bromley derives from Old English nouns broembel meaning 'bramble' and lēah denoting 'a woodland clearing or glade' giving the composite meaning of 'Woodland clearing where brambles grow' (Mills 2010, 35; Mills 2011, 80). It was first recorded in c. 1000 in an Anglo-Saxon charter as Broembelege, then as Brembellee in the 12th century, Brambeley in c. 1128 and Bromlegh in 1274 (Mills 2010, 35). In spite of some early confusion of the first element with the Old English noun brōm meaning 'broom' spellings with -a- like Brambeley are usual up to the end of the 16th century (Mills 2010, 35). Neither Poplar nor Bromley (-by-Bow) is mentioned by name in Domesday Book (though the Bromley in Kent is), while Tower Hamlets is a much later name. In the absence of the definitive Victoria County History for this area, Poplar's early history remains obscure. For more recent times, it is served by the Royal Commission's Survey of London (Hobhouse 1994), although this focuses more on architecture than history. Poplar attracted a succession of notably large-scale

developments, from Blackwall Yard in 1614, and Brunswick Dock in 1789–90, to the West India and East India Docks of 1800–1806. Accompanying these large-scale commercial complexes were more modest developments typical of London's East End riverside: shipbuilding yards, metal-working and food-processing factories, noxious establishments such as tar and chemical works, and much substandard housing. Very little of this survives, however, and almost the whole area has been rebuilt since the Second World War, with only pockets of exceptions.

The long riverside on the Thames and the Lea was the dominant influence on the area's economy until the late 20th century. The general pattern of development established by the late 15th century remained largely unchanged until a period of expansion during the mid-19th century. There was settlement along Poplar High Street and, by the 17th century at Blackwall. Ship repairing was established at Blackwall before 1500, and the area was chosen by the East India Company for its shipbuilding yard, constructed between 1614 and 1617. The yard was the largest commercial employer in London, and remained the basis of Poplar's economy throughout the 17th and 18th centuries. However, employment was almost all casual and despite the bustle, did not generate much prosperity for the area, while fluctuations in the demand for ships often led to widespread unemployment (Hobhouse 1994) and by the later 19th century there was a prolonged period of decline in the industry, though also a surging population growth. By the end of the century Poplar was recognised as one of the poorest parts of the capital (Hobhouse 1994, 7).

A range of Ordnance Survey and other historical maps of the area were consulted online in order to ascertain what activity had been taking place throughout the site's later history and whether this may have affected any possible archaeological deposits within the proposal area (see Appendix 2). Due to the COVID restrictions, some maps such as tithe and enclosure were not available to view.

The earliest map available of the area is Saxton's map of Middlesex, 1575 (Fig. 3). At this scale little detail is afforded, but the general location of the site can be suggested showing a close proximity to the confluence of the rivers Thames and Lea. 'Stretfort Bowe' and Stepney are the closest settlements named. Norden's map of Middlesex from 152–3 adds several more of the hamlets, including Blackwall (Fig. 4) but still shows no detail for the area of the site. Speed's 1610 update of Norden's map adds no new detail for this area except to name Osulston Hundred (not illustrated). Other 17th-century maps (listed in Appendix 2, not illustrated) show some of the growth of London but add no detail for this area until Ogilby's county map of 1672 (Fig. 5) which shows Bromley for the first time. The 18th-century maps show London's continuing growth but tend to be no more

informative for the area of interest here. A notable exception is the map by Warburton from 1749 (Fig. 6) which shows the outline of the road layout and names Bromley Hall, allowing the site to be located a little more closely. It appears to have remained undeveloped. Rocque's map of 1762 (Fig. 7) appears to show much more detail including the layout of fields, but it is suspected that much of this is schematic rather than accurately surveyed. Nonetheless, the site's location can be pinpointed a little better on this map, and it appears to be undeveloped. Bromley Hall is not noted but there is a Copperas House to the north. What appears to be an earthwork of some sort to the south-east is unexplained. Cary's map of 1801 (Fig. 8) shows a little more detail on the roads, and the Limehouse to Bromley canal whose more direct route would have cut off the long sweep south around the Isle of Dogs.

The First Edition Ordnance Survey map of 1872 (Fig. 9) provides the first detailed mapping of the site and surroundings. Much of the layout of the area is recognizable but almost nothing within the site is in its current form. The East India Docks dominates the vicinity. Brunswick Road marks more or less the course of the modern A12 and four blocks of four houses along its east side are just within the site boundary, though the houses on the north side of Blair Street are beyond the site. The rest of the site appears to be fields, partly within Bromley Marsh and part probably belonging to Mackintosh's farm, though the farmhouse itself is outside the site. There is a small group of other buildings set back from Brunswick Road towards the west of the site.

The site and environs have almost completely changed by the Second Edition of 1894 (Fig. 10) and present as very close to its modern overall layout with many of the streets already in place and bearing their current names. The whole of the site area is under housing on these streets, apparently all terraced though it is difficult to be sure if these blocks are accurate or just the cartographic style. The blocks at the west edge of the site on Brunswick Road are recognizably those from the previous map, but everything else in the proposed development area is new. The 1920 map (Fig. 11) shows some minor change to buildings (just off the site) between Dee Street and Culloden Street (probably schools) and one new building probably also a school, south of Lochnagar street, but all else remains the same. By 1955 (Fig. 12) there has again been some demolition in the Ettrick Street, Dee Street and Culloden Street area, south of the site, perhaps clearance of war-time bomb damage, and modifications to the school buildings in the north but little other change within the site. By 1965 (Fig.13) new housing has arisen on Ettrick Street, Dee Street and Culloden Street but other changes appear only to be in cartographic style. Maps of the 1970s (1973 illustrated as Fig. 14) show more dramatic change, with Brunswick Road now rerouted and houses along it demolished, along with the whole blocks either side of Nairn Street. The

school to the north has been wholly rebuilt and no longer occupies any part of the site. Culloden Street and the school on Dee Street have both vanished, replaced by another school slightly to the south of the site.

By 1981 (Fig. 15) the former Nairn Street area has been redeveloped and much of the housing along Abbot Road and Lochnagar Street demolished. By 1989 (Fig. 16) there has been more development in the north of the site along the western edge, and more space cleared between Abbot Road and Leven Road to the east. The Ordnance Survey map of 2001 (Fig. 17) shows a major new building on Dee Street to the south of the site but no change within it. By 2020 (Fig. 18) this new building has expanded and the road layout here remodelled. There has also been further demolition at the south-eastern detached portion of the area.

Listed buildings

There are 19 listed buildings within 750m of this site, as listed in Appendix 1 and detailed above, many of which are intervisible with it and therefore in positions where their settings may be affected by the development. The most significant of these are the Grade II* listed Bromley Hall, East India Dock House, Balfron Tower and Glenkerry House. All of the listed buildings are located in positions where their settings are already thoroughly modern, bustling city landscapes, subject to almost continuous change. Any contribution made by their settings to the heritage significance of these assets lies in this vibrant modern urban scene. While no detailed plans of the proposed redevelopment were available at time of writing, it is anticipated that it will not in any way alter the essential character of this landscape and thus will have no detrimental effect on the heritage significance of any nearby heritage asset and may positively reinforce it.

Registered Parks and Gardens; Registered Battlefields

There are no registered parks and gardens or registered battlefields within close proximity of the site.

Historic Hedgerows

There are no hedgerows, historic or otherwise, on the site.

Aerial Photographs, LiDAR

The site area lies within an urban area which has been heavily developed since before the advent of aerial photography. No photographic collections nor LiDAR data have therefore been consulted.

Geoarchaeological Modelling

There were 3 phases of evaluation completed in 2012 (Taylor 2012), 2015 (McNicoll-Norbury 2015) and 2017 (Wallis 2017) which covered 3 parcels of land to the south of the proposed site. Phase 1 consisted of waste ground with areas of Tarmac and a concrete slab from a previously demolished hotel present (Fig. 2). The proposal site is only a part of larger overall site (not shown). Topographically, the site lies on the valley floor of the River Lea close to its confluence with the River Thames. This low-lying setting is reflected on the local geology map which indicated alluvium overlying Kempton Park Gravel (BGS 1994). There has been a small number of boreholes and trial pits excavated within the redline area of the site and a high concentration of boreholes, trial pits, window samples and three archaeological investigations completed just south of the redline area. In summary the results show that the Kempton Park gravel is reached consistently at an average of 2.5-3.5m depth. This can vary, in some areas the gravels are not reached until 5.5m. Above the gravel there is either a thick layer of alluvium which in areas includes some peat deposits and then most often made ground which ranged from 0.5m to 2m in depth, sometimes fully removing the alluvial unit before the gravels. To the south of the Site basements were demolished which have fully truncated the gravels and completely removed the alluvial unit between. It is not advisable to extrapolate too widely beyond this necessarily localised information, and it would be prudent to establish the depth of made ground over a larger portion the site as a whole (St. John-Brooks TBC).

Discussion

There are no known heritage assets on the site but there are several listed buildings in positions where their settings may be liable to be affected by its development. The discussion above suggests that the heritage significance of these listed buildings will suffer no measurable harm from the proposed development and could potentially be enhanced. It remains therefore to establish if there may be potential for previously unknown heritage assets, that is, below-ground archaeological remains.

In considering the archaeological potential of the study area, various factors must be taken into account, including previously recorded archaeological sites, previous land-use and disturbance and future land-use including the proposed development.

In general, the site lies in an area of high archaeological potential as recognized by its designation as part of the Lea Valley Archaeological Priority Area. This area is known to hold evidence from the earliest prehistory onwards, in which the chance of exceptional organic survival in waterlogged conditions, and the potential for

palaeoenvironmental reconstruction is also high. Within the immediate environs of the site, there is significant evidence of Neolithic and Bronze Age occupation, although later periods are perhaps surprisingly less well represented until we reach the important post-medieval industrial and commercial history of the area, chiefly focussed on ship-building. Even without this specific potential, the sheer size of the area increases the probability of archaeological remains of some periods simply by chance.

Previous phases of development in Aberfeldy have allowed some archaeological investigation and while on the whole this has not been very productive, some prehistoric features have been recorded and the work has demonstrated the existence of (sometimes quite deep) peat and alluvial deposits which may have protected archaeological levels even in areas of extensive modern truncation.

The entire site area has been developed and redeveloped repeatedly since the late 19th century. While it is reasonable to predict that this will have removed any shallow archaeological remains, there is the possibility that deposits and features could survive below or within any deeper peat or alluvial layers. The constant redevelopment of the area may also have involved raising the ground rather than cutting down in some instances, further protecting deeply buried levels.

No detailed development plans are available but it is understood that at least part of the development will involve basements and thus inevitably have the potential to impact the archaeologically relevant level, assuming this survives anywhere on the site.

It will be necessary to provide further information about the potential of the site from field observations in order to draw up a scheme to mitigate the impact of development on any below-ground archaeological deposits if necessary. A scheme for this evaluation will need to be drawn up and approved by the archaeological advisers to the Borough and implemented by a competent archaeological contractor.

References

BGS, 1994, *British Geological Survey*, 1:50000, Sheet **256**, Solid and Drift Edition, Keyworth.

CIfA, 2020, *Standard and guidance for historic environment desk-based assessment,* Chartered Institute *for* Archaeologists, Reading

Coles, S, Ford, S and Taylor, A, 2008, 'An Early Neolithic grave and occupation, and an Early Bronze Age hearth on the Thames foreshore at Yabsley Street, Blackwall, London', *Proc Prehist Soc* **74**, 215-33.

Corcoran, J, Halsey, C, Spurr, G, Burton, E, and Jamieson, J, 2011, *Mapping Past Landscapes in the Lower Lea Valley*, MOLA Monogr **55**, London

FA, 2008, *From Hunter-gatherers to Huntsmen: A History of the Stansted Landscape*, Framework Archaeology, Oxford and Salisbury

GLA, 2016, *The London Plan - The Spatial Development Strategy for London Consolidated with Alterations Since 2011*, Greater London Authority, London

Hobhouse, H, 1994, 'General introduction', in RCHM(E), *Survey of London,* Vol **43/44**, *Poplar, Blackwall and Isle of Dogs*, London, 1-20. [http://www.british-history.ac.uk/survey-london/vols43-4/pp1-20, accessed 8 December 2020].

McNicoll-Norbury, J, 2015, 'Aberfeldy Estate (Phase 2), East India Dock Road, South Bromley, London Borough of Tower Hamlets - an archaeological evaluation', TVAS unpubl rep **12/112b**, Reading
Meddens, F M, 1996, 'Sites from the Thames Estuary, England and their Bronze Age use', *Antiquity,* **70**, 325–34
Mills, A D, 1998, *Dictionary of English Place-Names*, Oxford
MoLAS, 2000, *The Archaeology of Greater London; an assessment of archaeological evidence for human presence in the area now covered by Greater London*, Museum of London Archaeology Service Monogr, London
NPPF, 2021, *National Planning Policy Framework* (revised), Ministry of Housing, Communities and Local Government, London
Single A, Taylor, J, Kidd, S, Sidell, J, Bright, I and Booth, P, 2017, *London Borough of Tower Hamlets Archaeological Priority Areas Appraisal*, Historic England
Stafford, E, 2012, *Landscape and Prehistory of the East London Wetlands*, Oxford Archaeology Monogr **17**, Oxford
St. John-Brooks, E, TBC, *Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets: Deposit Modelling.* Thames Valley Archaeological Services report
Taylor, A, 2012, 'Aberfeldy Estate (Phase 1), East India Dock Road, South Bromley, London Borough of Tower Hamlets: An Archaeological Evaluation', TVAS unpubl rep **12/112**, Reading
THBC, 2020, *Tower Hamlets Local Plan 2031 adopted January 2020 Managing growth and sharing the benefits*, Tower Hamlets Borough Council, London
VCH, 1969, *Victoria History of the Counties of England: Middlesex,* **i**, London
Wallis, S, 2017, 'Aberfeldy Estate (Phase 3), East India Dock Road, South Bromley, London Borough of Tower Hamlets: An Archaeological Evaluation', TVAS unpubl rep **12/112c**, Reading
Williams, A and Martin, G H, 2002, *Domesday Book, A complete Translation,* London

APPENDIX 1: Historic Environment Records within a 750m search radius of the development site

No	*HER Ref*	*Grid Ref (TQ)*	*Type*	*Period*	*Comment*
1	ELO18795	3855 8119	Evaluation	Prehistoric	In 2017 four trenches were excavated in the Aberfeldy Estate, revealing one pit containing flint and pottery.
2	MLO2541 MLO25630 FLO6267	39 81	Find Spot	Bronze Age	A Late Bronze Age sword of Wilburton type was found at Bow Creek. Unstratified artefact near Leamouth Road consisting of a Bronze Age socketed axehead made of copper alloy.
3	DLO37840	3849 8057	Excavation Background	Neolithic Bronze Age Medieval Post-medieval Modern	Yabsley Street, Early Neolithic burial (radiocarbon dated to 4220-3979BC). Peat deposits showing evidence for arable farming during the Neolithic suggesting a settlement may have existed nearby. Sea levels rising caused intertidal activity in the form of timber trackways (Neolithic/Bronze Age). Archaeological Priority Area: Blackwall is named in the 14th century along with tidal mills until the 16th century. Important for ship building and the area preserves remains of Blackwall's significant industrial and commercial power from the middle ages until the 19th century.
4	DLO37857	3792 8280	Background	Prehistoric Medieval Post-medieval Modern	Archaeological Priority Area: Lea Valley. The area has been extensively excavated showing deeply buried islands, gravel terraces, channels and wetlands exploited since early prehistory.
5	ELO2630 MLO744	3841 8148	Evaluation Find Spot	Prehistoric Post-medieval	An evaluation in 2000 discovered a sequence of alluvial deposits associated with the River Lea floodplain and a palaeochannel. Peat deposits containing burnt flint and sealing a few cut features were possibly mid-late Bronze Age. Two post-medieval channels or ditches presumably for drainage. A gully and a shallow feature were cut into a possible buried land surface with burnt flint.
6	ELO3739 MLO6392 FLO15513 FLO15514	3833 8107 3830 8120	Evaluation Findspot	Prehistoric Post-medieval	Excavations in 1993 around Abbey Mills. At Culloden Street unstratified finds of fire cracked flint and a single pot sherd. At 13 St Leonards Road, three shafts were dug and a 19th century cellar was identified. At No. 12 Culloden Street, prehistoric potsherds and flint were found.
7	ELO10470 MLO101087 FLO15603	38190 81852	Excavation	Roman	Excavation on Gillender Street found a 1st century Roman ditch cutting alluvium, this included 18 sherds of Grey Ware pottery.
8	MLO3851 FLO1102	386 807	Find Spot	Roman	A Roman miniature oenochoe (wine vessel) was found.
9	MLO3893	389 809	Monument	Roman	Roman watchtower, one of a series.
10	ELO8767 MLO100465 MLO100466 FLO13235 MLO3931	38189 80961 381 809 382 810	Watching Brief Background	Medieval Post-medieval Victorian	In 2008 geotechnical pits were dug at St Matthias Centre, showing the foundation walls and basement of a potential house also walls where it is believed a Chapel was located along with a medieval pit below the foundations. Finds included Post-medieval pottery. The village of Poplar was so named by at least 1327 and expanded with the shipping industry.
11	MLO9170	377 813	Road	Medieval Post-medieval	Road from Poplar High Street to Bromley.
12	MLO1125	3719 8082	Street	Medieval Post-medieval	Limehouse Causeway, Narrow Street to Poplar High Street road.
13	DLO28414 ELO20319 ELO20318 ELO20232 ELO7890 MLO93430 ELO7890 MLO93430 MLO3738	3817 8190 38173 81908 3816 8192	Dendrochronology Listed Building Building Recording	Medieval Post-medieval Victorian Modern	Timbers associated with Bromley Hall have been dated from 1482-95 to the late 17th or early 18th century. Bromley Hall is Grade II* listed including the walls, house and tower house. A building survey concluded the existence of a medieval gatehouse (c. 1482-95), evidence and details about the previous towered house (3 stories) and its remodelling after 1700. Use after this period is documented up until damage in WW2 and reconstruction in 1951. A post-medieval gate lodge on Brunswick Road
14	MLO9164	3815 8185	Street	Medieval Post-medieval	St Leonard Street from Bromley to Blackwall along the west side of Lea.
15	DLO37841	3906 8091	Background	Medieval Post-medieval Modern	Archaeological Priority Area. The Limmo occupies the west bank of the mouth of the River Lea and its confluence with the Thames which has great potential for the area's historic industry.
16	DLO37839	3771 8085	Background	Medieval	Archaeological Priority Area. The historic settlement

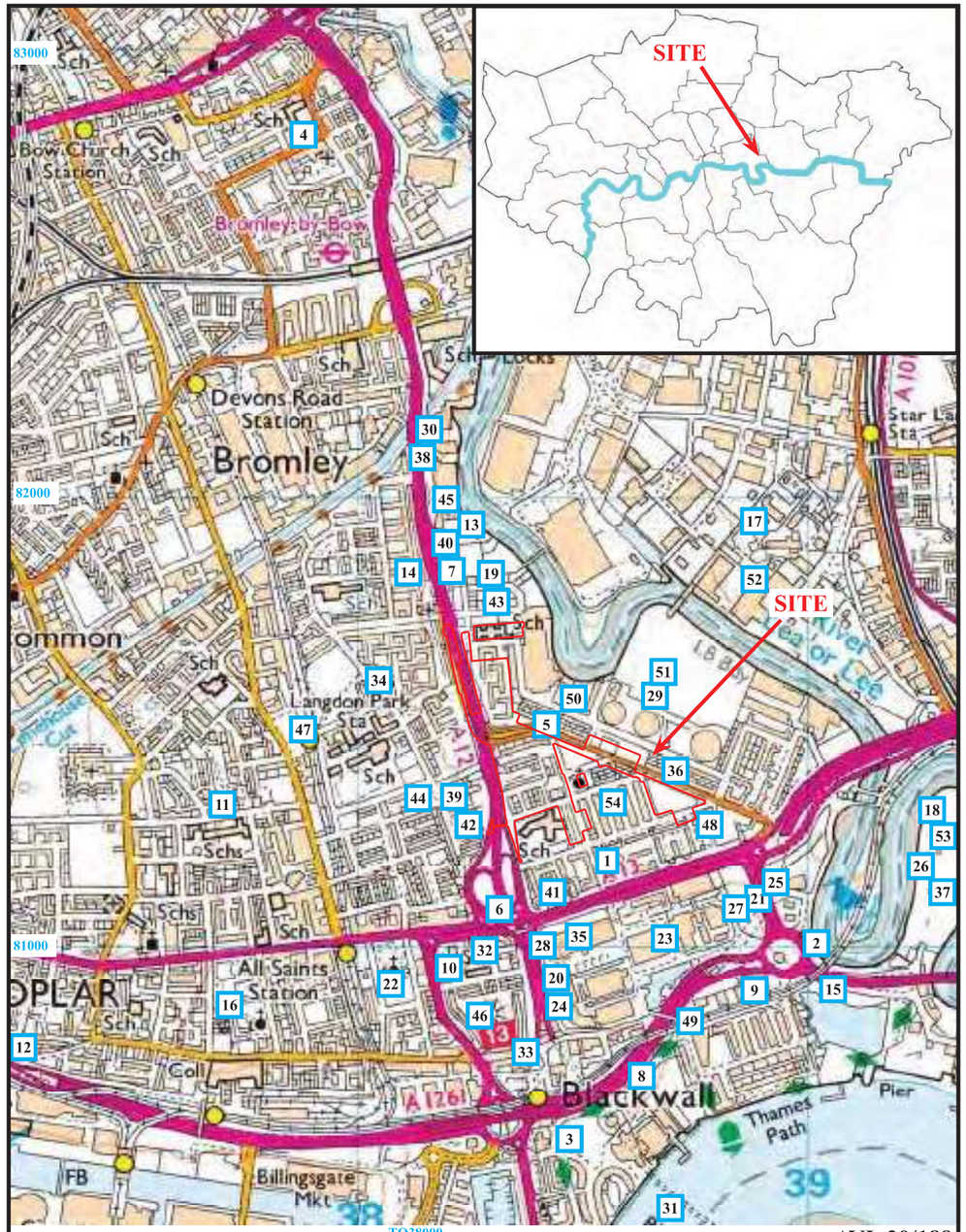
No	*HER Ref*	*Grid Ref (TQ)*	*Type*	*Period*	*Comment*
				Post-medieval Modern	of Poplar with Medieval origins, includes buildings, burial grounds, settlements and flood defences associated with the seafaring industry. Survival of ironworks is fair.
17	ELO19643	3891 8196	Watching Brief Evaluation	Post-medieval Modern	Fieldwork in 2006 on the Olympic and Paralympic Park Undergrounding Shafts East-1 and West-1. In the west alluvial clays and a peat band was observed underlying dark modern debris layers. East showed alluvial gravels underlying modern demolition and levelling.
18	ELO18549	3930 8131	Excavation	Post-medieval	Thames Plate Glass Company excavation in 2007. found the full extent of the casting hall and adjacent kilns including details of construction and surviving foundations and walls.
19	MLO3029	3830 8180	Structure	Post-medieval	A post-medieval fishpond underlying later gas tanks.
20	DLO28095 MLO93111 DLO28425 MLO93441	38421 80914 38616 80811 3880 26/877	Listed Building	Post-medieval Victorian	Early 19th century dock and boundary wall to the East India Docks including a gateway
21	DLO28468 MLO93484	38899 81122	Listed Building	Post-medieval Victorian	East India Dock Pumping Station mid 19th century
22	MLO104373 MLO93108 MLO104374 MLO93502 DLO28423 MLO93439	3807 8093 38076 80937	Listed Building	Post-medieval Victorian	All Saints' Church on East India Dock Road with 19th century railings, gate piers and churchyard, cemetery, Garden of Rest and Park along with the Newby Place All Saints' Rectory.
23	MLO7284	3870 8100	Cartographic	Post-medieval Victorian	Landfill site from the Eastern Dock.
24	DLO27730 MLO92759	38431 80854 3880 26/888	Listed Building	Post-medieval Victorian	Embankment wall, railings and steps on Naval Row associated with the East India Docks.
25	DLO28347 MLO93363	38908 81144	Listed Building	Post-medieval Victorian	Gate pier and wall called Blackwall Goods Yard II, was an original entrance to the East India Company's Cos Pepper group of Warehouses.
26	ELO18131	3926 8115	Evaluation	Post-medieval Victorian	The Thames Plate Glass Company 12 evaluation trenches dug in 2007, with further stripping of 5 trenches where remains were found.
27	ELO19609	3885 8110	Evaluation	Post-medieval Victorian	East India Dock: evaluation in 2006 discovered the dock wall and areas of built up ground. Modern concrete yard and with modern dumps.
28	DLO28093 MLO93109	38399 81000 3881 19/685	Listed Building	Post-medieval Victorian Modern	A plaque on the modern dock wall
29	ELO20230	3870 8157	Building Recording	Post-medieval Modern	Gasholder Station on Leven Road surveyed in 2015 in advance of demolition.
30	ELO19817	3818 8213	Watching Brief Evaluation	Post-medieval Victorian Modern	Fieldwork in 2019 on Barratt Industrial Estate with five trenches and four test pits finding masonry and brick structures
31	DLO33367 MLO7485	3871 8010	Structure	Victorian Modern	The Blackwall Tunnel built between 1892 and 1897. This included a north and south gatehouse, one of which survives today (south). A second tunnel was built in 1937.
32	ELO2693 MLO7151 084132/00/00	3828 8100	Evaluation	Victorian	In 1997 trenches on the north side of Ashton Street found two 19th century walls.
33	DLO27667 MLO92696	38394 80782	Listed Building	Victorian	Blackwall Tunnel northern portal and parapet.
34	DLO27644 MLO92673 DLO28499 MLO93515	38066 81583 3881 19/701 38079 81534 3881 19/700	Listed Building	Victorian Modern	St Michael's Church, includes south tower and a short spire. A war memorial also listed.
35	DLO38147 MLO107687	3850 8102	Listed Building	Victorian Modern	East India Dock House former Financial Times Print Works Grade II* Listed.
36	ELO3868 MLO749	3872 8138	Evaluation	Victorian Modern	In 2000 a channel was recorded cutting natural gravel and sandy layers were succeeded by peaty deposits. Above these were 19th century dumped deposits.
37	ELO4234 MLO67565 ELO7575 MLO98915	3925 8105 39312 81089	Watching Brief Building Recording	Victorian Modern	Watching Brief at Orchard Place where alluvial deposits were overlain by backyards and walls dating to the Victorian period and later. Building recording on Orchard Place, before demolition of warehouses.
38	DLO27646 MLO92675	38165 82087	Listed Building	Victorian Modern	Early/Mid 19th century brick warehouse at Dowgate Wharf, P.B. Burgoyne and Company Limited Warehouse

No	*HER Ref*	*Grid Ref (TQ)*	*Type*	*Period*	*Comment*
39	DLO28234 MLO93250	38228 81343	Listed Building	Modern	Concrete framed building called Carradale House.
40	DLO28070 MLO93086 ELO1031 ELO1034 MLO75402	38192 81869 3881 19/683 38212 81872	Listed Building Field Survey Building Recording	Modern	Poplar Public Library and two Second World War civil defence structures at the rear of Poplar Library. Two excavations in 2001 to expose features and access the interiors.
41	ELO10939 MLO741 FLO19744	3847 8112	Test Pit	Modern	Only remains found were 19th/20th century made ground/dumps and a sequence of alluvial layers including peat.
42	MLO93337	38266 81277	Listed Building	Modern	Balfron Tower on St Leonard's Road is a concrete framed Grade II* listed building (flats).
43	MLO102830	38309 81697	Listed Building	Modern	Former Bromley Hall School for the Physically Handicapped.
44	DLO37943 MLO107594	3813 8133	Listed Building	Modern	Concrete framed building on Burcham Street, Glenkerry House on Brownfield Estate, Grade II*.
45	DLO35262 MLO93430	38186 81966	Listed Building	Modern	Former Fire Station on Gillender Street.
46	MLO107824	3827 8083	Building	Modern	Tower block on Woolmore Street/Robin Hood Lane/Poplar High Street/Cotton Street, c. 1970s.
47	ELO7559	37888 81475	Watching Brief	Undated	Undertaken at Langdon Park DLR Station for new platform construction, no archaeology found.
48	ELO13384	38816 81271	Evaluation	Undated	Aberfeldy Estate 3 trenches excavated in 2012, with no archaeological remains but deep alluvial deposits.
49	ELO10385	3876 8084	Borehole Survey	Undated	In 2009 a geoarchaeological investigated was undertaken at the DLR East India Station totalling 2 boreholes. Only truncation noted.
50	ELO17461	38503 81554	Borehole Survey	Undated	In 2015 a geoarchaeological survey was carried out made up of 18 boreholes showing inorganic alluvial deposits with 2 boreholes capturing peat.
51	ELO19826	3870 8157	Borehole Survey	Undated	Around Leven Road 40 boreholes were put down in 2019. These were used to produce an up-to-date detailed geoarchaeological deposit model. Pleistocene deposits were discovered with overlying Holocene deposits, the later consisted of alluvial deposits with infrequent peats, the alluvial deposits were truncated in certain areas by made ground.
52	ELO2760	3890 8181	Watching Brief	Undated	A total of 26 test pits with no archaeology found. The area was contaminated and highly truncated.
53	ELO10128	394 813	Evaluation	Undated	Canning Town Station evaluation in 1991. Included well preserved organic deposits and well stratified alluvium deposits.
54	ELO2642 MLO6432	3857 8130	Watching Brief	Undated	Watching brief at Ada Gardens in 1993 found alluvial deposits with peat layers.

Listed Buildings Grade II unless stated.

APPENDIX 2: Historic and modern maps consulted

1575	Saxton's map of Middlesex (Fig. 3)
1593	Norden's map of Middlesex (Fig. 4)
1610	Speed's map of Middlesex
1645	Anonymous, map of Middlesex
1672	Blome's map of Middlesex
1672	Ogilby's map of Middlesex (Fig. 5)
1749	Warburton's map of Middlesex (Fig. 6)
1762	Rocque's map of Middlesex (Fig. 7)
1785	Bowles' map of Middlesex
1801	Cary's map of Middlesex *Fig. 8)
1872	Ordnance Survey First Edition (Fig. 9)
1894	Ordnance Survey Second Edition (Fig. 10)
1920	Ordnance Survey Third Edition (Fig. 11)
1955	Ordnance Survey Third Edition (Fig. 12)
1965	Ordnance Survey Third Edition (Fig. 13)
1973	Ordnance Survey Third Edition (Fig. 14)
1981	Ordnance Survey Third Edition (Fig. 15)
1989	Ordnance Survey Third Edition (Fig. 16)
2001	Ordnance Survey Third Edition (Fig. 17)
2020	Ordnance Survey Third Edition (Fig. 18)



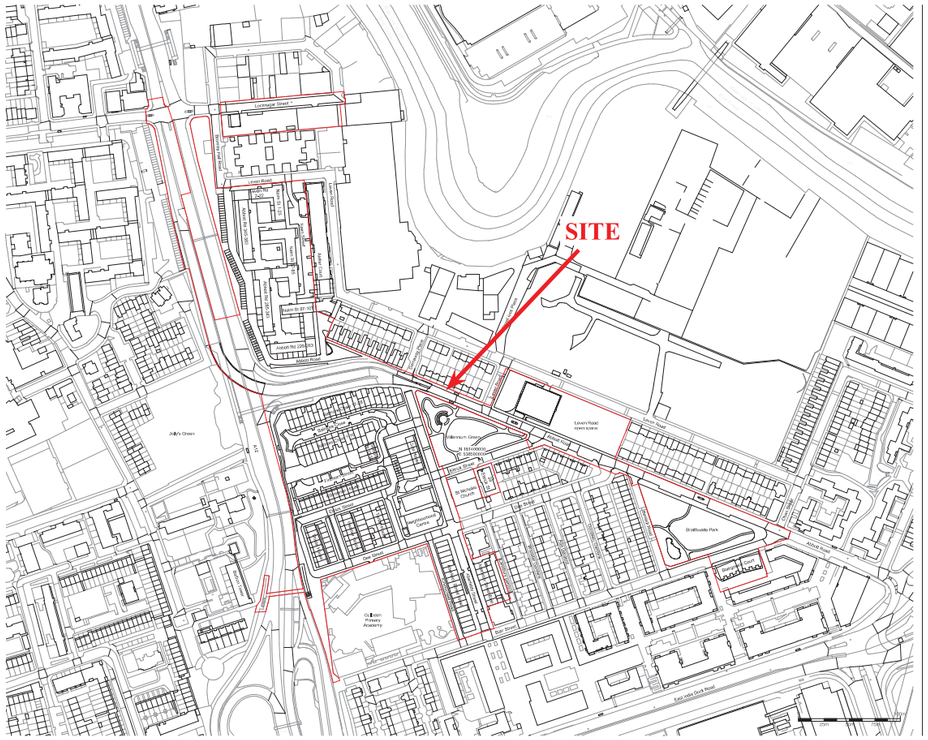
AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment

Figure 1. Location of site within Tower Hamlets and London, showing locations of GLHER entries.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

THAMES VALLEY ARCHAEOLOGICAL SERVICES

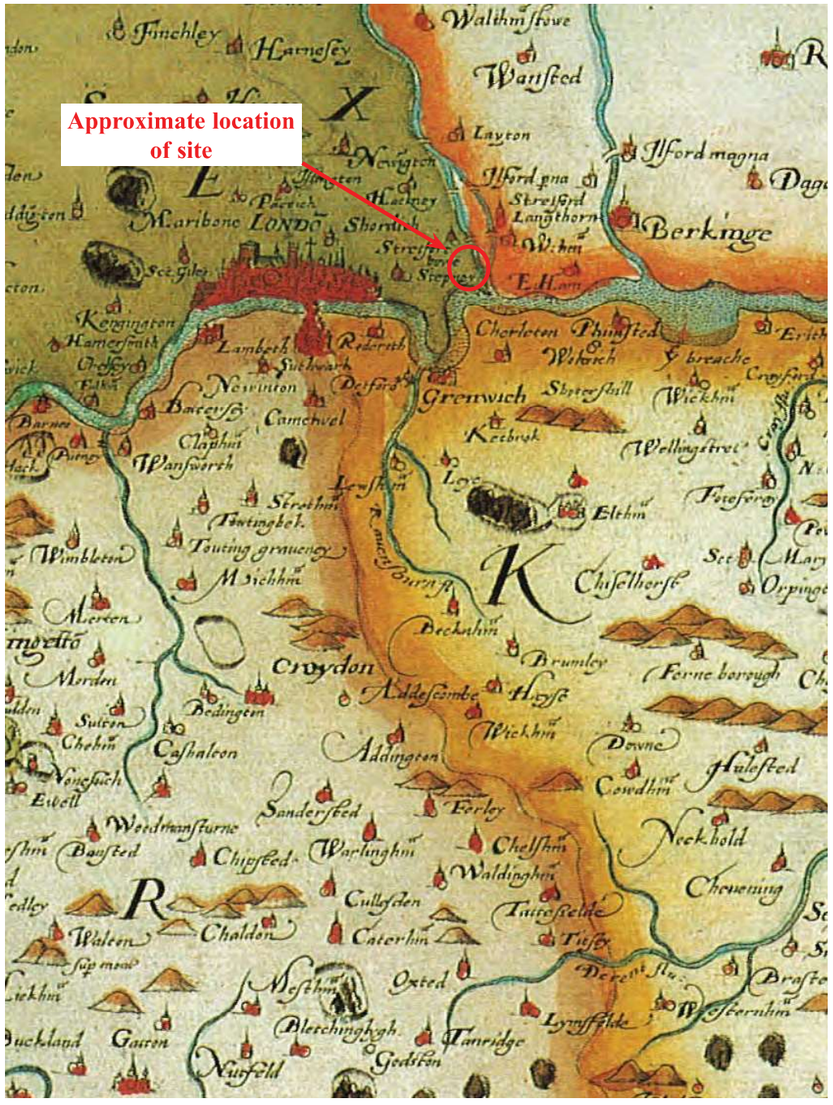


AVL 20/188

N

Aberfeldy Village, Lighterman Point, New Village Avenue, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 2. Current layout of site, showing both outline and detailed application areas. Not to scale.

THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 3. Saxton's map of Middlesex, Surrey, Kent and Sussex, 1575.

THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 4. Norden's map of Middlesex, 1593.

THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

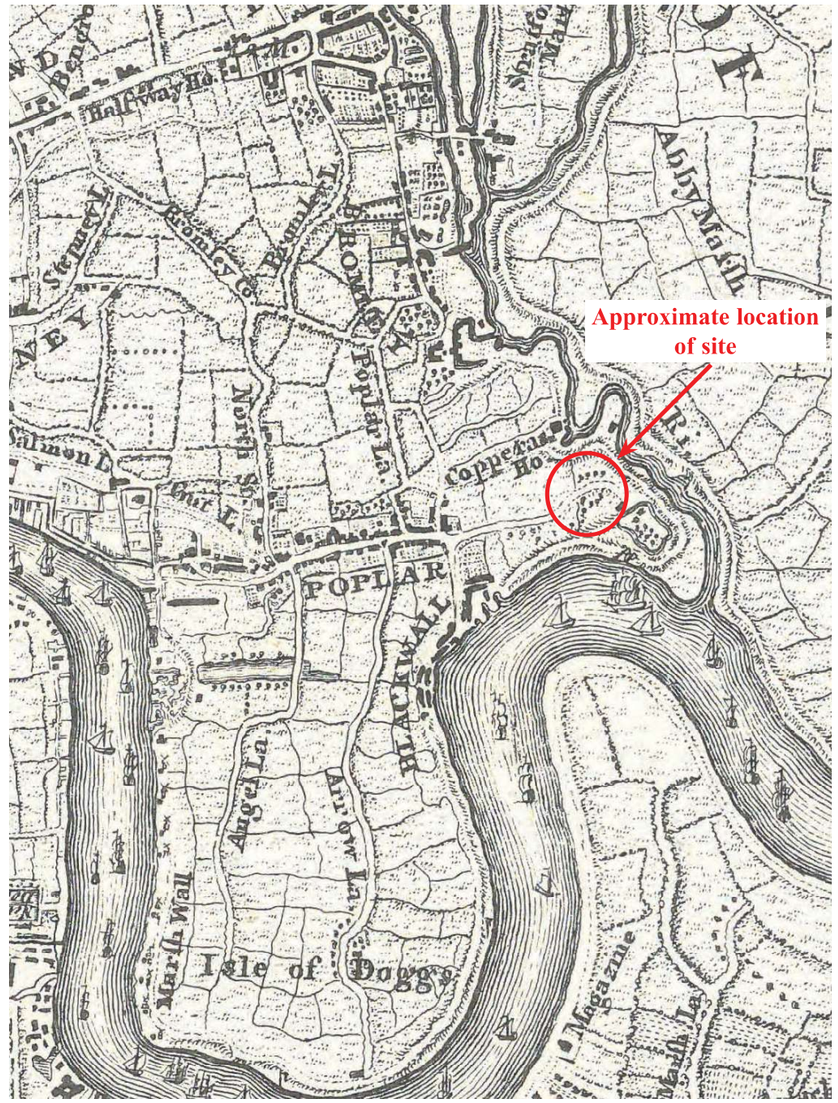
Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 5. Ogilby's map of Middlesex, 1672.

THAMES VALLEY ARCHAEOLOGICAL SERVICES



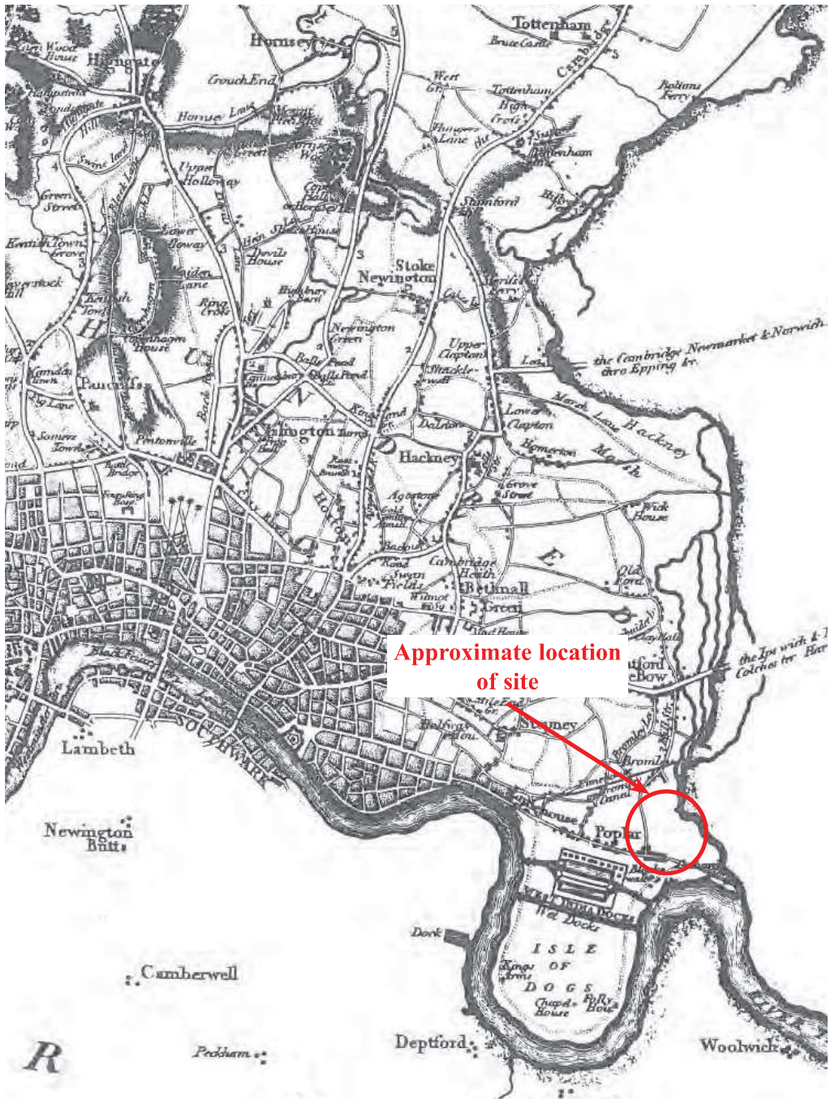
AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 6. Warburtons' map of Middlesex, 1749.



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 7. Rocque's map of Middlesex, 1762.



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets Archaeological Desk-based Assessment

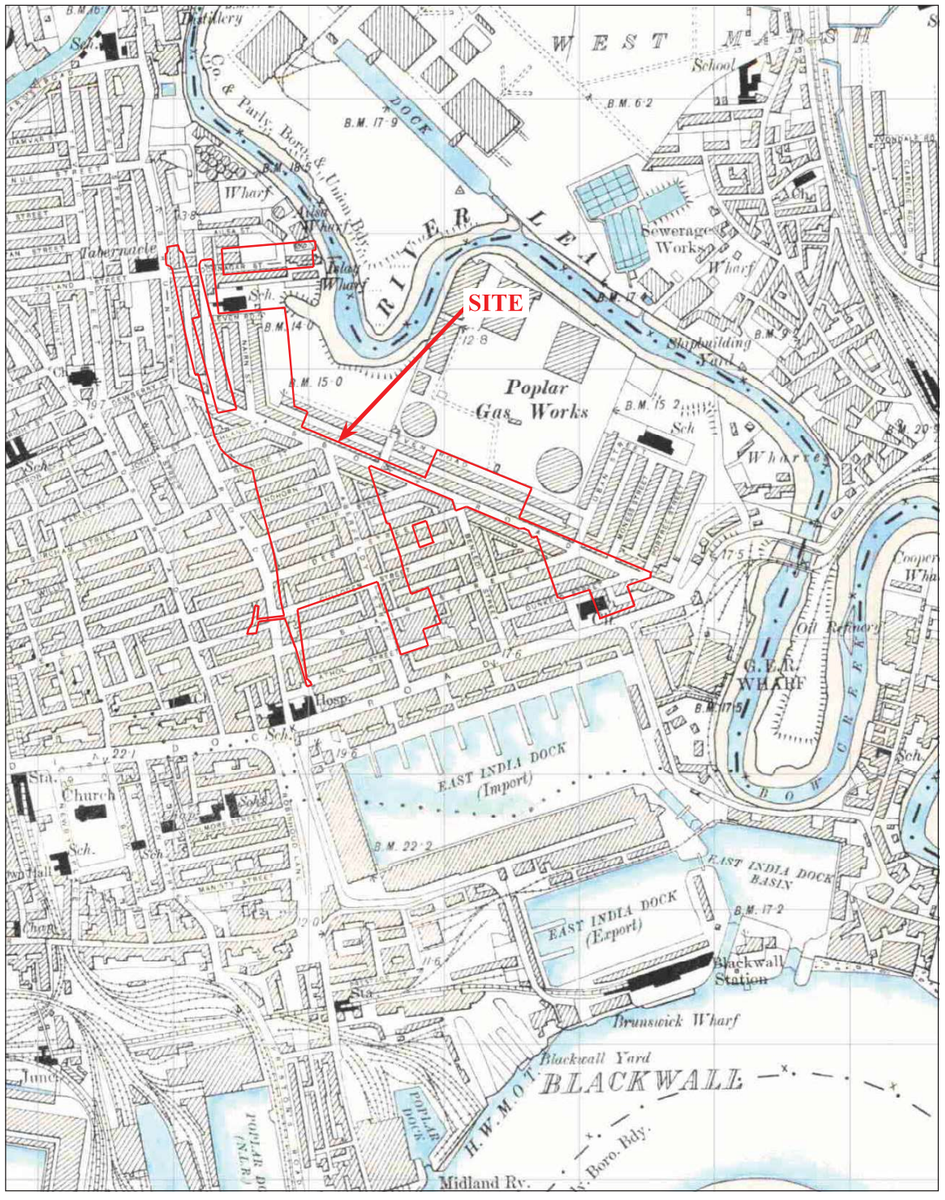
Figure 8. Cary's map of Middlesex, 1801.



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar, London Borough of Tower Hamlets Archaeological Desk-based Assessment

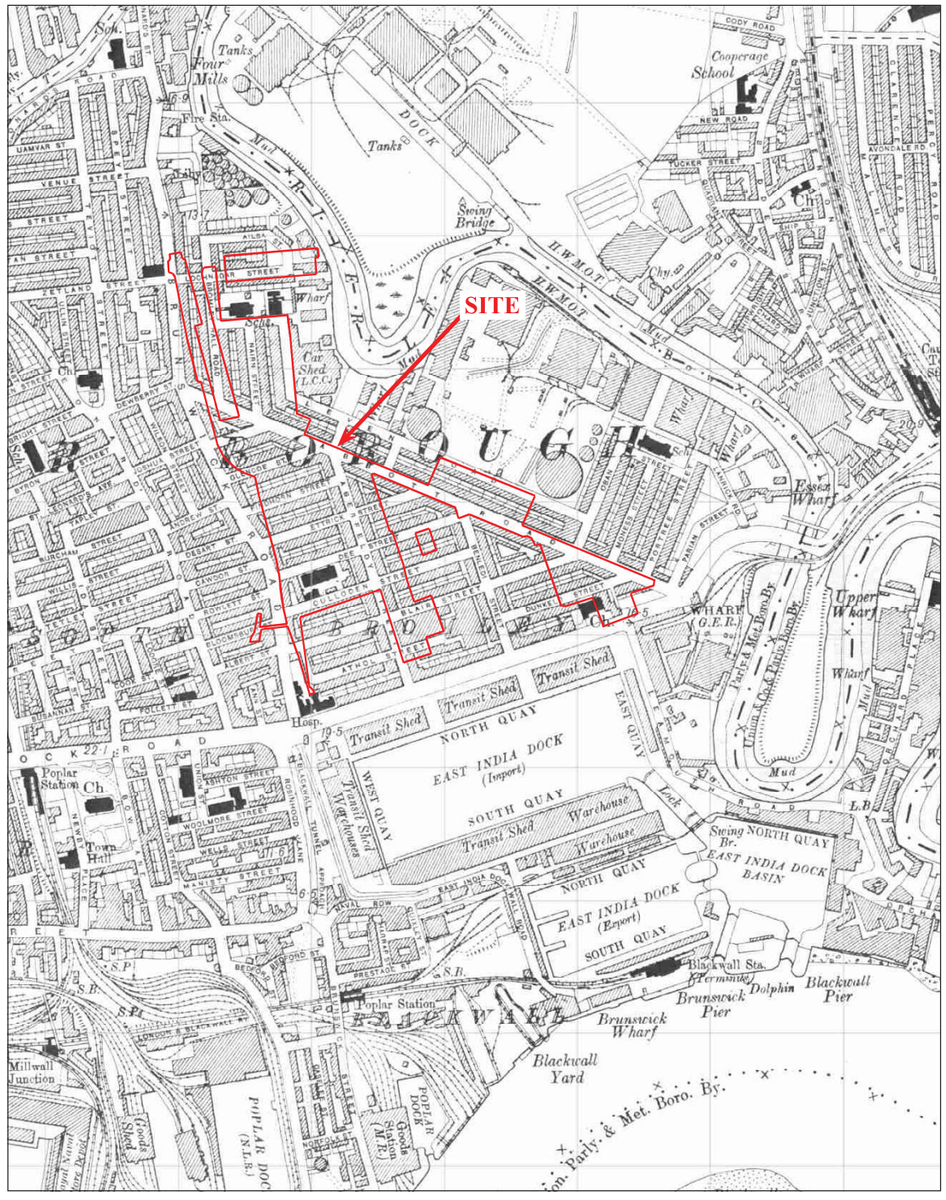
Figure 9. Ordnance Survey, First Edition, 1872



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 10. Ordnance Survey, 1894.

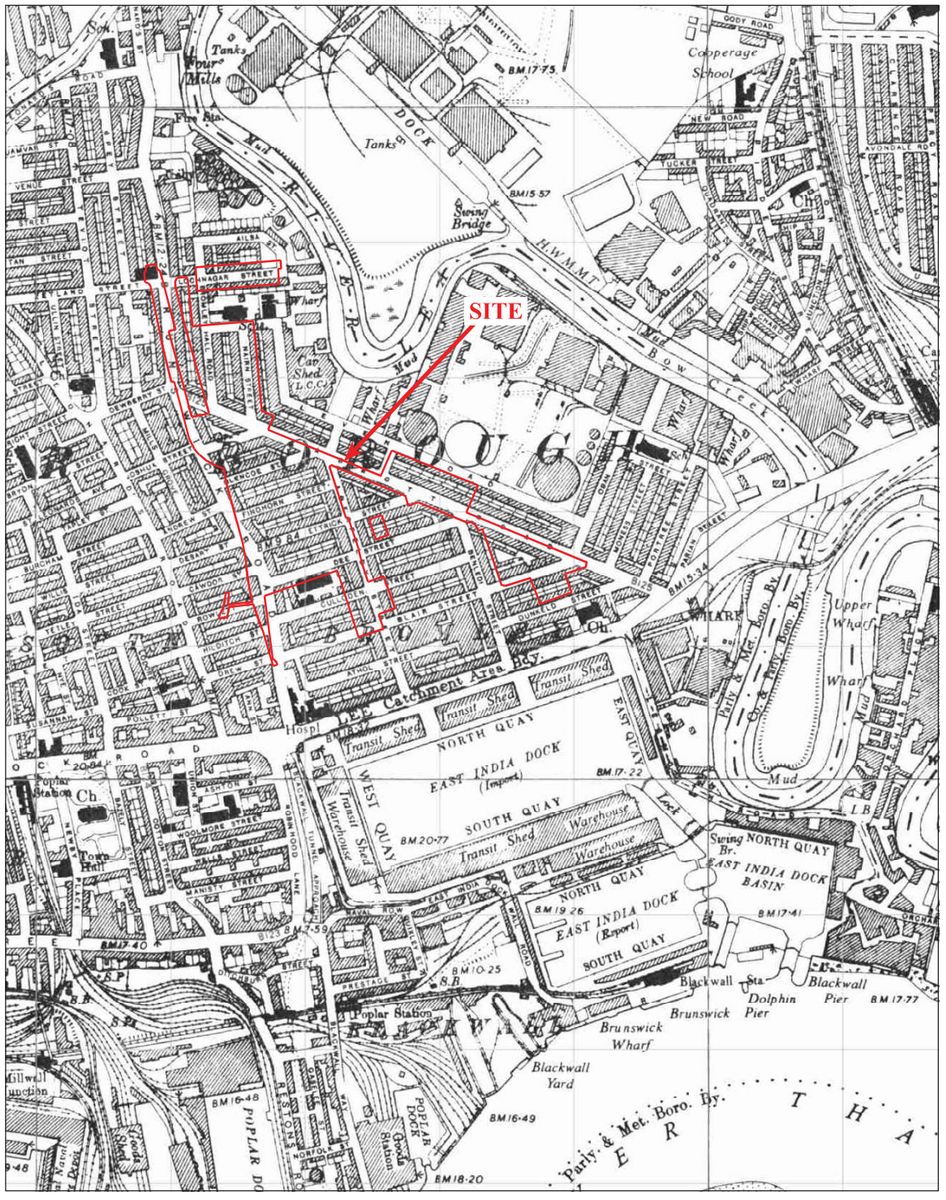
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 11. Ordnance Survey, 1920.

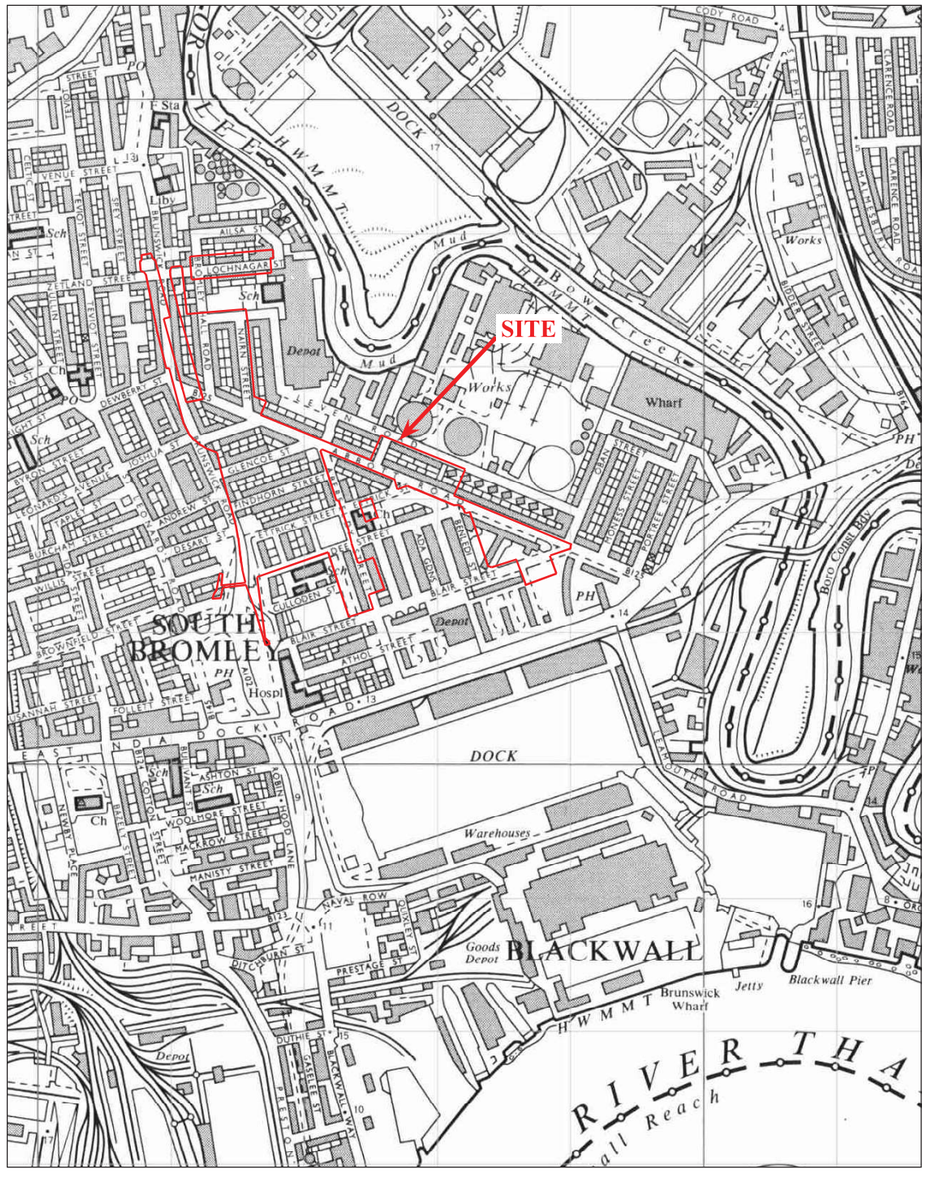
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 12. Ordnance Survey, 1955.

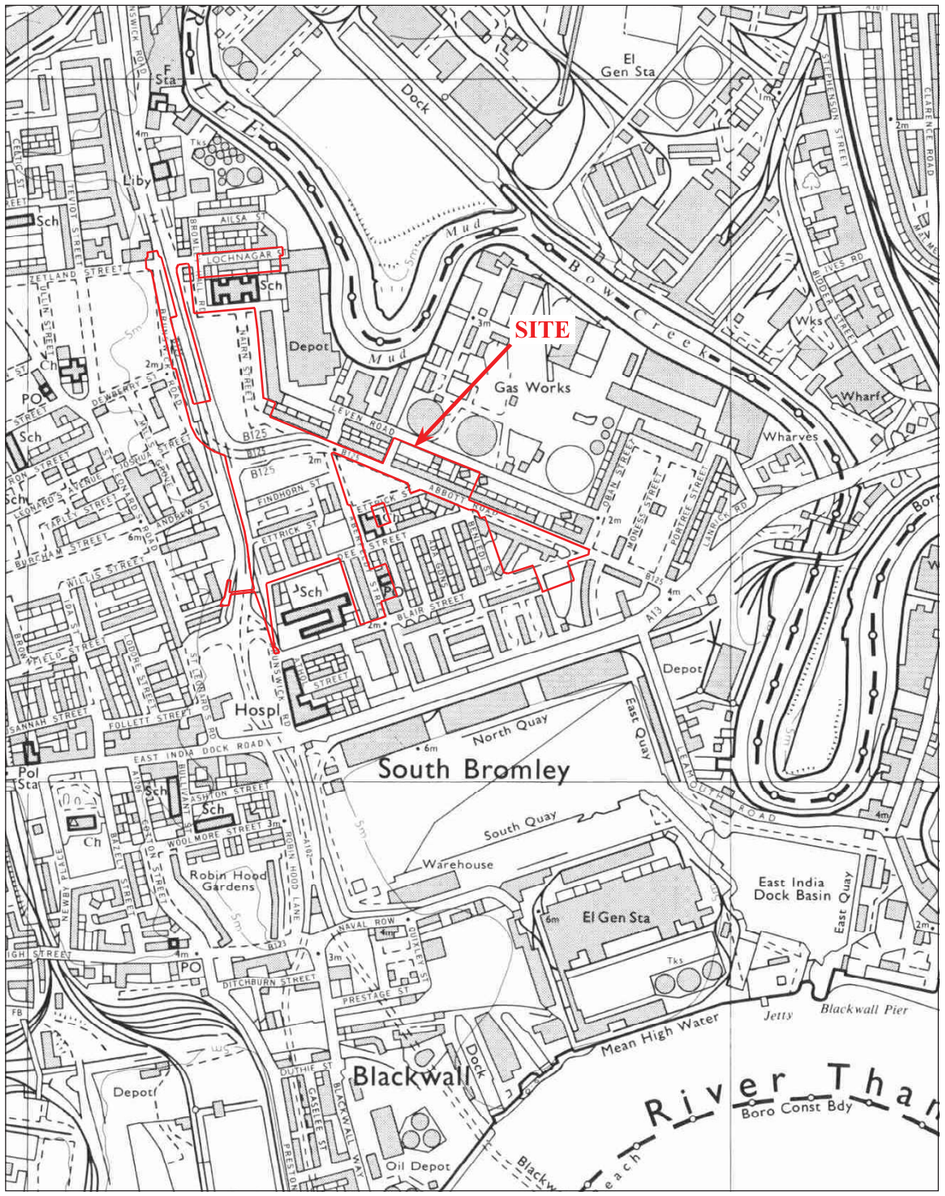
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 13. Ordnance Survey, 1965.

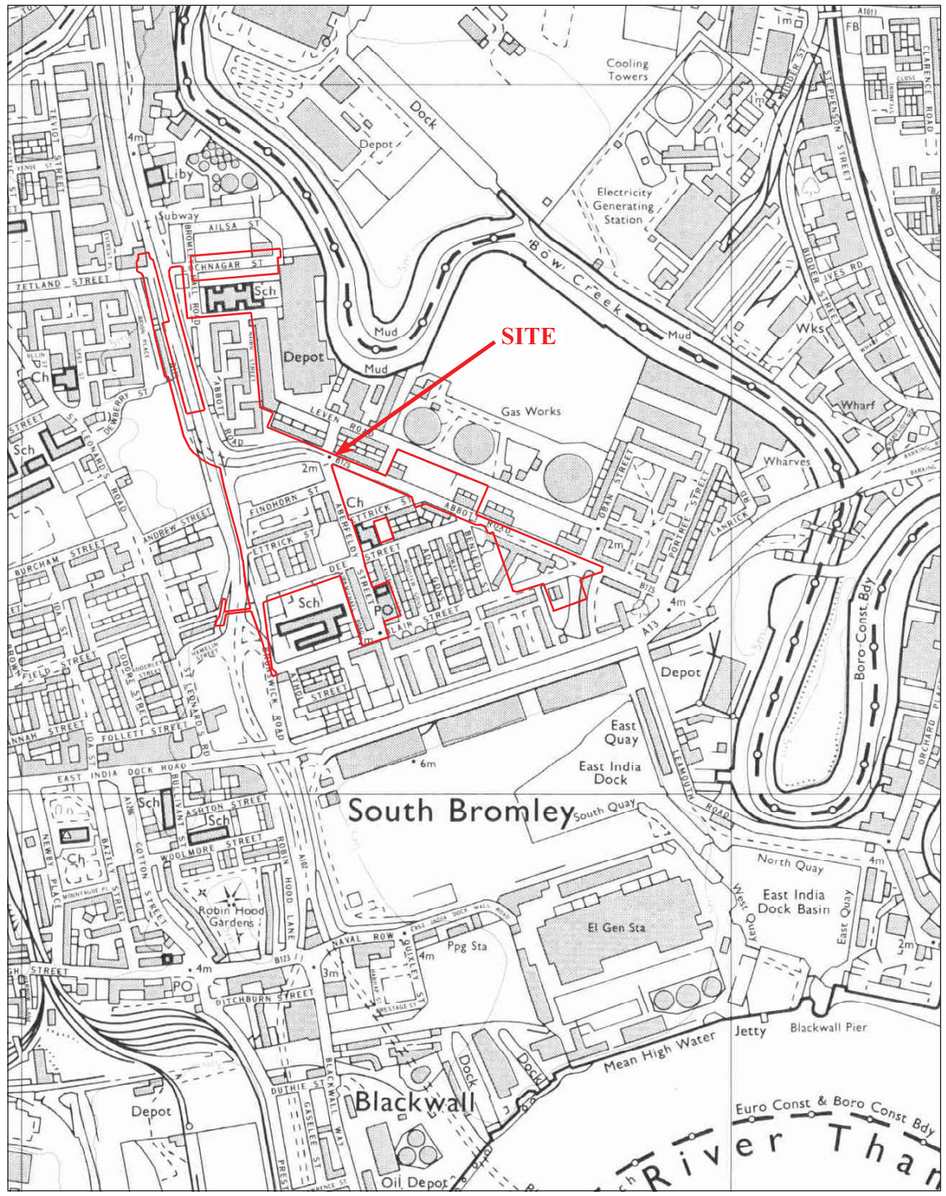
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 14. Ordnance Survey, 1973.

THAMES VALLEY ARCHAEOLOGICAL SERVICES

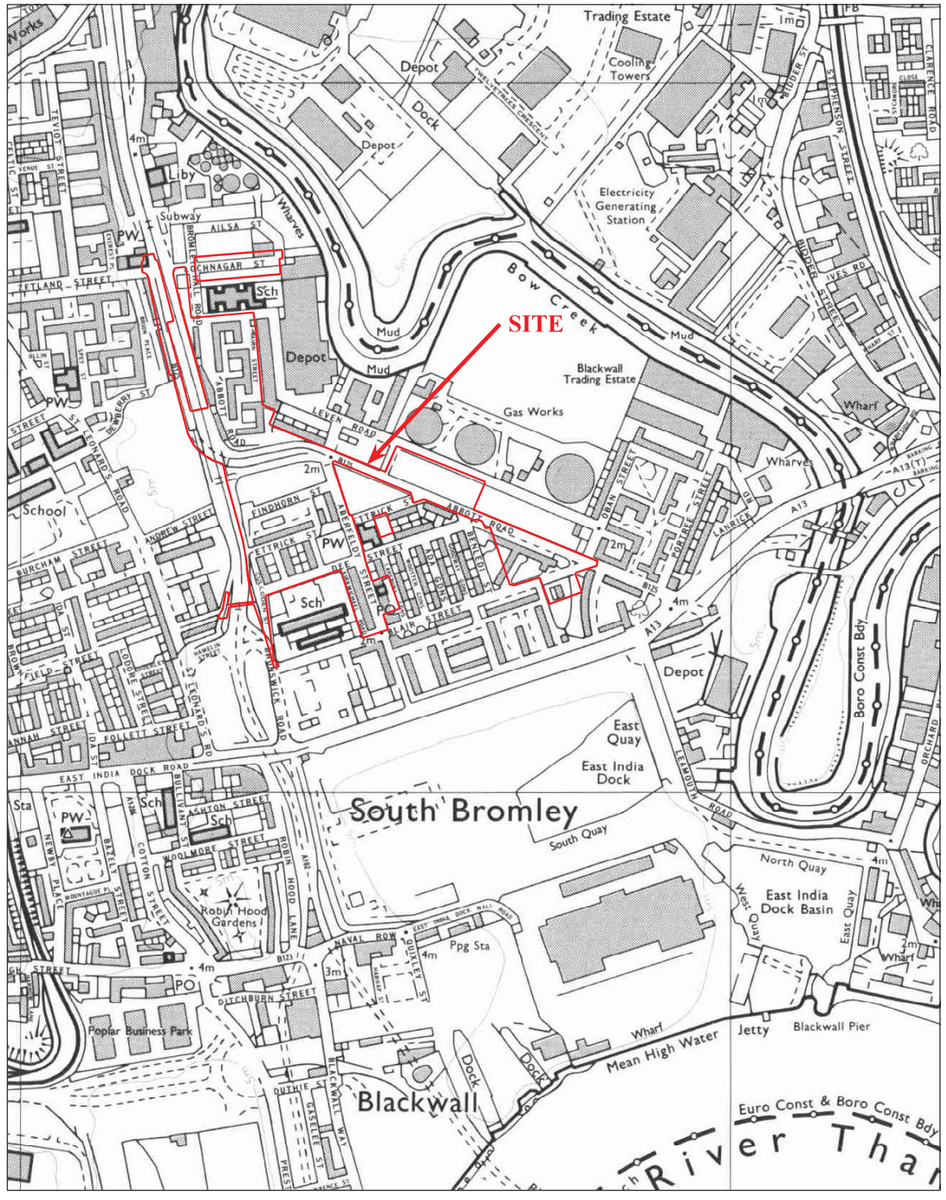


AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 15. Ordnance Survey, 1981.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

THAMES VALLEY ARCHAEOLOGICAL SERVICES

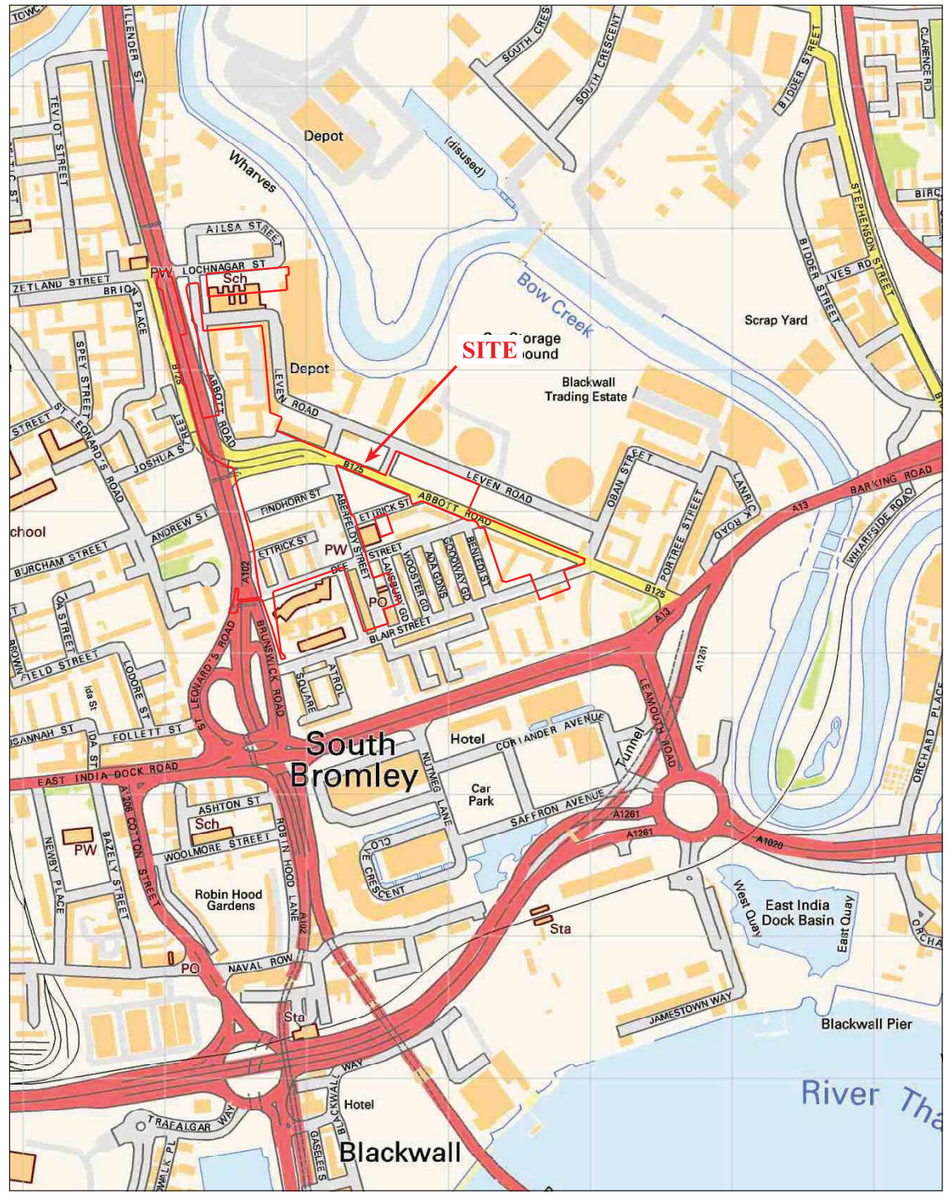


AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 16. Ordnance Survey, 1989.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

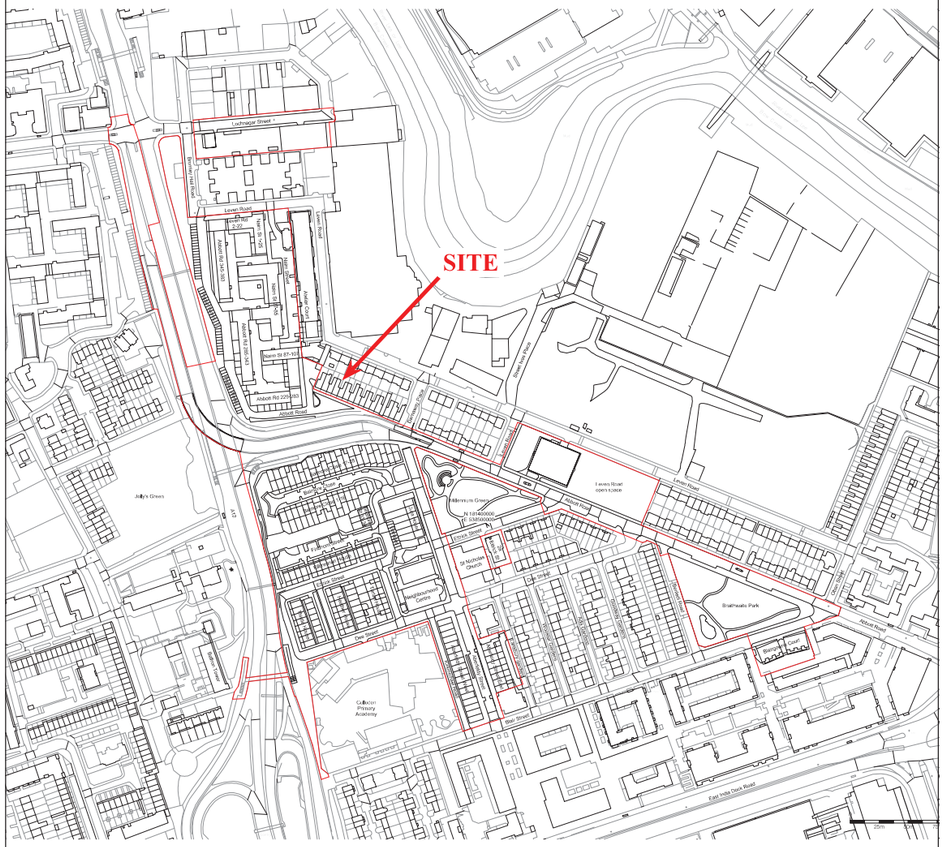
THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 17. Ordnance Survey, 2001.

THAMES VALLEY ARCHAEOLOGICAL SERVICES



AVL 20/188

Aberfeldy Village, Lighterman Point, Poplar,
London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Figure 18. Ordnance Survey, 2020.

Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

THAMES VALLEY ARCHAEOLOGICAL SERVICES

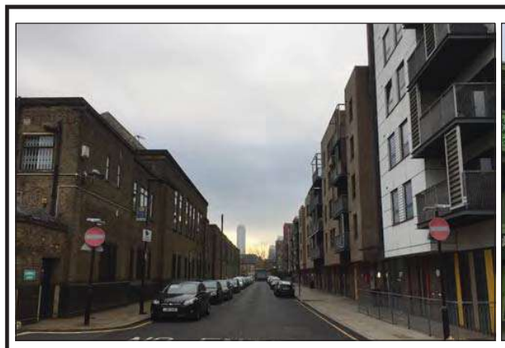


Plate 1. Leven Road, looking south.

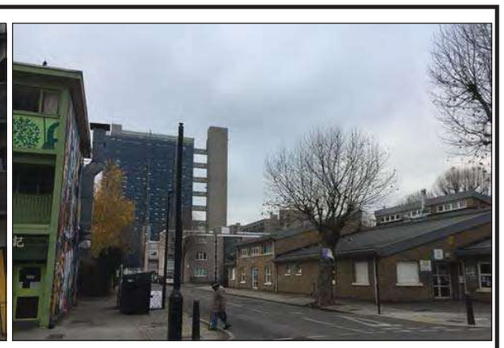


Plate 2. South-west of the site, looking north-west from Blair Street.



Plate 3. Dee Street, looking west.



Plate 4. Brathewaite Park, looking south.



Plate 5. Looking south from Abbott Road towards Baltimore Close, Balfron Tower and Carradale House in background.



Plate 6. Nairn Street, looking south.

NMW 20/177

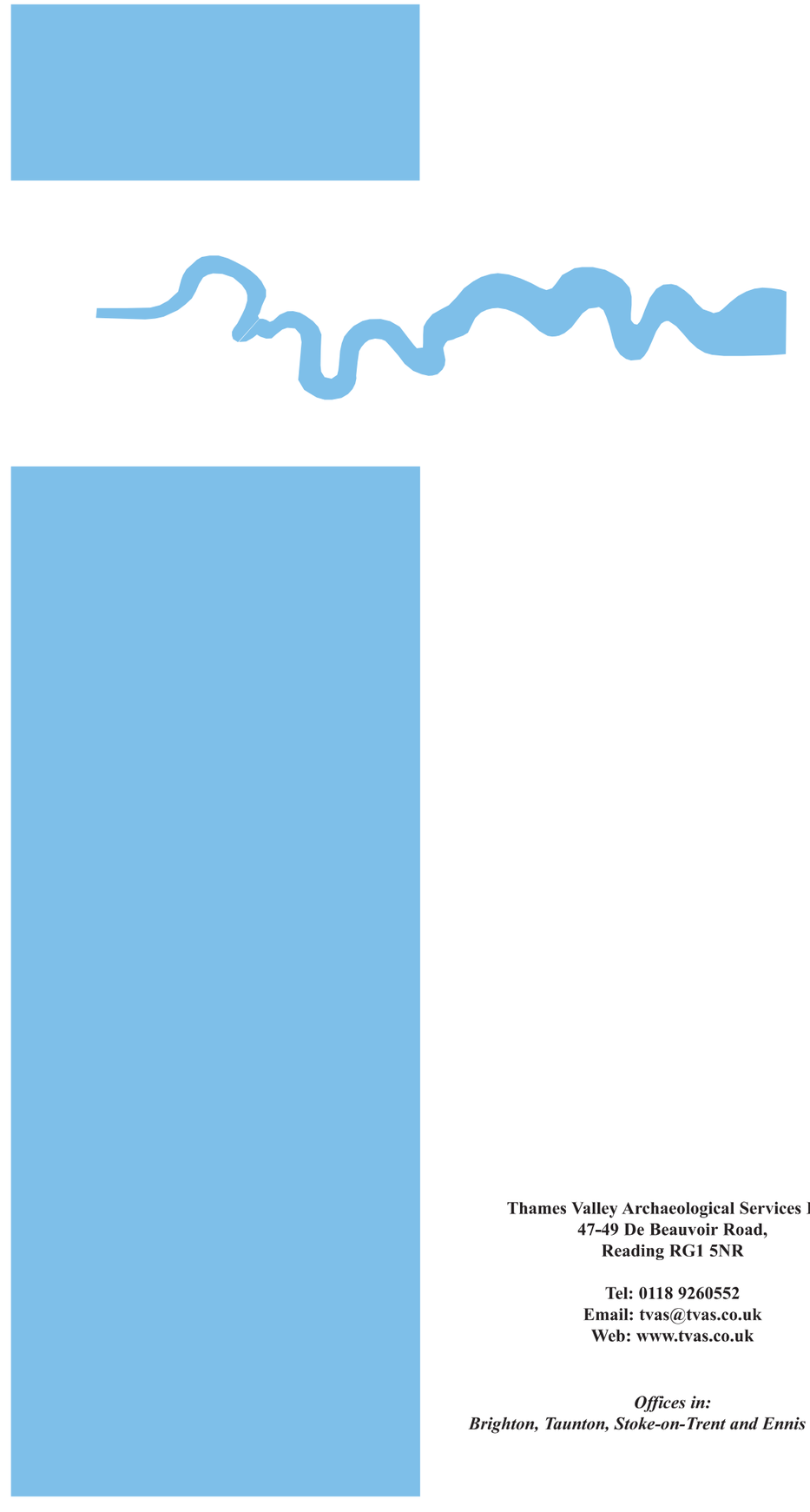
N

Aberfeldy Village, Lighterman Point, New Village Avenue,
Poplar, London Borough of Tower Hamlets
Archaeological Desk-based Assessment
Plates 1 - 6.

THAMES VALLEY ARCHAEOLOGICAL SERVICES

TIME CHART

	Calendar Years
Modern	AD 1901
Victorian	AD 1837
Post Medieval	AD 1500
Medieval	AD 1066
Saxon	AD 410
Roman	AD 43
	AD 0 BC
Iron Age	750 BC
Bronze Age: Late	1300 BC
Bronze Age: Middle	1700 BC
Bronze Age: Early	2100 BC
Neolithic: Late	3300 BC
Neolithic: Early	4300 BC
Mesolithic: Late	6000 BC
Mesolithic: Early	10000 BC
Palaeolithic: Upper	30000 BC
Palaeolithic: Middle	70000 BC
Palaeolithic: Lower	2,000,000 BC



Thames Valley Archaeological Services Ltd,
47-49 De Beauvoir Road,
Reading RG1 5NR

Tel: 0118 9260552
Email: tvas@tvas.co.uk
Web: www.tvas.co.uk

Offices in:
Brighton, Taunton, Stoke-on-Trent and Ennis (Ireland)

Appendix: Wind Microclimate

Annex 1: Policy and Guidance
Annex 2: Technical Appendix

Appendix: Wind Microclimate

Annex 1: Policy and Guidance

Annex 2: Technical Appendix

Legislation and Planning Policy Context

National Policy

National Planning Policy Framework (2021)[1]

13.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced. It states that the purpose of the planning system is to contribute to the achievement of sustainable development; and that the planning system must meet interdependent overarching objectives summarised as: an economic objective, a social objective and an environmental objective.

13.2 There are no policies or statements that are directly related to the wind microclimate, although the promotion of high-quality built environments was emphasised in the NPPF. For instance, paragraph 8 describes environmental objectives for sustainable development:

- c) "[…] to protect and enhance our natural, built and historic environment […] and mitigating and adapting to climate change".

13.3 Additionally, paragraph 130 states the following:

- "f) Create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users".

National Planning Practice Guidance (2019)[2]

13.4 The NPPG was published in November 2016 to support the NPPF and was updated in October 2019. There is no guidance within the PPG related to tall buildings and wind microclimate issues.

Regional Policy

The London Plan 2021 – The Spatial Development Strategy for Greater London[3]

13.5 The London Plan 2021 is the Spatial Development Strategy for Greater London. It places importance on the creation and maintenance of a high-quality environment for London. The following policies apply specifically in relation to wind microclimate:

- Policy D3 Optimising site capacity through the design-led approach (Para 3.3.8), states that:
  - "Buildings […] massing, scale and layout […] should complement the existing streetscape and surrounding area. Particular attention should be paid to the design of the parts of a building or public realm that people most frequently see or interact with in terms of its legibility, use, detailing, materials and location of entrances. Creating a comfortable pedestrian environment with regard to levels of […] wind".
- Policy D8 Public realm, Development Plans and development proposals should, states that:
  - "Consideration should also be given to the local microclimate created by buildings, and the impact of service entrances and facades on the public realm."
  - "Ensure that appropriate shade, shelter, seating […] with other microclimatic considerations, including temperature and wind, taken into account in order to encourage people to spend time in a place."
- Policy D9 Tall buildings: Environmental impact, states that:
  - "Wind […] around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building";
  - "Air movement affected by the building(s) should […] not adversely affect street-level conditions".
- Policy D9 Tall buildings: Cumulative impacts, states that:
  - "The cumulative visual, functional and environmental impacts of proposed, consented and planned tall buildings in an area must be considered when assessing tall building proposals and when developing plans for an area. Mitigation measures should be identified and designed into the building as integral features from the outset to avoid retro-fitting."

Shaping Neighbourhoods: Play and Informal Recreation SPG (2012)[4]

13.6 In the Shaping Neighbourhoods SPG in Section 4.48 (under Step B5: What types of play space should be provided and how should existing play provision be improved?) the following statement emphasises on wind microclimate:

- "Playable spaces should be properly integrated into new development and the existing context […] If […] windy spaces are utilised, they should be made worthy through innovative design."

Local Policy

Tower Hamlets Local Plan 2031[5]

13.7 Policy S.DH1: Delivering high quality design, states that:

- "Development is required to meet the highest standards of design, layout and construction […]. To achieve this, development must: […] use design and construction techniques to ensure that the development does not result in unacceptably harmful impacts arising from […], wind."

13.8 Policy D.DH6: Tall buildings, states that:

- "Developments with tall buildings are required to […] demonstrate that the development does not adversely impact on the microclimate and amenity of the application site and the surrounding area".

13.9 Section 8.61, states that:

- "Tall buildings can significantly impact the quality and safety of the public realm (for example, […] through generating adverse micro-climatic conditions, such as wind funnelling). They may […] undermine the quality and value of adjacent developments. In low-or-medium rise residential neighbourhoods, tall buildings […] have a negative impact on amenity and views."

13.10 Section 8.66, state that:

- "Proposals involving tall buildings will need to demonstrate how any adverse impacts on the microclimate will be mitigated in relation to wind […] Buildings over 30 metres in height and/or substantially taller than the surrounding area and/or over 150 units must be tested against the industry standard Lawson criteria in relation to wind. The testing of the following scenarios will be required as part of the planning application.
  - Baseline (i.e. the situation at the time of submission).
  - The proposed development without mitigation/landscaping.
  - The development with surrounding cumulative developments without mitigation/landscaping.
  - The development with the inclusion of mitigation/landscaping.
  - The development with surrounding cumulative developments with the inclusion of mitigation/landscaping.
  - Specific details on the required mitigation measures must be provided, including where and how these measures will be implemented.
  - It is essential that any required mitigation measures are tested as part of the application. This is to ensure that the mitigation is adequate, and can therefore be relied upon. The mitigation must be implemented prior to occupation of any part of the development and retained for the duration of the development."

13.11 Section 14.25, states that:

[1] *Department for Communities and Local Government, 2021. Revised National Planning Policy Framework. London. HMSO.*
[2] *Ministry of Housing, Communities & Local Government, 2019. Planning Practice Guidance*
[3] *Greater London Authority, 2021. The London Plan. London. GLA*
[4] *Greater London Authority, 2012. Shaping Neighbourhoods: Play and Informal Recreation Supplementary Planning Guidance. London. GLA*
[5] *London Borough of Tower Hamlets, 2020. Tower Hamlets Local Plan 2031. London. LBTH.*

- "Due to the environmental importance of trees, […]. Their location must be carefully considered to ensure there is no adverse impact on […], wind effects."

High Density Living SPD[6]

13.12 Section 4: Design Guidelines, states that:

- "Healthy neighbourhoods:
  - The scale and form of high density developments can have significant environmental impacts, including […] wind tunnels. Orientation of communal spaces following environmental parameters and design mitigation measures can create more comfortable and enjoyable environments."
- References Intend to Publish London Plan Version 2019 Policy D8 – Public Realm and Tower Hamlets Local Plan 2031 Policy D.DH6 – Tall Buildings, both of which specify that a development does not adversely affect the local microclimate.
- "Design guideline AB.17:
  - The massing, orientation and design of the building and the location of public spaces contributes to a high quality urban microclimate promoting comfort and well-being. It should be designed to achieve good levels of […] wind […] comfort."
- "Design guideline AB.17, Wind:
  - High velocity winds in urban corridors or downdraughts generated by high rise buildings can significantly affect pedestrian comfort."
- "Wind, Design guideline AB.19:
  - Buildings over 30 metres in height and/or substantially taller than the surrounding area and/or over 150 units must be tested against the industry standard Lawson criteria in relation to wind (Local Plan D.DH6).
  - The test might require the need for mitigation measures. Dependant on context and typology this could be achieved through:
  - offset taller elements so the lower element (podium or courtyard block) serves to deflect wind
  - when wind mitigation cannot be achieved through the building massing recess entrances or use canopies to deflect wind from entrances or adjacent open spaces, the design should be integrated into the building language and materiality or consider recess
  - if wind cannot be deflected and impacts public realm, podiums or rooftops use trees or street furniture such as a pergola or large planter"
- Healthy Neighbourhoods
  - Tall buildings can create significant downdraught and localised high windspeeds at ground levels. This can significantly affect pedestrian comfort and safety. The effects must be assessed with an appropriate modelling technique and mitigated."
  - 20% of residents […] who live around high density buildings do not think the external environment around them is pleasant. 32% feel it has worsened wind."
- "Design guideline CS.15:
  - Rooftop play spaces will only be acceptable if:
  - Wind assessment demonstrates low impact levels."
- "Design guideline H.8:
  - Where a wind assessment is required this should assess balcony design. Depending on findings design strategies could include:
  - Solid balustrades
  - Semi-recessed balconies
  - Inset balconies
  - Winter gardens
- "Design guideline H.9:
  - If winter gardens are provided they should:
  - provide effective enclosure from wind."

[6] *London Borough of Tower Hamlets, 2021. High Density Living Supplementary Planning Document. London. LBTH.*

Appendix: Wind Microclimate

Annex 1: Policy and Guidance

Annex 2: Technical Appendix

FINAL REPORT

ABERFELDY VILLAGE MASTERPLAN

LONDON, UK

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
RWDI #2004108 – REV C
26TH OCTOBER 2021

SUBMITTED TO

Gemma Hale
Gemma.Hale@ecoworldinternational.com

EcoWorld
25 Victoria Street
London
SW1H 0EX

SUBMITTED BY

Hesham Ebrahim
Project Engineer
Hesham.Ebrahim@rwdi.com

Jeniffer Lowther
Project Engineer
Jeniffer.Lowther@rwdi.com

Aimee Crook
Project Manager
Aimee.Crook@rwdi.com

RWDI
Unit 1 Tilers Road
Milton Keynes
MK11 3LH
T: +44 (0)1908 776970

TABLE OF CONTENTS

VERSION HISTORY 3

1 INTRODUCTION 4

2 METHODOLOGY AND ASSESSMENT CRITERIA 5

2.1 Simulation of Atmospheric Winds 5
2.2 Measurement Technique 6
2.3 Scaling 6
2.4 Meteorological Data 7
2.5 Pedestrian Comfort 9
2.6 Desired Pedestrian Activity around the Proposed Development 10
2.7 Strong Winds 12

VERSION HISTORY

RWDI Project #2004108	Aberfeldy Village Masterplan London, UK	
Report	**Releases**	**Dated**
Reports	Rev A	05th October 2021
	Rev B	22nd October 2021
	Rev C	26th October 2021
Project Team	Hesham Ebrahim	Project Engineer
	Jeniffer Lowther	Project Engineer
	Aimee Crook	Project Manager

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN
RWDI #2004108 – Rev C
26th October 2021

1 INTRODUCTION

RWDI was retained to conduct a pedestrian level wind microclimate (PLW) assessment for the Proposed Development in London, UK. This report presents the methodology employed by RWDI.

Wind tunnel tests were conducted on a 1:300 scale model of the Proposed Development (referred to as the "Proposed Development" in this report henceforth). The investigation quantifies the wind conditions within and around the Site through comparison of the measured wind velocity and frequency of occurrence with the Lawson Comfort Criteria. Meteorological data for London, UK has been combined, analysed and adjusted to the Site conditions by modelling the effect of upstream terrain roughness on the wind velocities approaching the Site.

Measurements were taken at up to 496 locations for 36 wind directions, in 10° increments. The measurements covered ground level locations along the building façades and at corners, near main entrances, on pedestrian routes within and around the Site, balconies and terraces within and around the Site. The analyses were conducted on seasonal basis, however, the report focuses primarily on the windiest season (i.e. winter) and the summer season results, when pedestrian activity generally requires calmer conditions.

The following list details the configurations tested in the wind tunnel:

- Configuration 1: Existing Site with Existing Surrounding Buildings
- Configuration 2: The Detailed Proposals (Phase A) with Existing Surrounding Buildings
- Configuration 3: Proposed Development (Outline Proposals plus Detailed Proposals) with Existing Surrounding Buildings
- Configuration 4: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings
- Configuration 5: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures
- Configuration 6: Existing Site with Cumulative Surrounding Buildings
- Configuration 7: Detailed Proposals (Phase A) with Cumulative Surrounding Buildings
- Configuration 8: Proposed Development (Outline Proposals plus Detailed Proposals) with Cumulative Surrounding Buildings
- Configuration 9: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings
- Configuration 10: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures

2 METHODOLOGY AND ASSESSMENT CRITERIA

Wind tunnel testing is a well-established and robust technique to assess the pedestrian wind microclimate of the Proposed Development. It provides the means to quantify the wind conditions at the Site and for the measurements to be classified in accordance with the Lawson Comfort Criteria (outlined in Section 2.5). Wind tunnel investigations were conducted using a 1:300 scale model of the Proposed Development with existing and cumulative surrounding buildings and terrain covering a radius of 360m centred on the Site.

The basic methodology for quantifying the pedestrian level environment is outlined below:

1. Measure the wind speeds at pedestrian level in the wind tunnel relative to a reference wind speed;
2. Adjust standard meteorological data to account for conditions at the Site;
3. Combine these to obtain the expected frequency and magnitude of wind velocities at pedestrian level; and
4. Compare the results with the Lawson Comfort Criteria to 'grade' conditions around the Site.

2.1 Simulation of Atmospheric Winds

The wind is turbulent, or gusty, and this turbulence varies depending upon the Site. It is necessary to reflect these differences in the wind tunnel test. In addition, the atmospheric boundary layer is a shear flow which means that the mean wind speed increases with height.

Modelling these effects is achieved by a combination of spires and floor roughness elements to create a naturally grown boundary layer that is representative of urban or open country conditions, as appropriate. The detailed contoured proximity model around the Site is used to fine-tune the flow and create conditions similar to those expected at full scale (as shown in Figure 1).

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN
RWDI #2004108 – Rev C
26th October 2021



Figure 1: Aerial view of the existing Site (approximate extent of the Site highlighted in yellow)

2.2 Measurement Technique

Wind speed measurements were made using Irwin probes. For pedestrian comfort studies, both the mean wind speed and the peak wind speed are measured at each location at a scaled height of 1.5m above ground level. The typical equivalent full-scale time period for measuring the mean wind speed is around 90 minutes, whereas the peak wind speed is taken as the wind speed exceeded for 1% of the time.

Wind speeds at each location were measured for 36 wind directions in 10° intervals, with 0° representing a wind blowing from the north and 90° a wind blowing from the east.

2.3 Scaling

The length scale of the model was 1:300 and the velocity scale was approximately 1:2 for strong winds. Consequently, the time scale for the tests was 1:150, or in other words 1 second in the wind tunnel is equivalent to 150 seconds at full scale. The sampling frequency for the data acquisition equipment is therefore adjusted for the time scale.

2.4 Meteorological Data

Approximately thirty years' worth of data were obtained from the combined London airports and was categorised by season as demonstrated in Figure 2 as wind roses. The radial axis indicates the percentage hours per season that the wind speed exceeds the particular velocity range. The seasons are defined as spring (March, April and May), summer (June, July and August), autumn (September, October and November) and winter (December, January and February).

The data has been corrected to standard conditions of 10m above open flat level country terrain, over which pedestrian level wind speeds are greatest. The meteorological station data is then adjusted to the Site conditions using the methodology set out in ESDU 01008[1]. Low to medium rise inner city environments increase the turbulence within the atmospheric boundary layer which reduces the mean wind speed, requiring terrain roughness factors to be specified and applied to the meteorological data to account for the variations in terrain surrounding the Site.

The meteorological data indicates prevailing winds from the west throughout the year. There is a secondary peak from the south-east during the autumn and winter seasons.

The combination of meteorological data, Site altitude and velocity ratios permits the percentage of time that wind speeds are exceeded at ground level on the Site to be evaluated. The locations can then be assessed using the Lawson Comfort Criteria, as described below.

To account for the difference in height and terrain roughness between meteorological conditions at the airports and the Site, it is necessary to apply adjustment factors to the wind tunnel velocity ratios. Adjustment factors (mean factors) were computed for wind directions from 0^0 through to 360°. The reference height in the wind tunnel was at the equivalent full-scale height of 120 metres. Table 1 presents the mean factors for the Site. To put these numbers into perspective, a higher mean factor for angles 0^0-30^0 means that the oncoming wind speeds are higher (likely due to having more open surrounds in these angles).

[1] ESDU International, Computer program for wind speeds and turbulence properties: flat or hilly sites in terrain with roughness changes, ESDU 01008, 2001 01008

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN
RWDI #2004108 – Rev C
26th October 2021

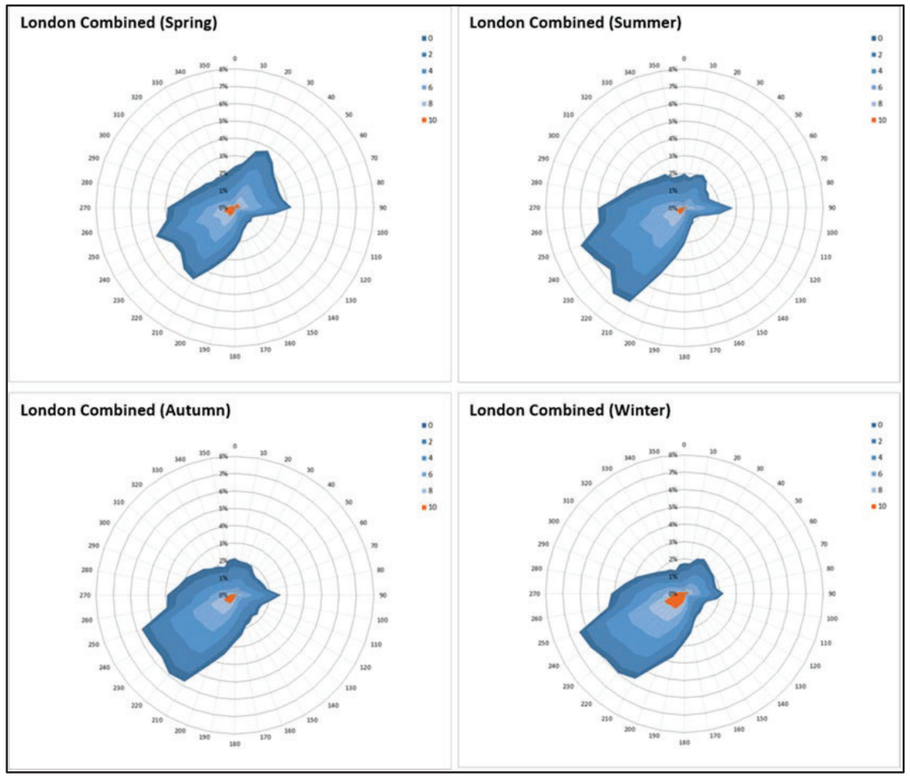


Figure 2: Seasonal wind roses for the London area (in m/s) – (Radial axis indicates the percentage of time for which the stated threshold is exceeded)

Table 1: ESDU Mean Factors at 120m above ground level

Wind Direction	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°
Mean Factor at 120 m	1.21	1.21	1.21	1.21	1.21	1.19	1.19	1.19	1.22	1.24	1.24	1.24
Wind Direction	**120°**	**130°**	**140°**	**150°**	**160°**	**170°**	**180°**	**190°**	**200°**	**210°**	**220°**	**230°**
Mean Factor at 120 m	1.24	1.24	1.21	1.21	1.21	1.21	1.21	1.21	1.15	1.15	1.14	1.14
Wind Direction	**240°**	**250°**	**260°**	**270°**	**280°**	**290°**	**300°**	**310°**	**320°**	**330°**	**340°**	**350°**
Mean Factor at 120 m	1.14	1.12	1.12	1.11	1.11	1.12	1.12	1.15	1.15	1.15	1.21	1.21

2.5 Pedestrian Comfort

The assessment of the wind conditions requires a standard against which the measurements can be compared. This report uses the Lawson Comfort Criteria[2] that have been established for over thirty years and have been widely used on building developments across the United Kingdom. The comfort criteria seek to define the reaction of an average pedestrian to the wind as described in Table 2. If the measured wind conditions exceed the threshold wind velocity for more than 5% of the time, then they are deemed unacceptable for the intended pedestrian activity. The expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose.

The Criteria sets out four pedestrian activities and reflect the fact that less active pursuits require more benign wind conditions. The categories are sitting, standing, strolling and walking, in ascending order of activity level, with a fifth category for conditions that are uncomfortable for all pedestrian uses. In other words, the wind conditions in an area for sitting need to be calmer than a location that people merely walk past.

The distinction between strolling and walking is that in the strolling scenario pedestrians are more likely to take on a leisurely pace, with the intention of taking time to move through the area, whereas in the walking scenario pedestrians are intending to move through the area quickly and are therefore expected to be more tolerant of stronger winds.

[2] Lawson T.V. (April 2001), Building Aerodynamics, Imperial College Press

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN
RWDI #2004108 – Rev C
26th October 2021

The Criteria are derived for open air conditions and assume that pedestrians will be suitably dressed for the season.

The coloured key in Table 2 corresponds to the presentation of wind tunnel test results described in the results section of this report.

Table 2: Lawson Comfort Criteria

Key	Comfort Category	Threshold	Description
	Sitting	0-4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods
	Standing	4-6 m/s	Gentle breezes acceptable for main building entrances, pick-up/drop-off points and bus stops
	Strolling	6-8 m/s	Moderate breezes that would be appropriate for strolling along a city/town street, plaza or park
	Walking	8-10 m/s	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
	Uncomfortable	>10 m/s	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended

2.6 Desired Pedestrian Activity around the Proposed Development

Generally, for a mixed-use development, the target conditions are:

- Strolling during the windiest season on pedestrian thoroughfares;
- Standing/entrance conditions at main entrances, drop off areas or taxi ranks, and bus stops throughout the year;
- Sitting conditions at outdoor seating during the summer season when these areas are more likely to be frequently used by pedestrians; and
- Sitting or standing use conditions during the summer season on balconies and private amenity spaces.

The walking and uncomfortable classifications are usually avoided because of their association with occasional strong winds, unless they are on a minor pedestrian route or a route where pedestrian access could be controlled in the event of strong winds.

Achieving a sitting classification in the summer usually means that the same measurement location would be suitable for standing in the windiest season because winds are stronger during this period. This is considered an acceptable occurrence for the majority of external amenity spaces because other factors such as air temperature and precipitation influence people's perceptions about the 'need' to use seating in the middle of winter.

For a large terrace space, a mix of standing and sitting wind conditions is acceptable provided that any desired seating areas are situated in areas having sitting wind conditions.

Table 3 summarises the expected usage of each probe location.

Table 3: Expected Receptor Usage

Receptor	Location/Receptor Reference (Probe Measurement Number)
Thoroughfares	**On-Site:** 1, 2, 3, 4, 6, 8, 11, 13, 16, 19, 22, 23, 25, 26, 28, 29, 31, 36, 37, 41, 44, 50, 51, 53, 55, 56, 57, 60, 61, 64, 66, 67, 68, 71, 73, 74, 76, 77, 85, 87, 88, 93, 94, 95, 96, 98, 99, 101, 103, 104, 107, 108, 111, 117, 119, 123, 124, 128, 131, 132, 134, 135, 136, 144, 147, 148, 150, 151, 156, 157, 158, 160, 161, 164, 165, 167, 169, 172, 174, 175, 176, 177, 178, 179, 180, 182, 183, 185, 186, 187, 189, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 216, 217, 218, 219, 220, 227, 244, 245, 246, 247, 248, 249, 250, 251, 253, 254, 256, 258, 263, 264, 266, 267, 268, 269, 270, 271, 272, 274, 275, 277, 282, 283, 284, 288, 290, 292, 294, 296, 297, 298, 299, 301, 302, 303, 305, 307, 308, 310, 311, 314, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 329, 331, 332, 334, 336, 341, 342, 344, 345, 347, 350, 351, 354, 355, 358, 359, 363, 365, 368, 369, 371, 372, 373, 375, 376, 384, 391, 392, 394, 396, 398, 400, 402, 404, 405, 406, 407, 408, 409, 411, 413, 415 **Off-Site:** 47, 48, 78, 79, 84, 228, 229, 230, 231, 232, 233, 234, 235, 236, 328, 330, 333, 370, 374, 377, 385, 386, 388, 389
Entrances	**On-Site:** 14, 18, 20, 32, 40, 43, 52, 54, 58, 59, 62, 63, 65, 70, 72, 89, 91, 102, 109, 112, 113, 114, 116, 118, 120, 121, 129, 130, 138, 139, 141, 142, 145, 149, 162, 166, 170, 173, 181, 184, 188, 190, 191, 194, 195, 214, 215, 222, 224, 239, 240, 241, 242, 255, 260, 276, 278, 280, 287, 293, 295, 300, 306, 309, 313, 315, 335, 339, 346, 349, 353, 356, 357, 361, 366, 397, 399, 401, 403
Balconies	**On-Site:** 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 477, 478 **Off-Site:** 479, 480, 481, 488, 489, 490, 491, 492, 493, 494, 495
Roof Terraces	**On-Site:** 416, 417, 418, 422, 423, 424, 425, 426, 427, 431, 432, 433, 434, 435, 436, 473, 474, 475, 476 **Off-Site:** 483, 484, 486, 487, 496
Podium Level	**On-Site:** 419, 420, 421, 428, 429, 430, 437, 438, 439
Ground Level Amenity	**On-Site:** 24, 27, 34, 35, 38, 115, 122, 192, 193, 226, 257, 259, 261, 262, 265, 312, 316, 440 **Off-Site:** 83
Roads/Car Park	**On-Site:** 5, 7, 9, 10, 12, 15, 17, 21, 30, 33, 39, 42, 45, 49, 69, 75, 86, 90, 92, 97, 100, 110, 125, 126, 127, 133, 137, 140, 143, 146, 152, 153, 154, 155, 159, 163, 171, 221, 223, 225, 243, 252, 273, 279, 281, 285, 286, 289, 291, 304, 337, 338, 340, 343, 348, 352, 360, 362, 364, 367, 395, 410, 412, 414 **Off-Site:** 46, 80, 81, 82, 237, 378, 379, 380, 381, 382, 383, 387, 390, 393
Crossings	**On-Site:** 237, 238
Bus Stops	**On-Site:** 105, 106, 168

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN
RWDI #2004108 – Rev C
26th October 2021

2.7 Strong Winds

In addition, the criteria stipulate two strong wind threshold limits; when winds exceed 15m/s or 20m/s for more than 0.025% of the time (approximately 2 hours of the year). The lower limit, 15m/s, if exceeded may require remedial measures depending on the sensitivity of the location i.e. is it reasonable to expect an elderly or very young pedestrian to be present at the location? Wind speeds that exceed the 20m/s threshold for more than approximately 2 hours per year would represent a safety risk for all members of the population and would therefore require mitigation to provide an appropriate wind environment.

In the UK, strong winds are associated with areas which would be classified as uncomfortable for pedestrian use. In a mixed-use, urban development scheme, uncomfortable conditions would not usually form part of the 'target' wind environment and would usually require mitigation due to pedestrian comfort considerations. Mitigation applied to improve pedestrian comfort would also reduce the frequency of, or even eliminate, any strong winds.

Table 4 summarises the probe locations that wind conditions exceed the safety threshold.

Table 4: Annual Exceedance of Strong Winds

Location	Strong Wind Exceedance	Main Wind Direction	Hours per Annum
Configuration 1: Existing Site with Existing Surrounding Buildings			
No occurrences of strong winds within this Configuration.			
Configuration 2: The Detailed Proposals (Phase A) with Existing Surrounding Buildings			
No occurrences of strong winds within this Configuration.			
Configuration 3: Proposed Development (Outline Proposals plus Detailed Proposals) with Existing Surrounding Buildings			
137	S15	270	2.3
140	S15	270	6.8
141	S15	270	9.7
143	S15	260	20.7
158	S15	260	25.1
177	S15	260	4.7
195	S15	270	4.5
265	S15	270	9.1
274	S15	260	2.5
277	S15	270	6.4
281	S15	260	4.6
286	S15	270	2.8
290	S15	270	2.7
305	S15	270	9.2
337	S15	260	3.3

338	S15	260	11.8
339	S15	260	3.7
340	S15	270	3.4
416	S15	220	3.0
426	S15	270	6.2
427	S15	260	4.7
434	S15	250	2.9
Configuration 4: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings			
158	S15	270	14.6
159	S15	270	3.1
177	S15	240	4.0
195	S15	270	3.3
198	S15	270	2.5
266	S15	260	2.3
274	S15	260	4.5
277	S15	270	2.3
281	S15	270	2.4
306	S15	260	21.4
337	S15	250	4.2
338	S15	250	10.8
340	S15	270	5.8
447	S15	270	3.2
453	S15	270	7.2
Configuration 5: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures			
177	S15	250	2.8
Configuration 6: Existing Site with Cumulative Surrounding Buildings			
No occurrences of strong winds within this Configuration.			
Configuration 7: Detailed Proposals (Phase A) with Cumulative Surrounding Buildings			
No occurrences of strong winds within this Configuration.			
Configuration 8: Proposed Development (Outline Proposals plus Detailed Proposals) with Cumulative Surrounding Buildings			
137	S15	270	2.3
140	S15	270	6.7
141	S15	270	9.2
143	S15	270	18.4

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN
RWDI #2004108 – Rev C
26th October 2021

158	S15	260	20.8
177	S15	240	2.7
195	S15	270	3.8
265	S15	270	7.1
277	S15	280	5.4
281	S15	260	3.2
290	S15	280	2.7
305	S15	260	6.0
338	S15	250	7.7
416	S15	220	2.3
426	S15	270	6.3
427	S15	260	3.6
Configuration 9: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings			
158	S15	260	12.9
159	S15	270	2.8
177	S15	250	2.6
195	S15	270	2.7
274	S15	250	2.3
306	S15	250	13.4
338	S15	250	6.3
340	S15	270	3.5
453	S15	260	5.3
482	S15	40	27.3
Configuration 10: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures			
177	S15	250	2.2

APPENDIX A

APPENDIX A: WIND TUNNEL PHOTOS



Figure 3: Existing Site with Existing Surrounding Buildings (Configuration 1, Board 1) – View in the Wind Tunnel (from the south)

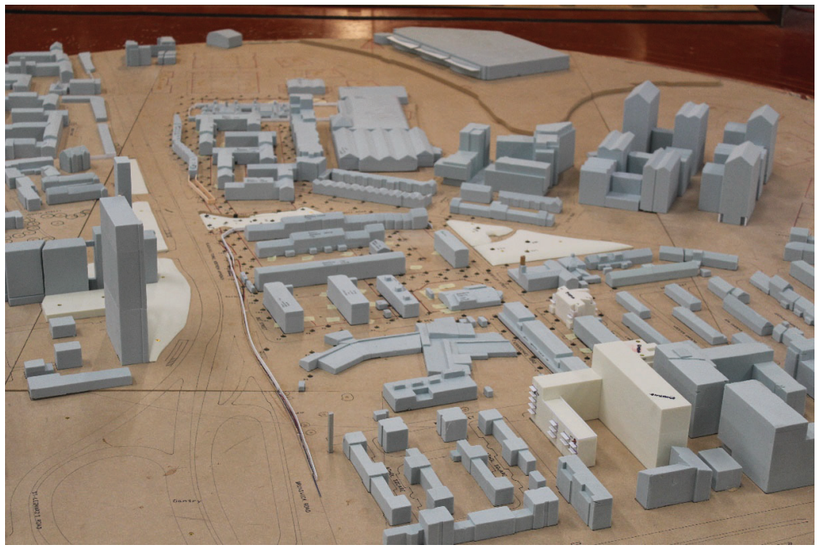


Figure 4: Existing Site with Existing Surrounding Buildings (Configuration 1, Board 1) – View in the Wind Tunnel (from the south)



Figure 5: Existing Site with Existing Surrounding Buildings (Configuration 1, Board 2) – View in the Wind Tunnel (from the south)

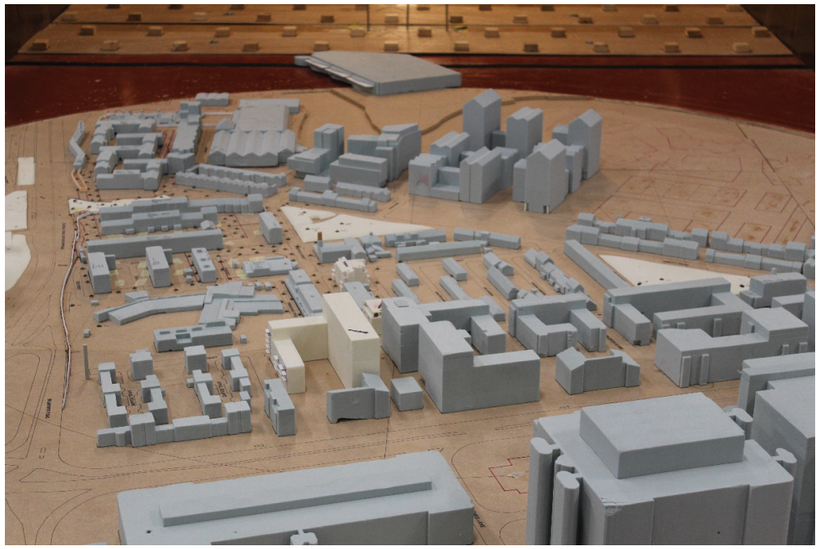


Figure 6: Existing Site with Existing Surrounding Buildings (Configuration 1, Board 2) – View in the Wind Tunnel (from the south)

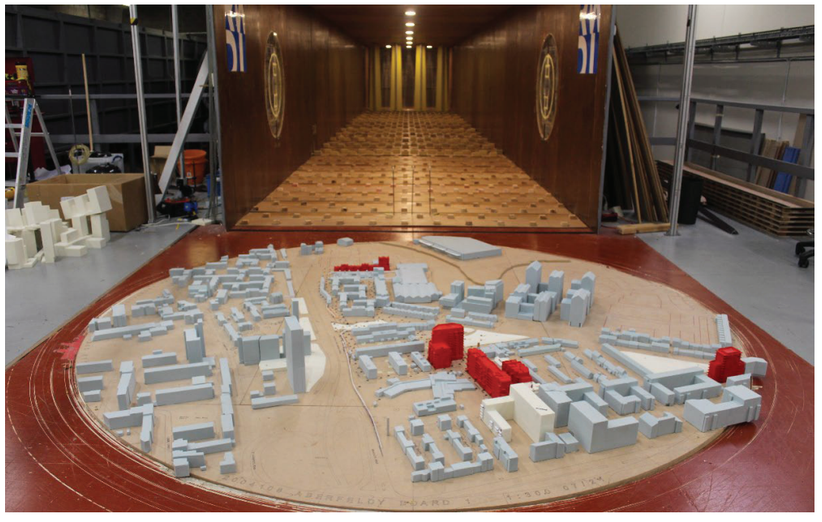


Figure 7: Detailed Proposals (Phase A) with Existing Surrounding Buildings (Configuration 2, Board 1) – View in the Wind Tunnel (from the south)

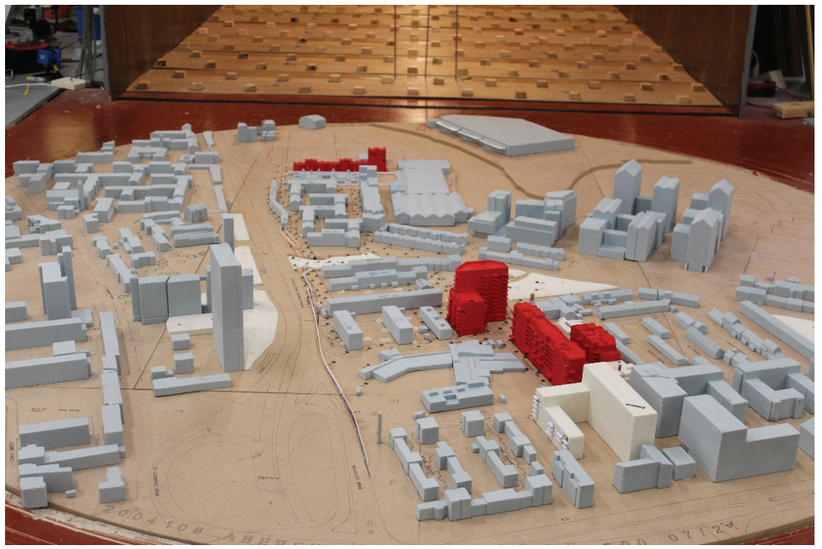


Figure 8: Detailed Proposals (Phase A) with Existing Surrounding Buildings (Configuration 2, Board 1) – View in the Wind Tunnel (from the south)



Figure 9: Detailed Proposals (Phase A) with Existing Surrounding Buildings (Configuration 2, Board 2) – View in the Wind Tunnel (from the south)

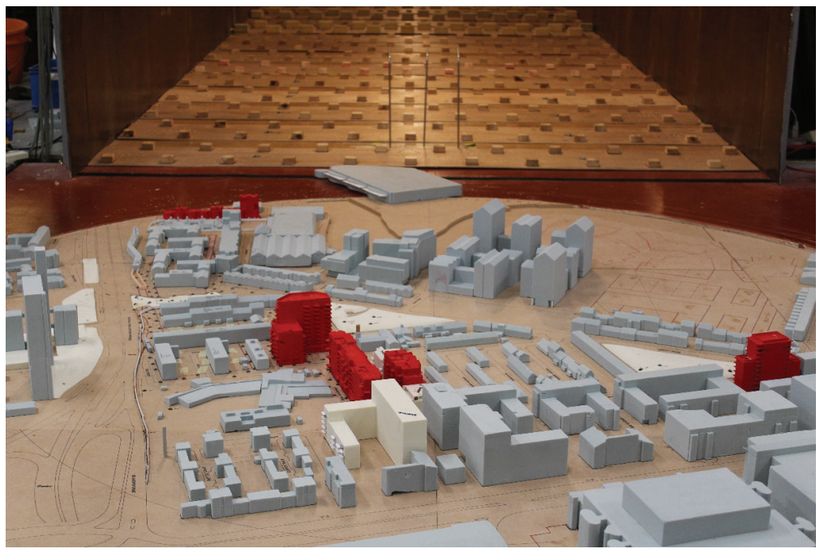


Figure 10: Detailed Proposals (Phase A) with Existing Surrounding Buildings (Configuration 2, Board 2) – View in the Wind Tunnel (from the south)

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN

RWDI #2004108 – Rev C
26th October 2021



Figure 11: Proposed Development (Outline Proposals plus Detailed Proposals) with Existing Surrounding Buildings (Configuration 3, Board 1) – View in the Wind Tunnel (from the south)

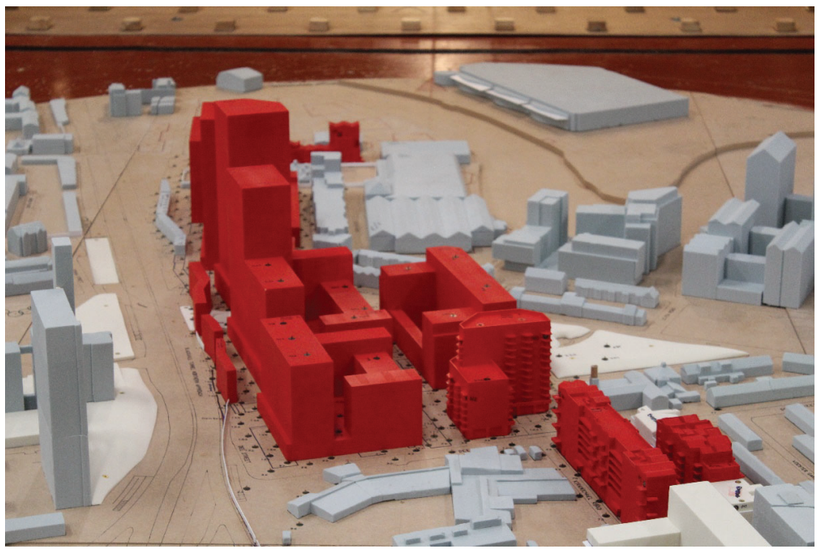


Figure 12: Proposed Development (Outline Proposals plus Detailed Proposals) with Existing Surrounding Buildings (Configuration 3, Board 1) – View in the Wind Tunnel (from the south)

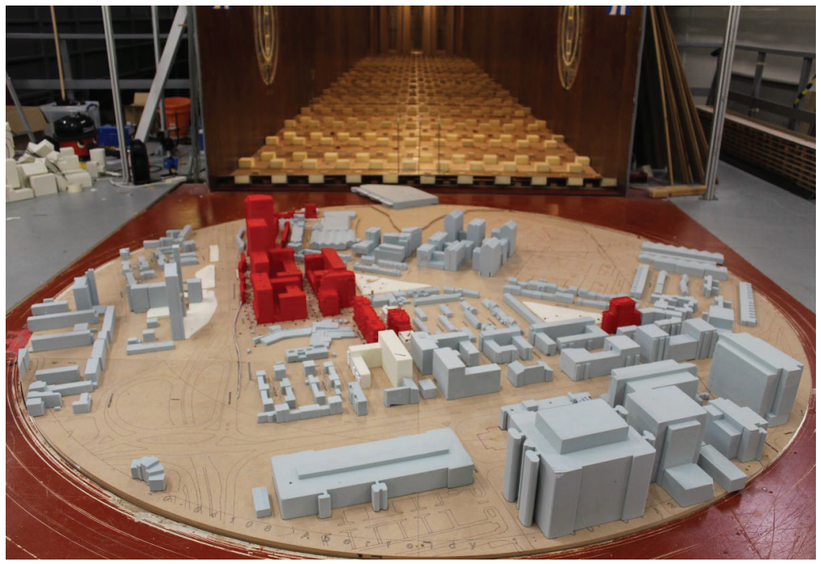


Figure 13: Proposed Development (Outline Proposals plus Detailed Proposals) with Existing Surrounding Buildings (Configuration 3, Board 2) – View in the Wind Tunnel (from the south)

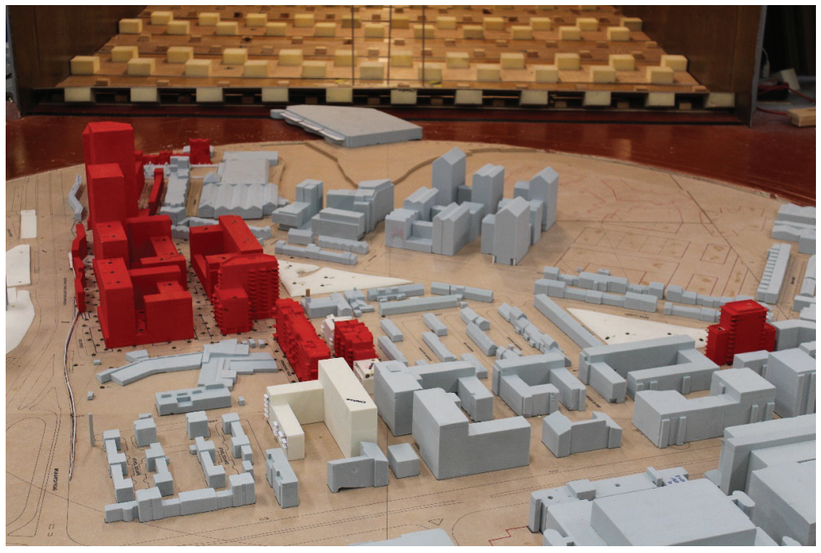


Figure 14: Proposed Development (Outline Proposals plus Detailed Proposals) with Existing Surrounding Buildings (Configuration 3, Board 2) – View in the Wind Tunnel (from the south)



Figure 15: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings (Configuration 4, Board 1) – View in the Wind Tunnel (from the north)

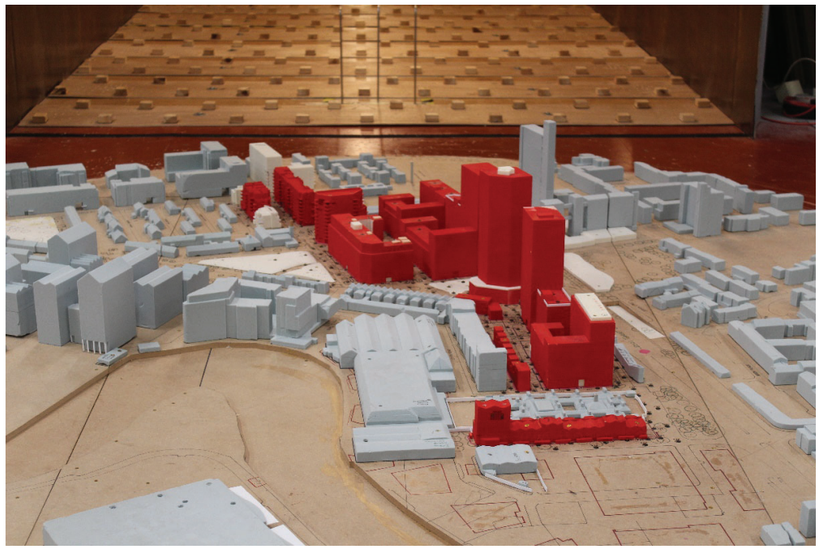


Figure 16: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings (Configuration 4, Board 1) – View in the Wind Tunnel (from the north)



Figure 17: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures (Configuration 5, Board 1) – View in the Wind Tunnel (from the north)

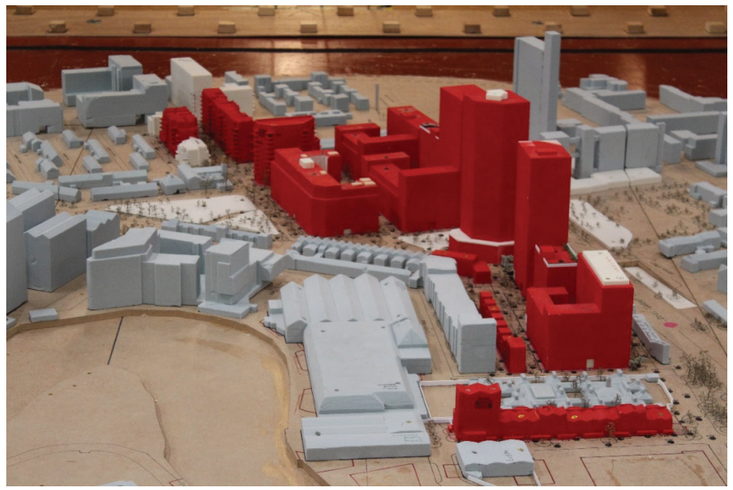


Figure 18: Proposed Development (Illustrative Scheme) and Phase A with Existing Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures (Configuration 5, Board 1) – View in the Wind Tunnel (from the north)



Figure 19: Existing Site with Cumulative Surrounding Buildings (Configuration 6, Board 1) – View in the Wind Tunnel (from the south)



Figure 20: Existing Site with Cumulative Surrounding Buildings (Configuration 6, Board 1) – View in the Wind Tunnel (from the south)



Figure 21: Existing Site with Cumulative Surrounding Buildings (Configuration 6, Board 2) – View in the Wind Tunnel (from the south)



Figure 22: Existing Site with Cumulative Surrounding Buildings (Configuration 6, Board 2) – View in the Wind Tunnel (from the south)



Figure 23: Detailed Proposals (Phase A) with Cumulative Surrounding Buildings (Configuration 7, Board 1) – View in the Wind Tunnel (from the south)



Figure 24: Detailed Proposals (Phase A) with Cumulative Surrounding Buildings (Configuration 7, Board 1) – View in the Wind Tunnel (from the south)



Figure 25: Detailed Proposals (Phase A) with Cumulative Surrounding Buildings (Configuration 7, Board 2) – View in the Wind Tunnel (from the south)

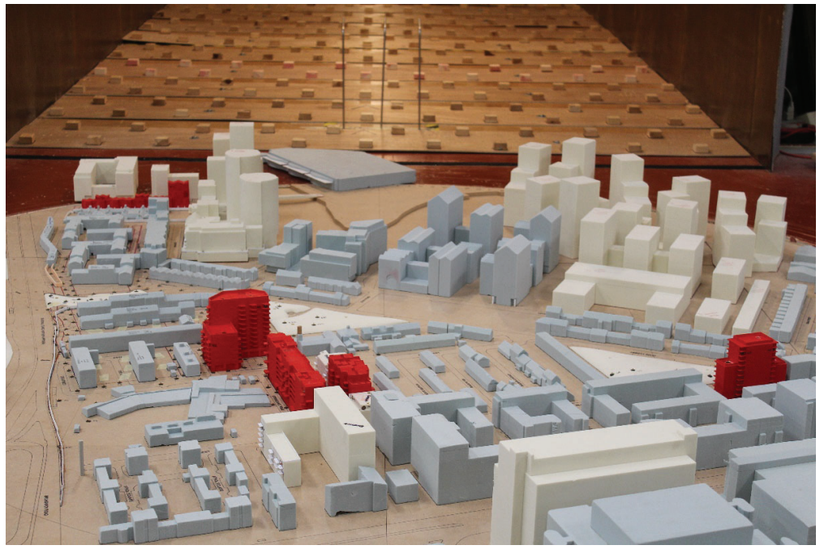


Figure 26: Detailed Proposals (Phase A) with Cumulative Surrounding Buildings (Configuration 7, Board 2) – View in the Wind Tunnel (from the south)



Figure 27: Proposed Development (Outline Proposals plus Detailed Proposals) with Cumulative Surrounding Buildings (Configuration 8, Board 1) – View in the Wind Tunnel (from the south)

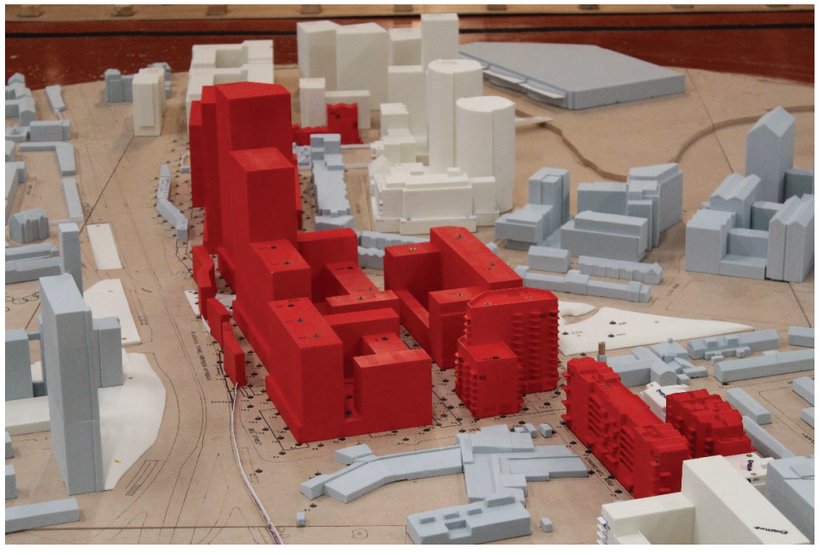


Figure 28: Proposed Development (Outline Proposals plus Detailed Proposals) with Cumulative Surrounding Buildings (Configuration 8, Board 1) – View in the Wind Tunnel (from the south)



Figure 29: Proposed Development (Outline Proposals plus Detailed Proposals) with Cumulative Surrounding Buildings (Configuration 8, Board 2) – View in the Wind Tunnel (from the south)

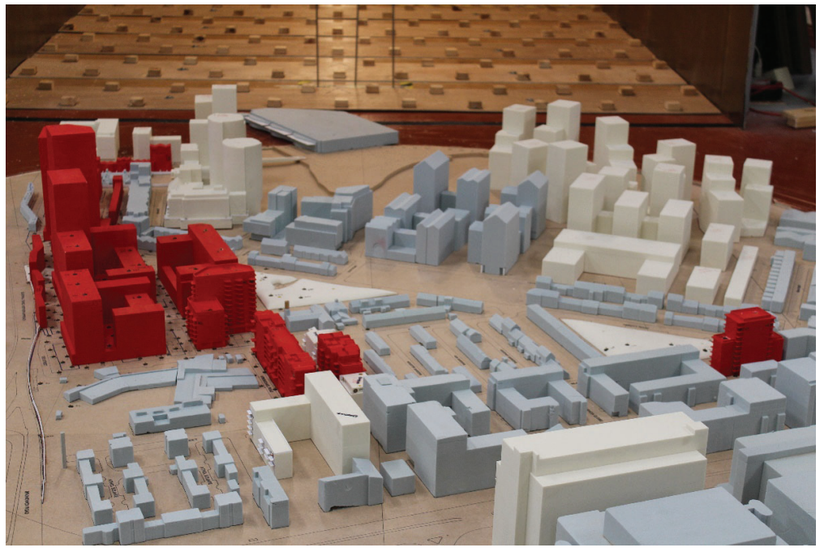


Figure 30: Proposed Development (Outline Proposals plus Detailed Proposals) with Cumulative Surrounding Buildings (Configuration 8, Board 2) – View in the Wind Tunnel (from the south)

PEDESTRIAN LEVEL WIND MICROCLIMATE ASSESSMENT
ABERFELDY VILLAGE MASTERPLAN

RWDI #2004108 – Rev C
26th October 2021



Figure 31: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings (Configuration 9, Board 1) – View in the Wind Tunnel (from the north)



Figure 32: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings (Configuration 9, Board 1) – View in the Wind Tunnel (from the north)



Figure 33: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures (Configuration 10, Board 1) – View in the Wind Tunnel (from the south)

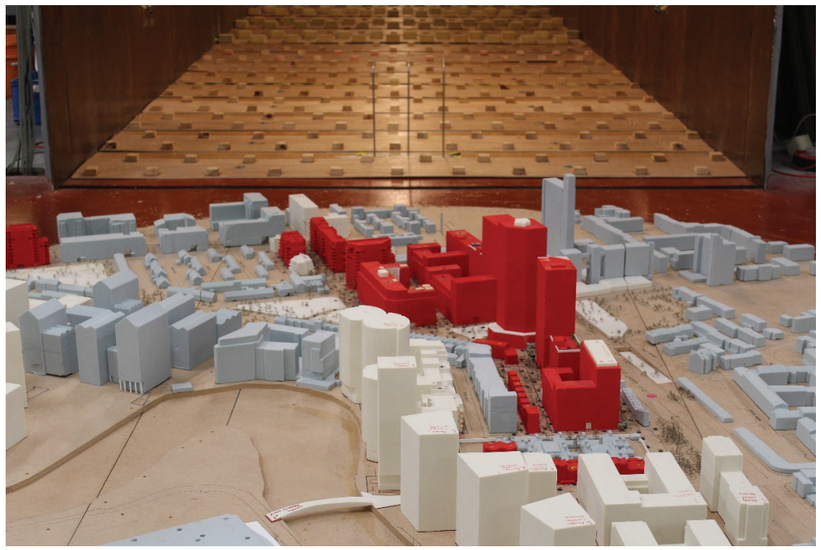


Figure 34: Proposed Development (Illustrative Scheme) and Phase A with Cumulative Surrounding Buildings, Proposed Landscaping and Wind Mitigation Measures (Configuration 10, Board 1) – View in the Wind Tunnel (from the south)

APPENDIX B

APPENDIX B: LANDSCAPING SCHEME

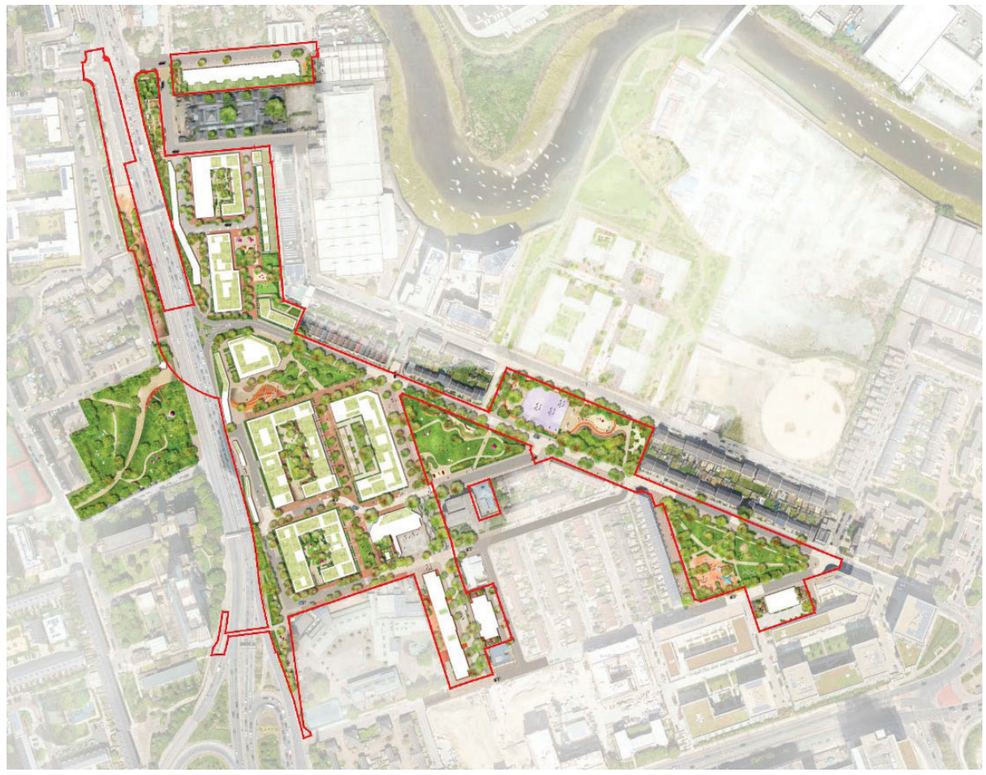


Figure 35: Proposed Landscaping Scheme (Ref. AVL-LDA-SBX-XX-XX-DR-L-0004.pdf received on 05/10/2021)

APPENDIX C

APPENDIX C: WIND MITIGATION MARK-UP



Figure 36: **Wind Mitigation Mark-up**

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

Annex 1

Planning Policy

Legislation and Planning Policy Context

1.1 The following sections of this ES Chapter annex provide a review of relevant legislation, guidance and national, regional and local planning policy in terms of daylight, sunlight and overshadowing.

National Legislation

1.2 There is no relevant legislation for daylight, sunlight and overshadowing.

National Planning Policy

National Planning Policy Framework (2021)

1.3 The National Planning Policy Framework[1], updated in July 2021, stipulates that:

> *"… planning policies and decisions should ensure that developments … create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users."*

1.4 Paragraph 123, part C stipulates that:

> *"…local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."*

National Planning Practice Guidance (MHCLG) November 2016 (Last updated July 2021)

1.5 The National Planning Practice Guidance (NPPG) was last updated in July 2019. This document states that the form and scale of tall buildings should be designed with respect to daylight and sunlight patterns and whether the development would have an unreasonable impact on the daylight and sunlight levels enjoyed by neighbouring occupiers.

Regional Planning Policy

The New London Plan (March 2021)[2]

1.7 Policy D6 Housing Quality and Standards states that:

- 'The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.'

1.8 Policy D9 Tall buildings states that:

- '...development proposals should address the following impacts: ...buildings should not cause adverse reflected glare [and] ...buildings should be designed to minimise light pollution from internal and external lighting." It continues that "wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building.'

[1] Department for Communities and Local Government (DCLG), National Planning Policy Framework, 2012.
[2] Greater London Authority (GLA), 2021; The New London Plan, 2021.

The Mayor's Housing Supplementary Planning Guidance (SPG) (March 2016)

1.9 The SPG[3] draws on the London Plan, primarily policy 7.6Bd, and provides further guidance on standards to daylight, and overshadowing. The guidance states that:

> *"…an appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves… Guidelines should be applied sensitively to higher density development…where BRE advice suggests considering the use of alternative targets' taking in to account the 'local circumstances; the need to optimise housing capacity; and scope for character and form of an area to change over time."*

1.10 Standard 32 states that:

> *"All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight."*

1.11 It is also states that:

> *"Natural light is also vital to a sense of wellbeing in the home, and this may be restricted in densely developed parts of the city". The Mayor seeks to encourage housing that provides comfortable and enjoyable places of retreat and privacy" and factors to be considered include daylight and sunlight."*

Local Planning Policy

London Borough Of Tower Hamlets Local Plan 2031: Managing Growth and Sharing Benefits (January 2020)

1.12 The recently adopted local plan provides spatial policies, development management policies and site allocations to guide and manage development in the borough. The policy document states that *"a sunlight and daylight assessment must accompany all major planning applications and/or smaller schemes where adverse effects on daylight and sunlight levels are anticipated."*

1.13 Policy S.DH1 notes *that "development is required to meet the highest standards of design, layout and construction which respects and positively responds to its context, townscape, landscape and public realm at different spatial scales".* In order to achieve this, developments must:

> *"use design and construction techniques to ensure that the development does not result in unacceptably harmful impacts arising from overheating, wind, air pollution, light pollution and noise pollution and the loss of sunlight and daylight."*

1.14 Additionally, Policy D.DH8 states that development is required to protect and where possible enhance amenity in order to:

> *"ensure adequate levels of daylight and sunlight for new residential developments, including amenity spaces within the development.*
>
> *not result in an unacceptable material deterioration of the sunlight and daylight conditions of surrounding development and not resulting in an unacceptable level of overshadowing to surrounding open space and private outdoor space, and*
>
> *not create unacceptable levels of artificial light, odour, noise, fume or dust pollution during the construction and life of the development."*

[3] GLA, 2016, Housing Supplementary Guidance, 2016.

London Borough Of Tower Hamlets Tall Buildings Study Draft Report (July 2017)

Tall Building Design

1.15 As with any other development, the London Plan and the borough's design policies apply in guiding an appropriate and high quality design response. However, tall building developments should bring forward an exceptionally well considered urban design response and due to its wider visibility and prominence the architectural quality of a tall building needs specific attention. This must consider in particular:

> *"The design to minimise impacts on microclimate including wind, overshadowing and daylighting, solar glare and light pollution."*

Impact On The Local Environment Impact On Microclimate

1.16 Tall buildings, due to their size and their significant extension above the typical height in an area, will have significantly greater impacts on the local microclimate than other ordinary building types. The following micro-climatic impacts will need particular attention:

- *"Overshadowing and Day Lighting*
- *Solar Glare and Light Pollution"*

Other Relevant Policy, Standards and Guidance

Historic England Guidance on Tall Buildings – Historic England Advice Note 4 (2015)

1.17 Paragraph 4.10 of the Historic England Advice Note 4 recommends that the following should be addressed in relation to tall buildings:

> *"consideration of the impact on the local environment, including microclimate, overshadowing, night-time appearance, vehicle movements and the environment and amenity of those in the vicinity of the building".*

Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight 2011, A Guide to Good Practice, Second Edition (2011)

1.18 The Building Research Establishment (BRE) Guidelines '*Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2011, 2nd edition'* (released October 2011)[5] ('BRE Guidelines') provides advice on site layout planning to achieve good sunlighting and daylighting within buildings, and in the open spaces between them. The BRE Guidelines are intended for use by building designers, developers, consultants and Local Planning Authorities (LPAs). The advice presented in the BRE Guidelines is not mandatory and should not be used as an instrument of planning policy, the Guidelines state:

> *"This guide is a comprehensive revision of the 1991 edition of Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice. It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location."*

1.19 The BRE Guidelines also state:

> *"The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. In special circumstances the developer or planning authority may wish to use different target values… in an area with modern high-rise buildings, a higher degree of obstruction maybe unavoidable if new developments are to match the height and proportions of existing building" (para.1.6).*

1.20 In addition, the BRE Guidelines state:

> *"it is intended to be read in conjunction with the interior daylighting recommendations in the British Standard 8206-2 Code of practice for daylighting, and in the CIBSE publication Lighting guide: daylighting and window design" (para. 1.3).*

[4] Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight 2011, A Guide to Good Practice, Second Edition, 2011

“Daylighting gives to a building a unique variety and interest. An interior which looks gloomy, or which does not have a view to the outside when this could reasonably be expected, will be considered unsatisfactory by its users.”

1.21 *The CIE 146:2002 Collection on glare[5] states:*

"Disability glare is glare that impairs vision (CIE, 1987). It is caused by scattering of light inside the eye [...]. The veiling luminance of scattered light will have a significant effect on visibility when intense light sources are present in the peripheral visual field and the contrast of objects to be seen is low."

"Disability glare is most often of importance at night when contrast sensitivity is low and there may well be one or more bright light sources near to the line of sight, such as car headlights, streetlights or floodlights. But even in daylight conditions disability glare may be of practical significance: think of traffic lights when the sun is close to them, or the difficulty viewing paintings hanging next to windows."

---

[5] *International Commission on Illumination (CIE) CIE Collection on Glare (CIE 146:2002)*

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

Annex 2

Methodology and Baseline

Methodology

Approach for Daylight, Sunlight, Overshadowing and Light Pollution Assessments

The technical analyses carried out to inform the assessments have been undertaken by creating a digital three dimensional (3D) model of the existing site and Proposed Development, based on measured survey data.

Daylight

Vertical Sky Component

The VSC method of assessment is defined in the BRE Guidelines as the:

> *"ratio of that part of illuminance at a point on a given vertical plane that is received directly from a CIE standard overcast sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky".*

The 3D model uses Waldram Diagrams to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by the existing and proposed buildings, and thus calculate the sun hours on ground in each scenario.

Only those surrounding properties which have windows facing towards the application site were included in the assessment. If a nearby property has no windows facing the application site, these properties would not be affected by the Proposed Development in terms of light.

The assessment is calculated from the centre of a window on the outward face and measures the amount of light available on a vertical wall or window following the introduction of visible barriers, such as buildings.

The maximum VSC value is almost 40% for a completely unobstructed vertical wall or window. In terms of assessment criteria, the BRE Guidelines state that:

> *"If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:*
>
> - *the VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value*
> - *the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

No Sky Line

The BRE Guidelines state that where room layouts are known, the effect on the daylight distribution can be calculated by plotting the NSL. In terms of the surrounding receptors, it has not been possible to obtain room layouts for all of the properties and therefore layouts have been assumed where information is not available.

The NSL method is a measure of the distribution of daylight at the 'working plane' within a room. The 'working plane' is a horizontal plane 0.85m above finished floor level for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room may be poor and supplementary electric lighting may be required.

Where actual room layouts were available, these have been considered in the modelling of the internal layouts within the surrounding properties. Obtaining these room layouts enables precise evaluation of the diffuse levels of daylight within each of the rooms via the NSL. Where layout information was not available assumptions have been made as to the use and internal configuration of the rooms (from external observations) behind the fenestration observed. In such

cases a standard 4.2m (14 ft) room depth has been assumed, unless the building form dictated otherwise. This is common practice where access to buildings for surveying is unavailable.

The potential effects of daylighting distribution in an existing building can be found by plotting the NSL in each of the main rooms. For houses, this will include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although they are less important. The BRE Guidelines identify that if the area of a room that does receive direct sky light is reduced to less than 0.8 times its former value, then this would be noticeable to its occupants.

In relation to deep rooms lit by windows on one side, the BRE Guidelines state (para. 2.2.10):

"If an existing building contains rooms lit from one side only and greater than 5 m deep, then a greater movement of the no sky line may be unavoidable."

Average Daylight Factor

The BRE Guidelines state the following in Appendix C:

"If a predominantly day lit appearance is required, then ADF should be 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary electric lighting is provided. There are additional recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. These additional recommendations are minimum values of Average Daylight Factor, and should be attained even if a predominantly day lit appearance is not achievable."

This method of assessment takes into account the total glazed area to the room, the visible light transmittance of the glazing proposed, the total area of the room surfaces including ceilings and floors, and the internal average reflectance for the room being assessed. The method also takes into account the VSC and the quantum of reflected light.

This is, therefore, a significantly more detailed method of assessment than the VSC method.

The BRE Guidelines state that this method of assessment for daylight should be applied to new developments rather than existing neighbouring buildings, unless the internal subdivision of the properties is known; whereby the ADF may be used to inform the light potential.

The ADF gives a more detailed assessment of the daylight within a room and takes into account the highest number of factors in establishing a quantitative output.

Sunlight

Annual Probable Sunlight Hours

APSH is measured using a sun indicator containing 100 spots, each representing 1% of APSH. Therefore, where no obstruction exists the total annual probable sunlight hours would amount to 1486 hours and therefore each spot equates to 14.86 hours of the total annual sunlight hours.

The number of spots is calculated for the baseline and Proposed Development scenarios during the year and also during the winter period, and a comparison made between the two. This provides a percentage of APSH for each window assessed.

The BRE Guidelines note that:

"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon.";

"all main living rooms of dwellings…should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.";

"If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked."; and

"…a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day".

In relation to existing surrounding receptors, the BRE Guidelines state that a window may be adversely affected if a point at the centre of the window receives for the whole year, less than

25% of the APSH, including at least 5% of the APSH during the winter months (21st September to 21st March) and less than 0.8 times its former sunlight hours during either period, and if there is a reduction in total APSH which is greater than 4%.

It is often not possible to determine the room uses within each of the neighbouring properties, nor is it clear which windows should be considered as the 'main windows'. Therefore, regardless of use, all the rooms with windows facing the site and within 90° of due south have been considered in the assessment.

Summary of Criteria for Daylight and Sunlight

The following table provides a summary of the criteria set out within the BRE Guidelines for daylight and sunlight.

Table 9.1 Summary of Daylight and Sunlight Assessment Criteria

Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times is former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
ADF	Bedroom 1%, Living room 1.5% and kitchen 2%.
APSH	A window may be adversely affected if a point at the centre of the window received for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21st September to 21st March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.

Transient Overshadowing

Where a Proposed Development includes tall buildings, these may affect the sunlight availability to gardens or open spaces in close proximity to the site. Owing to the southerly location of the sun path, only amenity areas located within 90° of due north of the Proposed Development have the potential to be affected by overshadowing from tall buildings and therefore taken into consideration in this assessment.

The 2011 BRE guidelines suggest plotting a series of shadow plans illustrating the location of shadows cast from those buildings at different times of the day and period of the year to assess the potential overshadowing effects. To this end, the overshadowing plots are mapped for the three key dates listed below:

- 21st March (Spring Equinox);
- 21 st June (Summer Solstice); and
- 21 st December (Winter Solstice).

The 21st September (Autumn Equinox) is not assessed owing to the identical solar altitude and therefore equivalent outcomes of overshadowing to those presented for 21 st March.

For each of these dates, the overshadowing is calculated at hourly intervals throughout daylight hours from sunrise to sunset. On 21st December, the sun is at its lowest altitude consequently creating long shadows to be cast and represents the worst-case scenario in terms of overshadowing.

The analysis described above varies according to different latitudes. The Site is located within London, which is at a latitude of 51.5° north.

Sun Hours on Ground

The BRE Guidelines suggest that Sun Hours on Ground assessments should be undertaken on the Equinox (21st March and 21st September). Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

It is recommended that at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21st March or the area which receives 2 hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

Solar Glare Technical Assessment

The potential for reflected solar glare or dazzle from glazed or reflective façades from the Proposed Development has been assessed using specialist lighting software, Radiance, showing the path of the sun for the entire year. From this, two computer generated angular images have been produced for each selected viewpoint, indicating the area which sees the reflection of the sun path at any point during the year. A modified diagram portraying a standardised extent of human vision is then overlaid onto the image.

The viewpoints are generally located at the minimum stopping distance and at the driver's eye height. The focal point is a relevant traffic element, such as signals or incoming traffic.The stopping distance is calculated as the combination of thinking and breaking distances Dtotal = Dthinking + Dbreaking = V*T + V2/(2μ*g), where each component is:

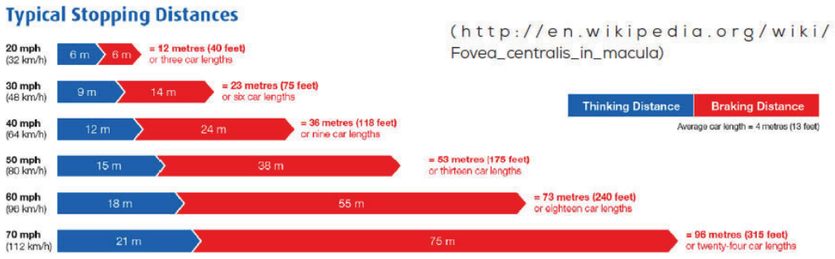
V = Relevant vehicle speed, typically the road speed limit.

T = Thinking time (0.67 sec)

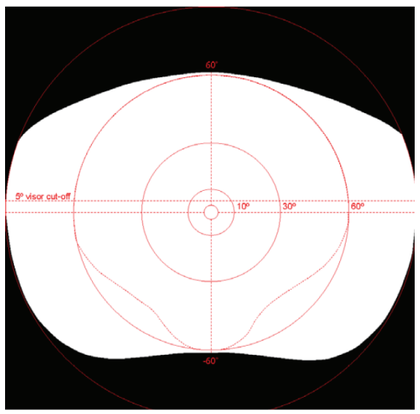
μ = Breaking effort (considered 0.65 for cars, 0.5 for

buses and 0.031 for trains)

g = Gravity acceleration.



The below highlights the degrees of vision corresponding to the foveal view, with a red circle of 3° of angle in order to identify the area most sensitive to reflected solar glare. Another red circle represents the incidence of the 30° radius of our typical field of view in order to identify a secondary area of sensitivity to potential reflected glare instances.



As stated in the International Commission on Illumination (CIE) CIE Collection on Glare (CIE 146:2002), occurrences at angles beyond 30° would be of little significance in most situations but may be relevant in exceptional circumstances. When seated in a driving seat of a typical car, for example, the limits of the windscreen would generally obstruct the driver's view at angles beyond 30° from the line of sight.

The methodology for solar glare is not aimed at addressing the intensity of an instance of reflected solar glare, but rather its occurrence, duration throughout the year and the location of this occurrence in respect of an individual's line of sight. It is also to be noted that the hours presented reflect solar time and therefore do not take Daylight Saving Hours into account.

It must be noted that the solar glare assessments undertaken assume a worst-case scenario whereby the sun will shine every day during daylight hours which is not the case within the UK.

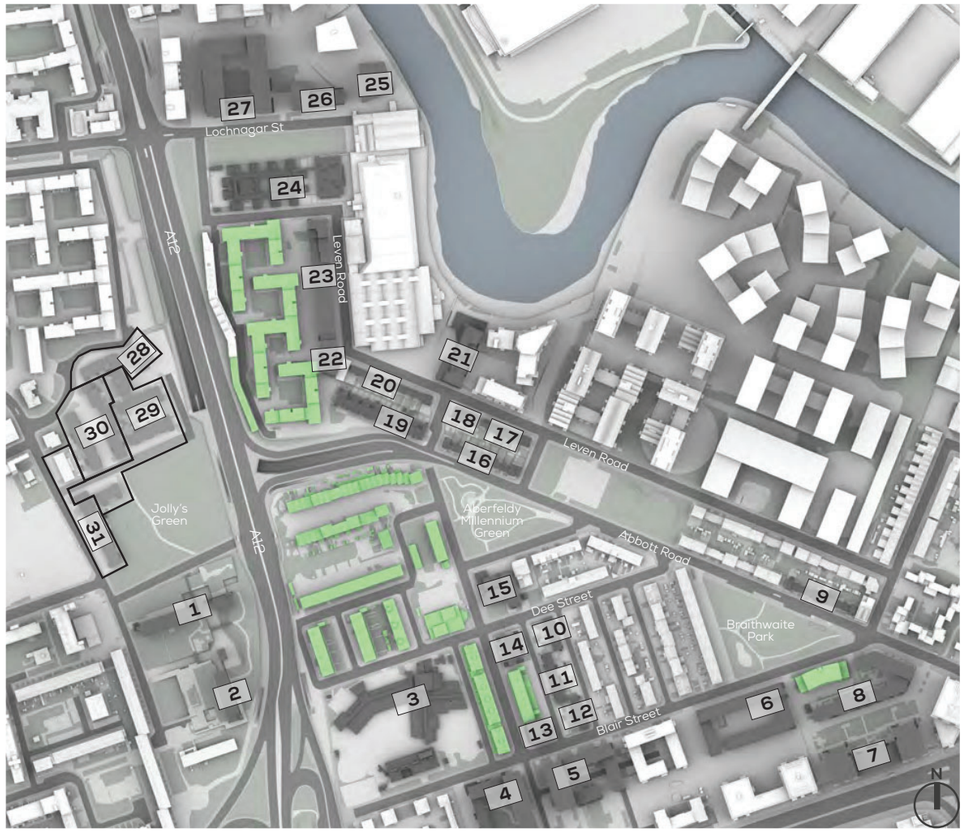
	VERTICAL SKY COMPONENT		NO SKY LINE		ANNUAL PROBABLE SUNLIGHT HOURS	
	WINDOWS		ROOMS		WINDOWS	
	TOTAL	PASS	TOTAL	PASS	TOTAL	PASS
110-126 LEVEN ROAD	95	59	36	36	59	59
128-132 LEVEN ROAD	35	25	24	19	25	25
134-144 LEVEN ROAD	56	22	24	21	32	32
177-195 ABBOTT ROAD	85	42	48	41	42	41
199-225 ABBOTT ROAD	179	72	90	77	94	75
49-67 ABBOTT ROAD	70	45	41	35	37	36
ABERFELDY ESTATE PHASE ONE BLOCK A	57	9	45	34	12	0
ABERFELDY ESTATE PHASE ONE BLOCK C	98	16	61	34	43	17
ABERFELDY ESTATE PHASE THREE BLOCK G	47	14	25	16	22	0
ABERFELDY ESTATE PHASE THREE BLOCK J	111	44	56	56	27	13
ABERFELDY ESTATE PHASE TWO BLOCK D	57	23	35	31	4	2
AILSA WHARF BLOCK A	45	12	21	20	42	16
AILSA WHARF BLOCK D	228	67	88	74	147	87
AILSA WHARF BLOCKS K L	62	10	27	11	25	14
ATELIER COURT	117	72	97	95	110	82
BALFRON TOWER	62	42	54	26	8	4
BROMLEY HALL	100	54	31	29	34	28
CARRADALE HOUSE	77	55	44	44	22	11
CULLODEN PRIMARY SCHOOL	90	16	21	0	43	15
DEWBERRY STREET 16-46	72	50	44	44	48	46
DEWBERRY STREET 2-14	44	17	25	19	37	34
DEVONS WHARF	169	42	91	77	69	51
JOSHUA STREET 1-15	77	28	31	23	26	16
JOSHUA STREET 17-33	55	36	36	34	33	30
JOSHUA STREET 35-41	30	15	17	17	19	16
JOSHUA STREET 4	4	0	2	2	1	0
JOSHUA STREET 6-14	27	10	17	17	20	15
LANSBURY GARDENS 2-12	43	30	18	18	22	22
LEVEN ROAD PHASE THREE	73	30	62	58	44	28
LOREN APPARTMENTS	26	15	18	16	26	13
MILLS GROVE 1-9	25	17	17	14	11	11
MILLS GROVE 12-20	25	5	15	14	8	2
MILLS GROVE 17-25	27	13	15	15	8	7
MILLS GROVE 2-10	25	7	15	14	9	5
MILLS GROVE 9-15	22	14	12	11	6	4
ST LEONARDS ROAD 118-132	40	22	23	23	9	8
ST LEONARDS ROAD 134-146	43	25	28	28	7	7
ST LEONARDS ROAD 148-154	20	10	10	10	4	3
SHERMAN HOUSE	69	48	43	43	35	35
ST.NICHOLAS CHURCH	59	35	31	31	37	33
WOOSTER GARDENS 1-7	33	10	16	14	29	16
WOOSTER GARDENS 9-15	20	19	16	16	16	16
TOTALS	2699	1197	1470	1257	1352	975

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

BASELINE

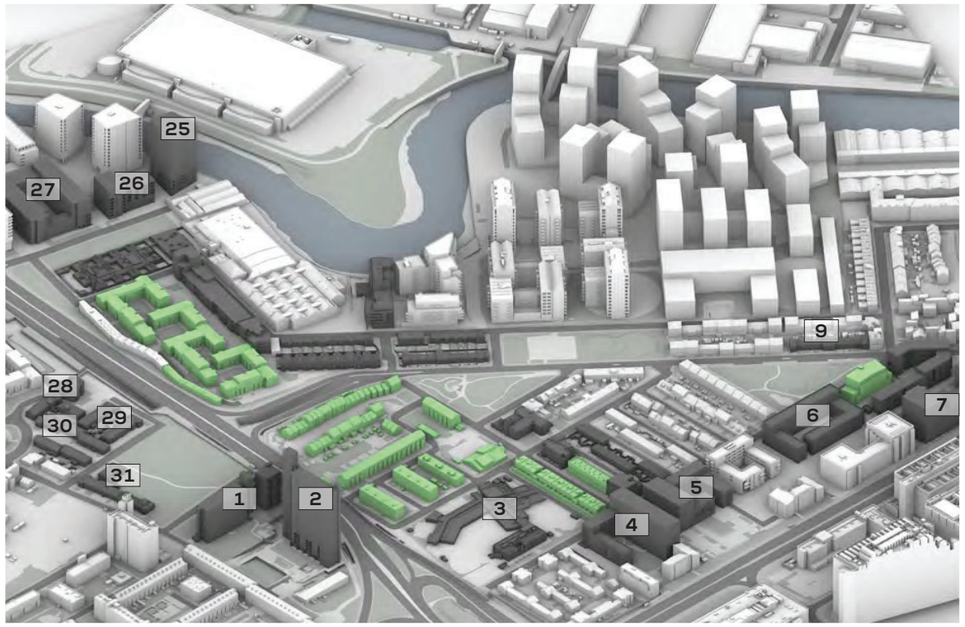
Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	01



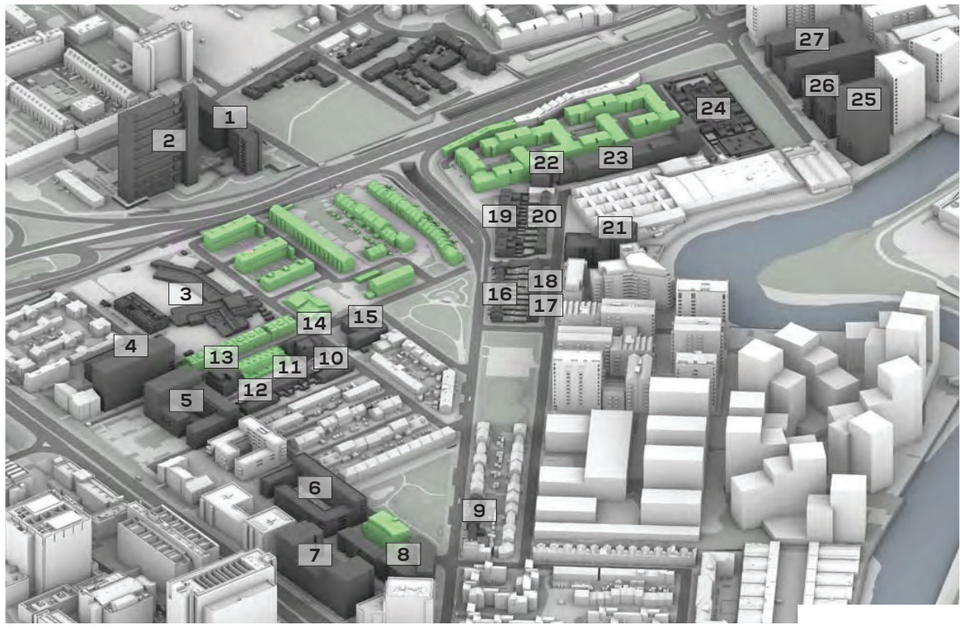
Drawing: 01

NEIGHBOURS ADDRESSES					
1	Carradale House	11	2-12 Lansbury Gardens	21	Devons Wharf
2	Balfron Tower	12	1-7 Wooster Gardens	22	Leven Road Phase 3
3	Culloden Primary School	13	Loren Apartments (Aberfeldy Tavern)	23	Atelier Court
4	Aberfeldy Estate Phase 3 - Block J	14	Sherman House	24	Bromley Hall School
5	Aberfeldy Estate Phase 3 - Block G	15	St. Nicholas Church	25	Ailsa Wharf - Block A
6	Aberfeldy Estate Phase 2 - Block D	16	177-195 Abbott Road	26	Ailsa Wharf - Block D
7	Aberfeldy Estate Phase 1 - Block A	17	134-144 Leven Road	27	Ailsa Wharf - Blocks K-L
8	Aberfeldy Estate Phase 1 - Block C	18	128-132 Leven Road	28	1-14 & 16-46 Dewberry St
9	49-67 Abbott Road	19	199-225 Abbott Road	29	4, 6-14, 1-15, 17-33 & 35-41 Joshua St
10	9-15 Wooster Gardens	20	110-126 Leven Road	30	1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove
				31	118-132, 134-146, 148-154 St Leonards Rd

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	02-03



Drawing: 02

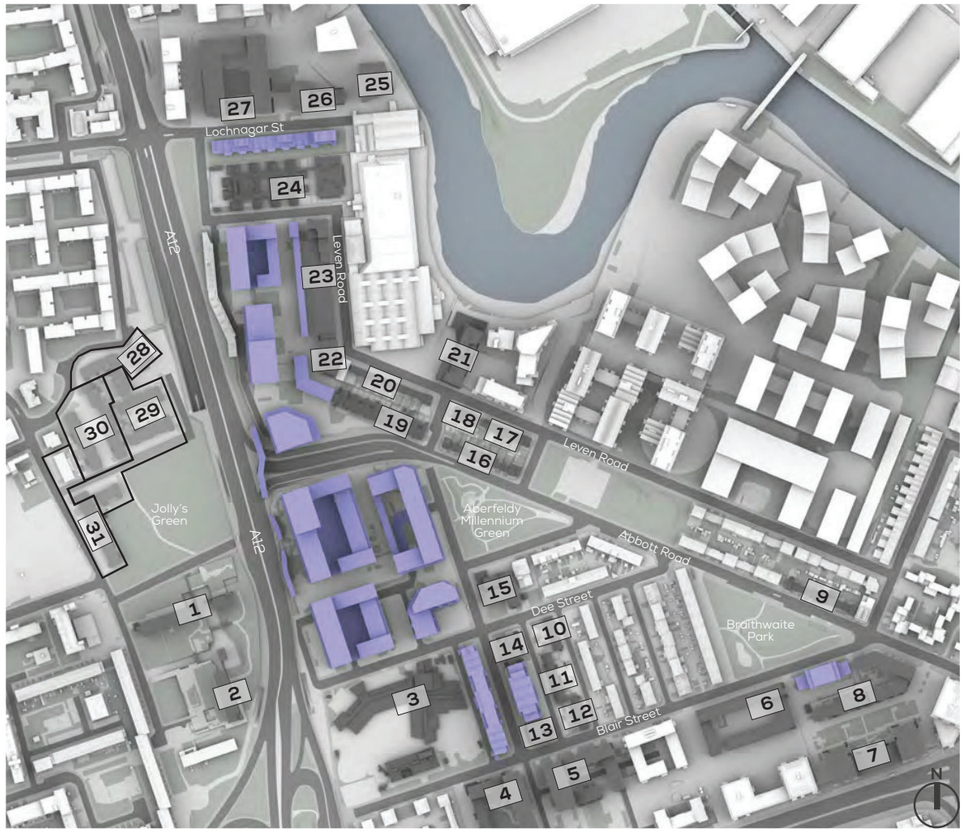


Drawing: 03

gia CHARTERED SURVEYORS

MAX PARAMETER

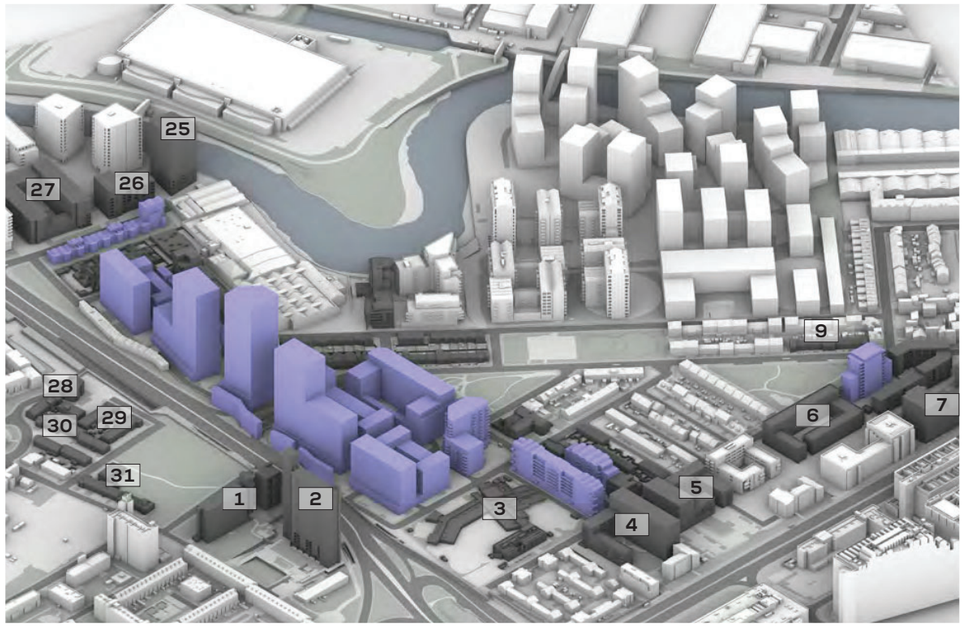
Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	04



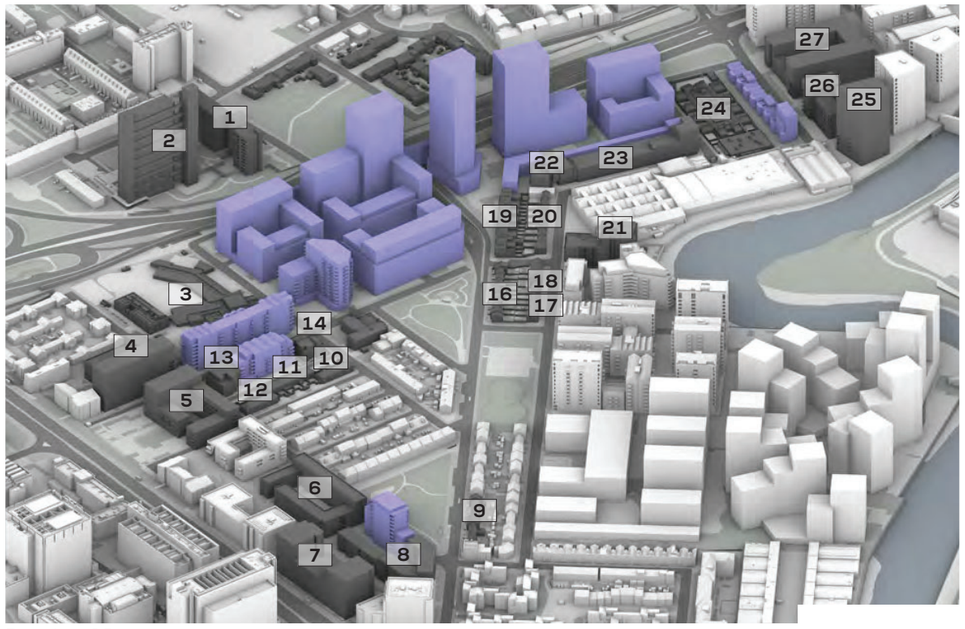
Drawing: 04

NEIGHBOURS ADDRESSES					
1	Carradale House	11	2-12 Lansbury Gardens	21	Devons Wharf
2	Balfron Tower	12	1-7 Wooster Gardens	22	Leven Road Phase 3
3	Culloden Primary School	13	Loren Apartments (Aberfeldy Tavern)	23	Atelier Court
4	Aberfeldy Estate Phase 3 - Block J	14	Sherman House	24	Bromley Hall School
5	Aberfeldy Estate Phase 3 - Block G	15	St. Nicholas Church	25	Ailsa Wharf - Block A
6	Aberfeldy Estate Phase 2 - Block D	16	177-195 Abbott Road	26	Ailsa Wharf - Block D
7	Aberfeldy Estate Phase 1 - Block A	17	134-144 Leven Road	27	Ailsa Wharf - Blocks K-L
8	Aberfeldy Estate Phase 1 - Block C	18	128-132 Leven Road	28	1-14 & 16-46 Dewberry St
9	49-67 Abbott Road	19	199-225 Abbott Road	29	4, 6-14, 1-15, 17-33 & 35-41 Joshua St
10	9-15 Wooster Gardens	20	110-126 Leven Road	30	1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove
				31	118-132, 134-146, 148-154 St Leonards Rd

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	05-06



Drawing: 05

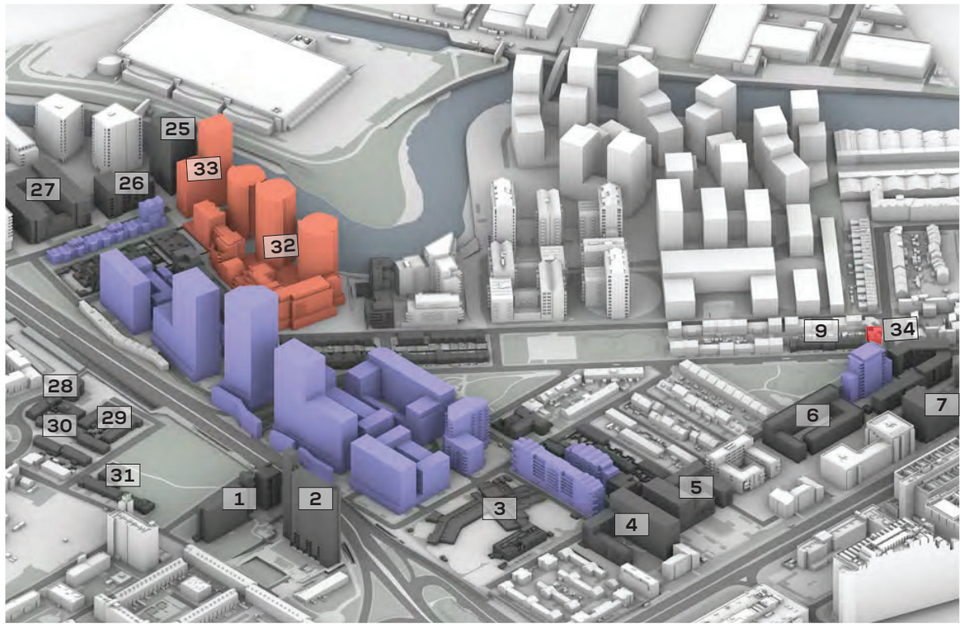


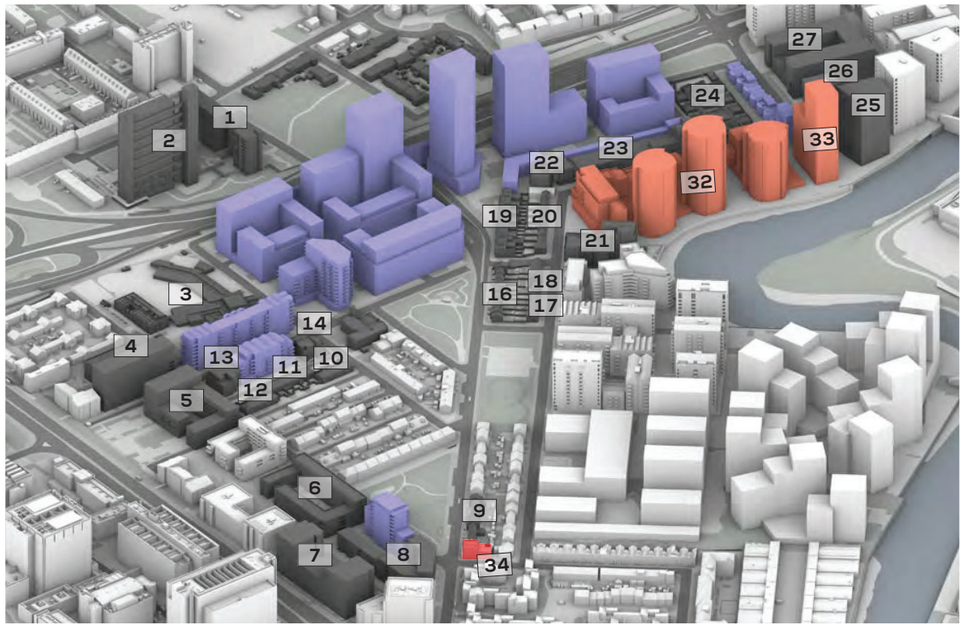
Drawing: 06

gia CHARTERED SURVEYORS

3 OVERVIEWS - CUMULATIVE



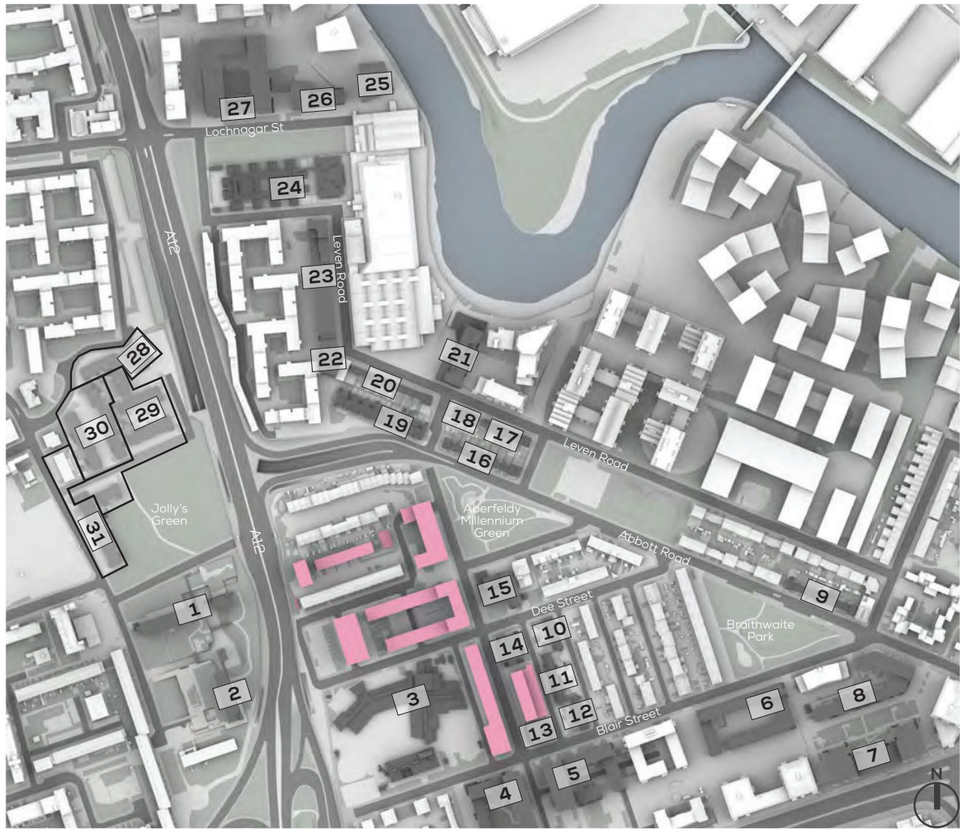




NEIGHBOURS ADDRESSES					
1	Carradale House	12	1-7 Wooster Gardens	23	Atelier Court
2	Balfron Tower	13	Loren Apartments (Aberfeldy Tavern)	24	Bromley Hall School
3	Culloden Primary School	14	Sherman House	25	Ailsa Wharf - Block A
4	Aberfeldy Estate Phase 3 - Block J	15	St. Nicholas Church	26	Ailsa Wharf - Block D
5	Aberfeldy Estate Phase 3 - Block G	16	177-195 Abbott Road	27	Ailsa Wharf - Blocks K-L
6	Aberfeldy Estate Phase 2 - Block D	17	134-144 Leven Road	28	1-14 & 16-46 Dewberry St
7	Aberfeldy Estate Phase 1 - Block A	18	128-132 Leven Road	29	4, 6-14, 1-15, 17-33 & 35-41 Joshua St
8	Aberfeldy Estate Phase 1 - Block C	19	199-225 Abbott Road	30	1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove
9	49-67 Abbott Road	20	110-126 Leven Road	31	118-132, 134-146, 148-154 St Leonards Rd
10	9-15 Wooster Gardens	21	Devons Wharf	32	Former Poplar Bus Depot
11	2-12 Lansbury Gardens	22	Leven Road Phase 3	33	Islay Wharf
				34	45-47 Abbott Road

CONSENTED

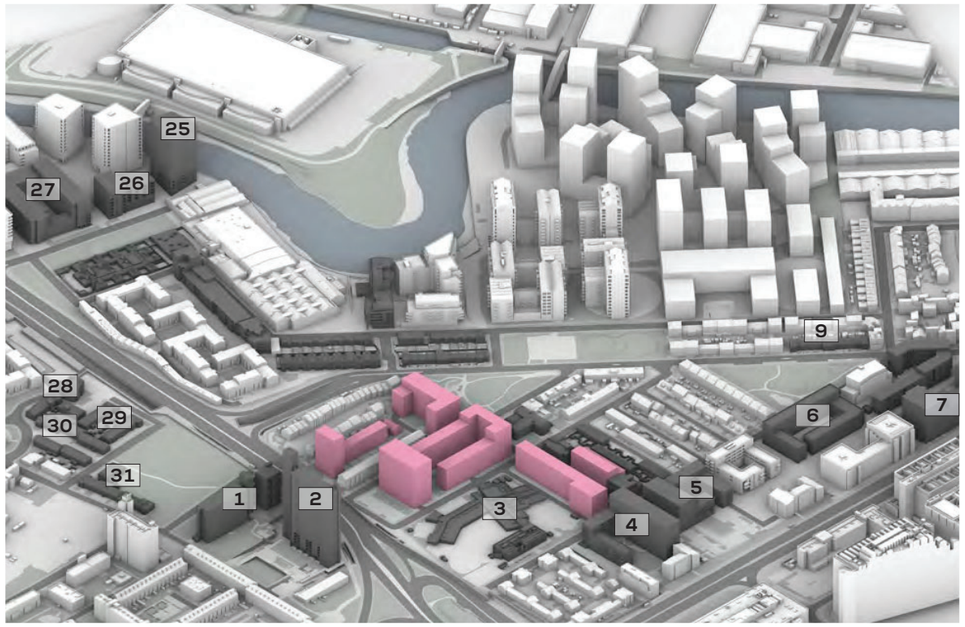
Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	10



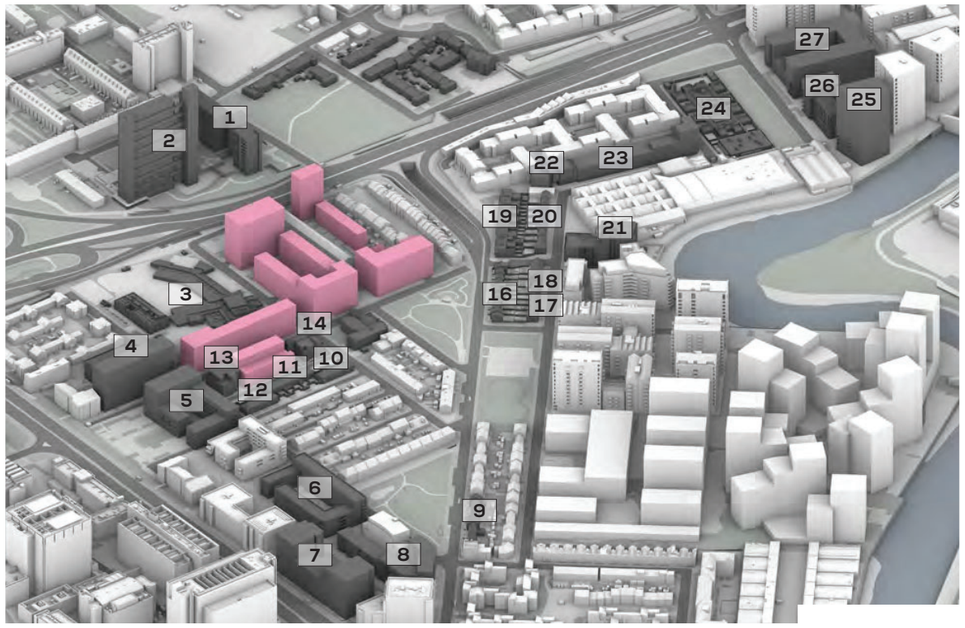
Drawing: 10

NEIGHBOURS ADDRESSES					
1	Carradale House	11	2-12 Lansbury Gardens	21	Devons Wharf
2	Balfron Tower	12	1-7 Wooster Gardens	22	Leven Road Phase 3
3	Culloden Primary School	13	Loren Apartments (Aberfeldy Tavern)	23	Atelier Court
4	Aberfeldy Estate Phase 3 - Block J	14	Sherman House	24	Bromley Hall School
5	Aberfeldy Estate Phase 3 - Block G	15	St. Nicholas Church	25	Ailsa Wharf - Block A
6	Aberfeldy Estate Phase 2 - Block D	16	177-195 Abbott Road	26	Ailsa Wharf - Block D
7	Aberfeldy Estate Phase 1 - Block A	17	134-144 Leven Road	27	Ailsa Wharf - Blocks K-L
8	Aberfeldy Estate Phase 1 - Block C	18	128-132 Leven Road	28	1-14 & 16-46 Dewberry St
9	49-67 Abbott Road	19	199-225 Abbott Road	29	4, 6-14, 1-15, 17-33 & 35-41 Joshua St
10	9-15 Wooster Gardens	20	110-126 Leven Road	30	1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove
				31	118-132, 134-146, 148-154 St Leonards Rd

Project Name:	Aberfeldy Village
Project number:	15382
Release:	Rel 14-16
IR:	IR39-55
Source of information:	Vu.City, Levitt Bernstein Architects IR49, Morris And Co. Architects IR39
Date:	13/10/2021
Drawing no.:	11-12



Drawing: 11



Drawing: 12

gia CHARTERED SURVEYORS

WINDOW MAPS

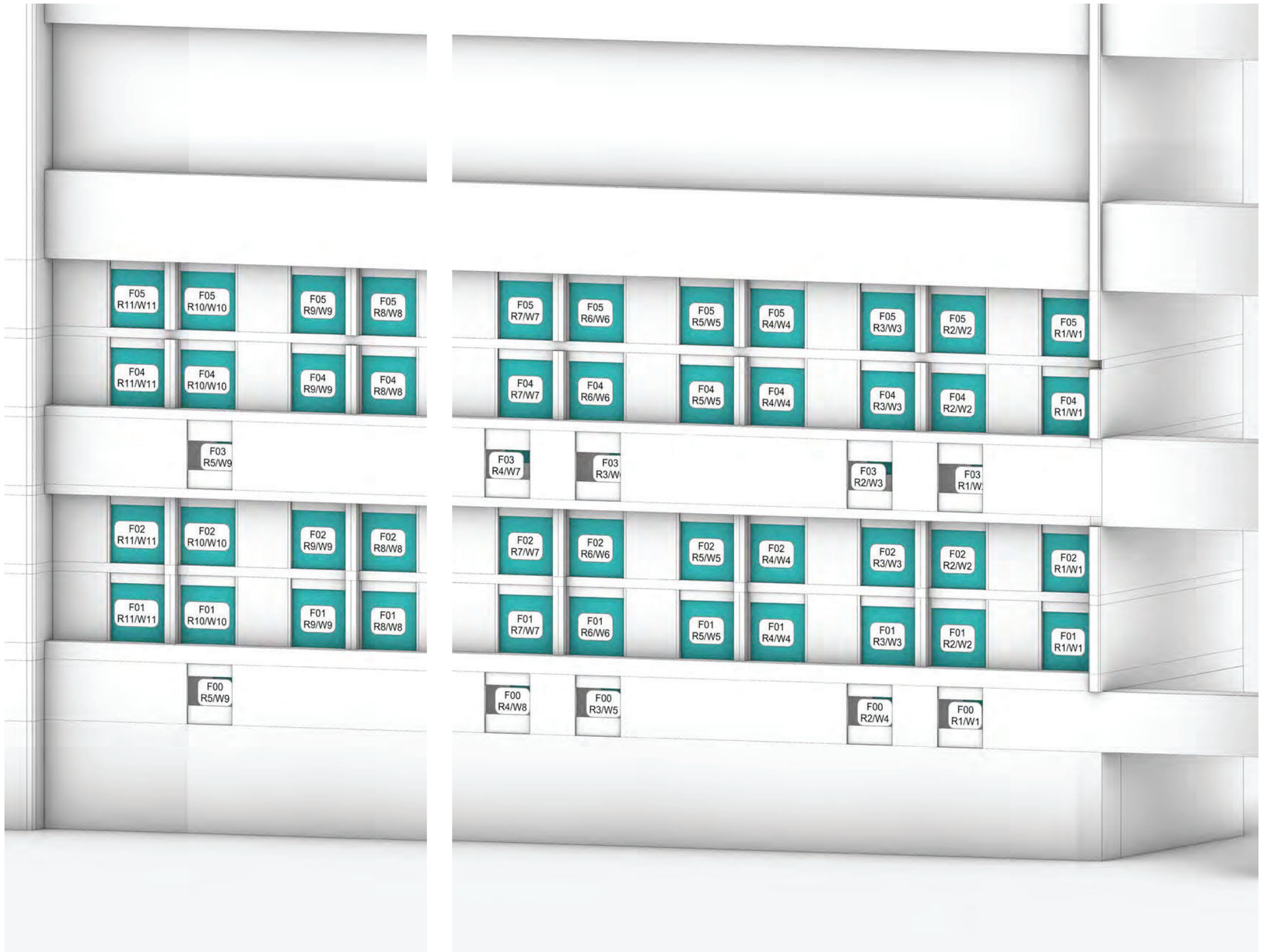
1. Carradale House





2. Balfron Tower

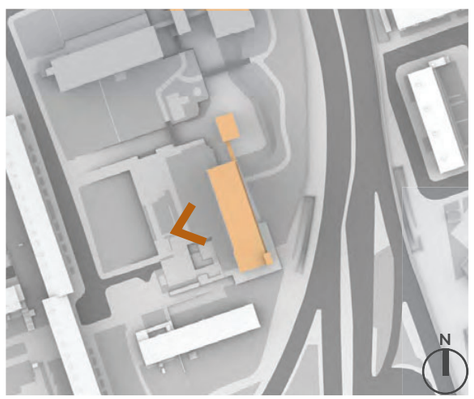




gia
CHARTERED SURVEYORS

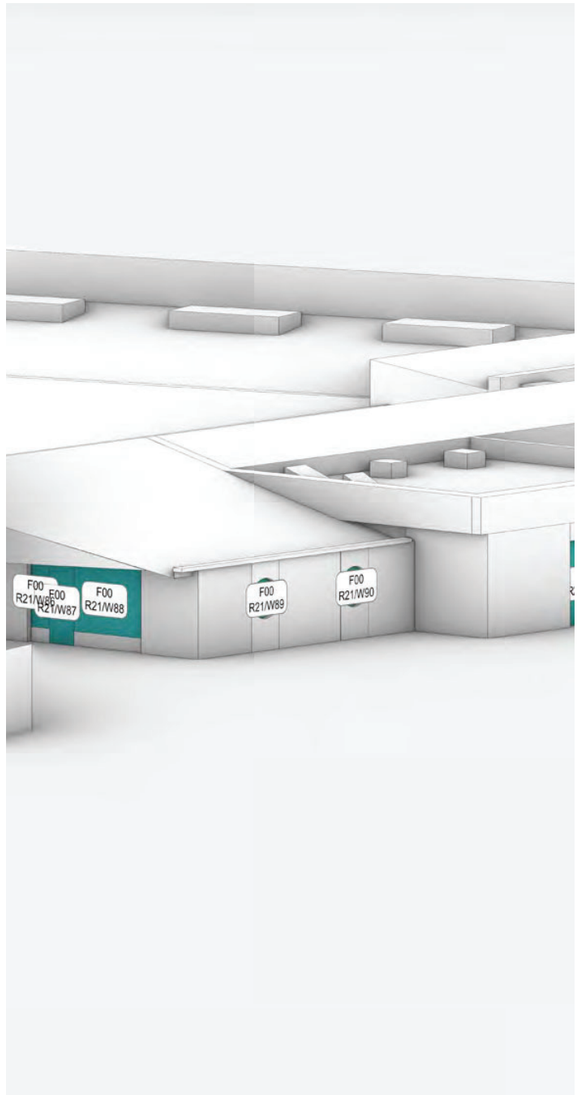
2. Balfron Tower

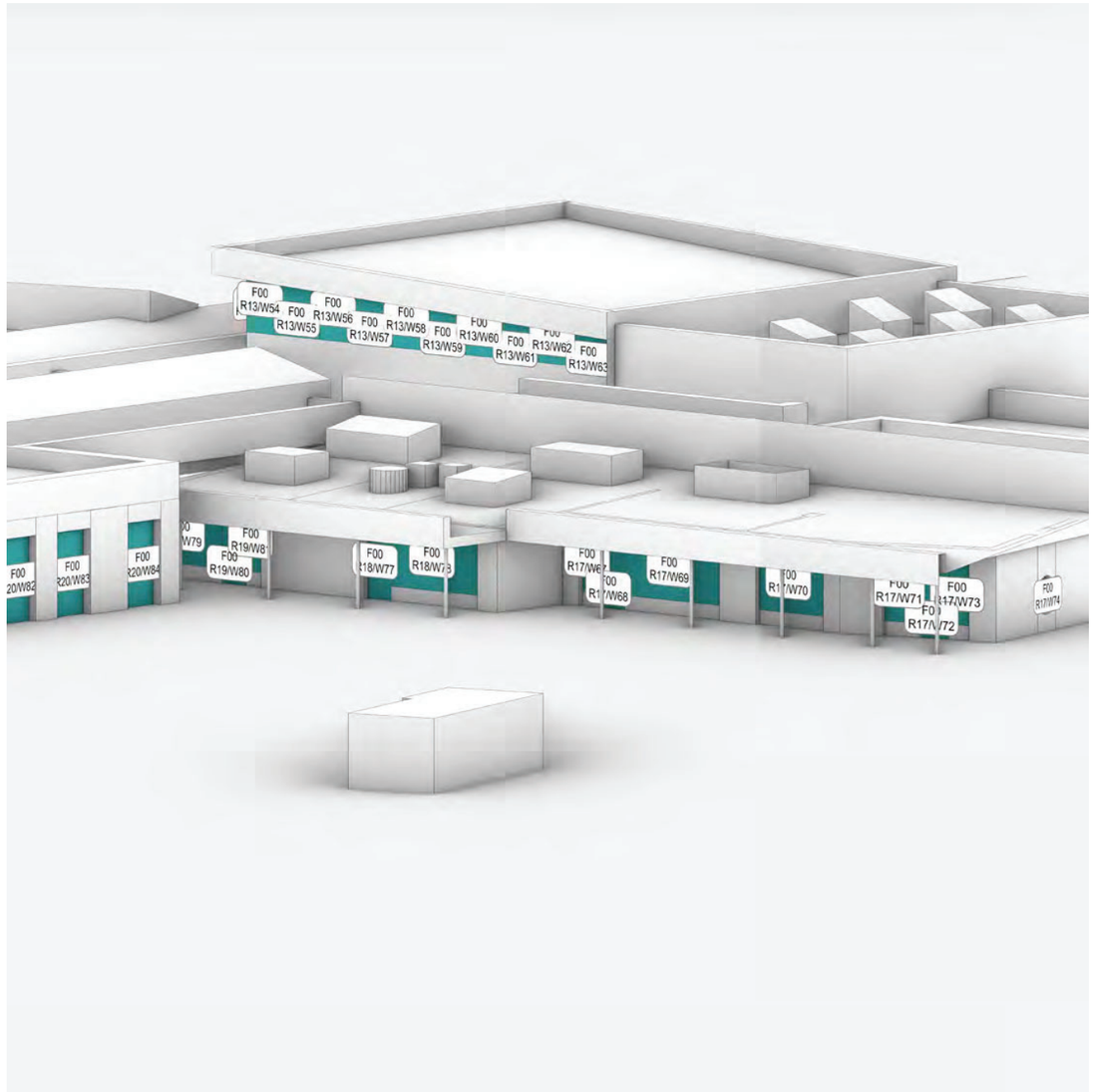


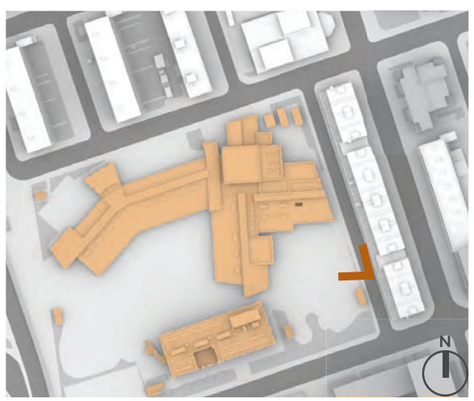


gia
CHARTERED SURVEYORS

3. Culloden Primary School

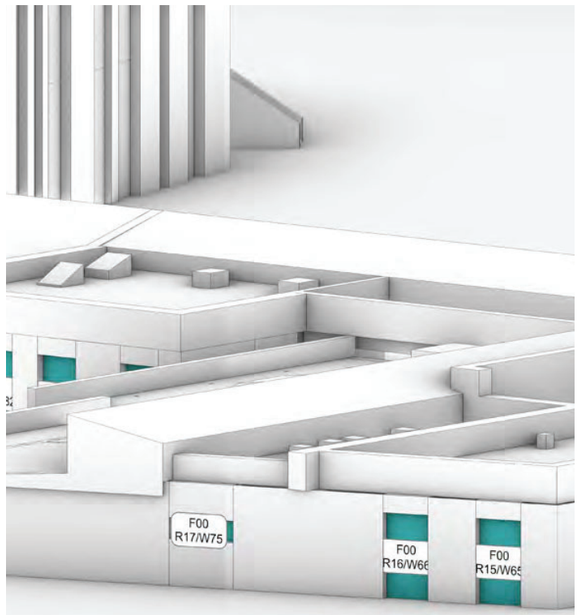


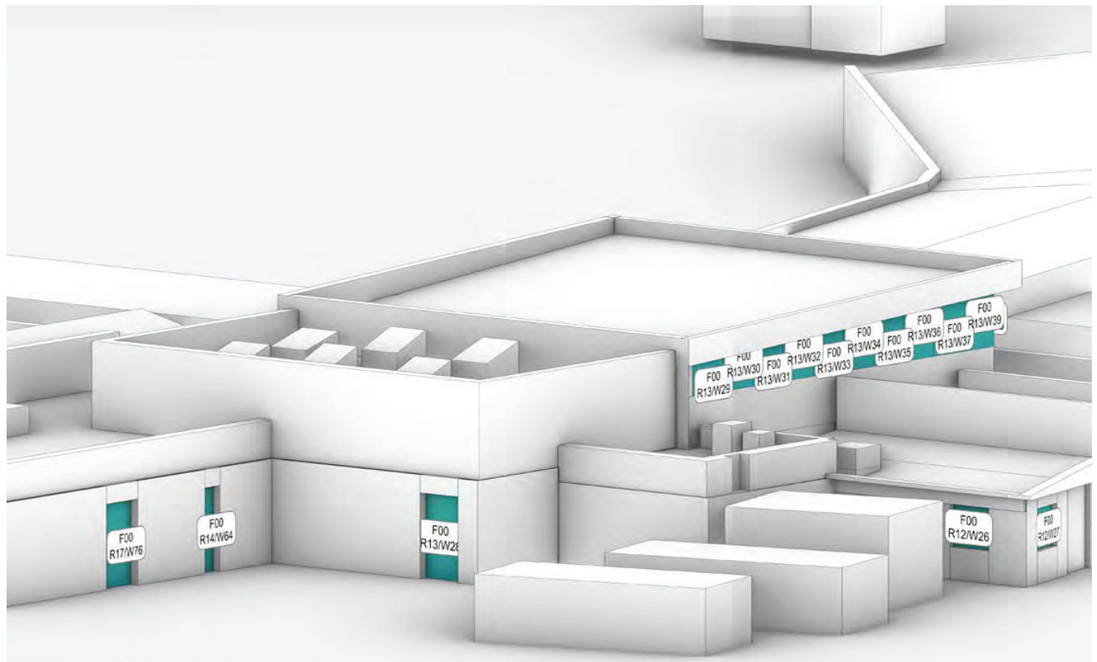


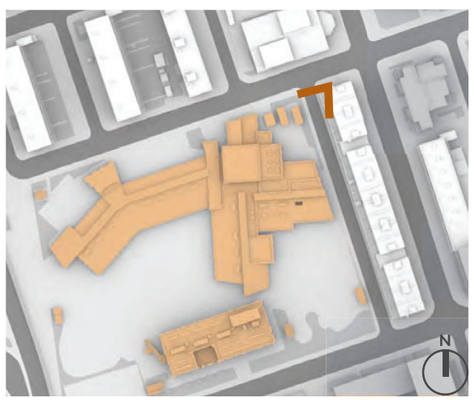


gia CHARTERED SURVEYORS

3. Culloden Primary School

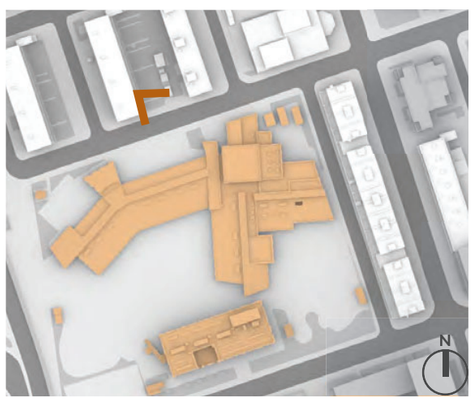






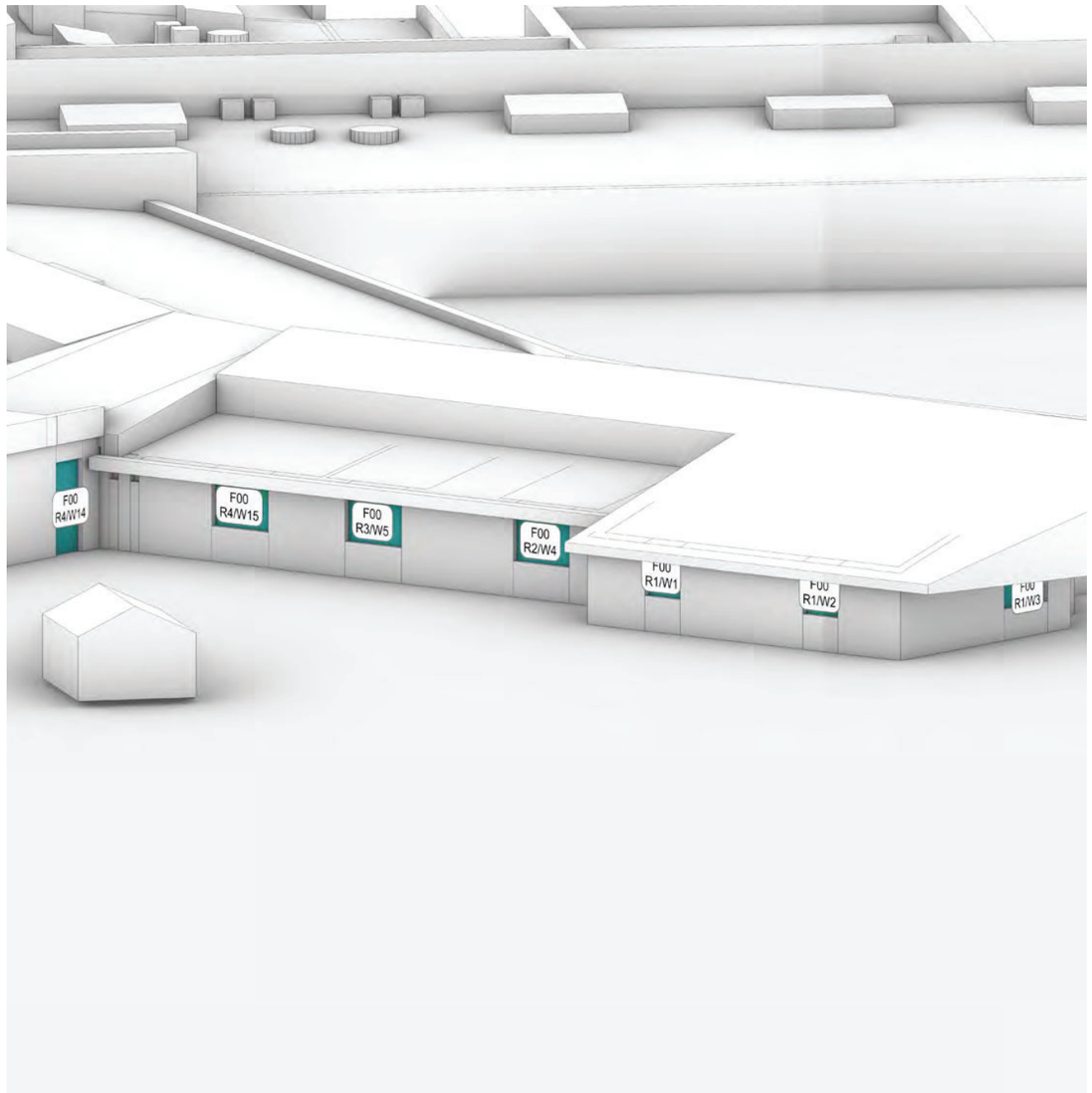
3. Culloden Primary School

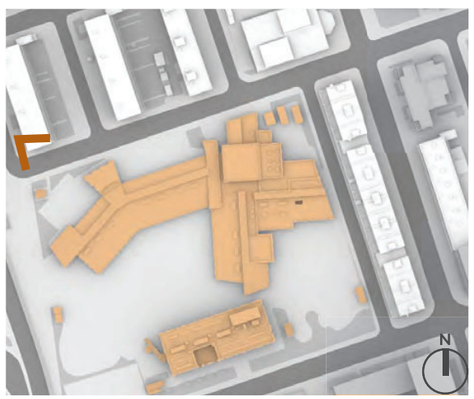




3. Culloden Primary School







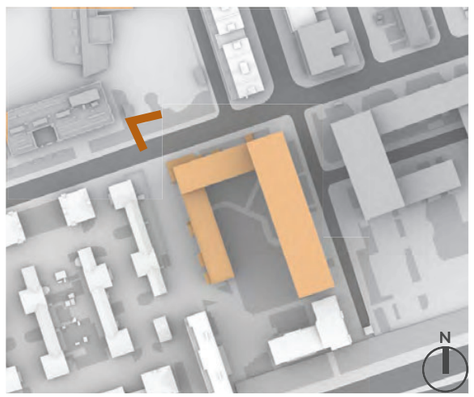
4. Aberfeldy Estate Phase 3 - Block J





4. Aberfeldy Estate Phase 3 - Block J





5. Aberfeldy Estate Phase 3 - Block G





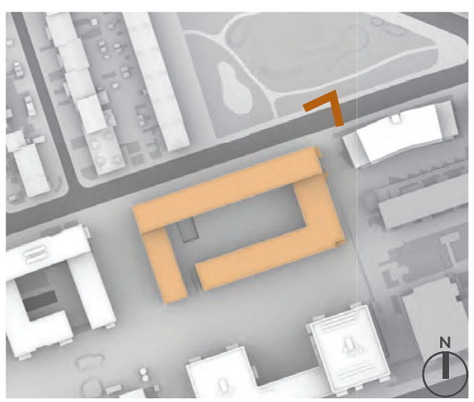
5. Aberfeldy Estate Phase 3 - Block G





6. Aberfeldy Estate Phase 2 - Block D





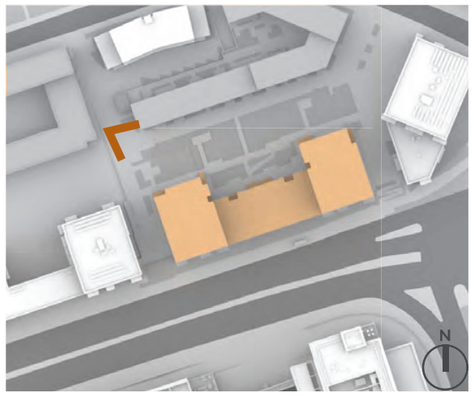
6. Aberfeldy Estate Phase 2 - Block D



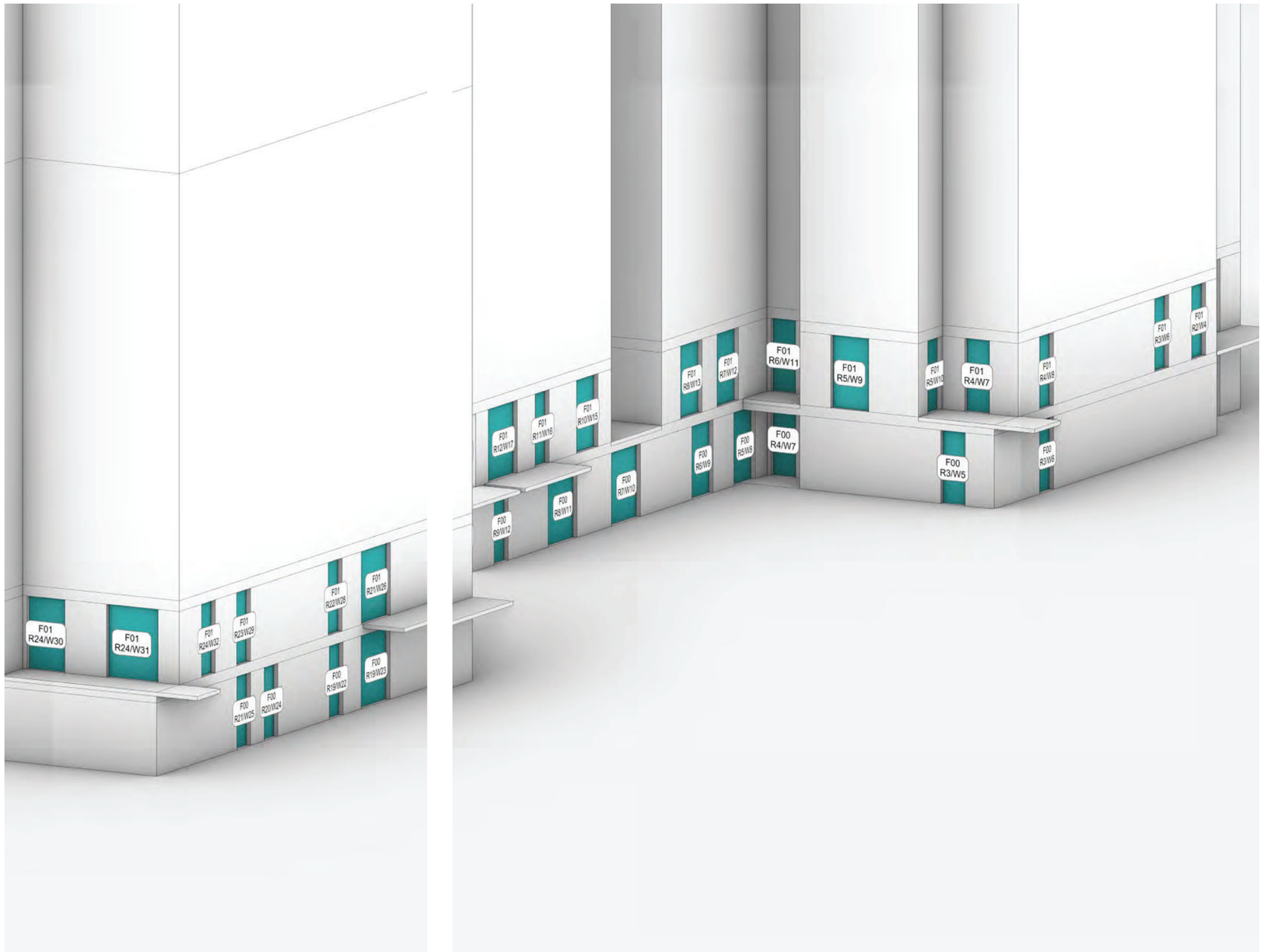


7. Aberfeldy Estate Phase 1 - Block A





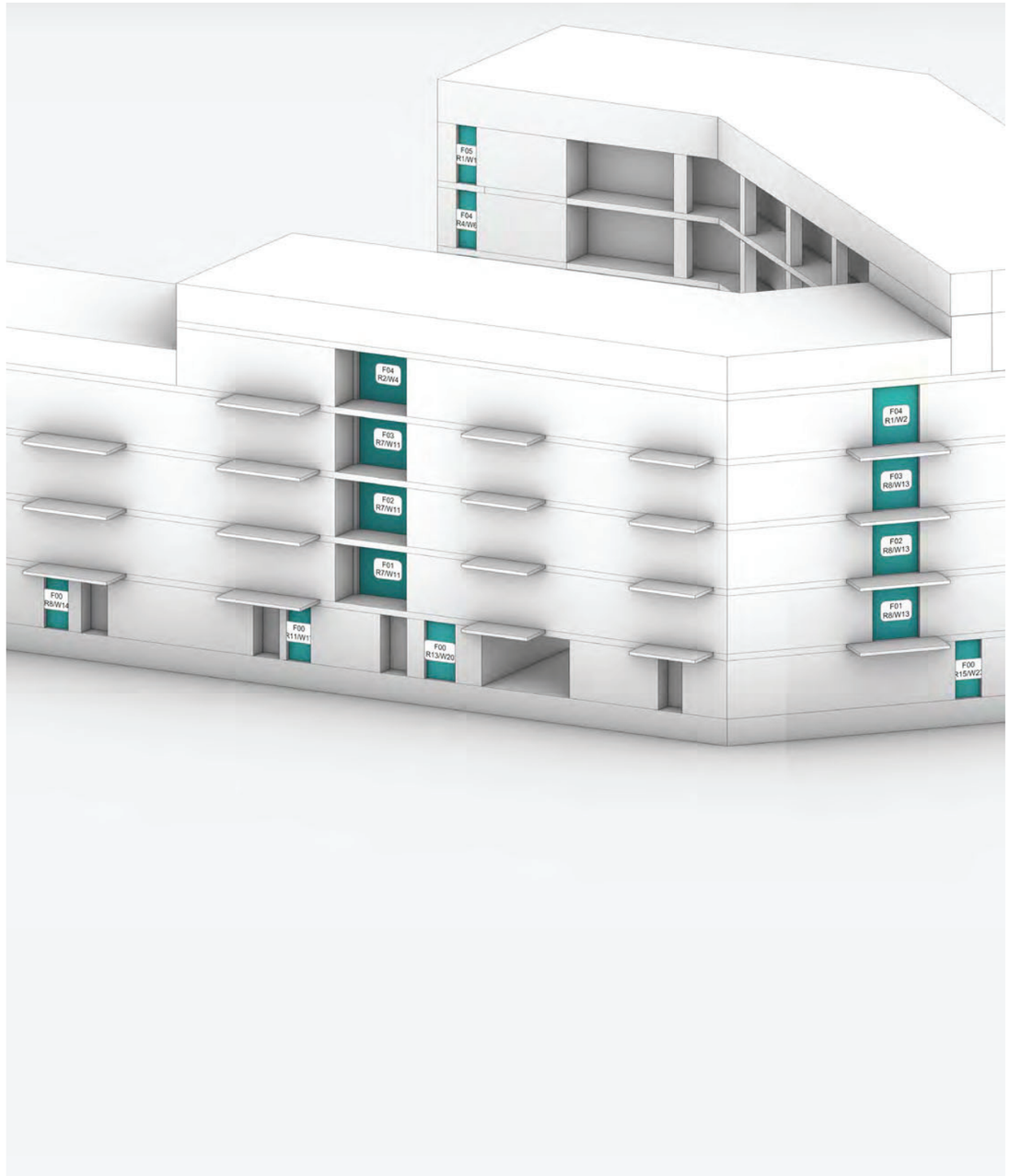
7. Aberfeldy Estate Phase 1 - Block A

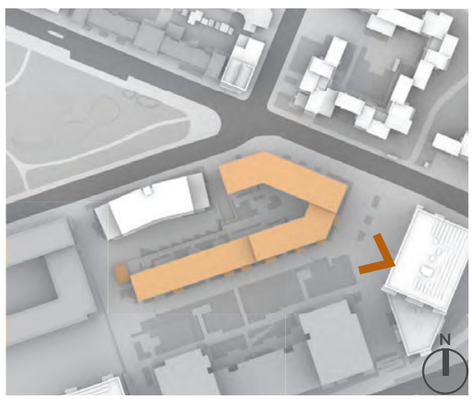


gia CHARTERED SURVEYORS

8. Aberfeldy Estate Phase 1 - Block C



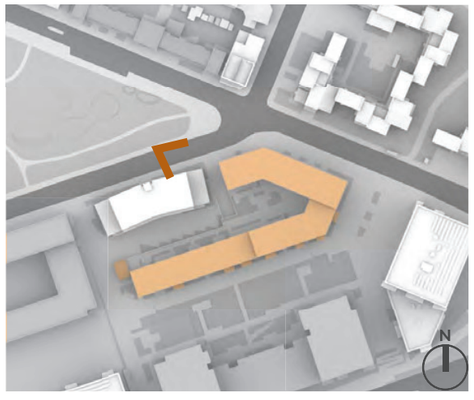




gia CHARTERED SURVEYORS

8. Aberfeldy Estate Phase 1 - Block C

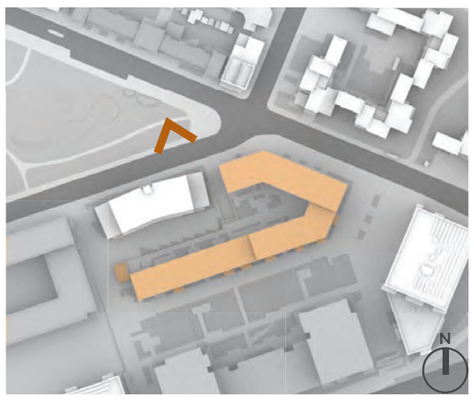




gia
CHARTERED SURVEYORS

8. Aberfeldy Estate Phase 1 - Block C





gia CHARTERED SURVEYORS

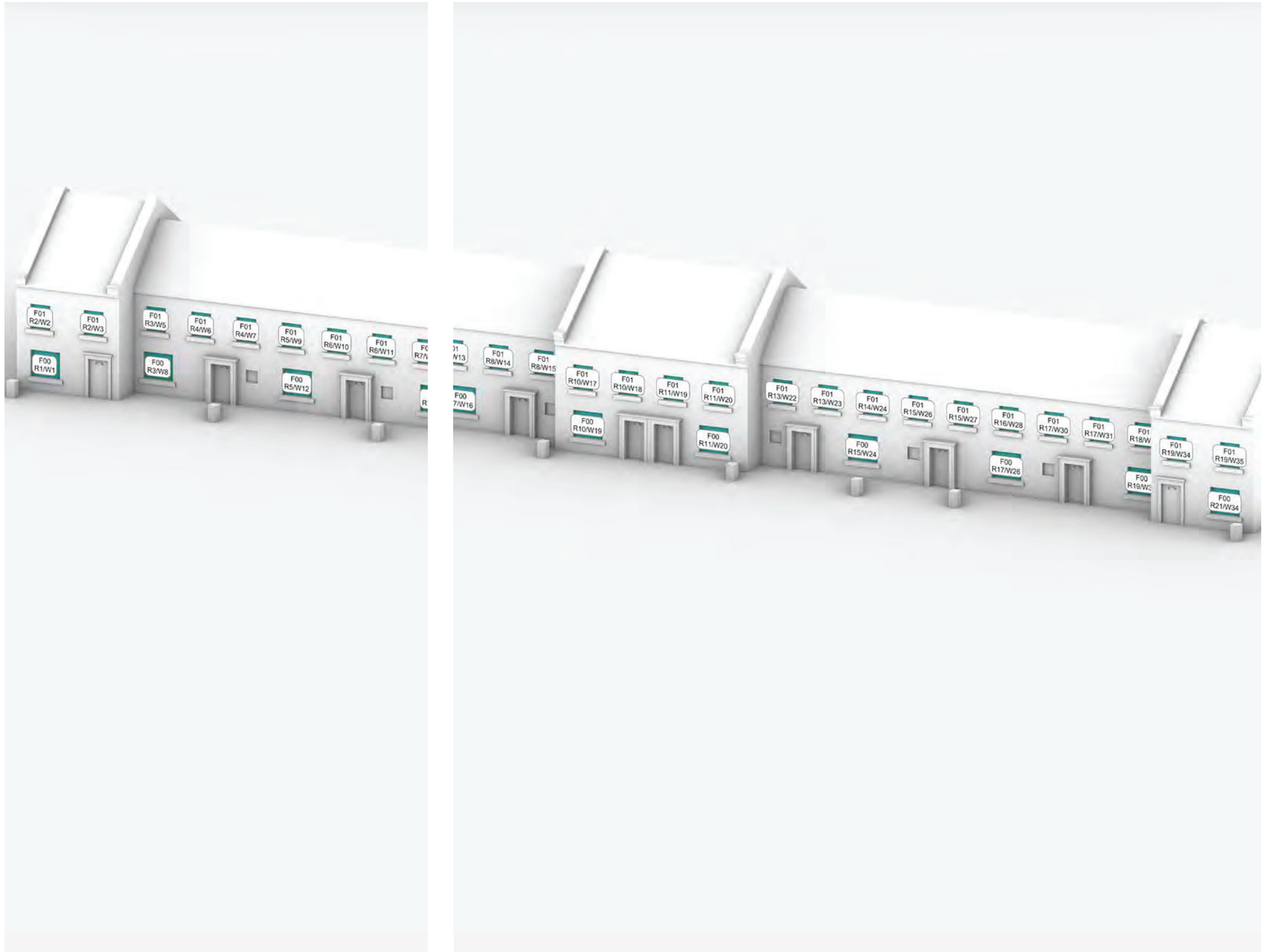
9. 49-67 Abbott Road





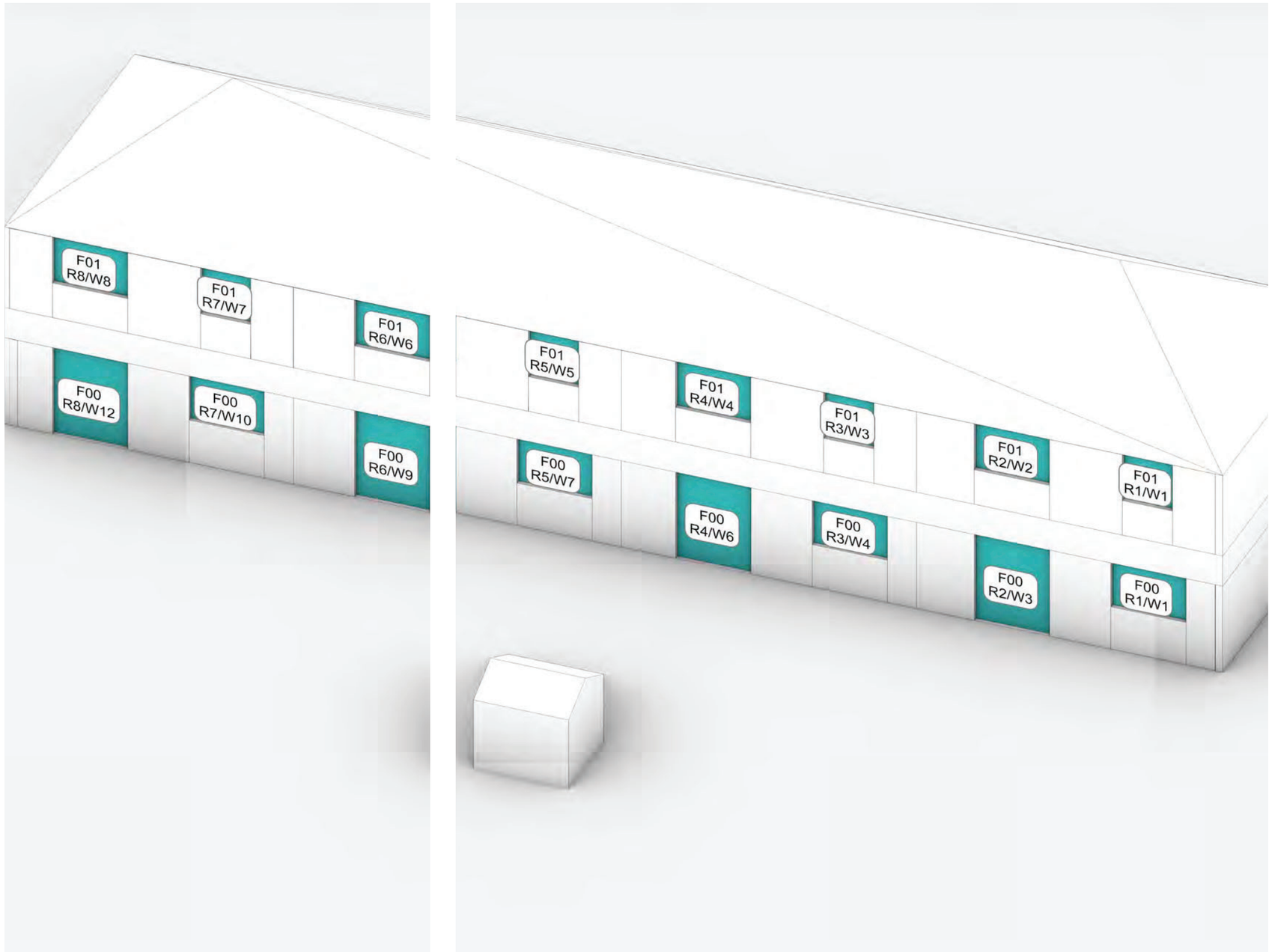


9. 49-67 Abbott Road



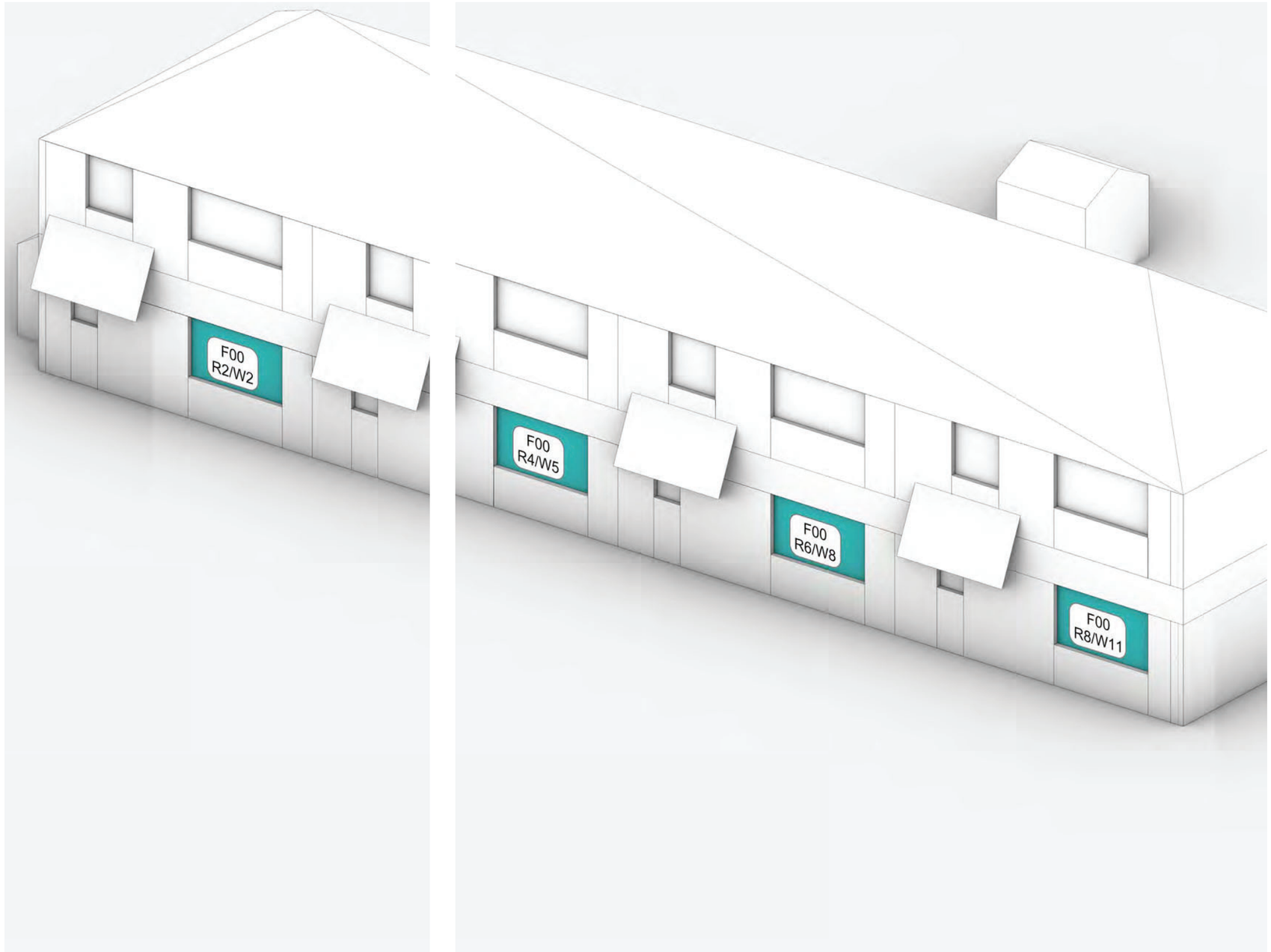


10. 9-15 Wooster Gardens



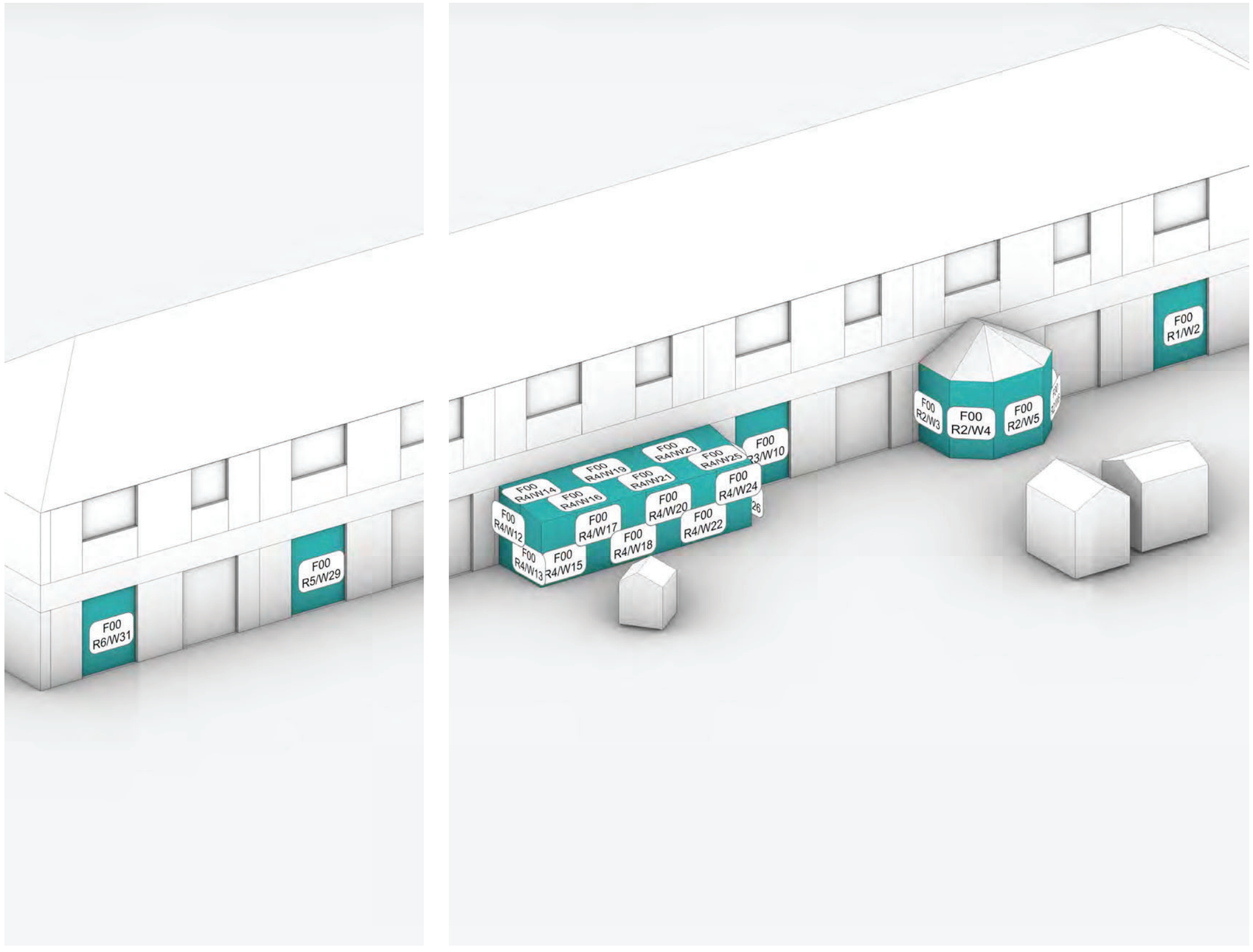


10. 9-15 Wooster Gardens





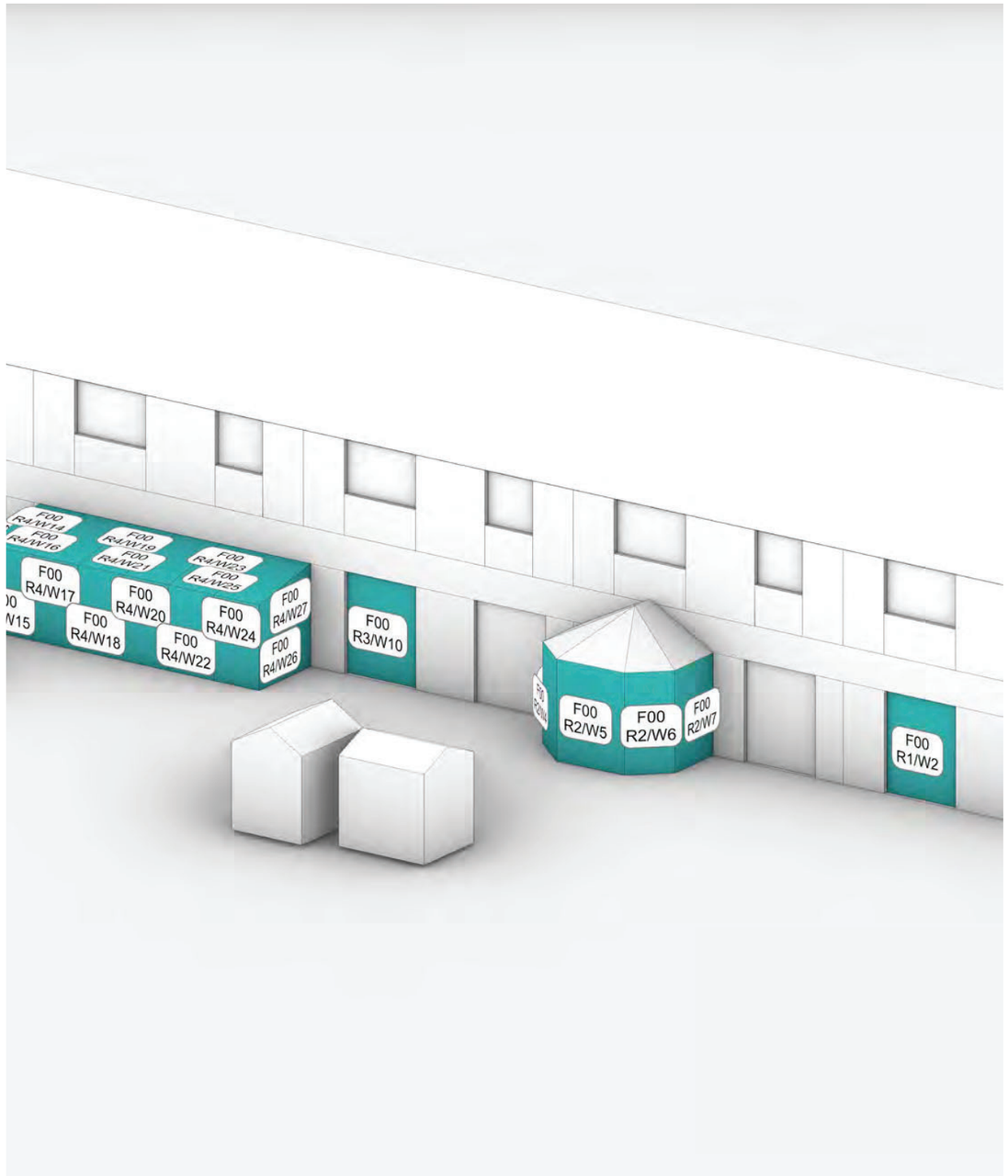
11. 2-12 Lansbury Gardens

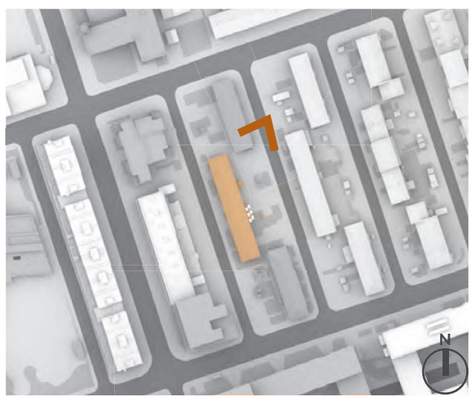




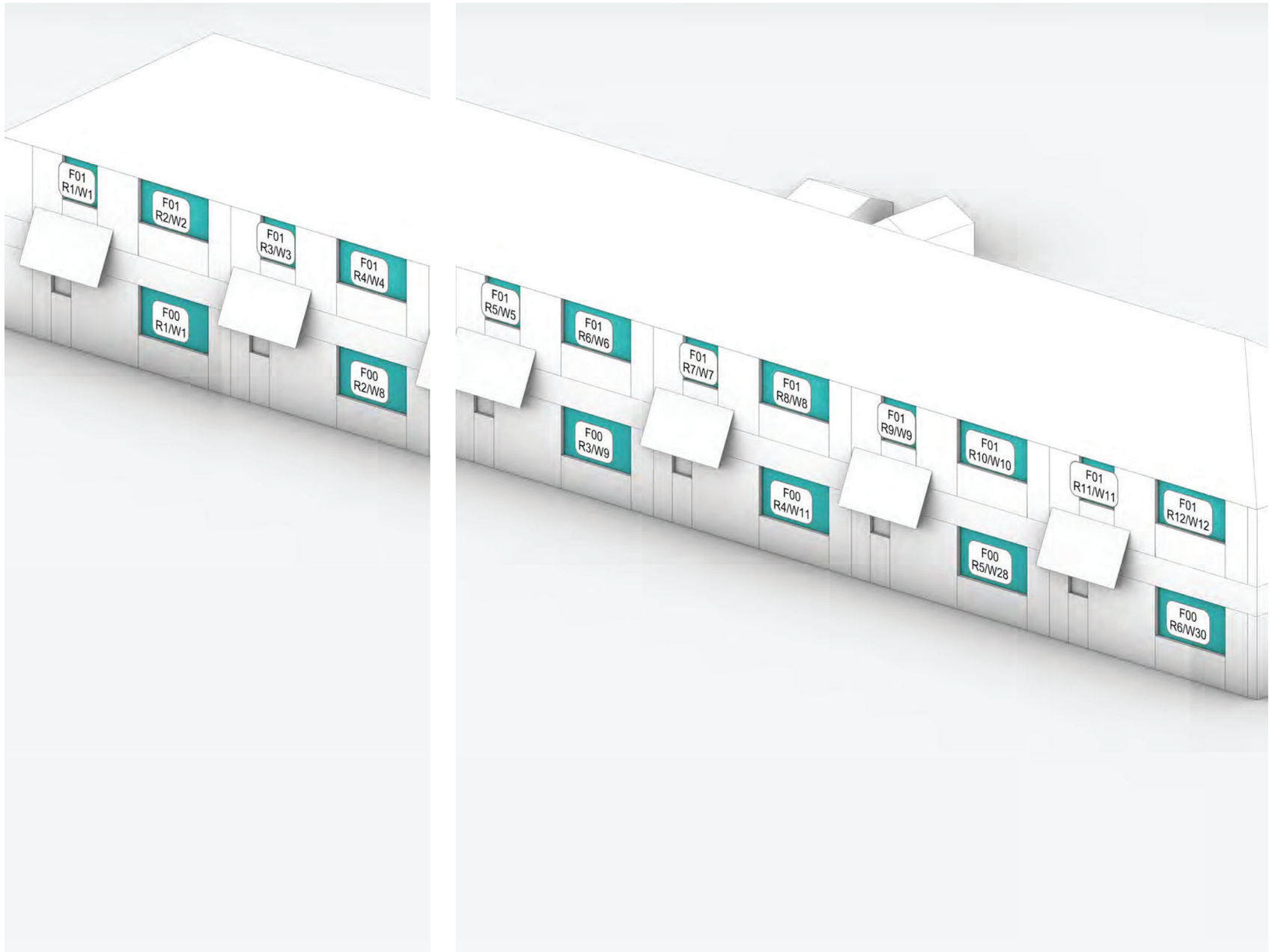
11. 2-12 Lansbury Gardens





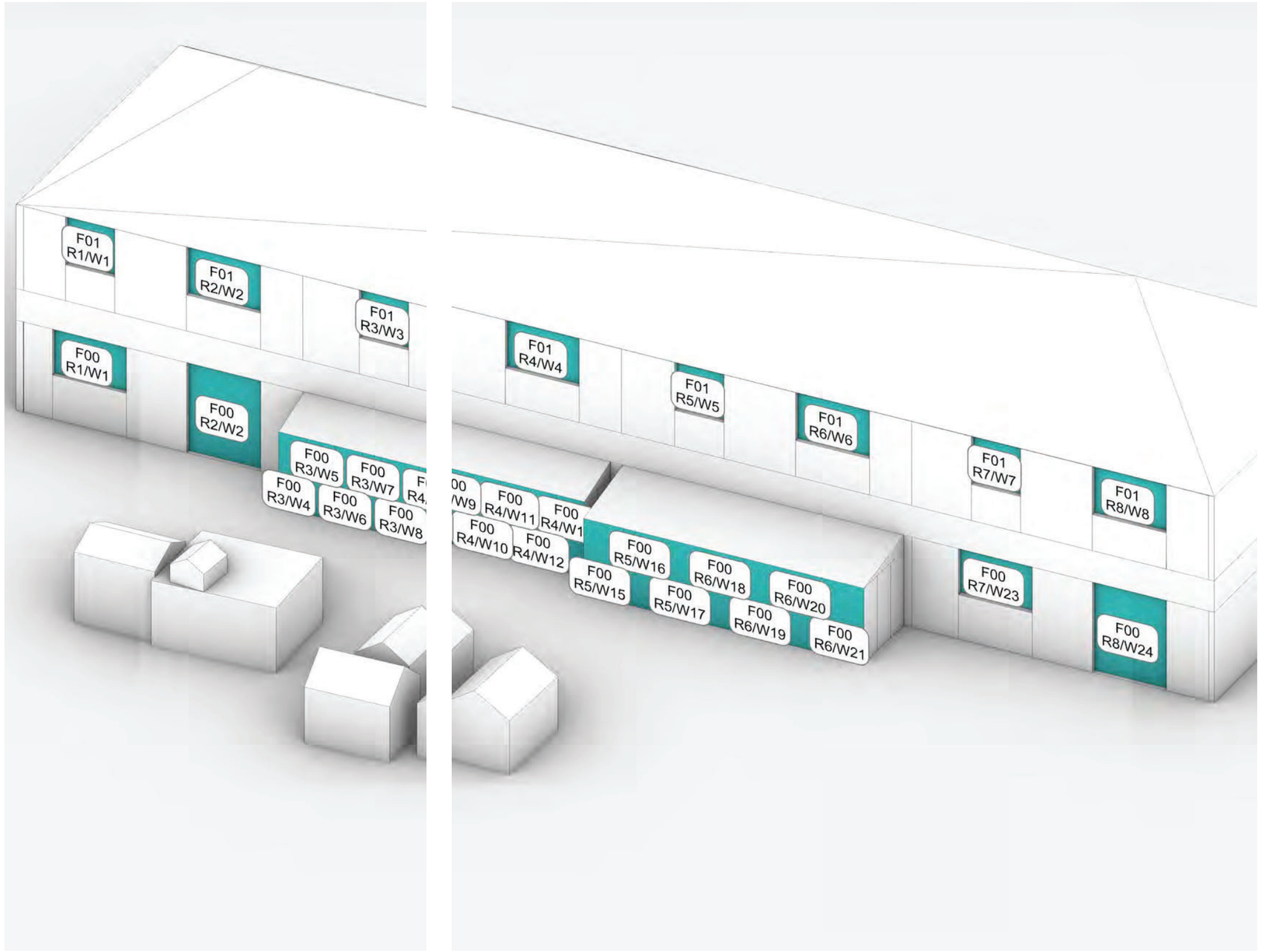


11. 2-12 Lansbury Gardens



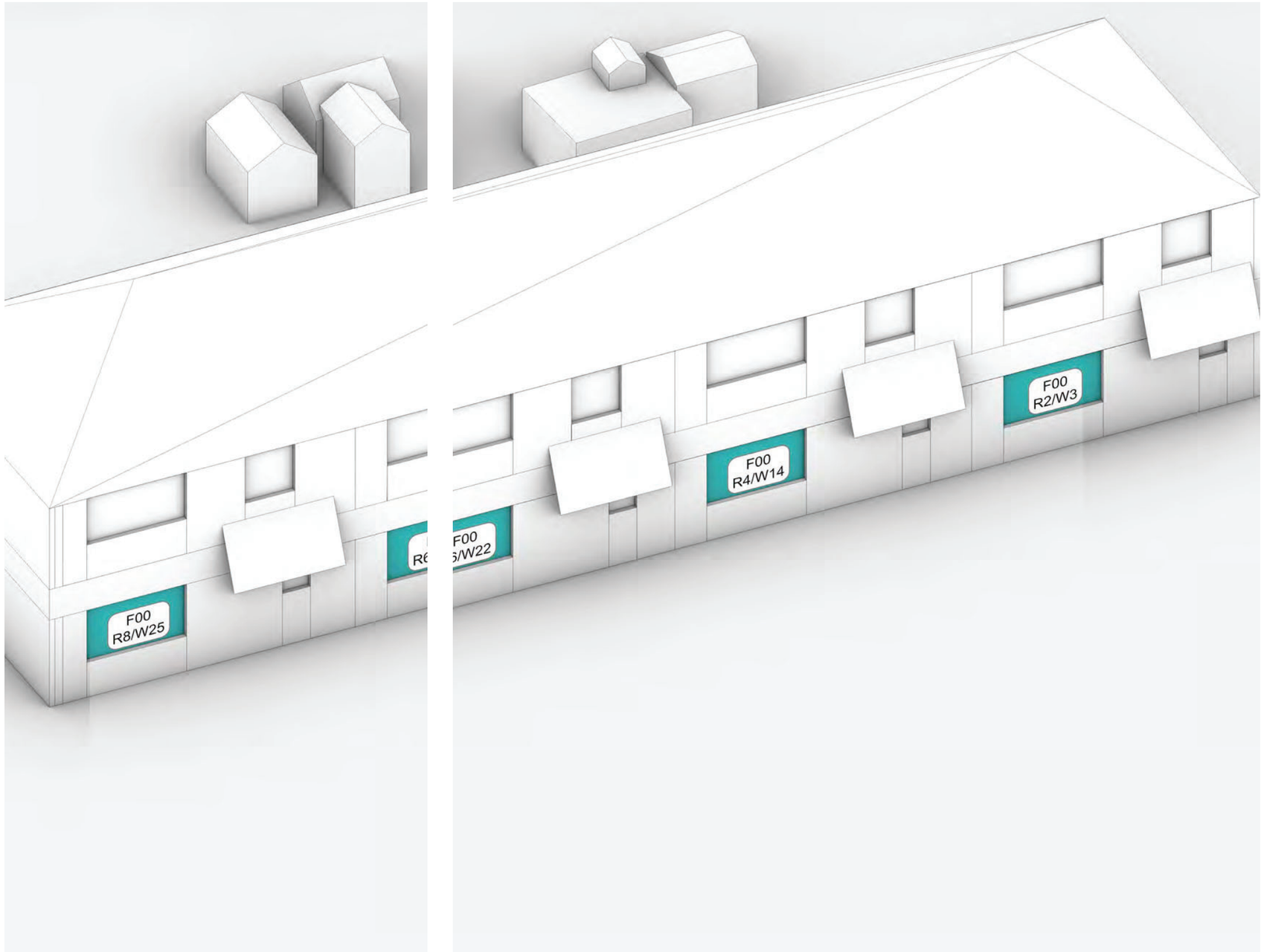


12. 1-7 Wooster Gardens



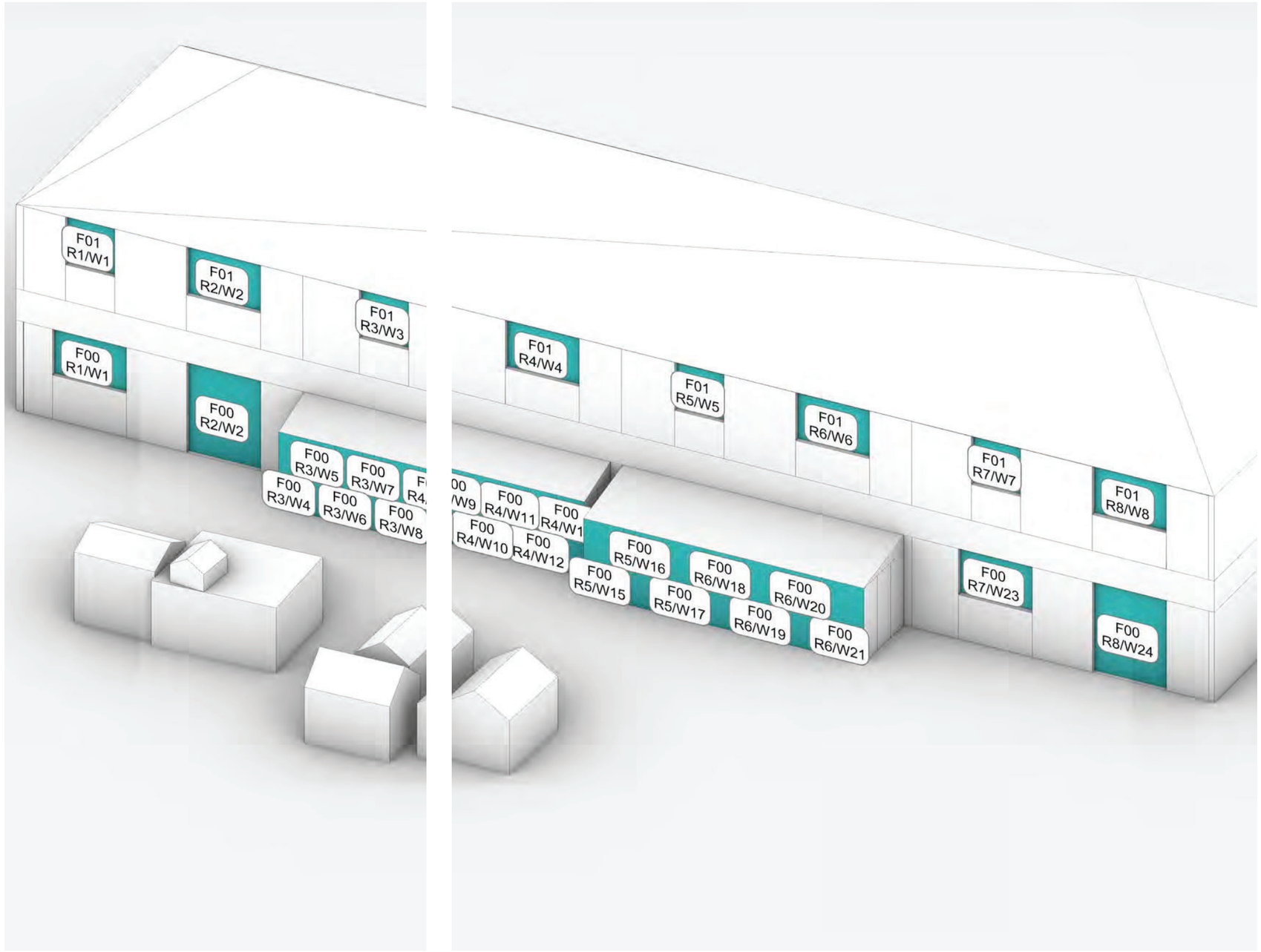


12. 1-7 Wooster Gardens





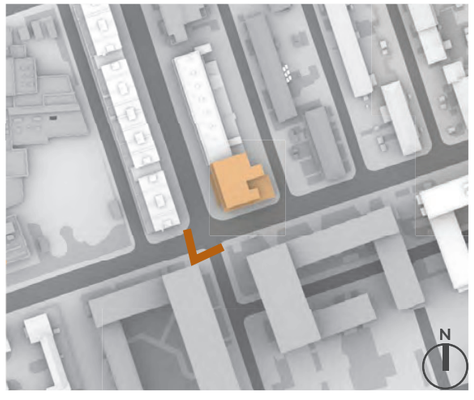
12. 1-7 Wooster Gardens





13. Loren Apartments (Aberfeldy Tavern)





gia
CHARTERED SURVEYORS

14. Sherman House





14. Sherman House

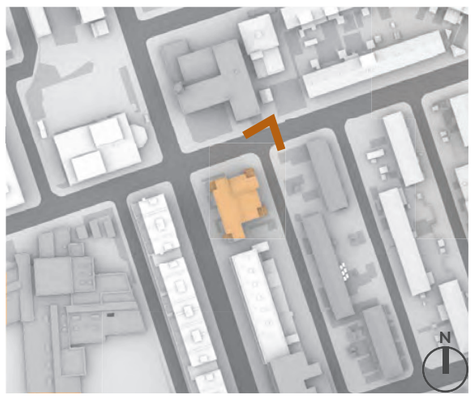






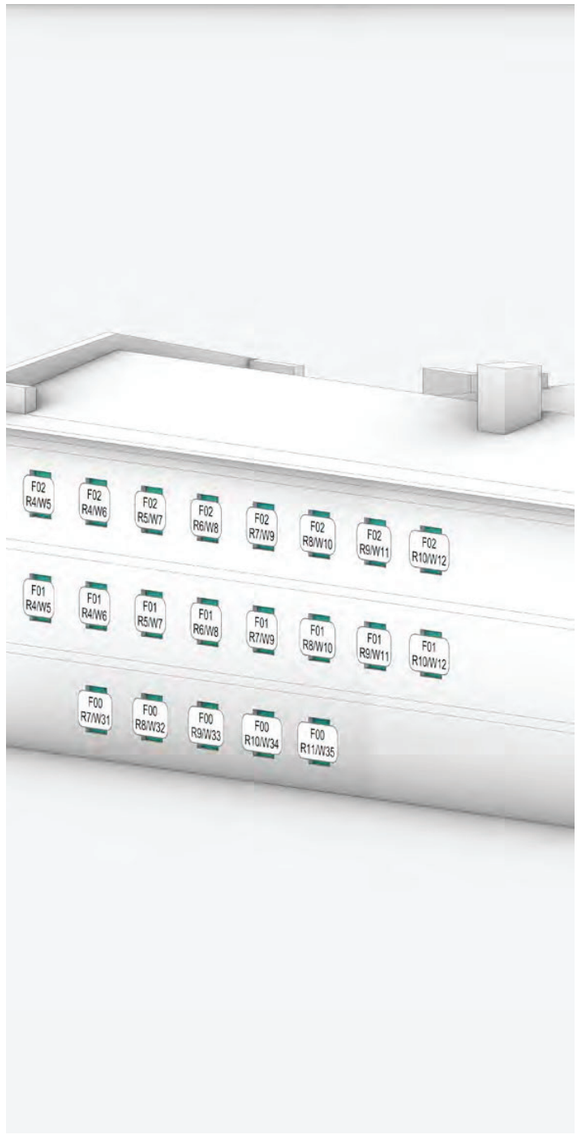
14. Sherman House

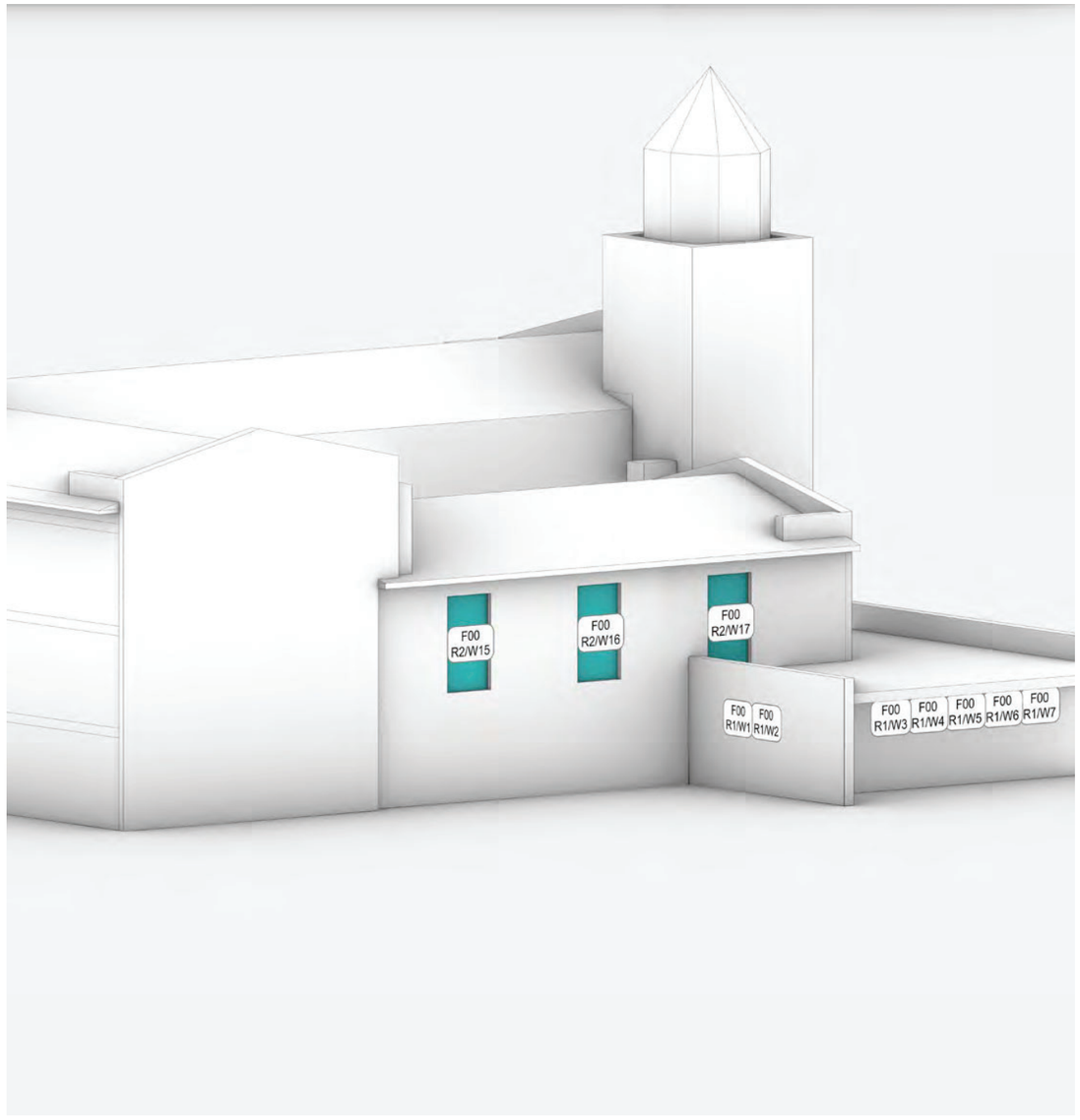




15. St. Nicholas Church



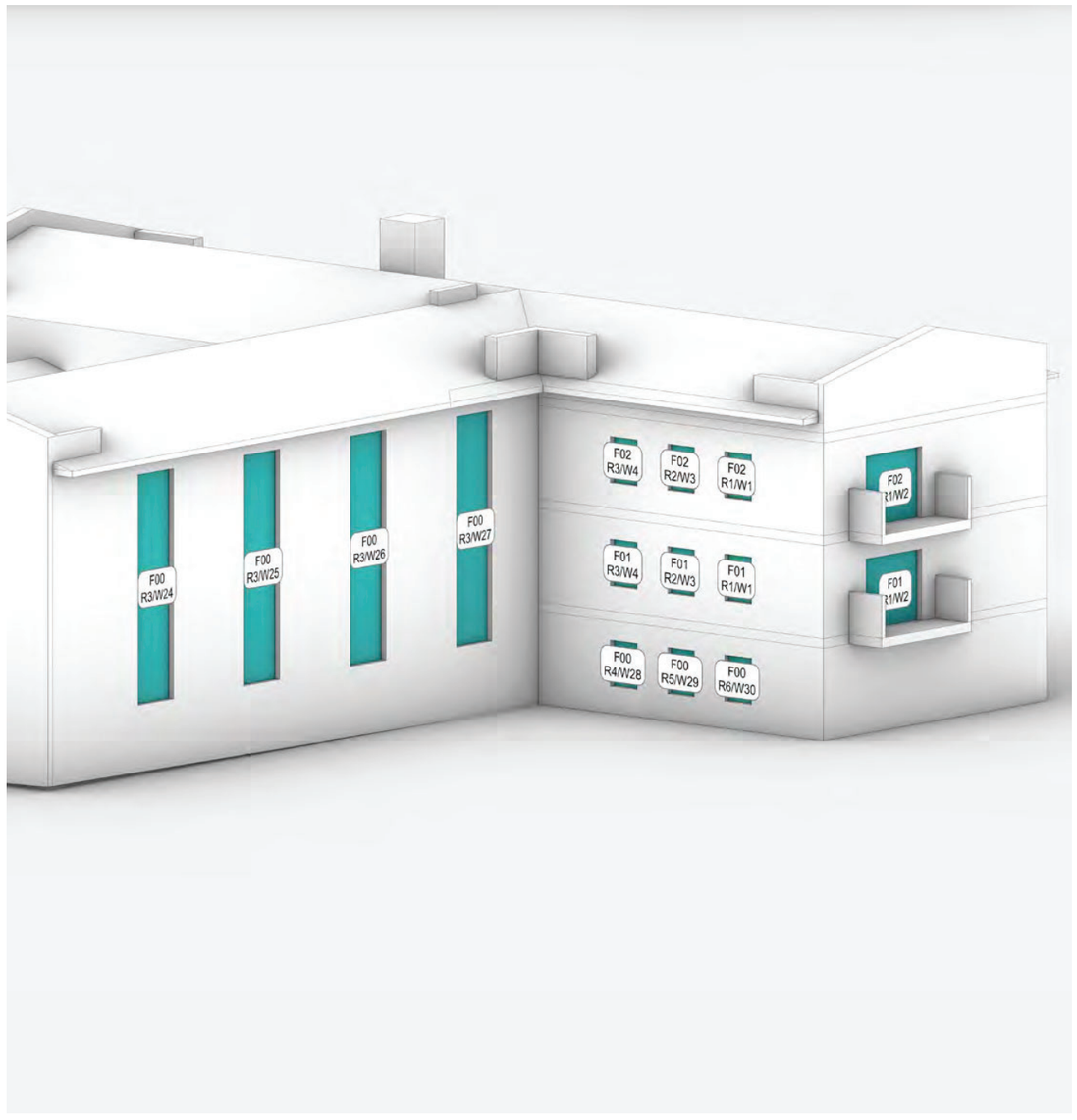




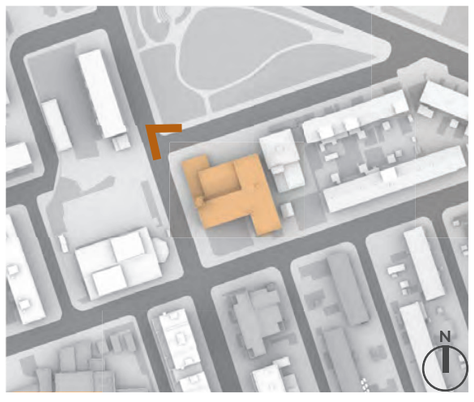
15. St. Nicholas Church



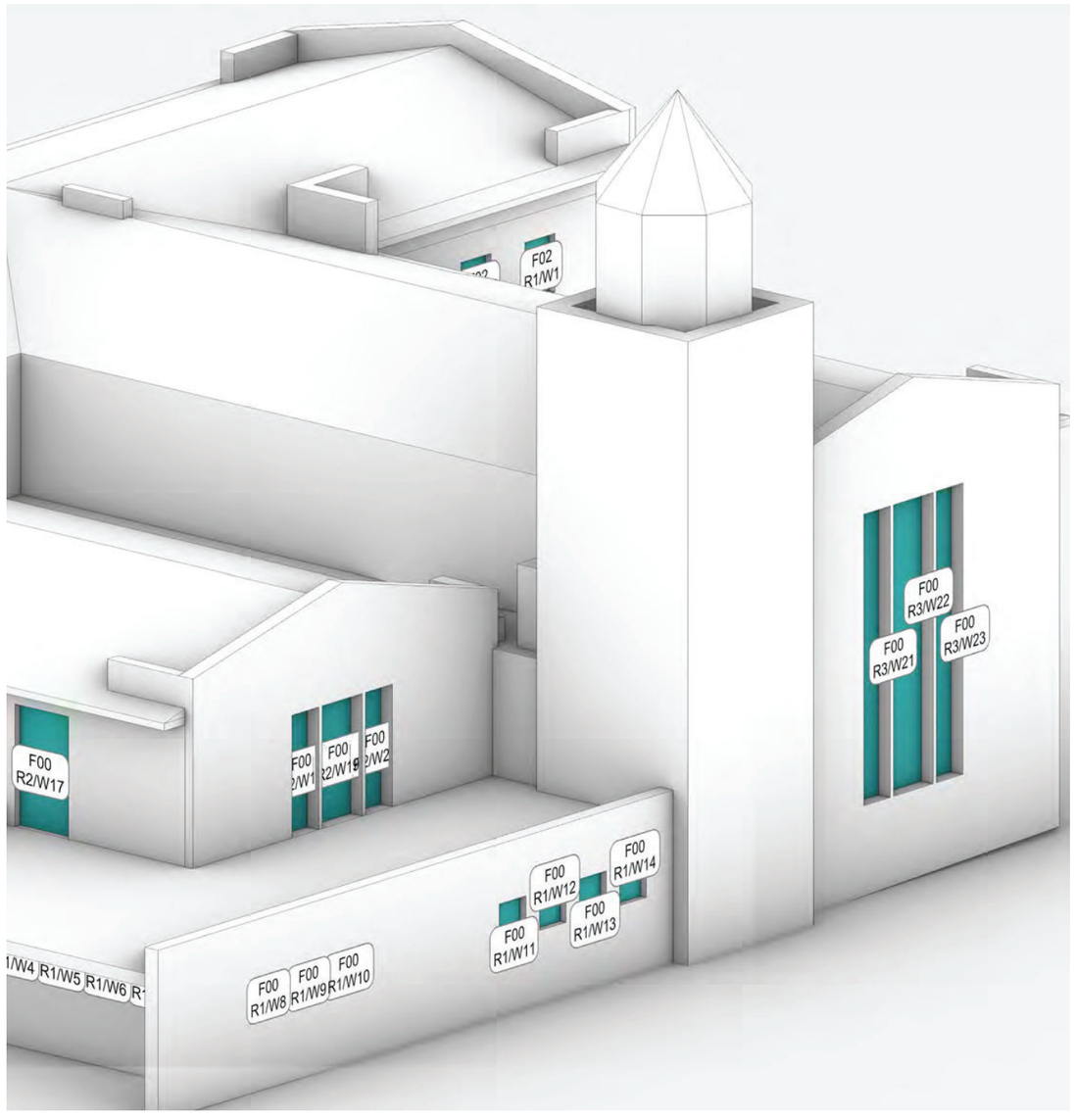




15. St. Nicholas Church

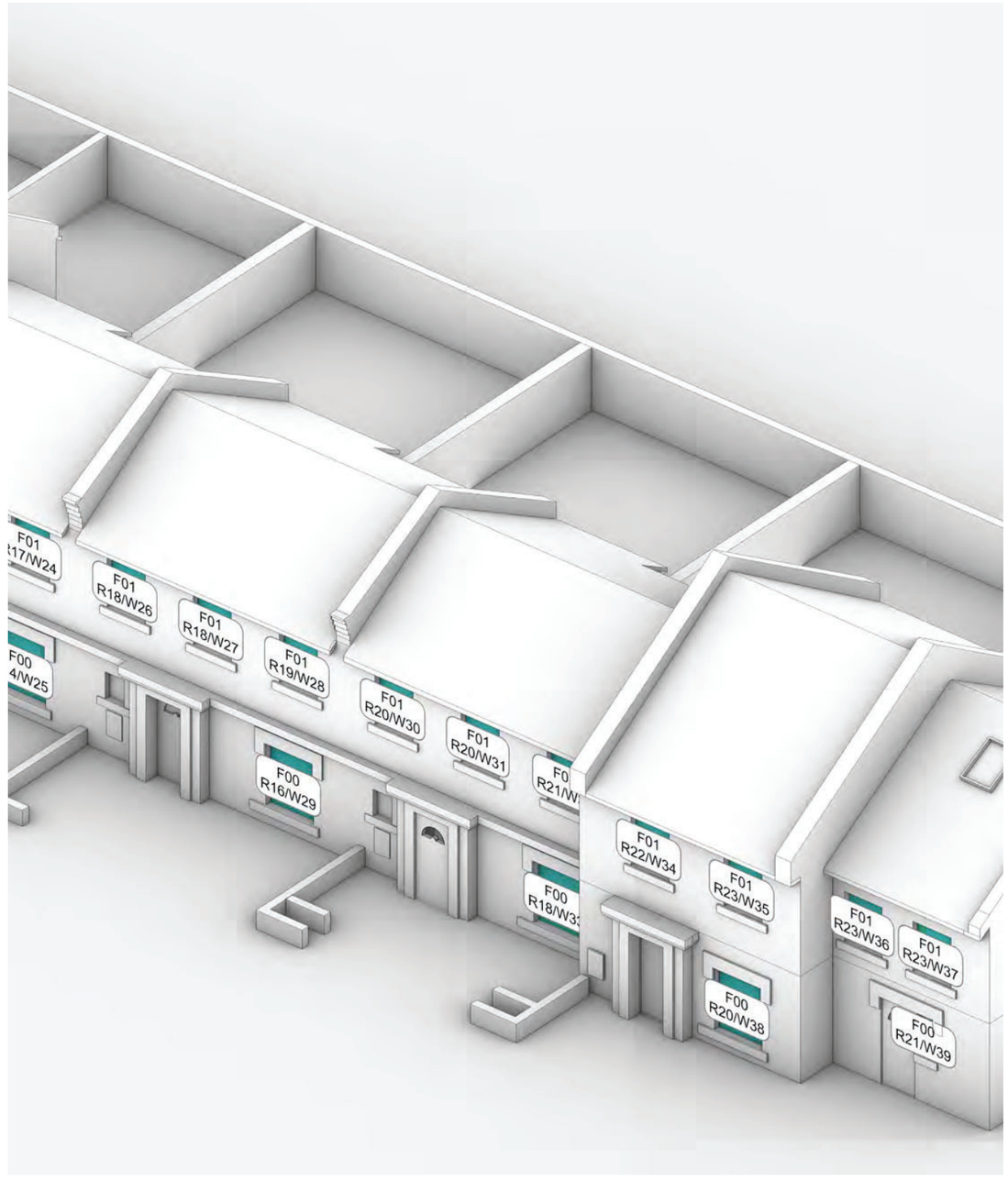






16. 177-195 Abbott Road

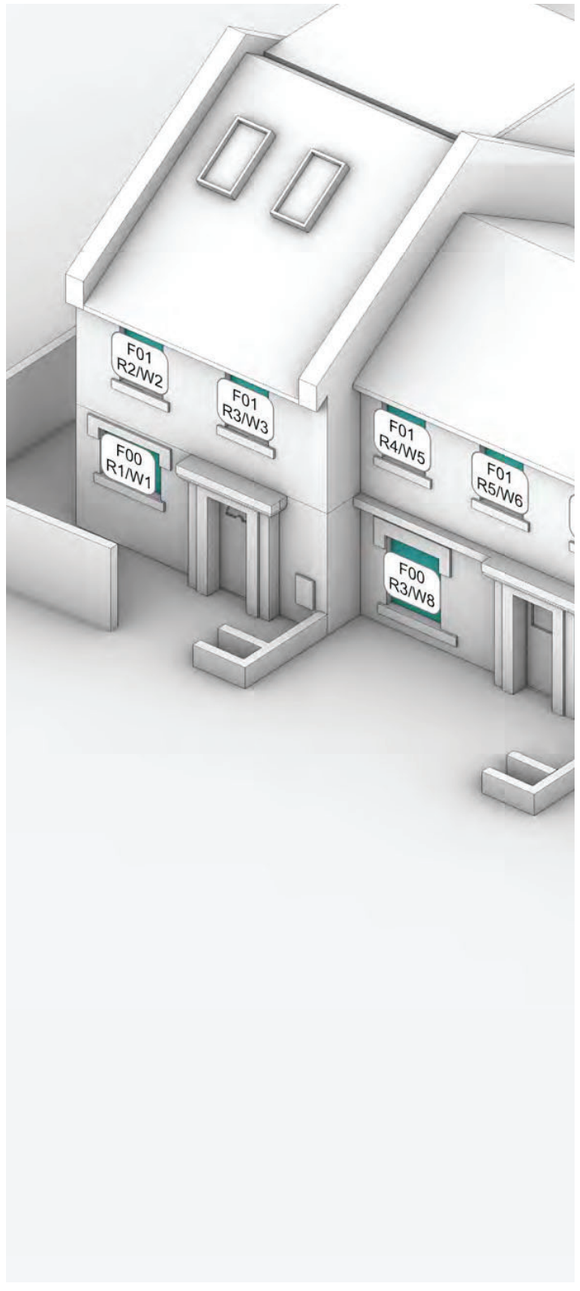


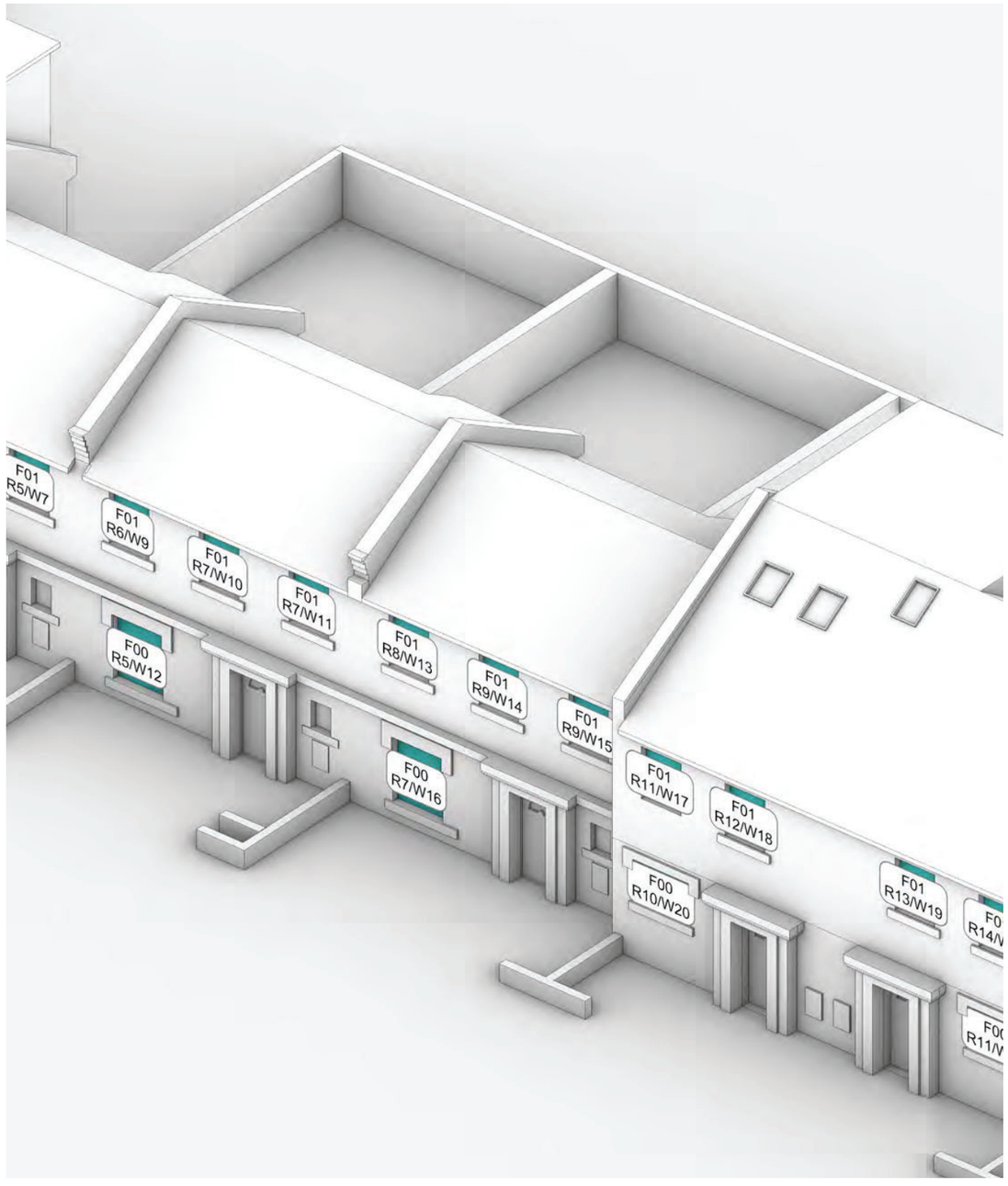




gia
CHARTERED SURVEYORS

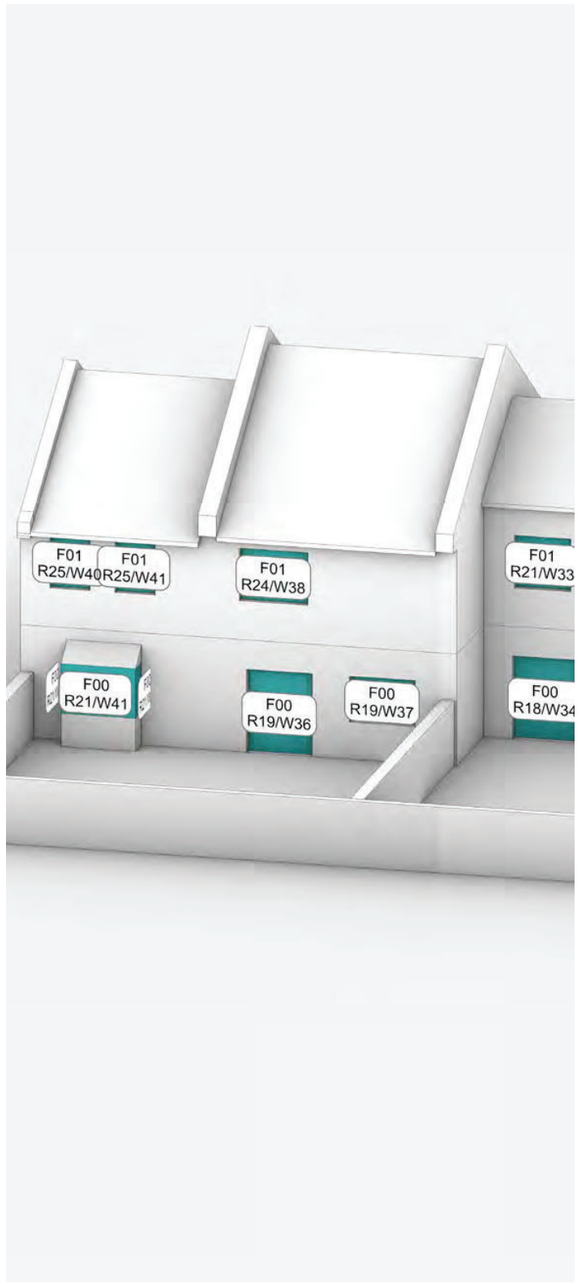
16. 177-195 Abbott Road







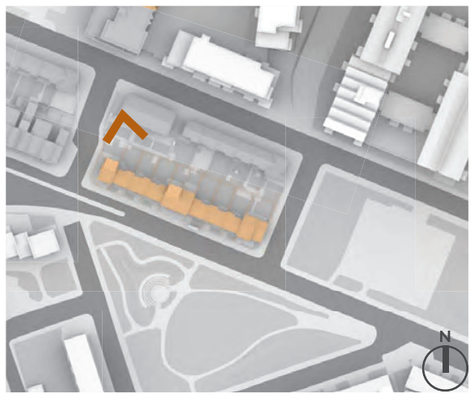
16. 177-195 Abbott Road

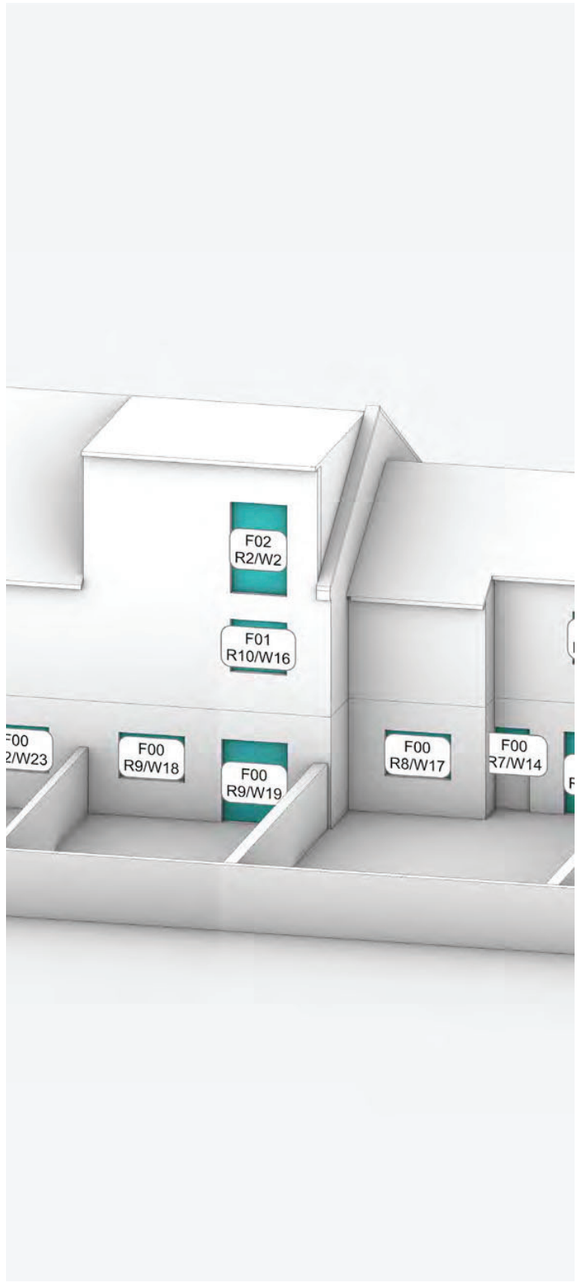


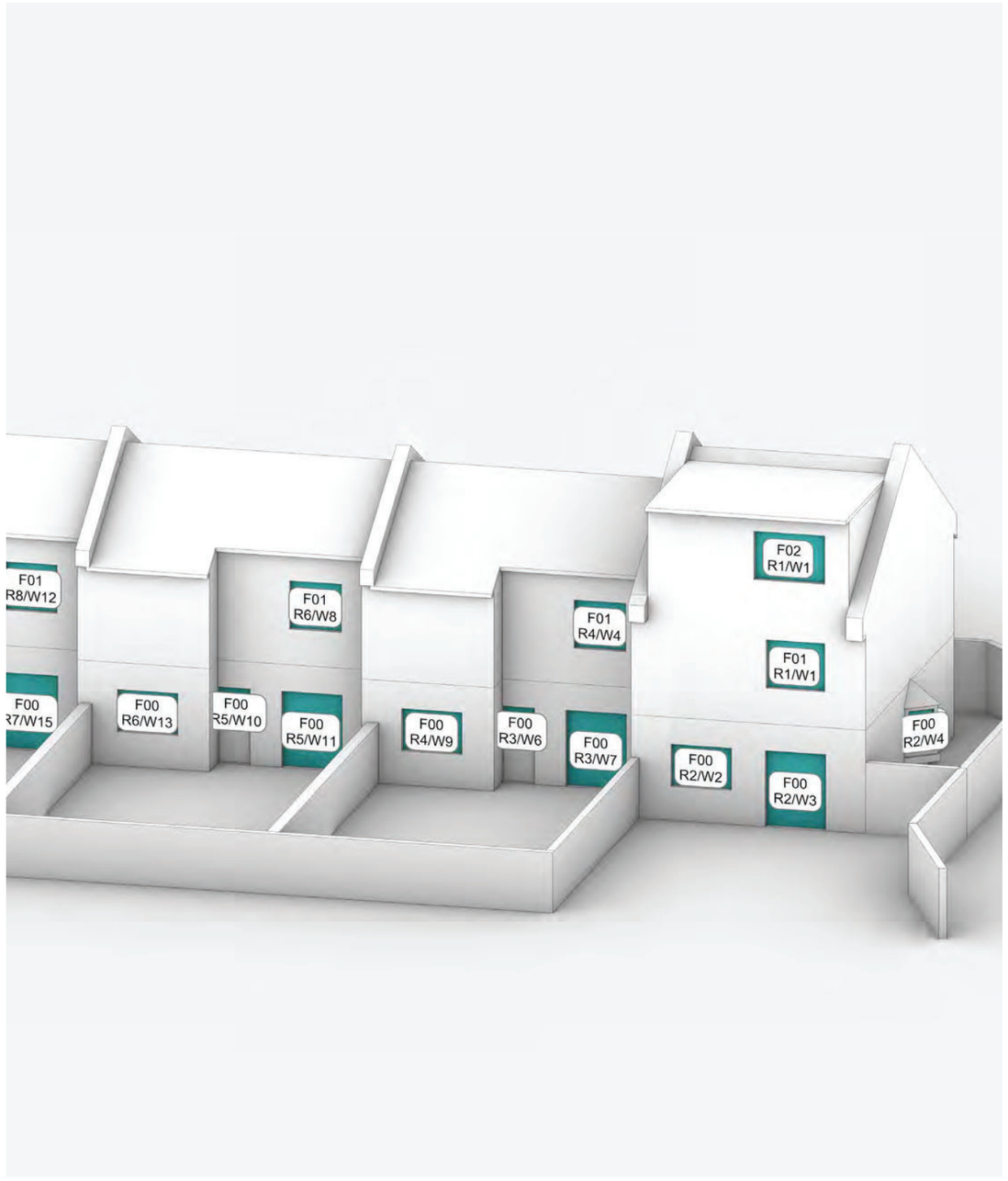




16. 177-195 Abbott Road







17. 134-144 Leven Road







gia CHARTERED SURVEYORS

17. 134-144 Leven Road







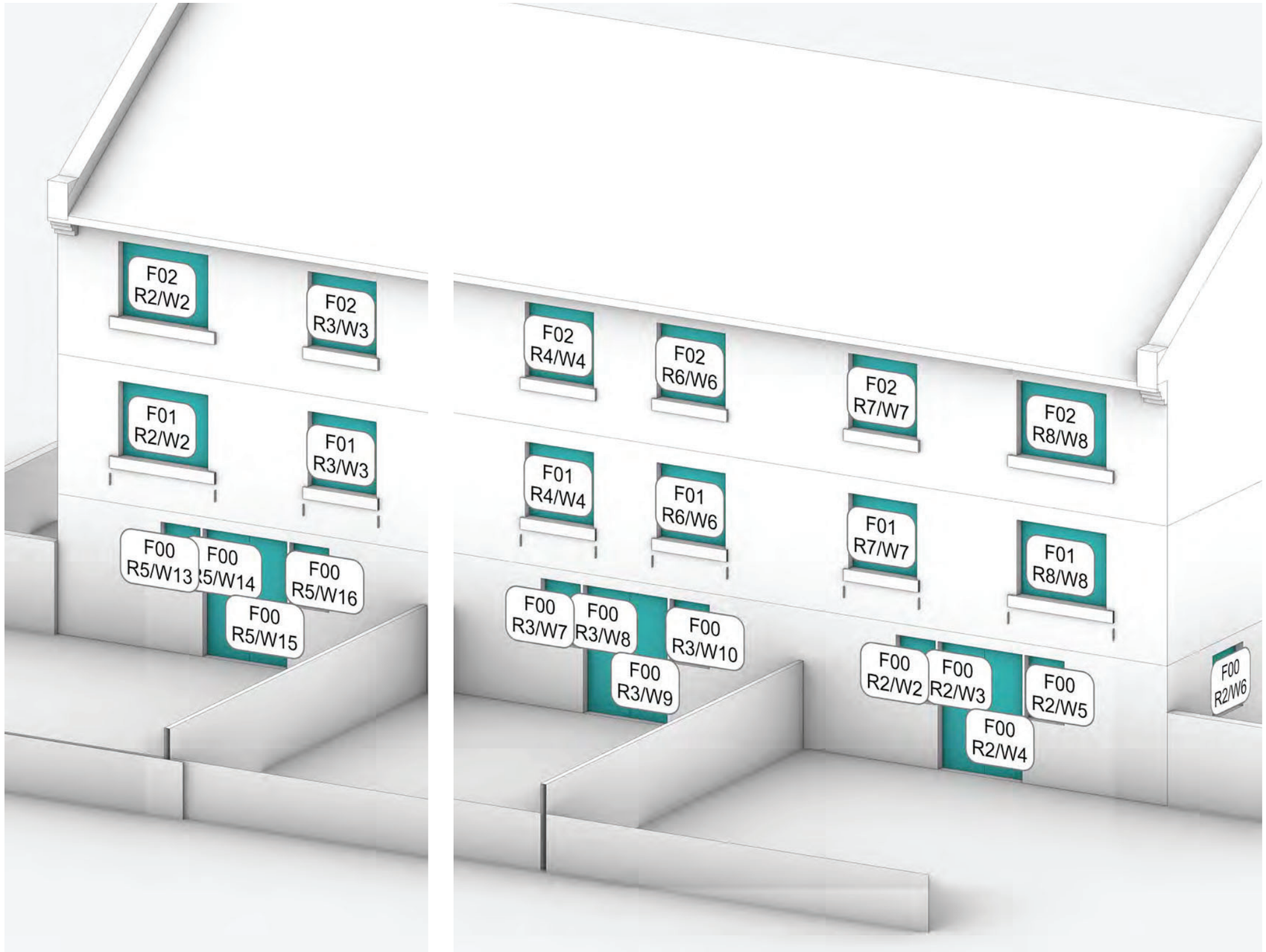
17. 134-144 Leven Road







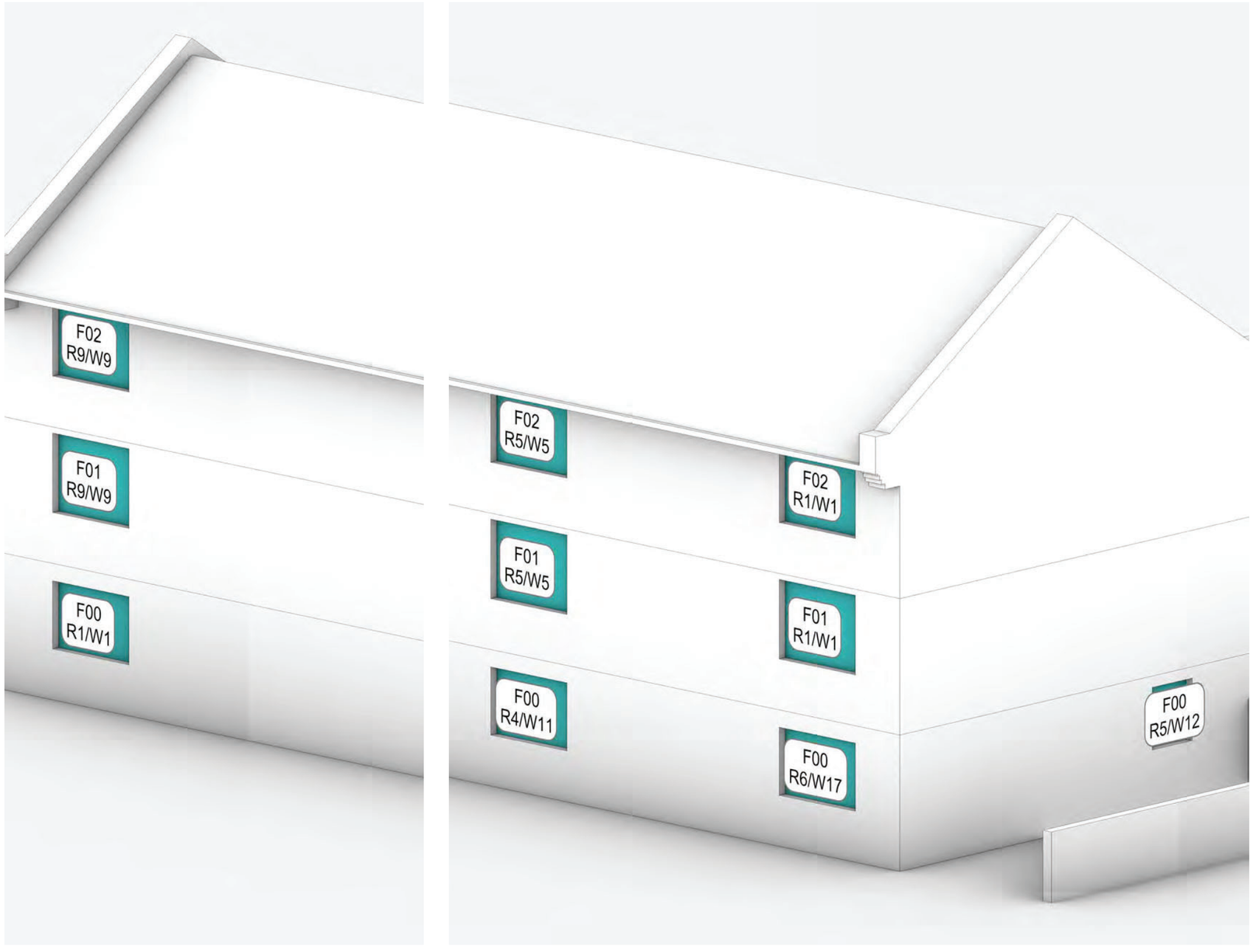
18. 128-132 Leven Road





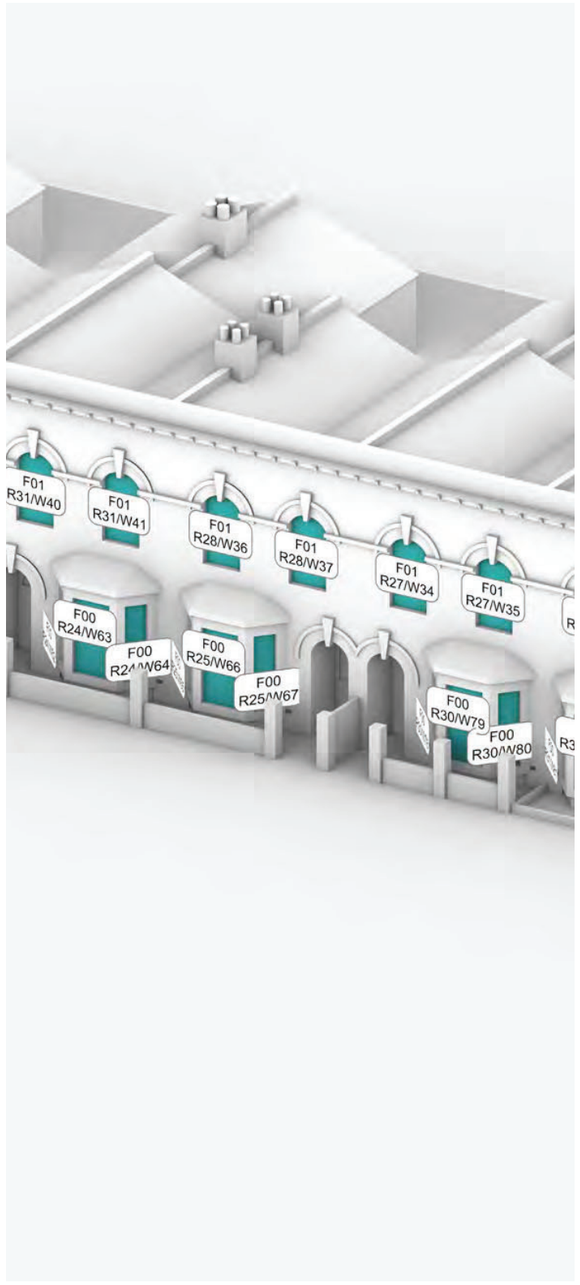
gia
CHARTERED SURVEYORS

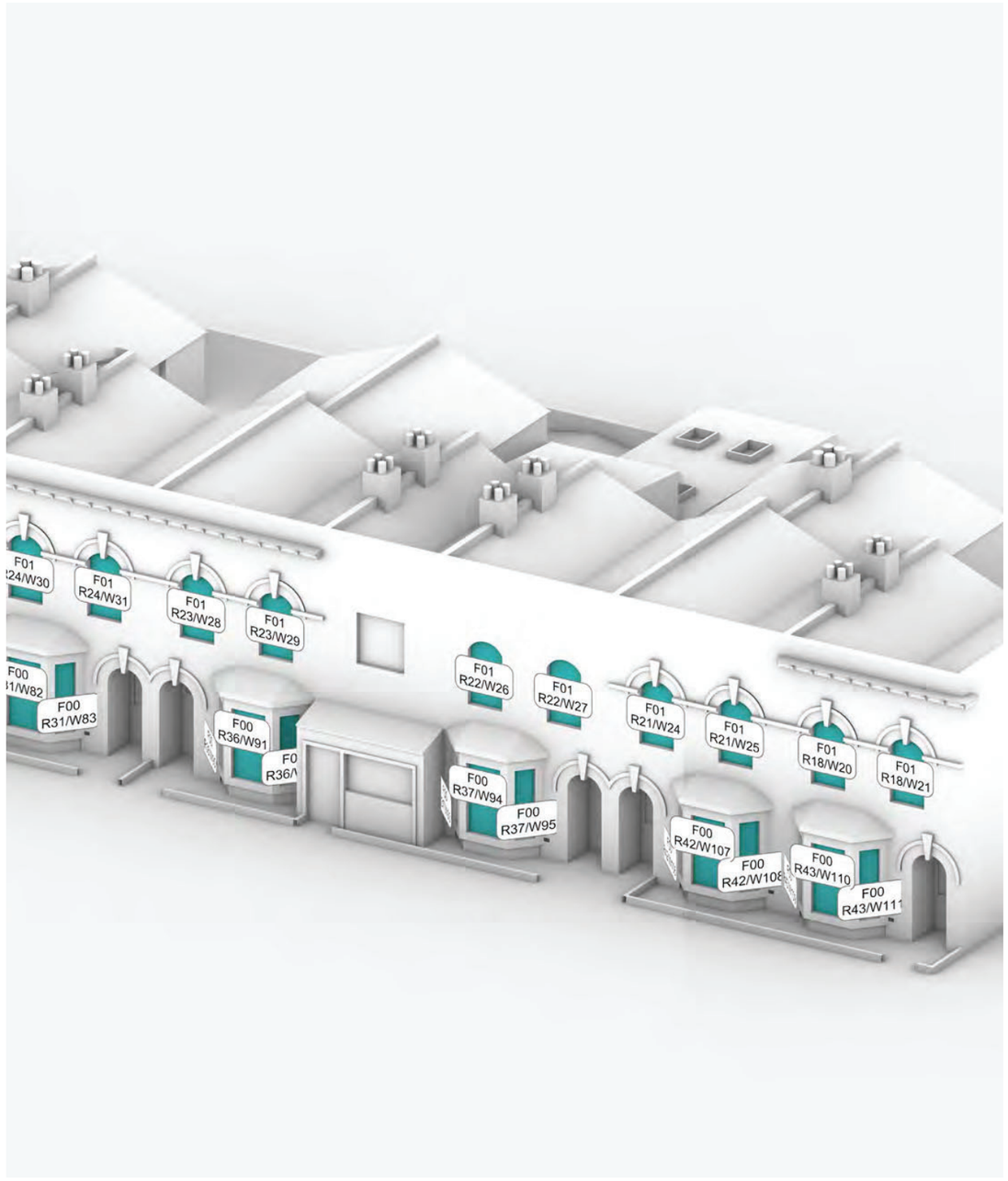
18. 128-132 Leven Road





19. 199-225 Abbott Road

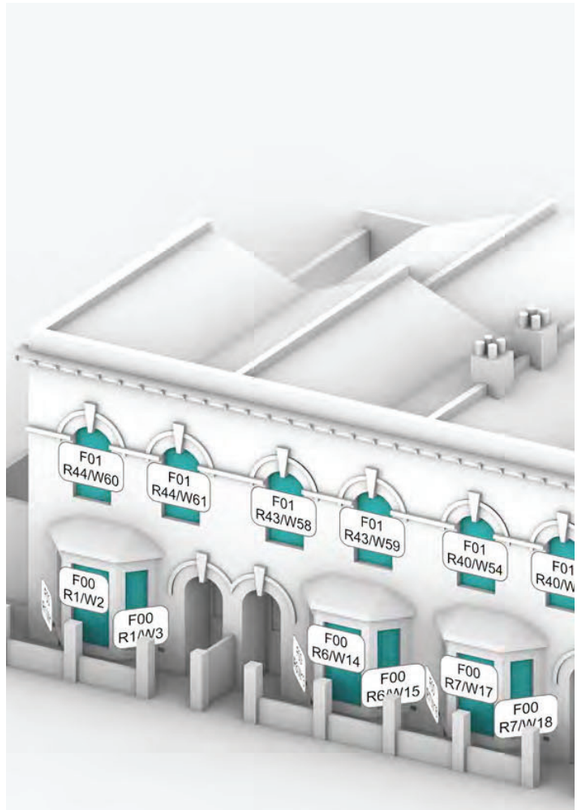


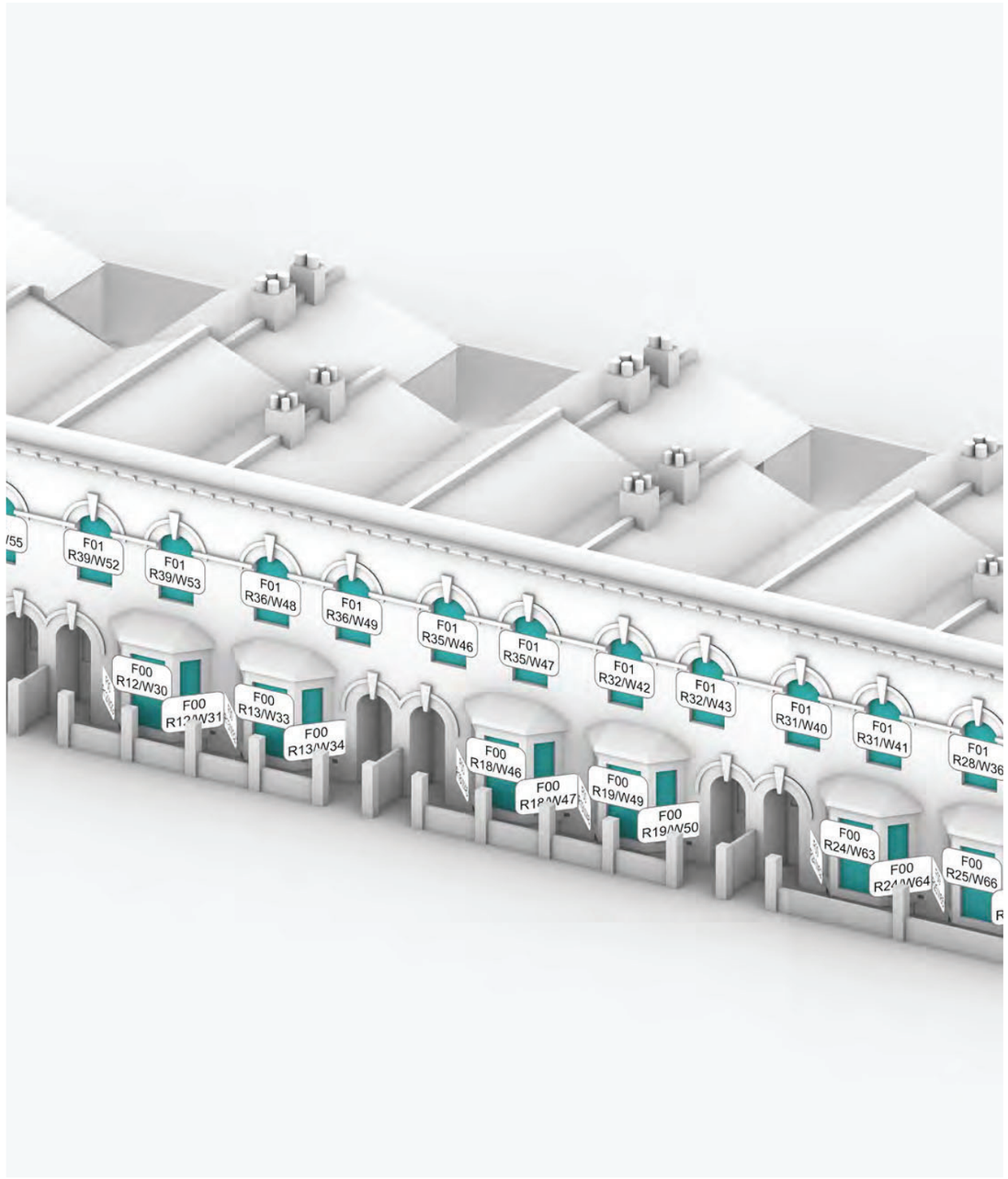


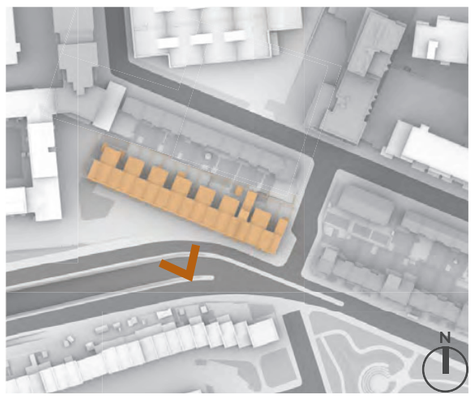


gia
CHARTERED SURVEYORS

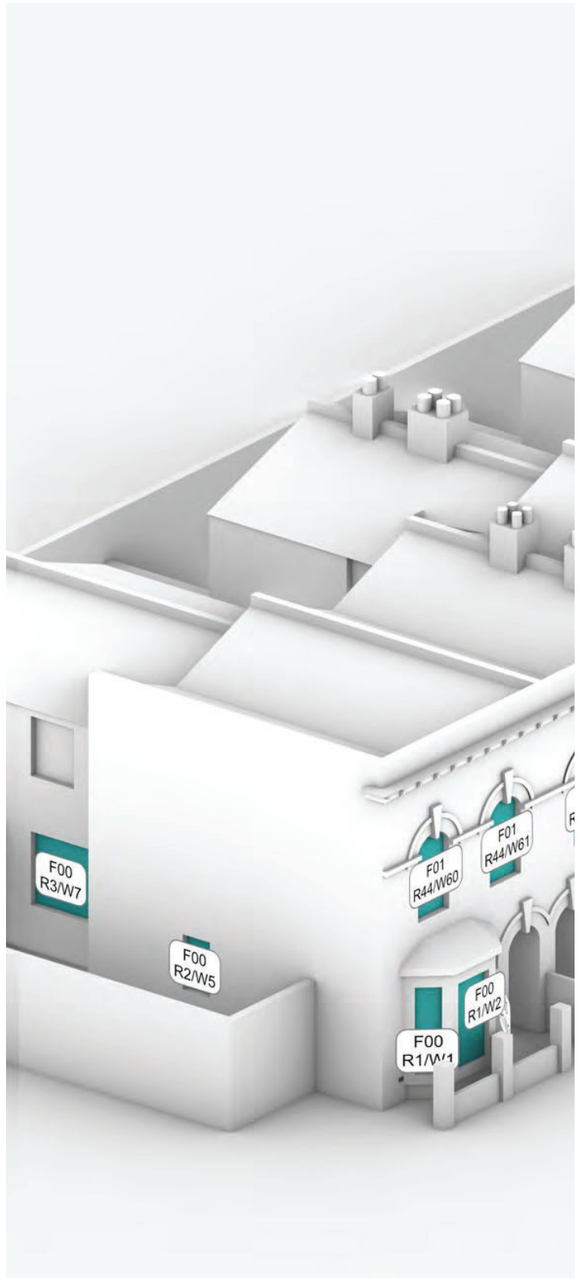
19. 199-225 Abbott Road

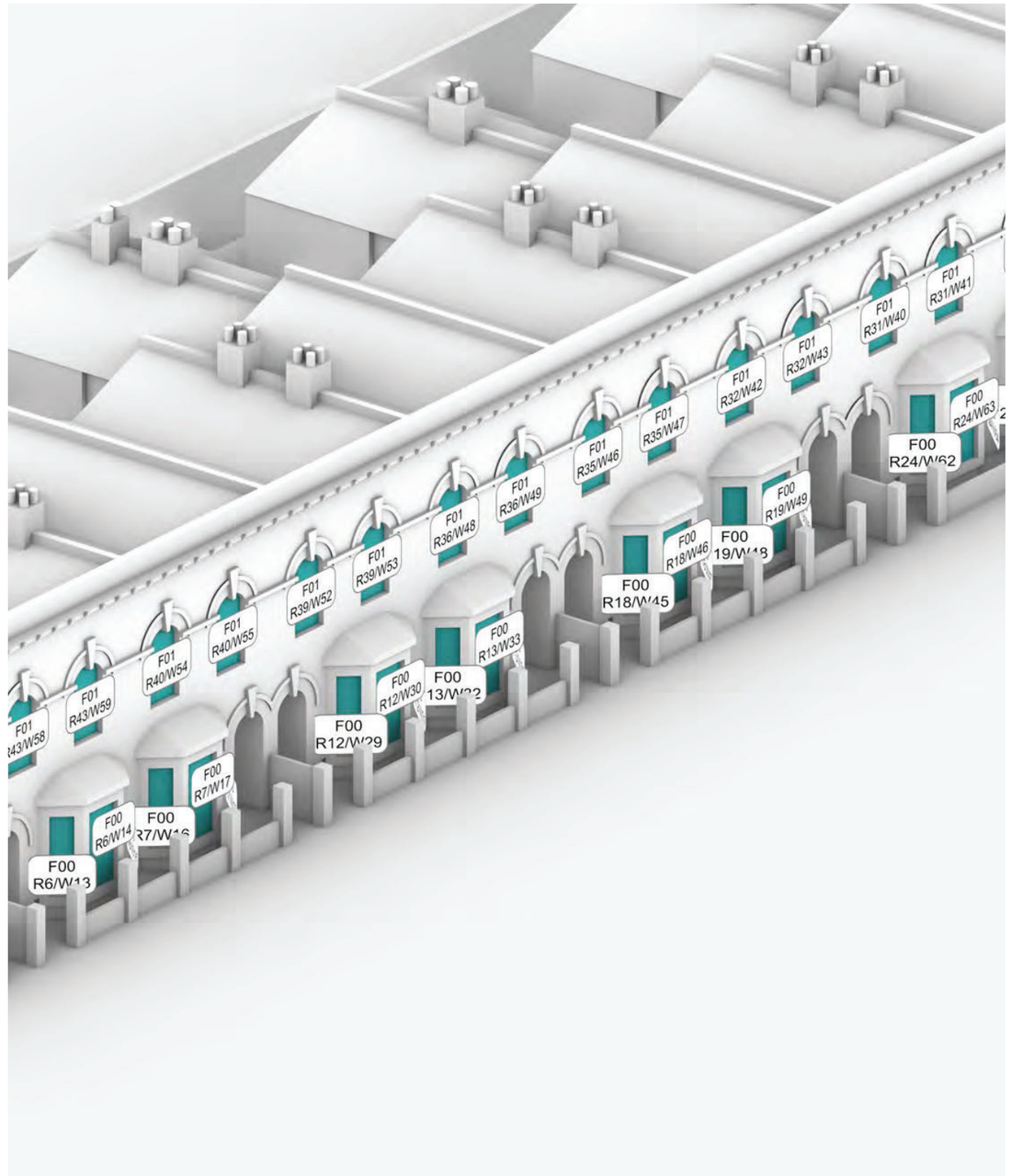


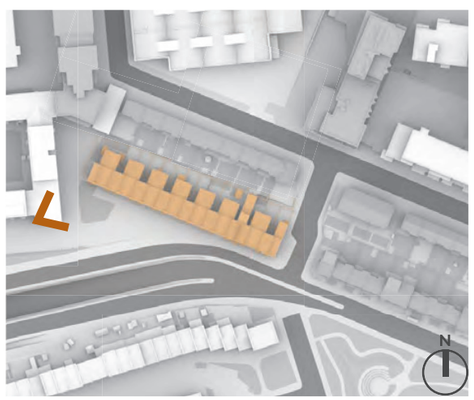




19. 199-225 Abbott Road

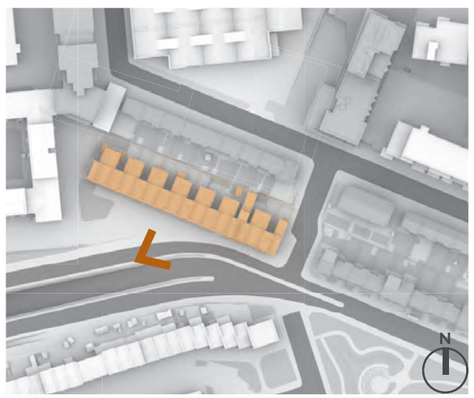


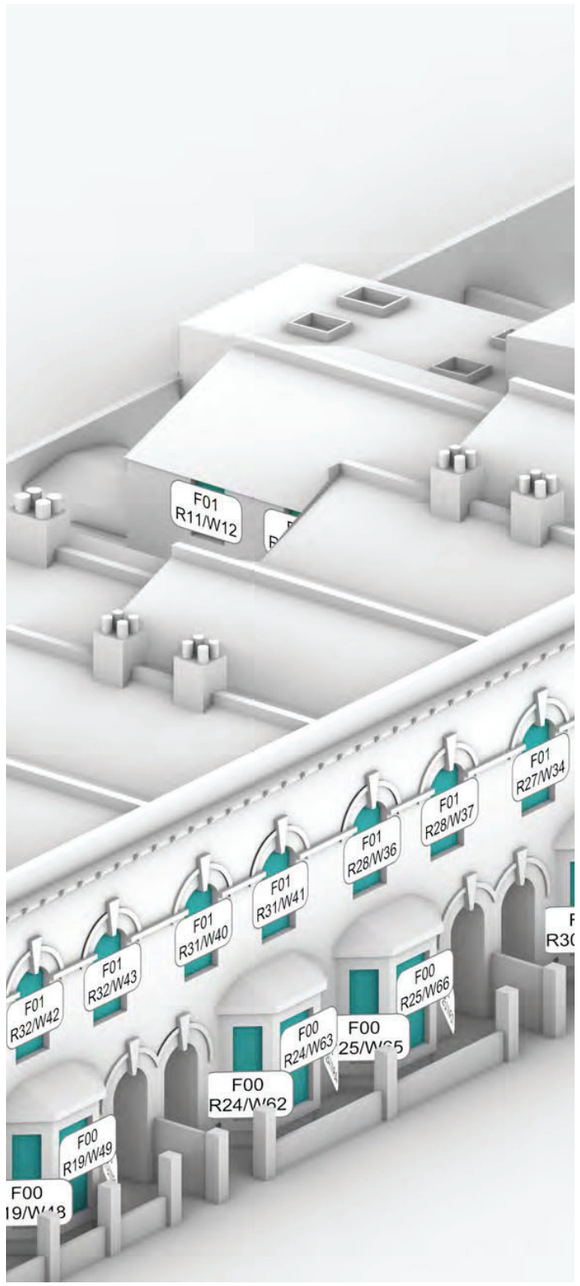


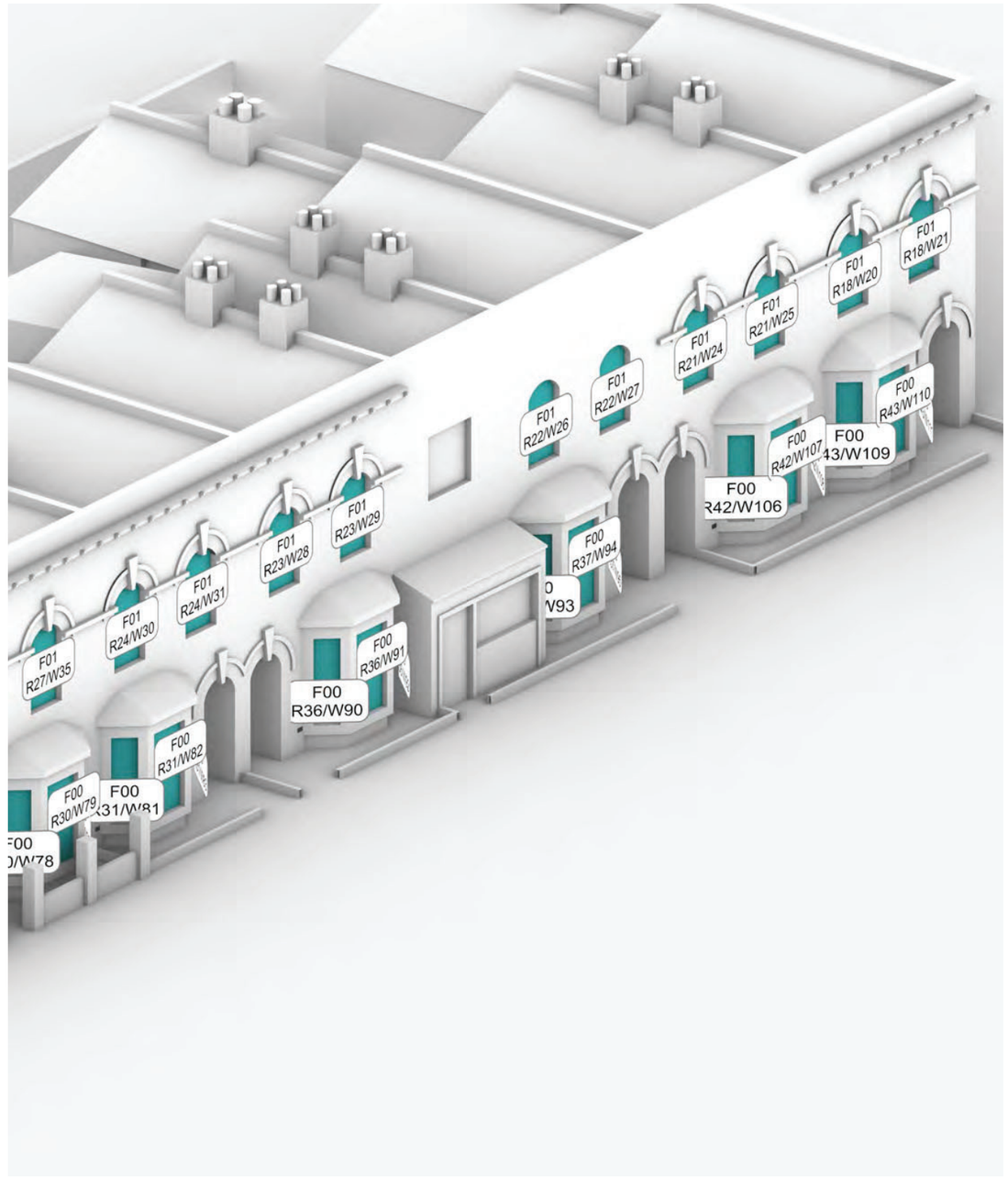


gia
CHARTERED SURVEYORS

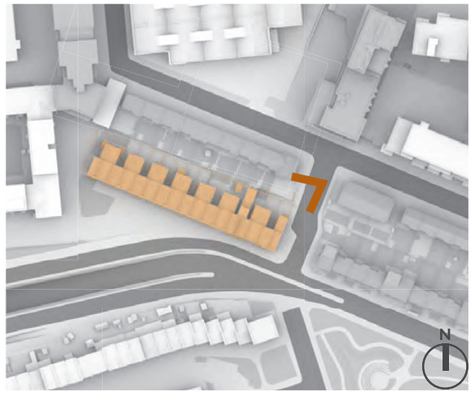
19. 199-225 Abbott Road

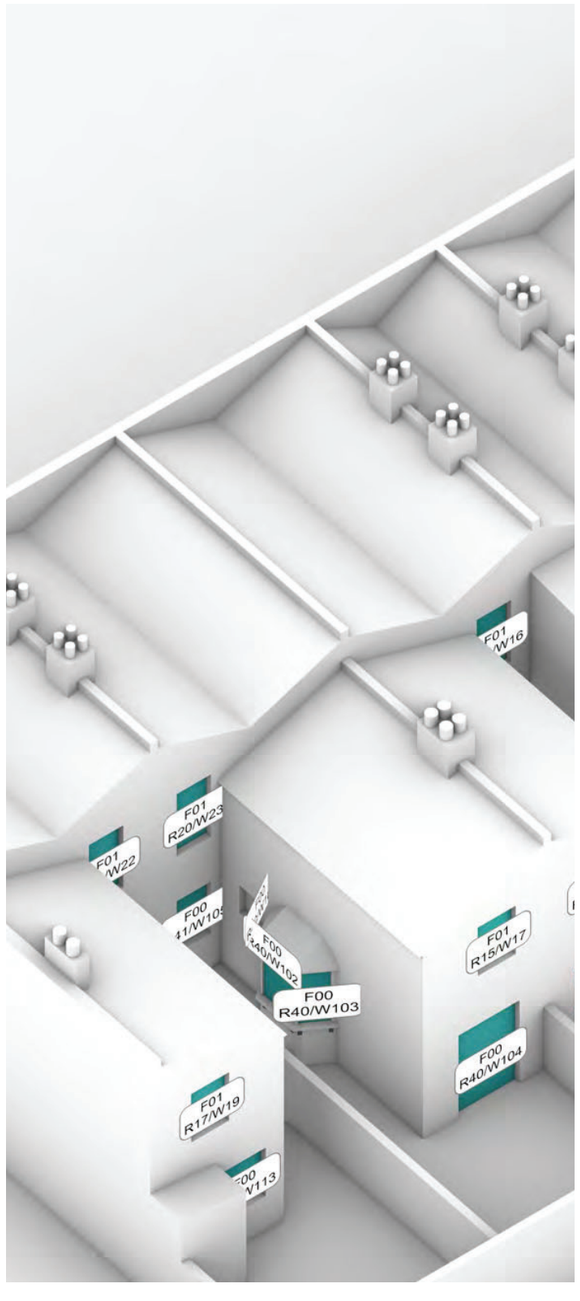


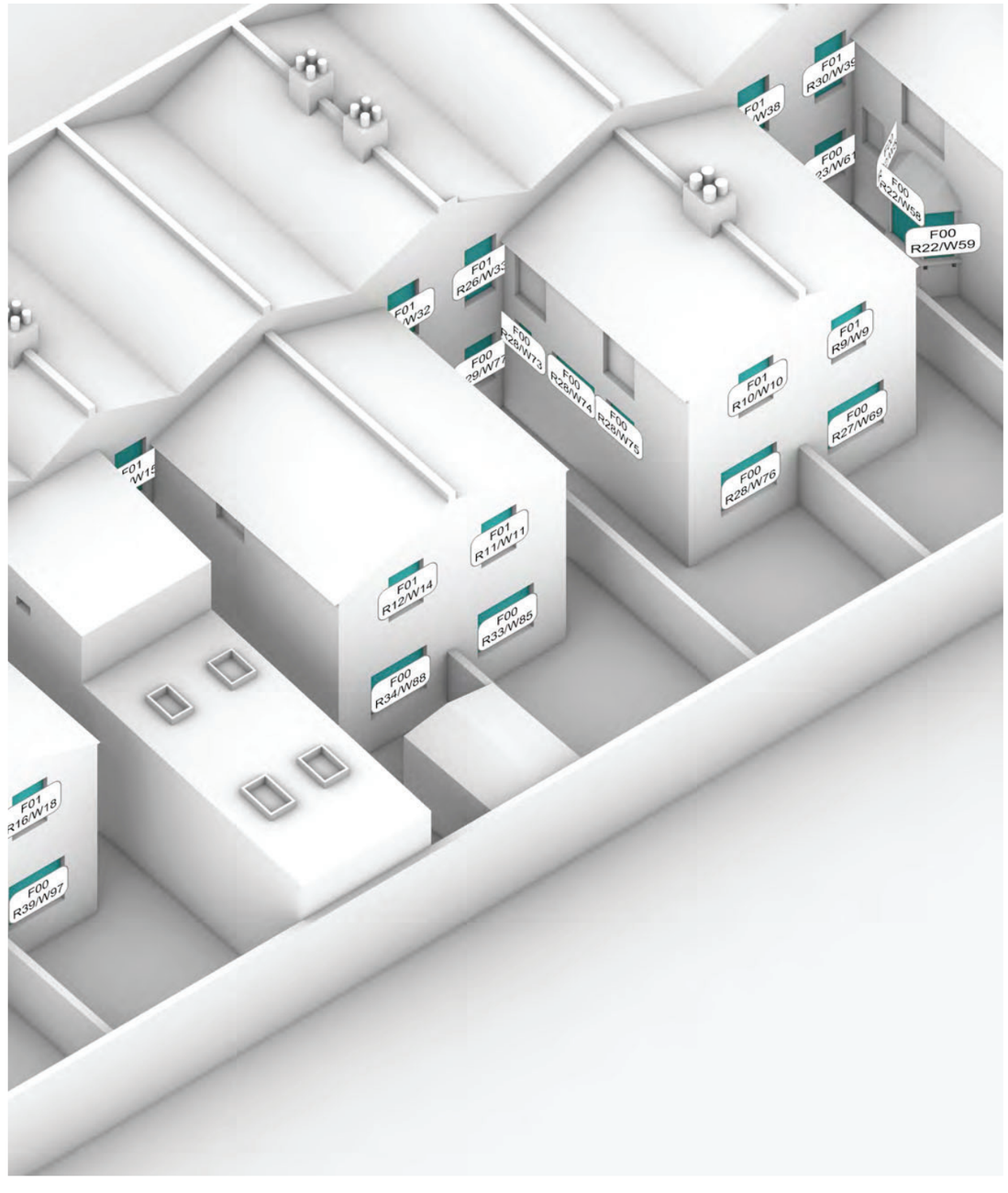




19. 199-225 Abbott Road

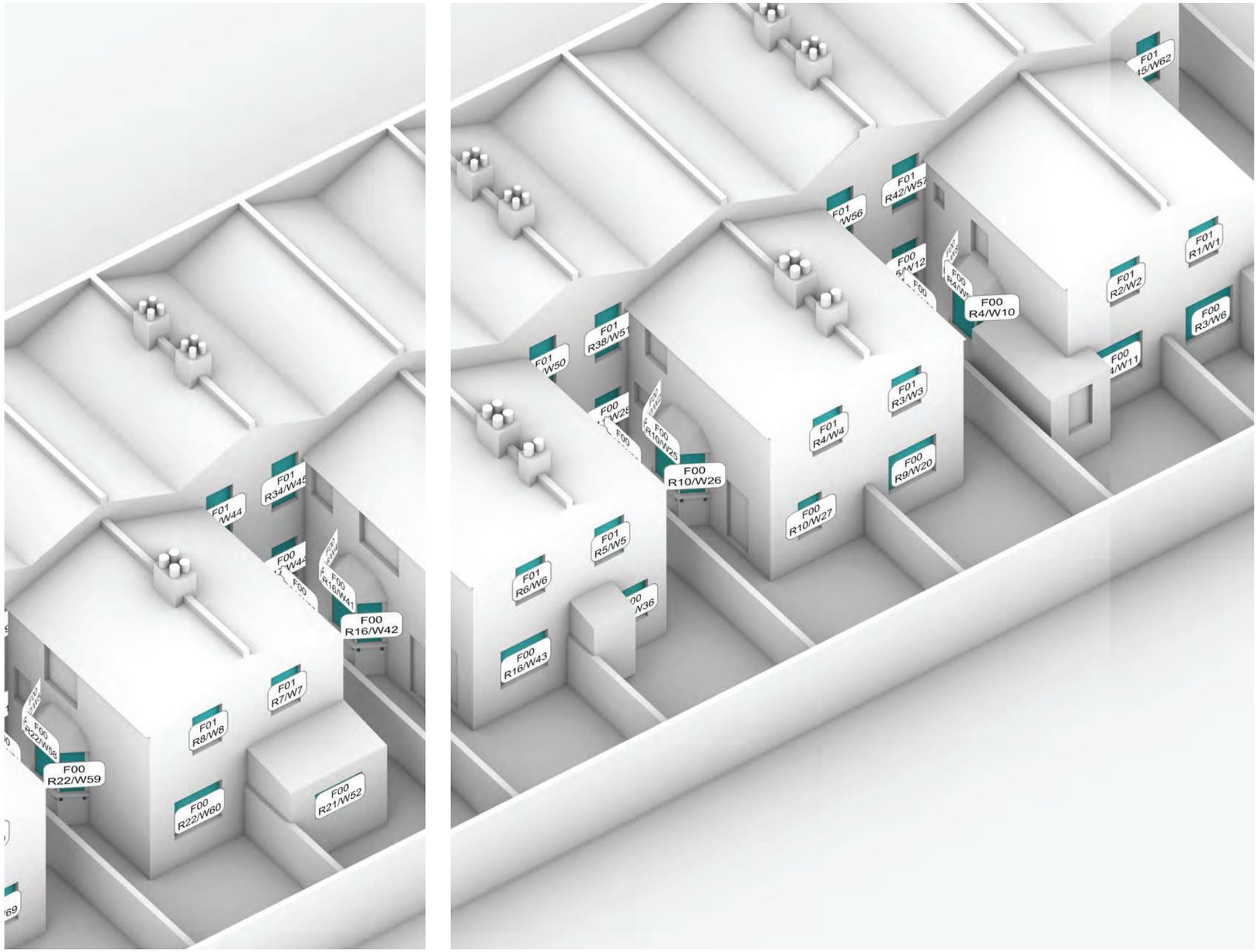






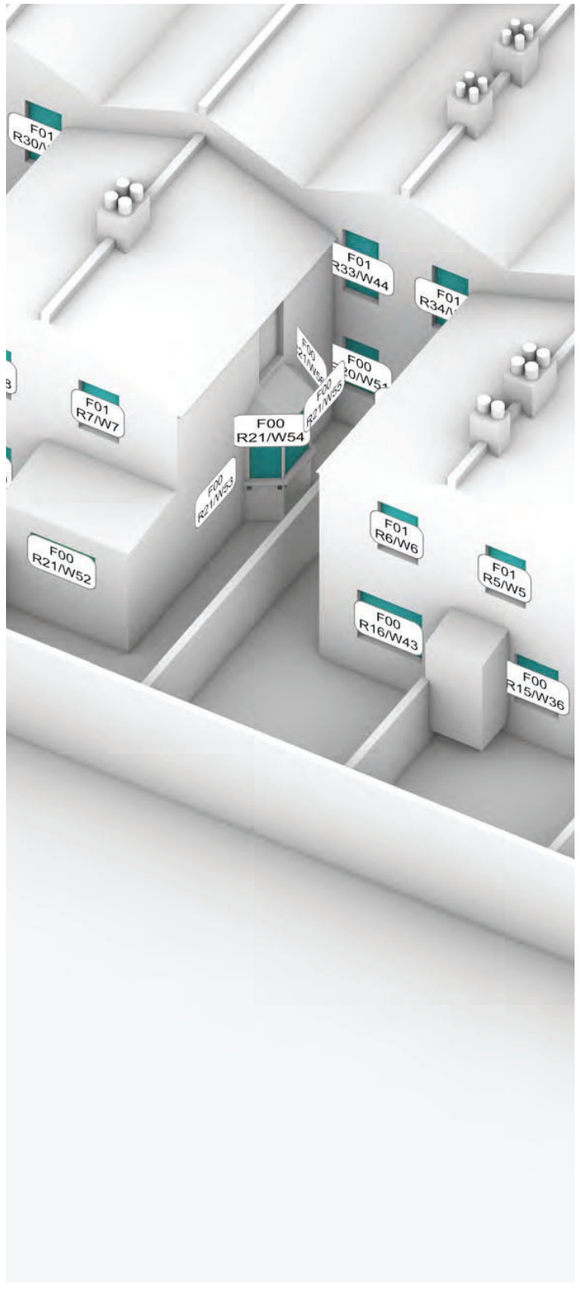
19. 199-225 Abbott Road

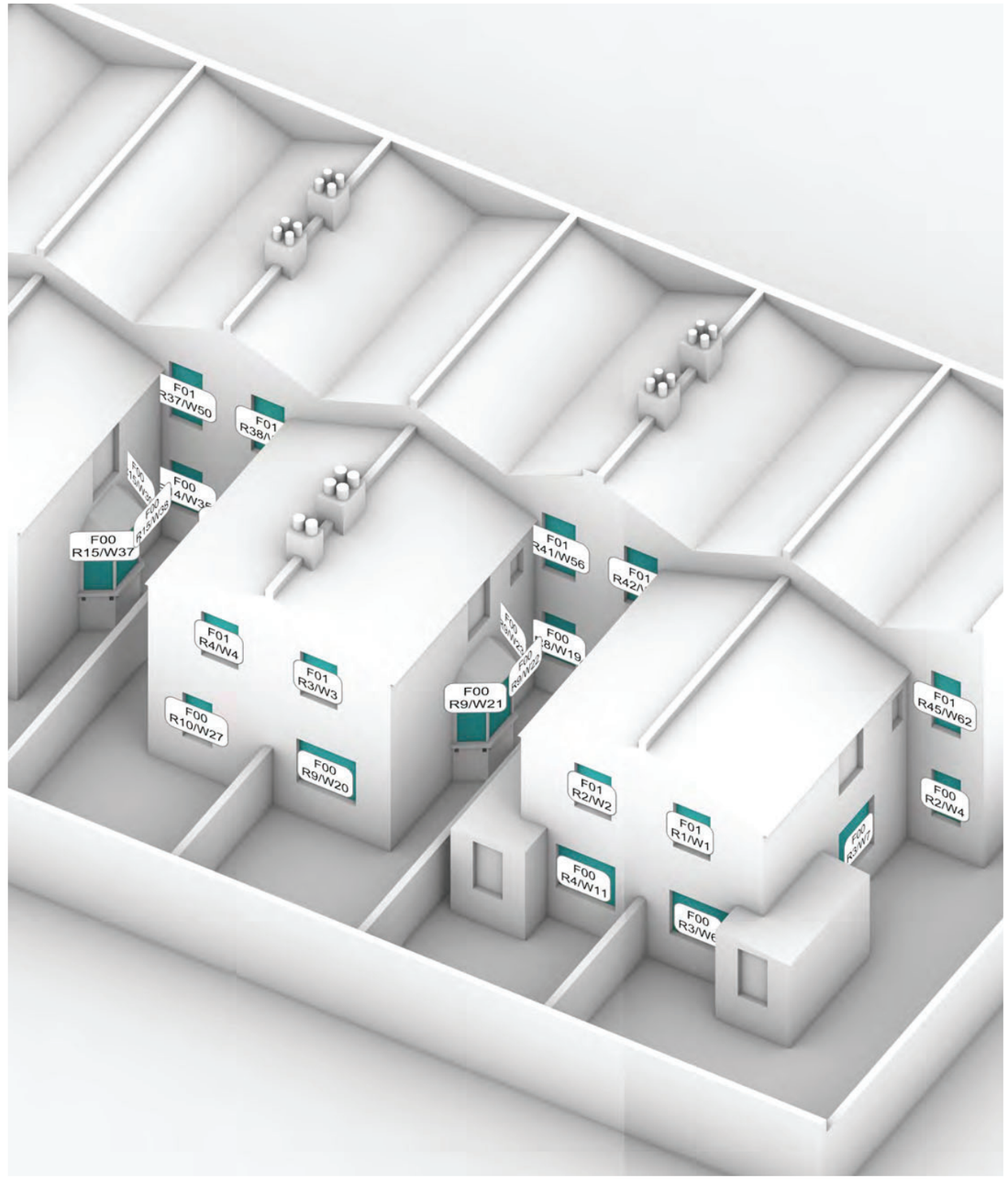




gia
CHARTERED SURVEYORS

19. 199-225 Abbott Road

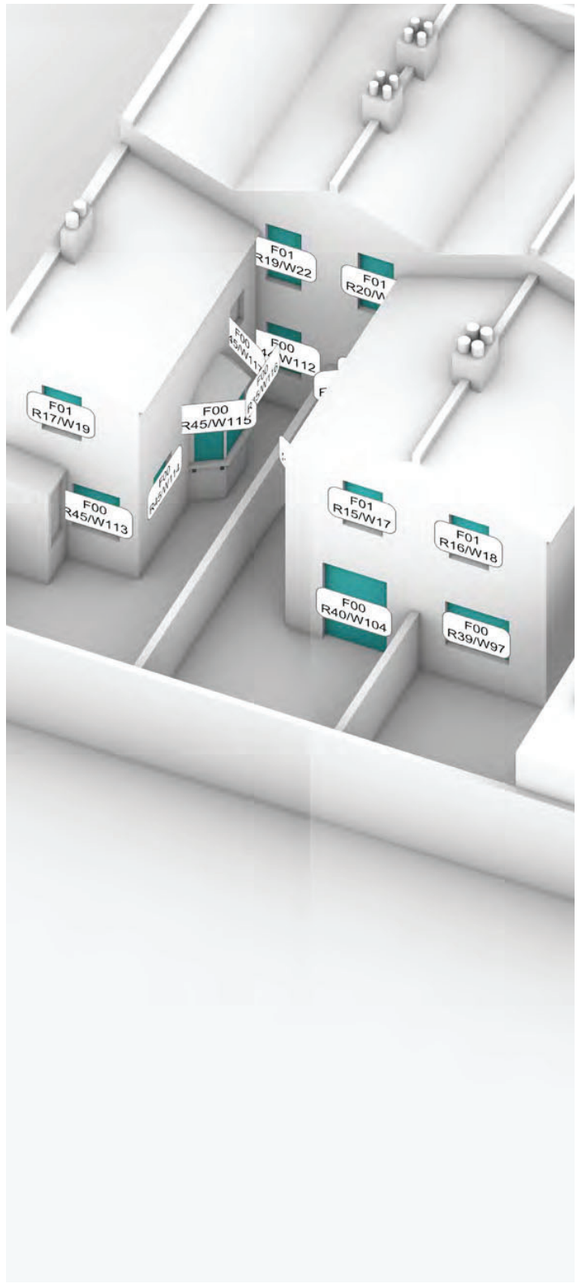


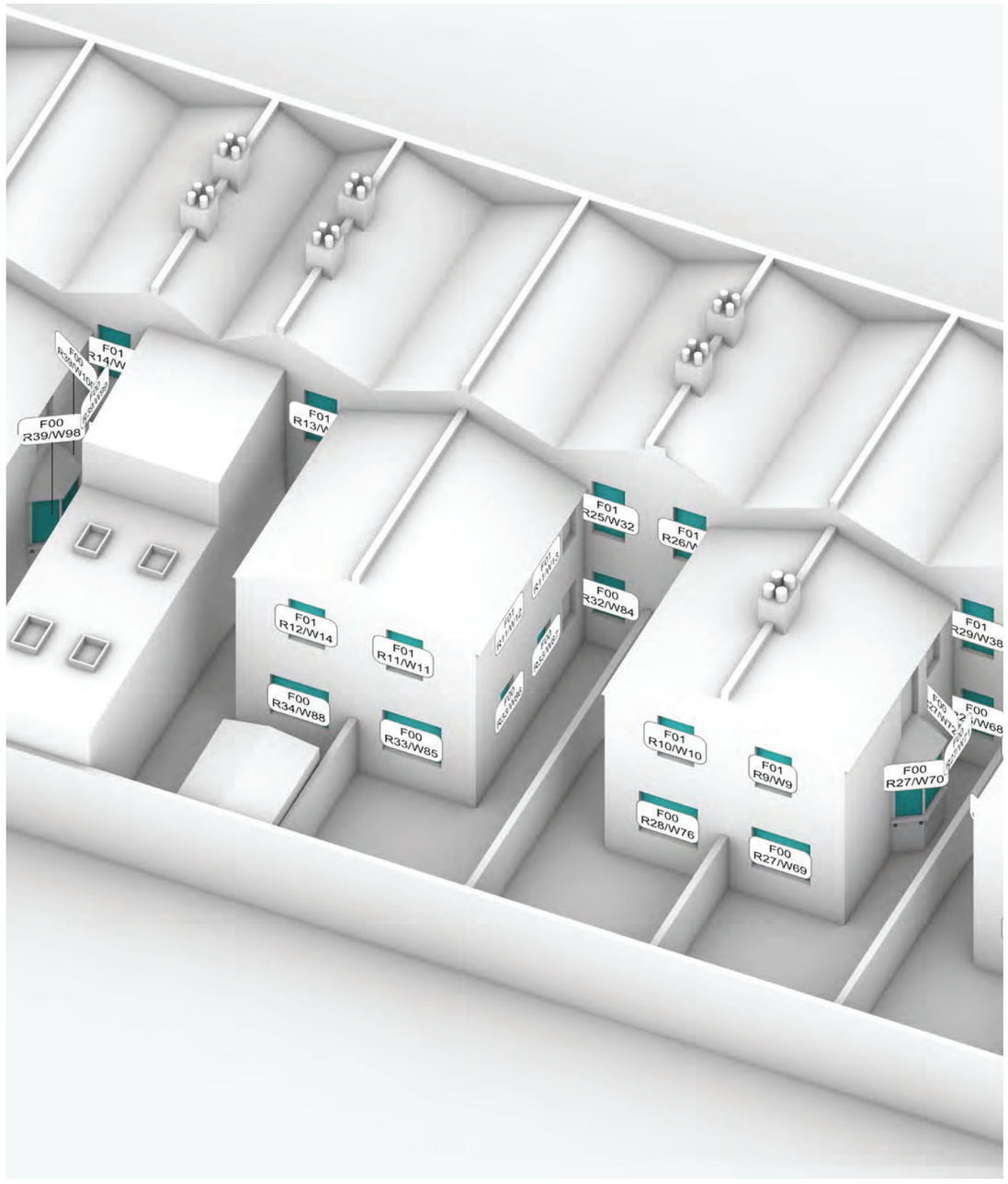


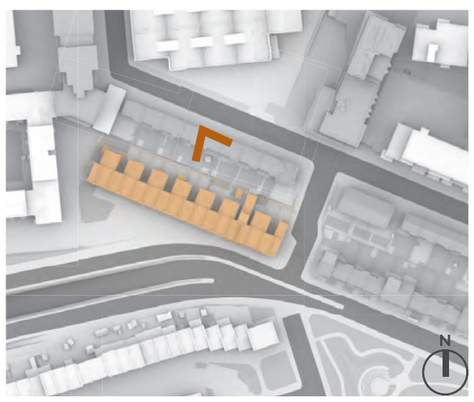


gia
CHARTERED SURVEYORS

19. 199-225 Abbott Road



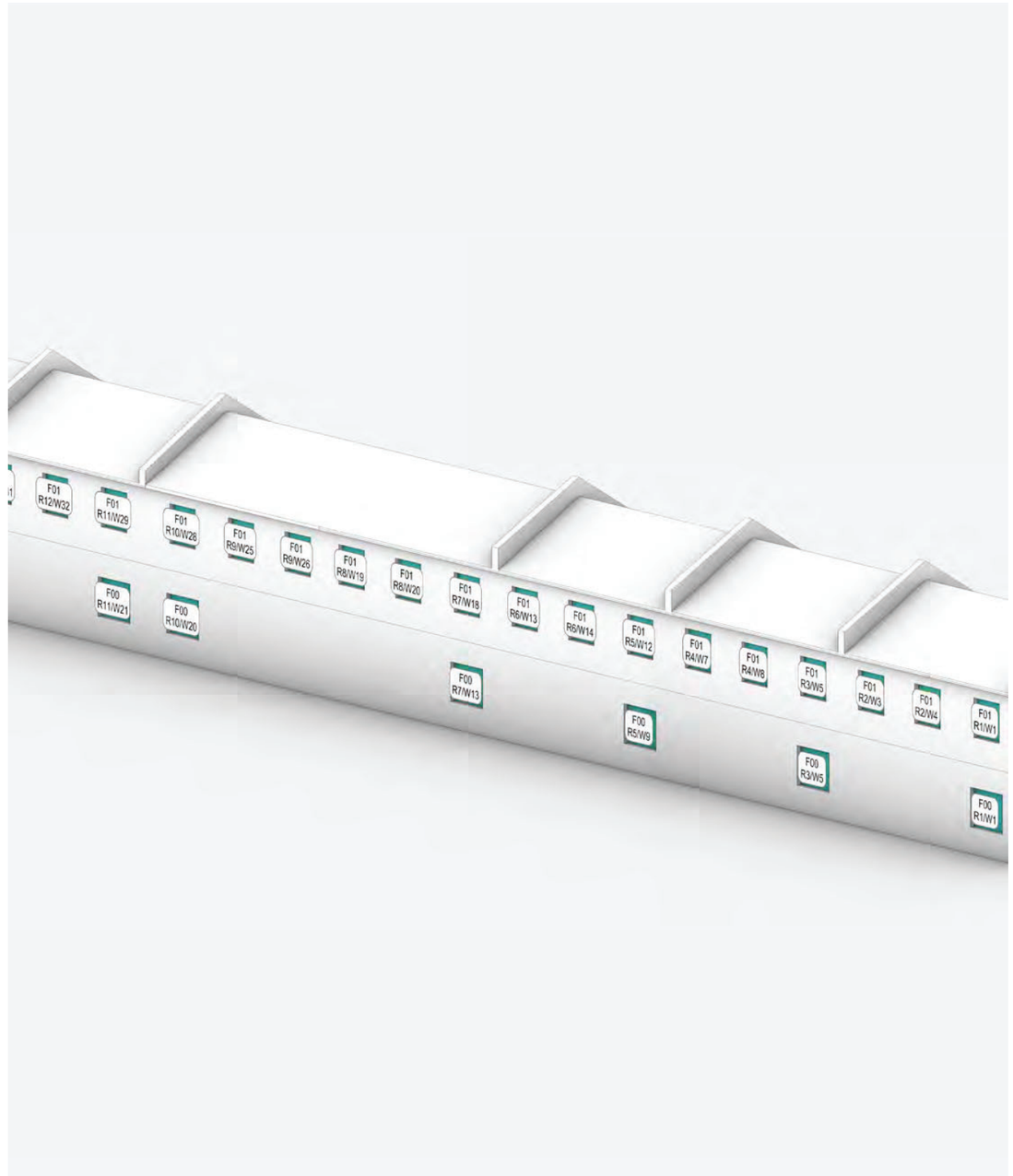




gia
CHARTERED SURVEYORS

20. 110-126 Leven Road







gia
CHARTERED SURVEYORS

20. 110-126 Leven Road





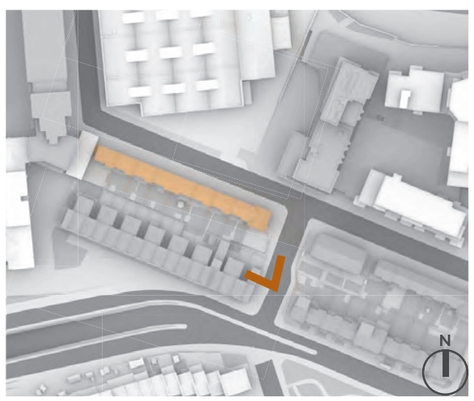


gia CHARTERED SURVEYORS

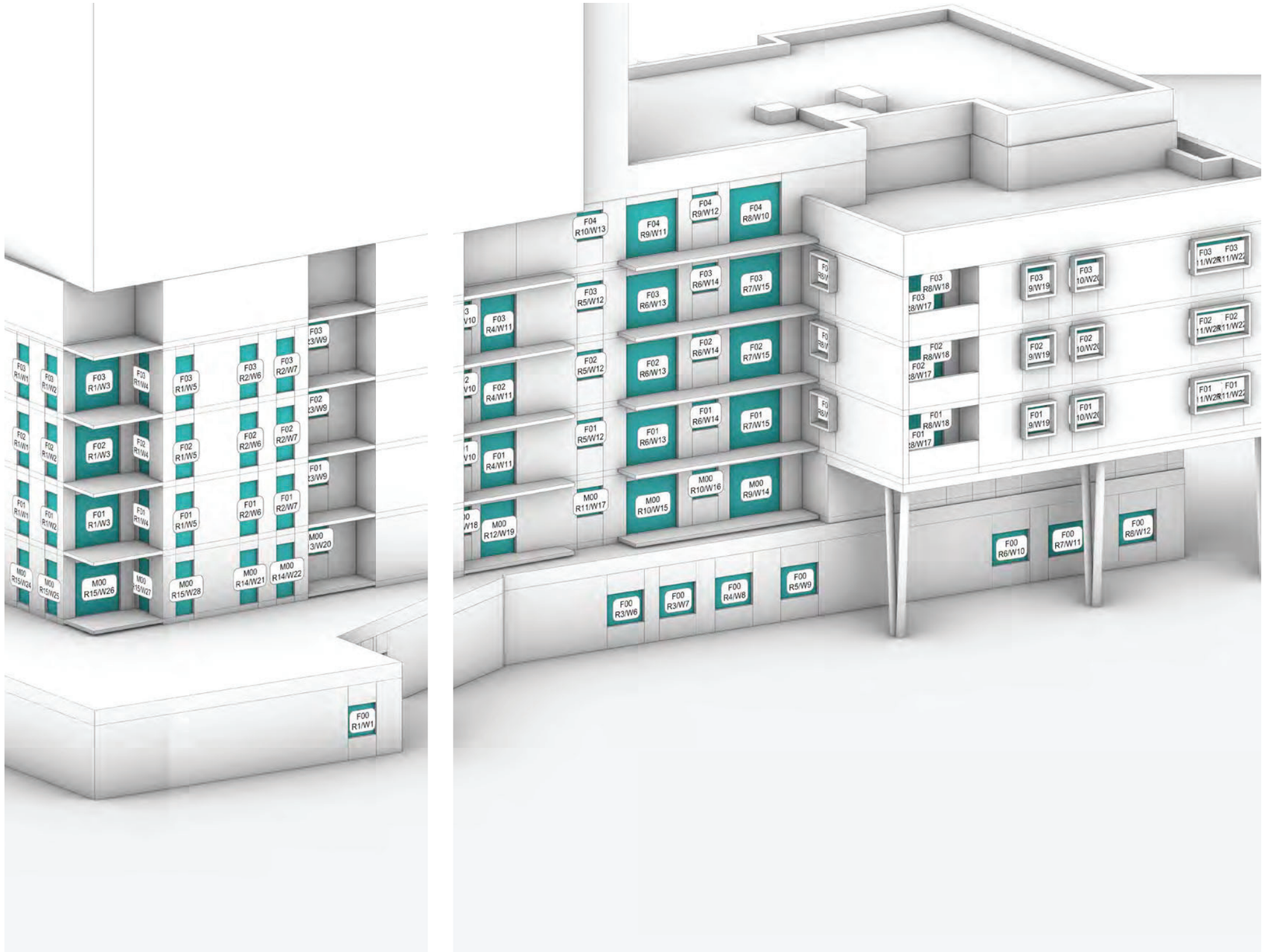
20. 110-126 Leven Road





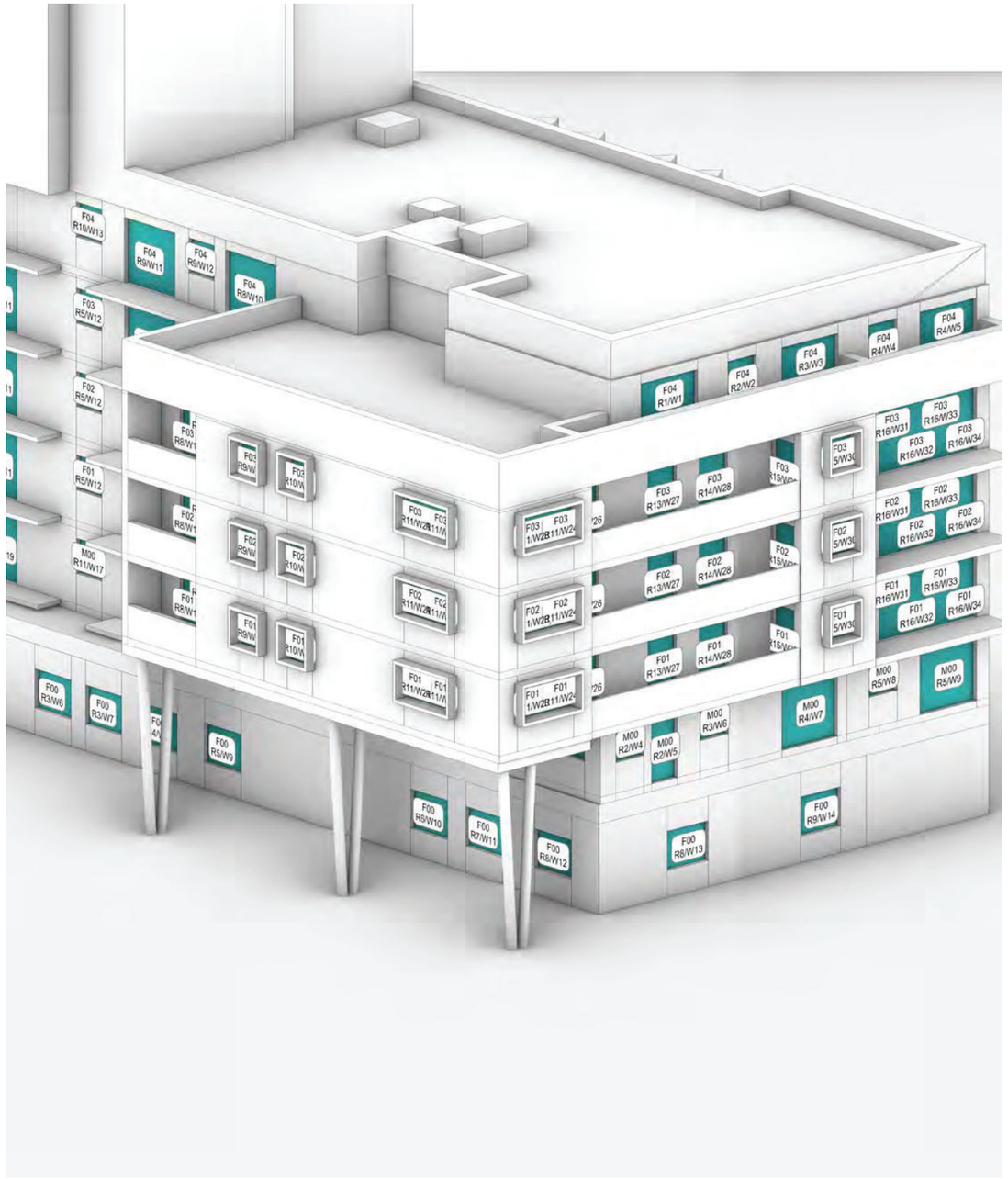


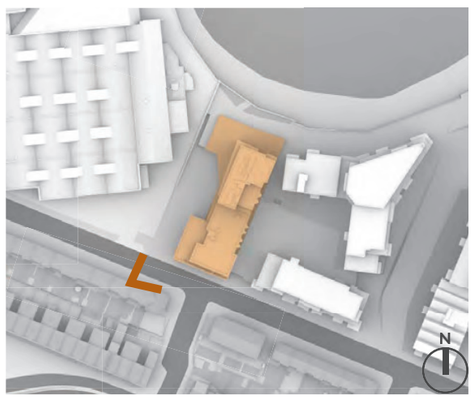
21. Devons Wharf



21. Devons Wharf



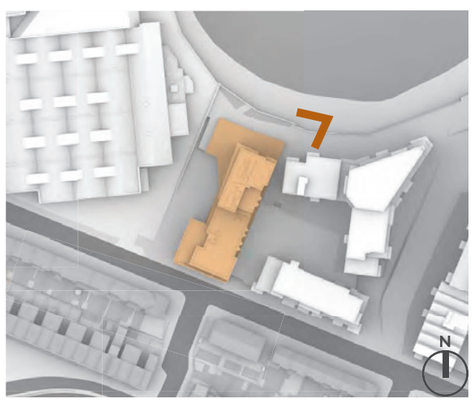




gia CHARTERED SURVEYORS

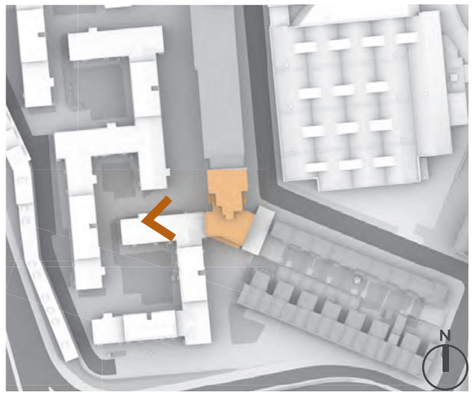
21. Devons Wharf





22. Leven Road Phase 3

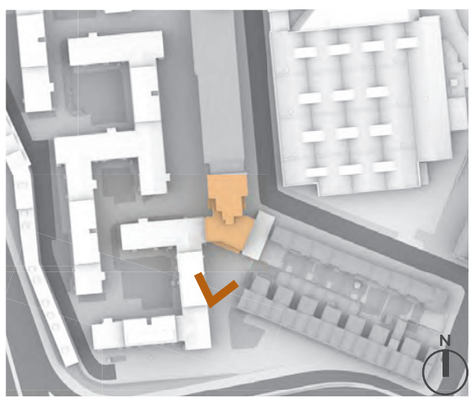




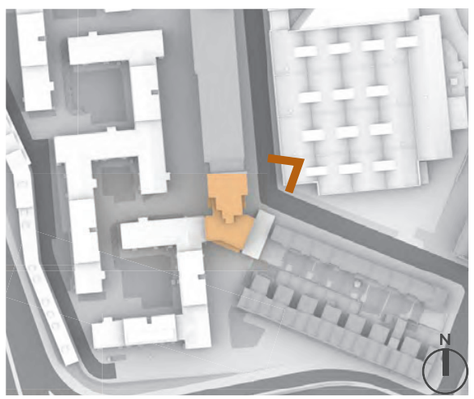
22. Leven Road Phase 3

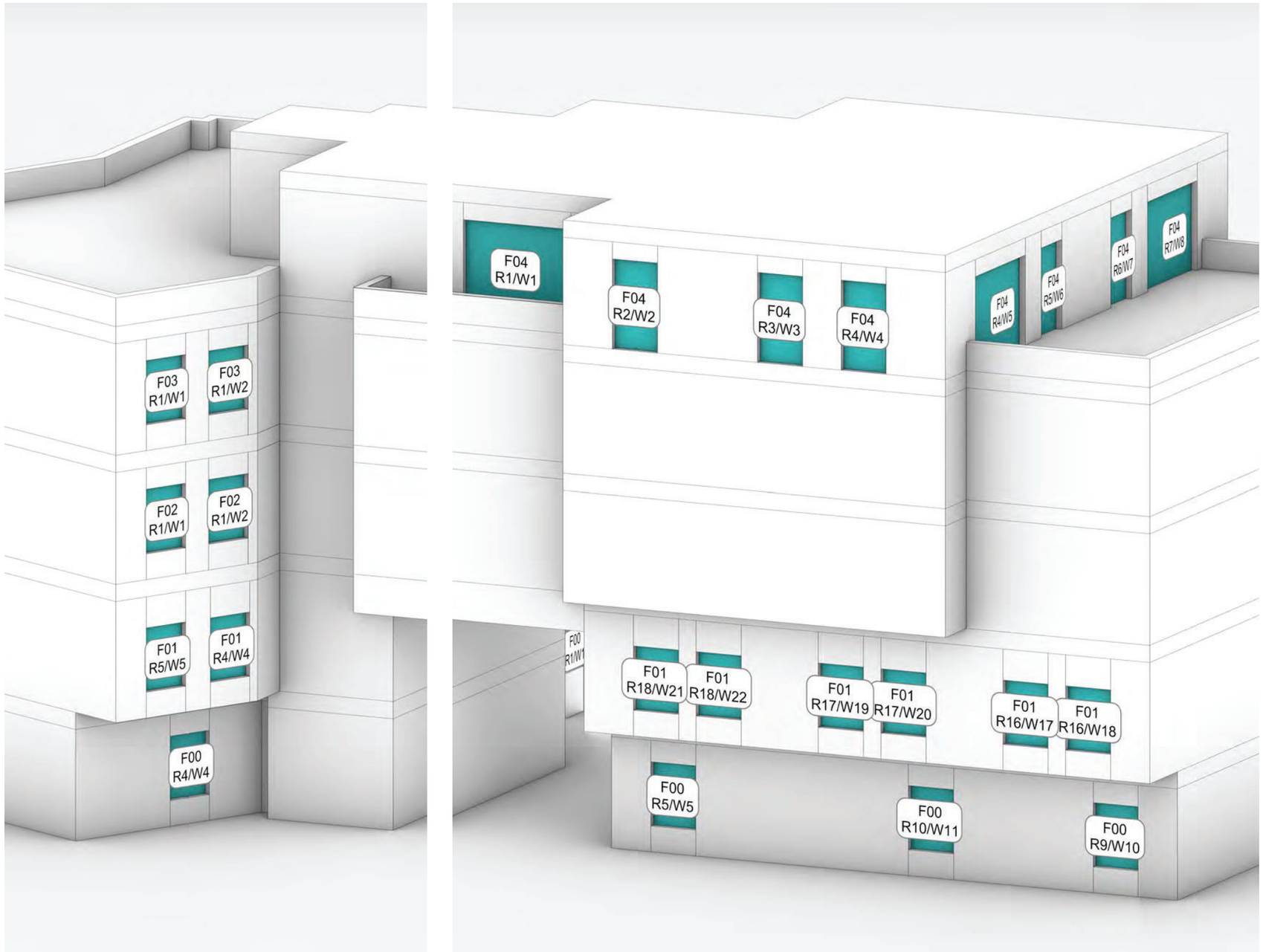






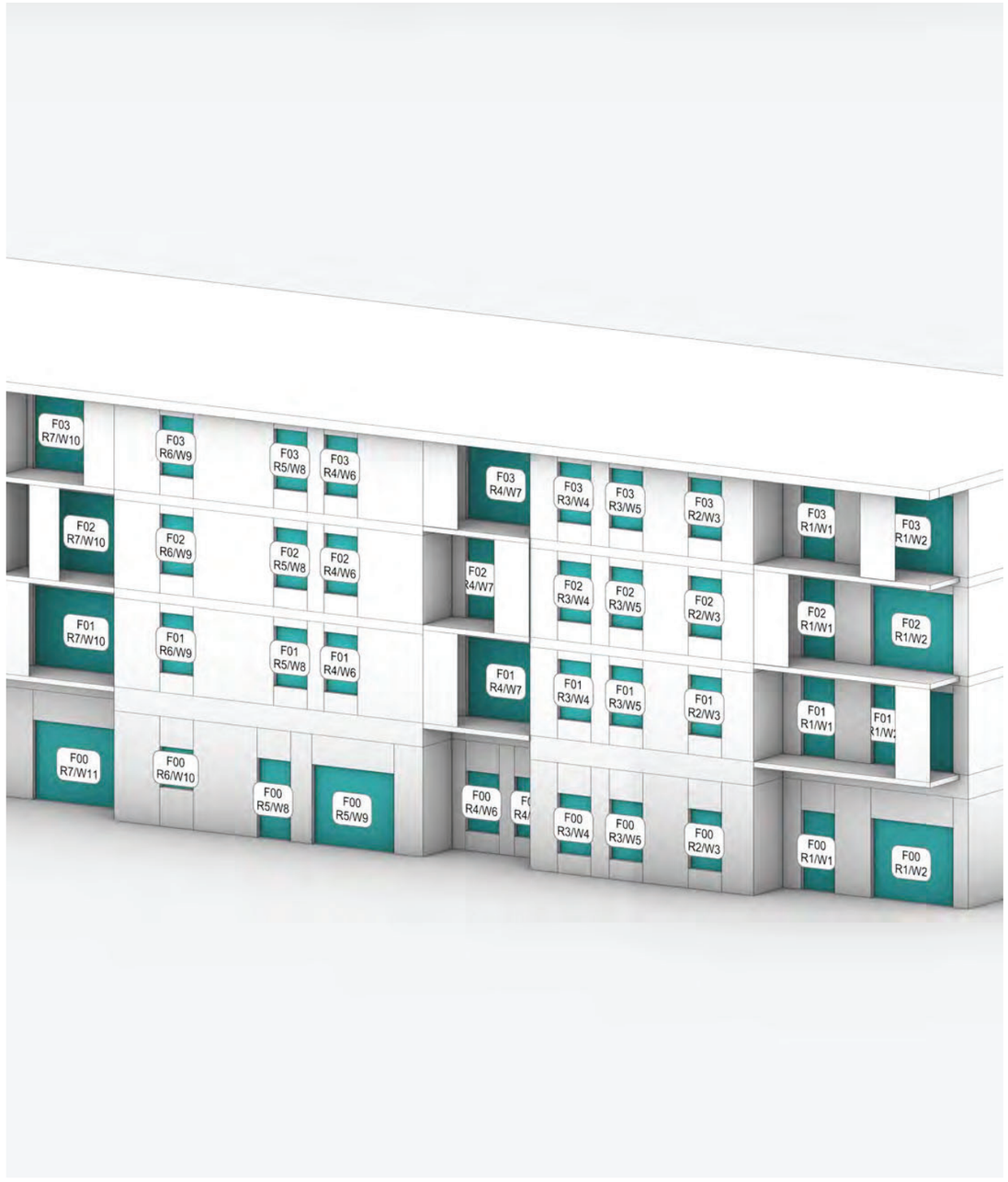
22. Leven Road Phase 3

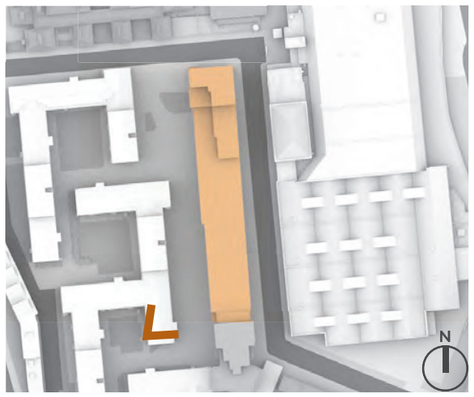




23. Atelier Court



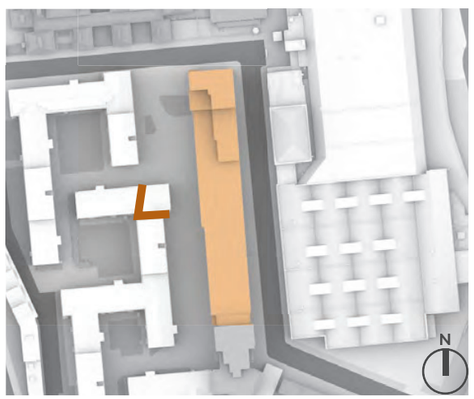




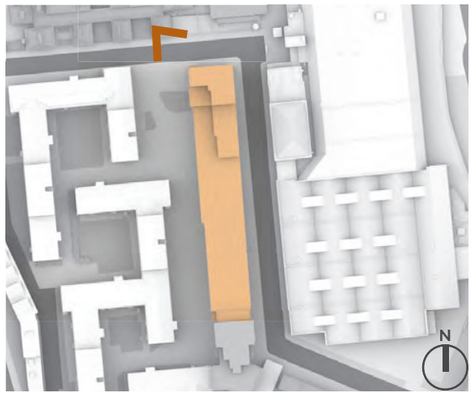
23. Atelier Court







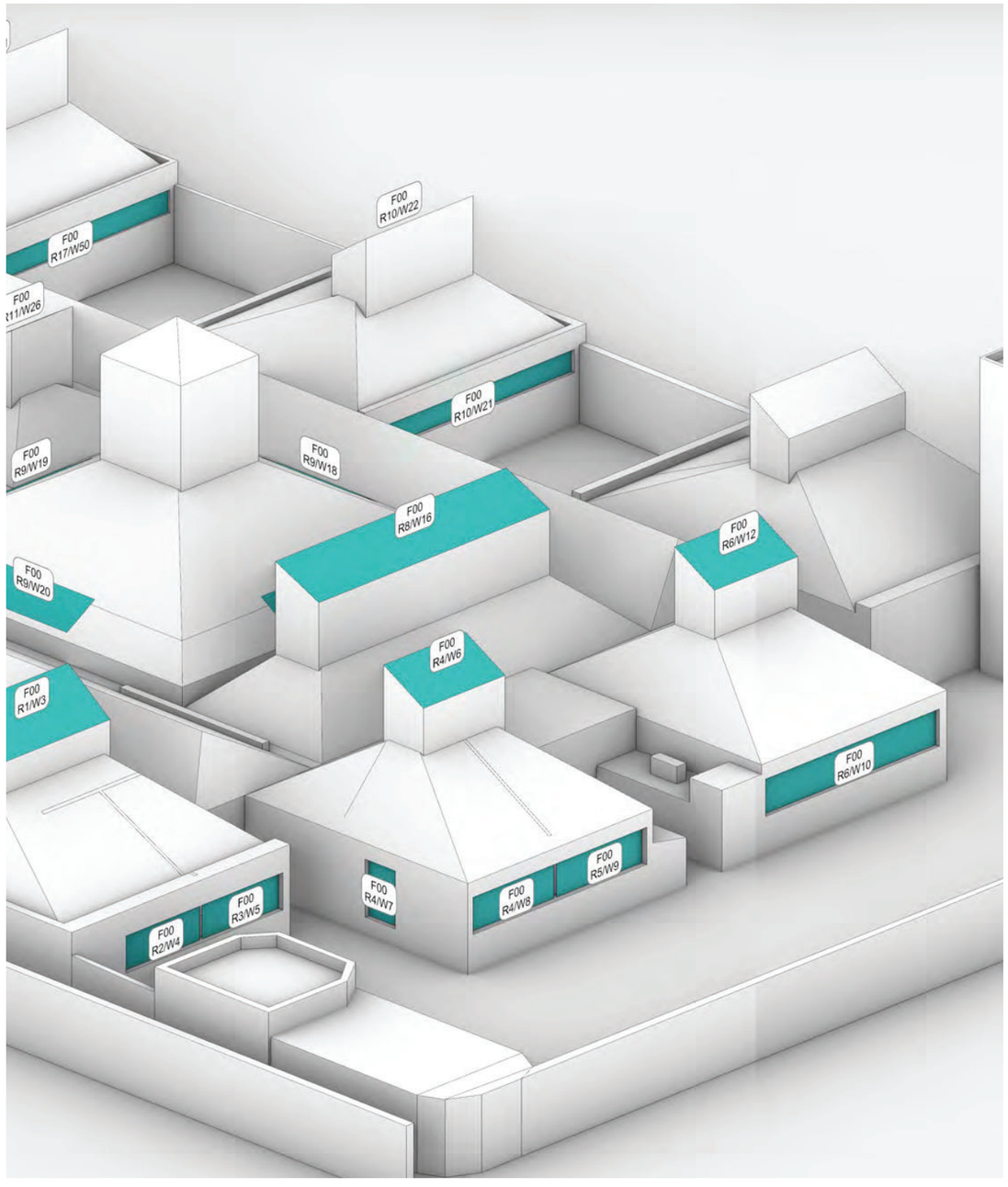
23. Atelier Court

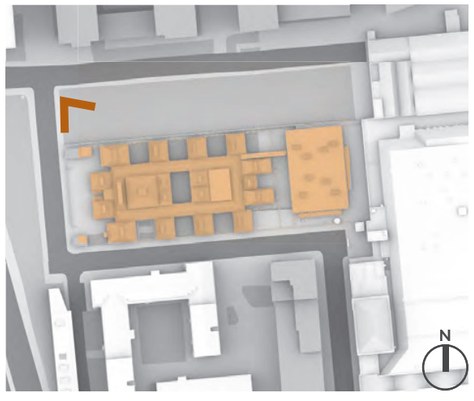




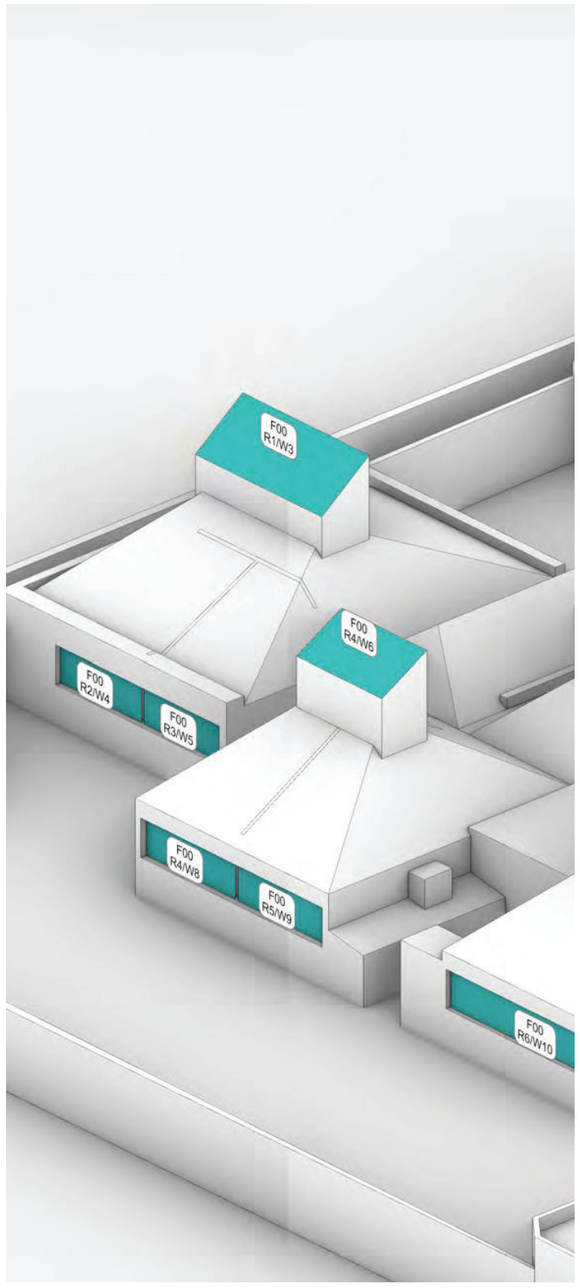
24. Bromley Hall School

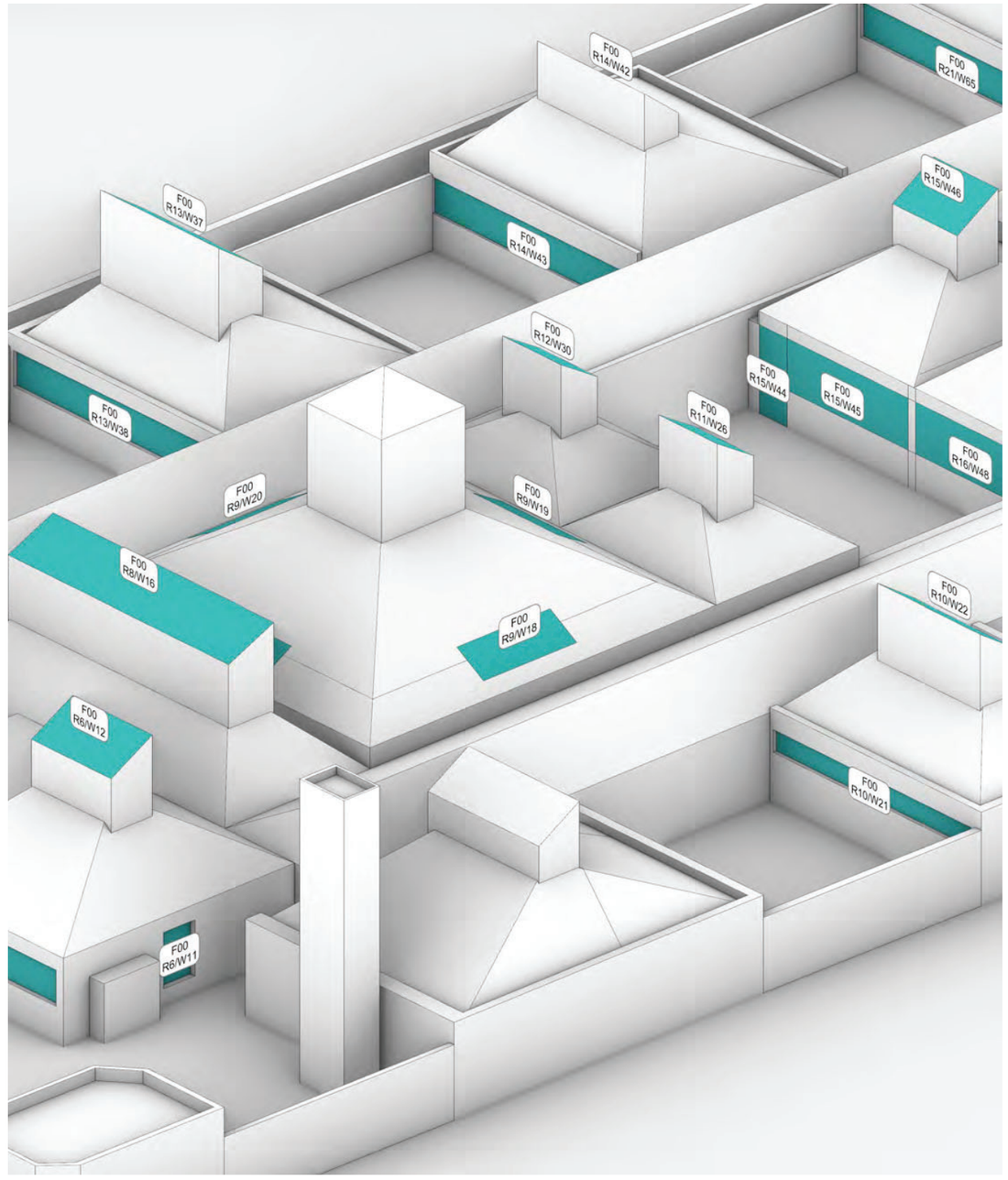


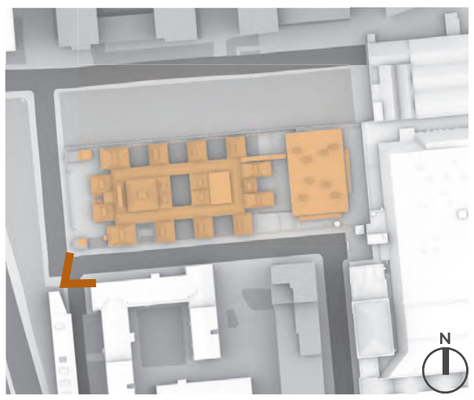




24. Bromley Hall School

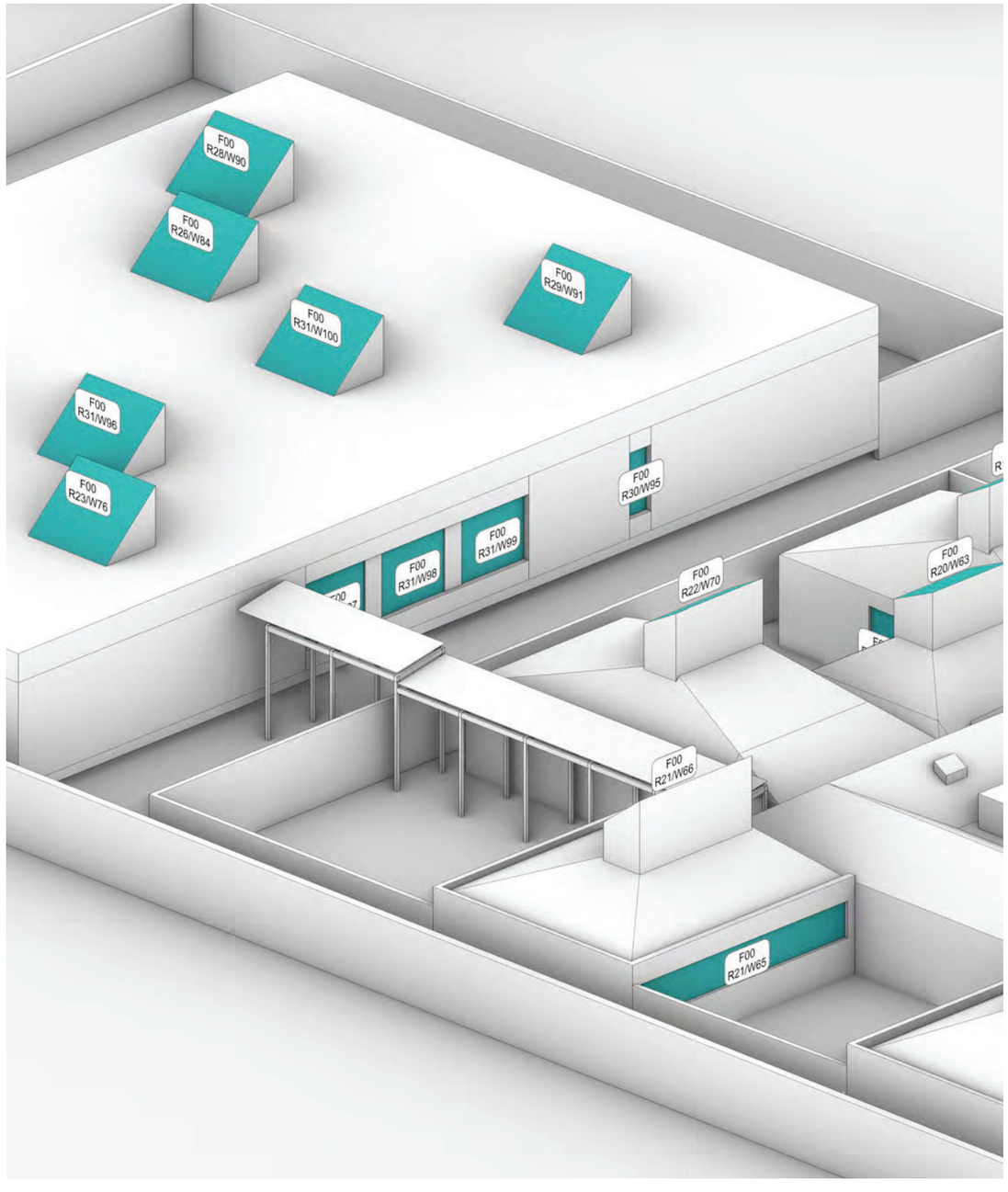


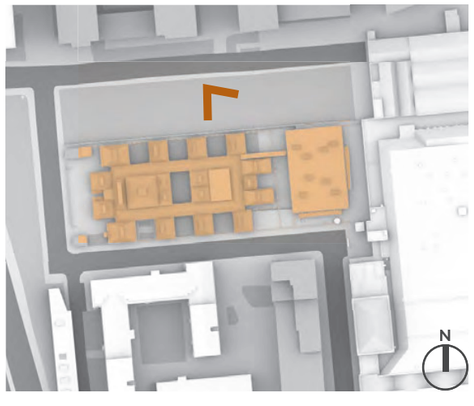




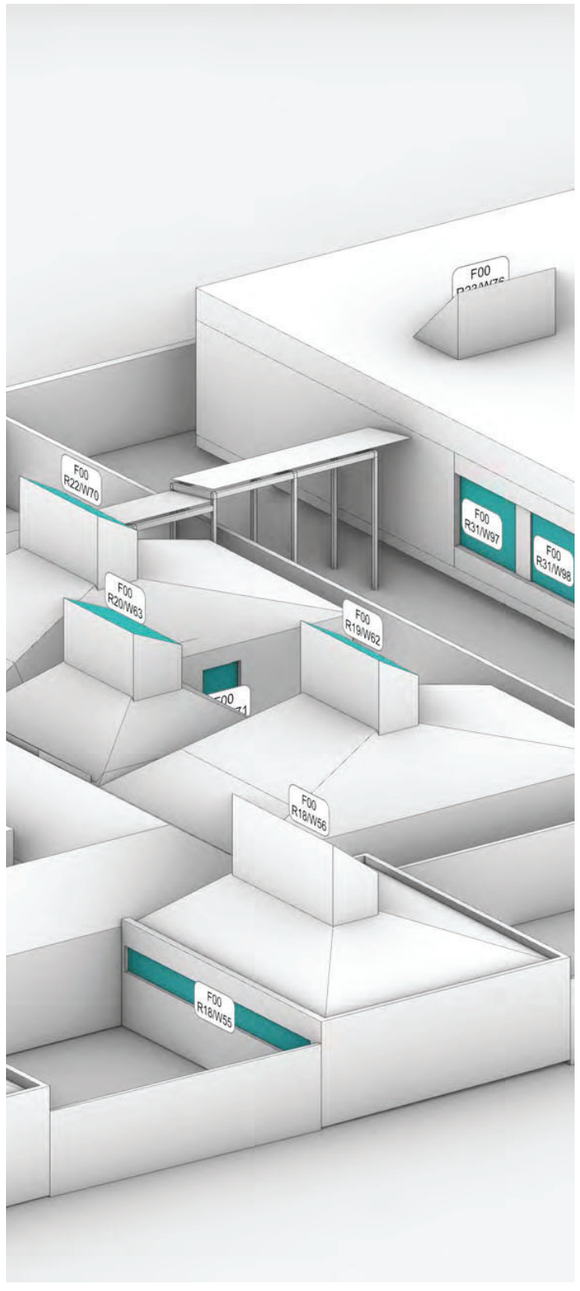
24. Bromley Hall School

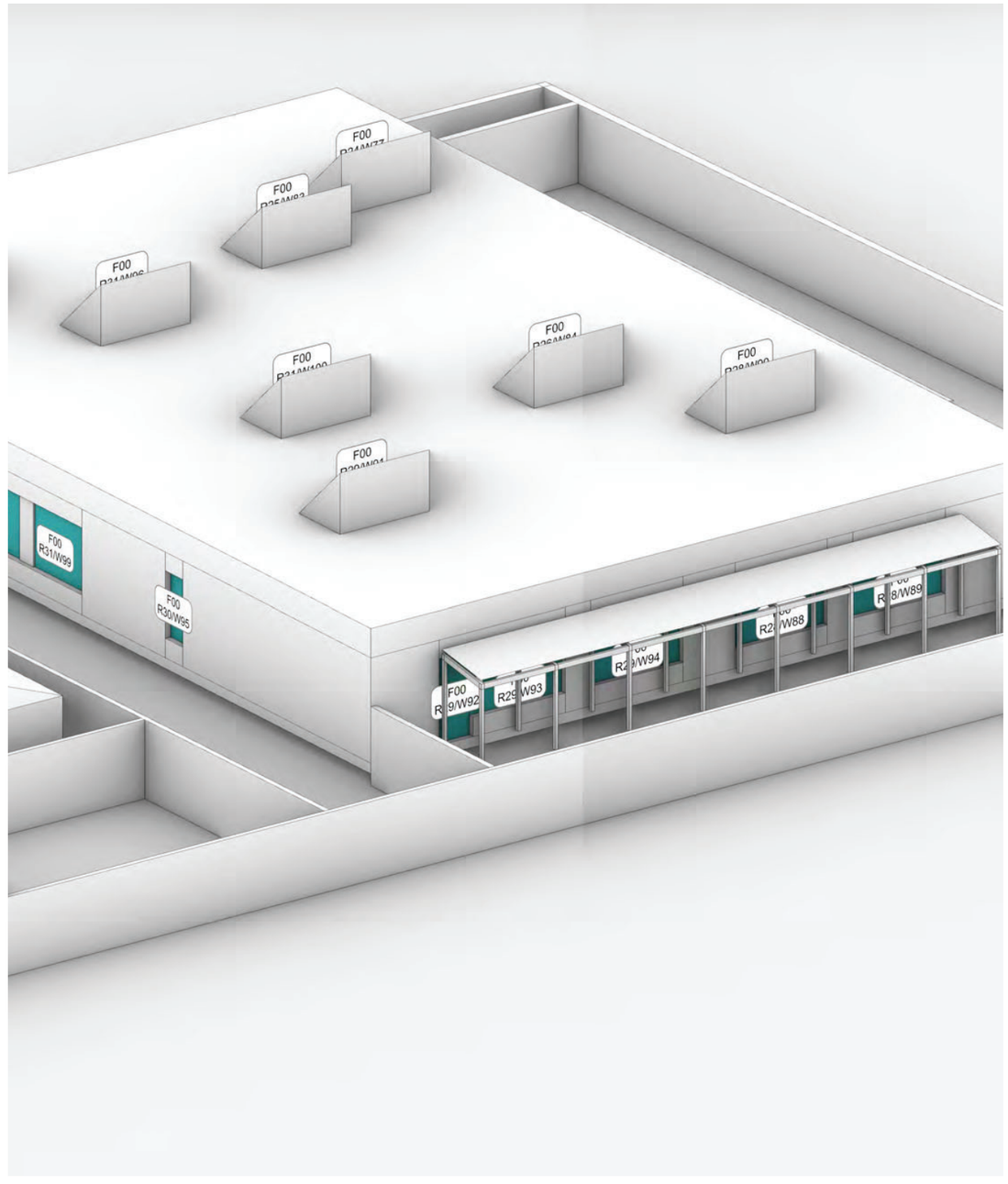


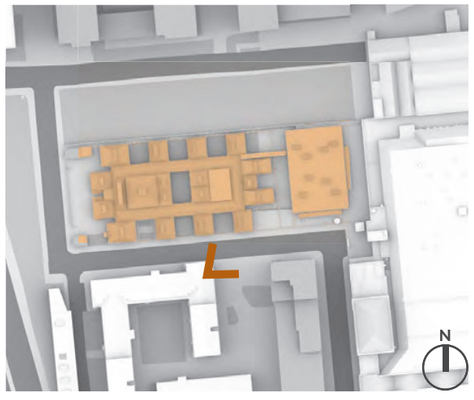




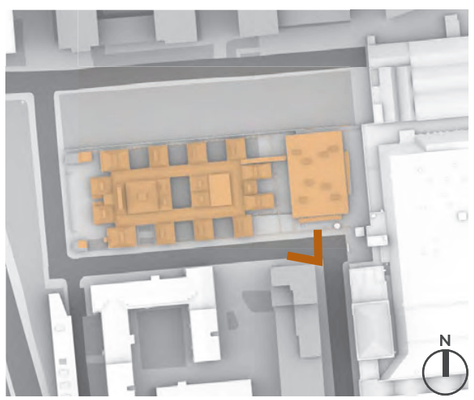
24. Bromley Hall School

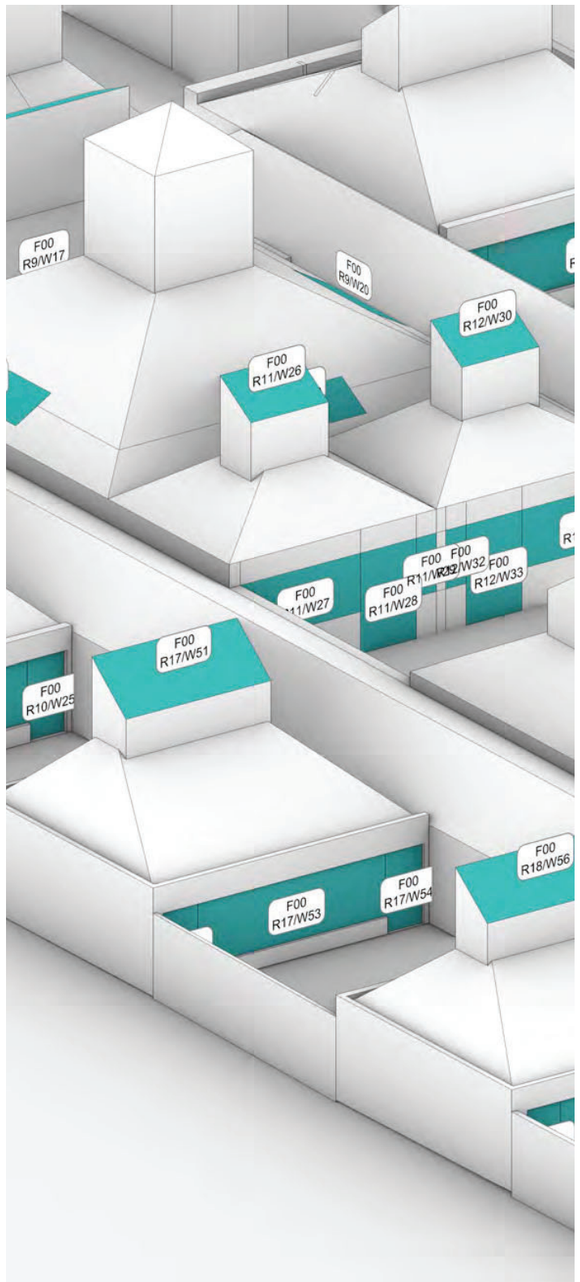


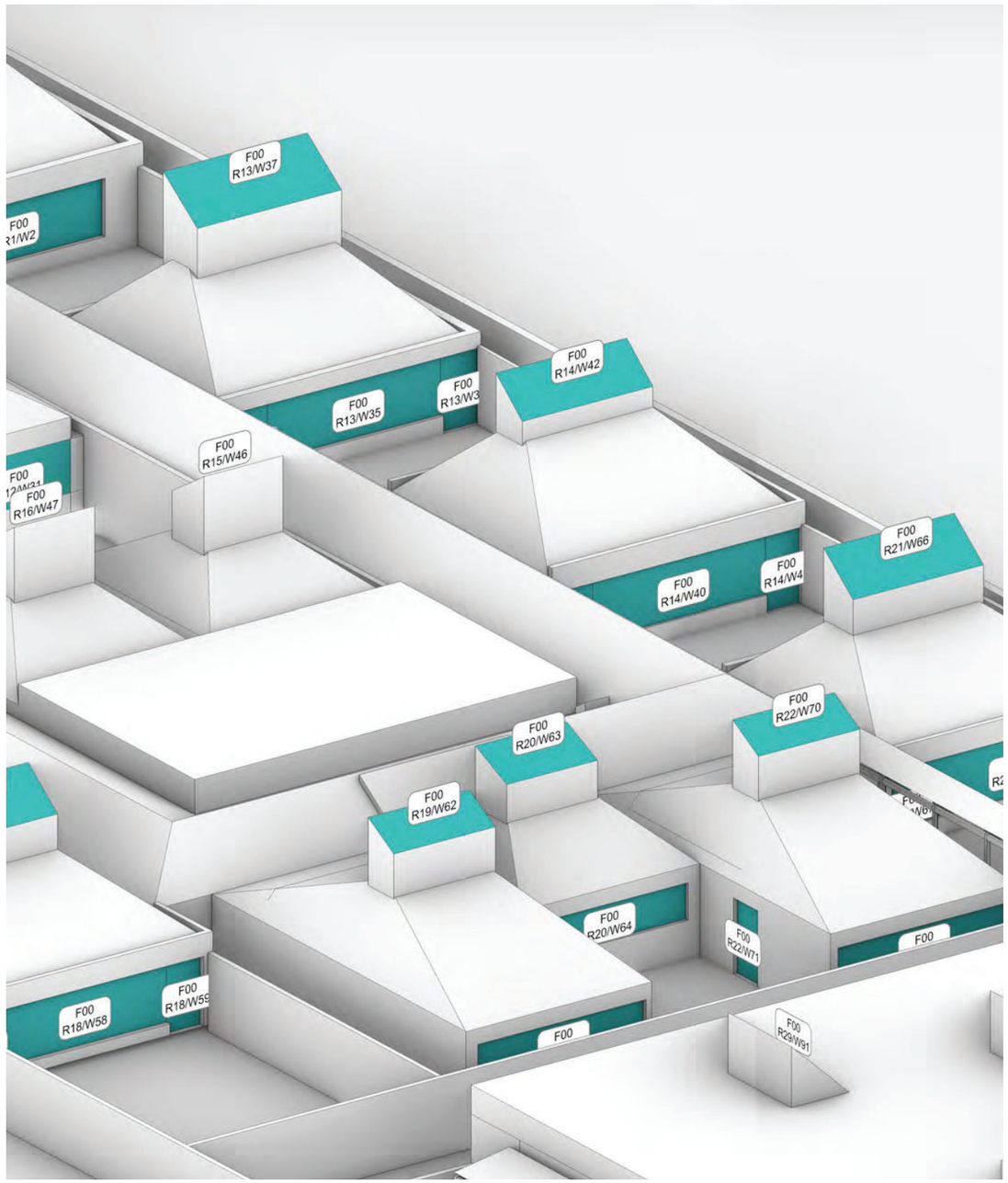




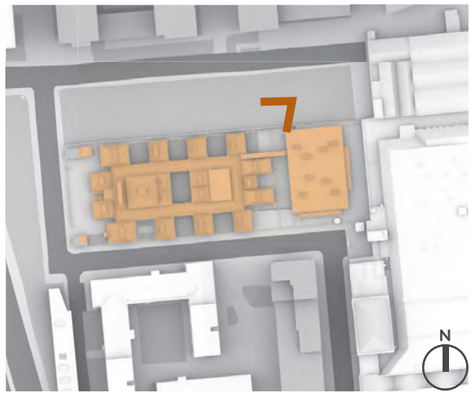
24. Bromley Hall School

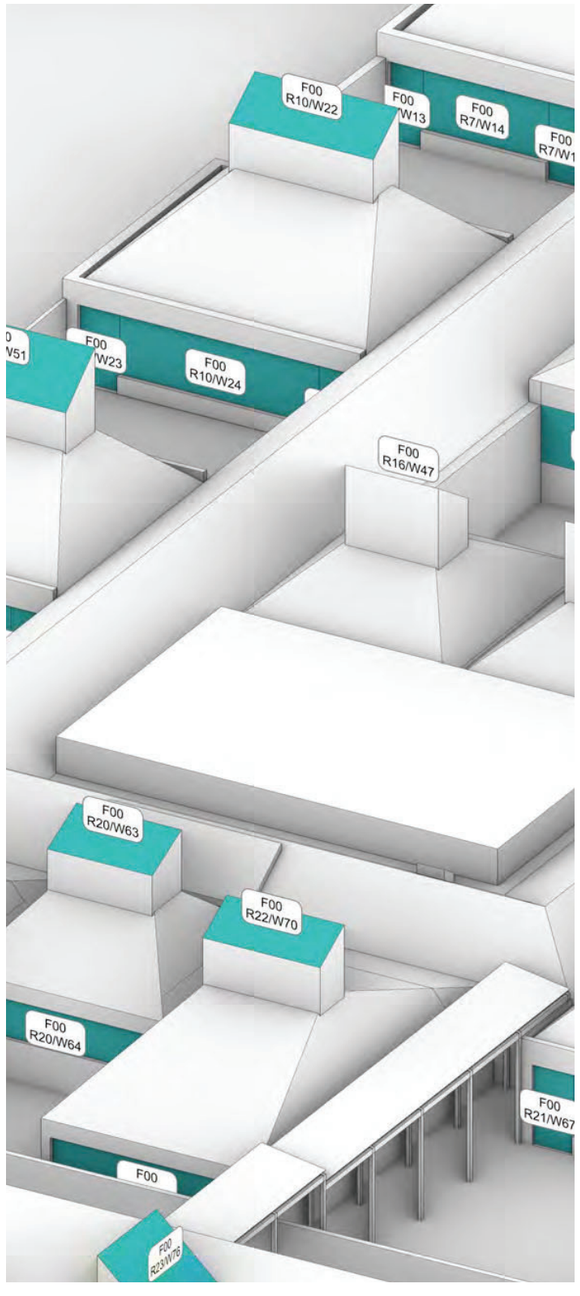


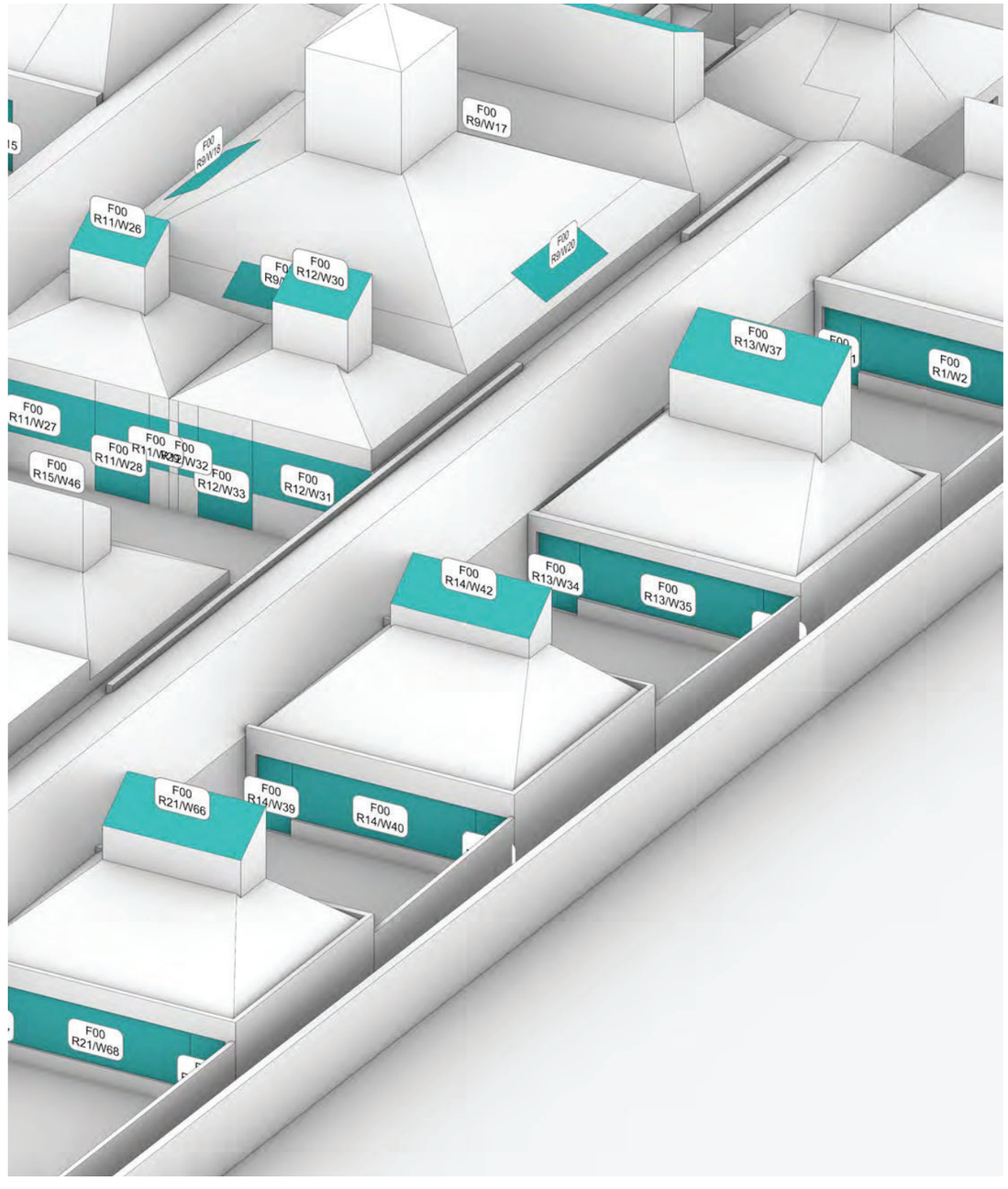




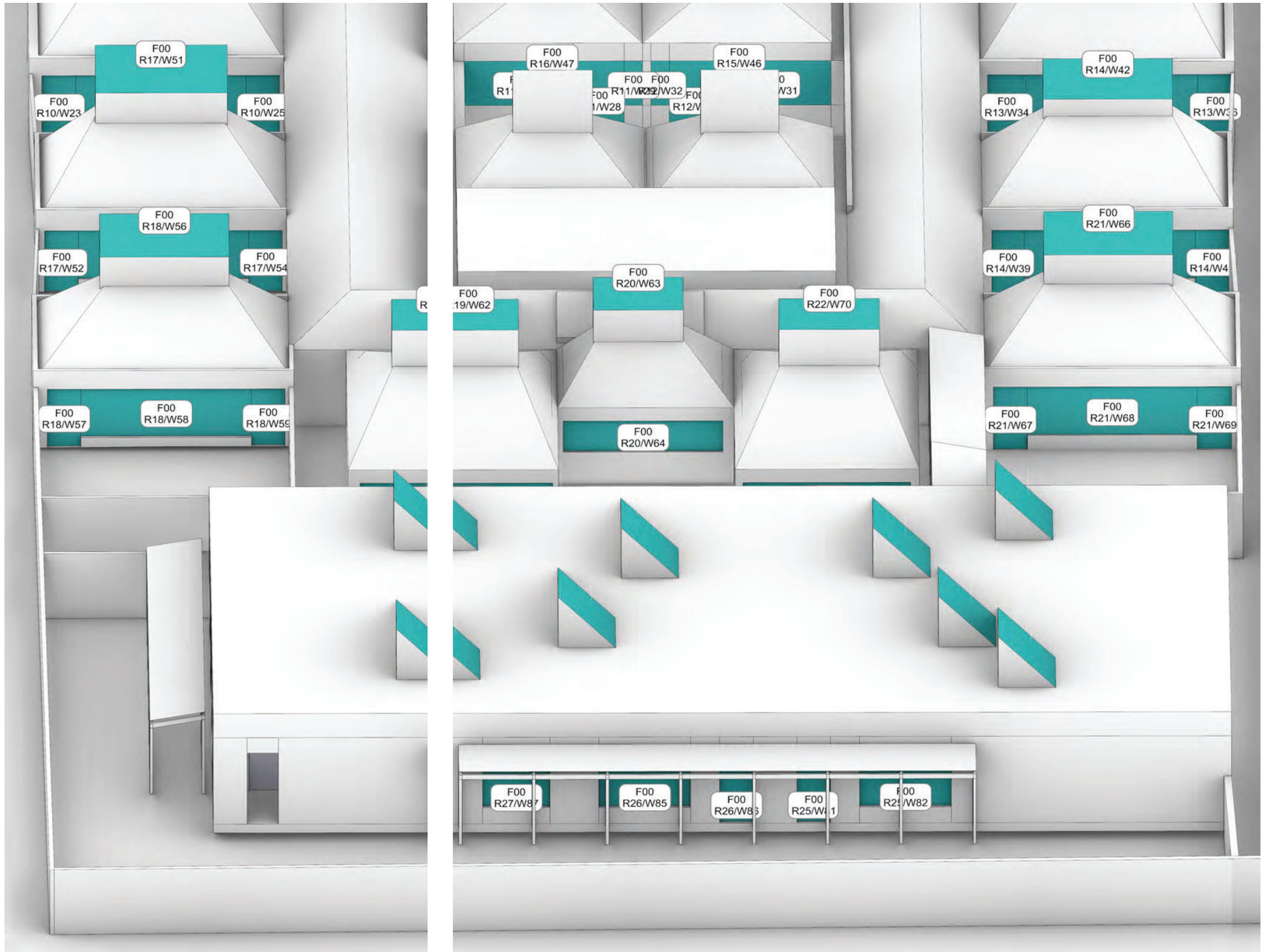
24. Bromley Hall School

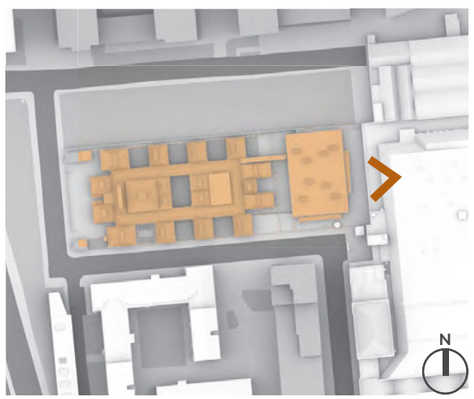






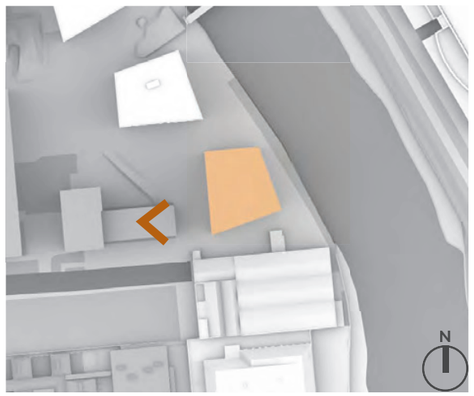
24. Bromley Hall School





25. Ailsa Wharf - Block A





25. Ailsa Wharf - Block A





26. Ailsa Wharf - Block D







26. Ailsa Wharf - Block D



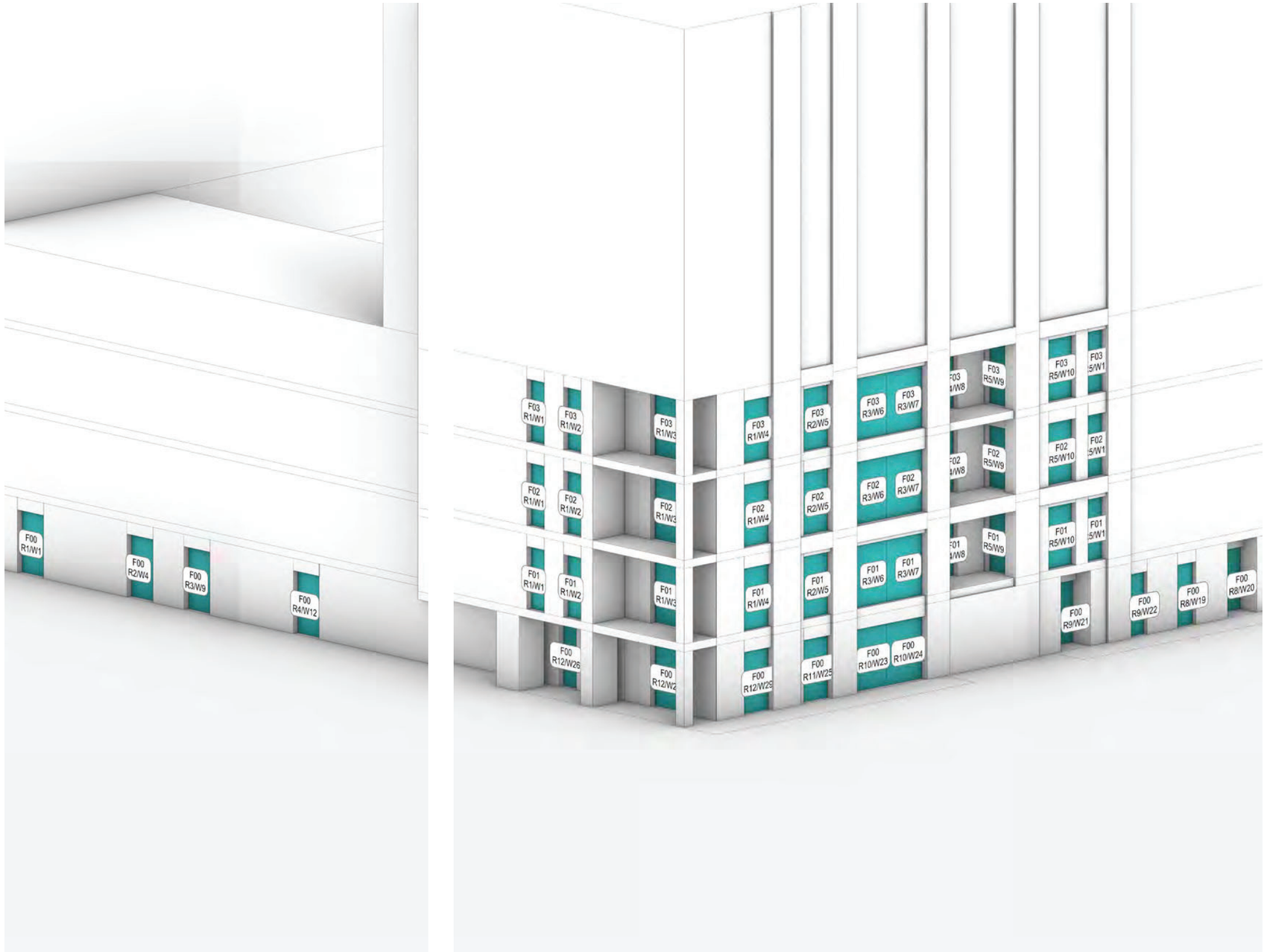


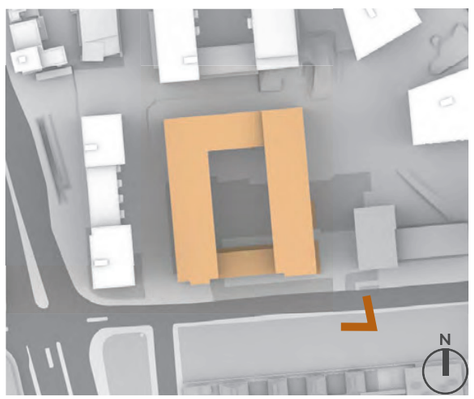
26. Ailsa Wharf - Block D





27. Ailsa Wharf - Blocks K-L

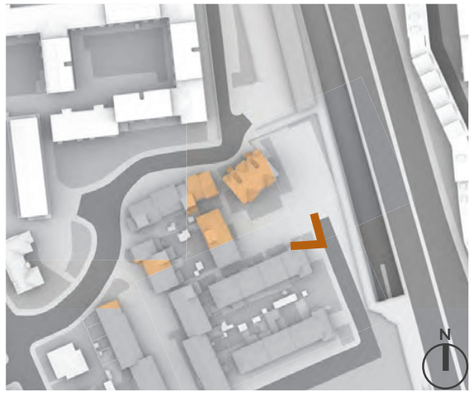




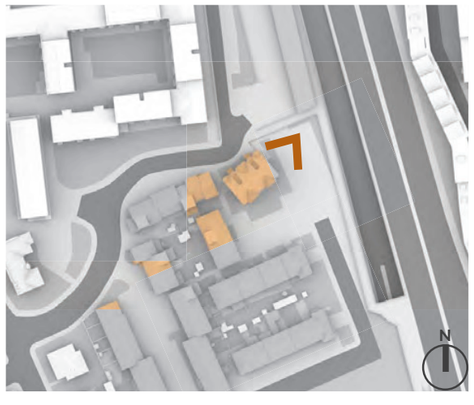
gia
CHARTERED SURVEYORS

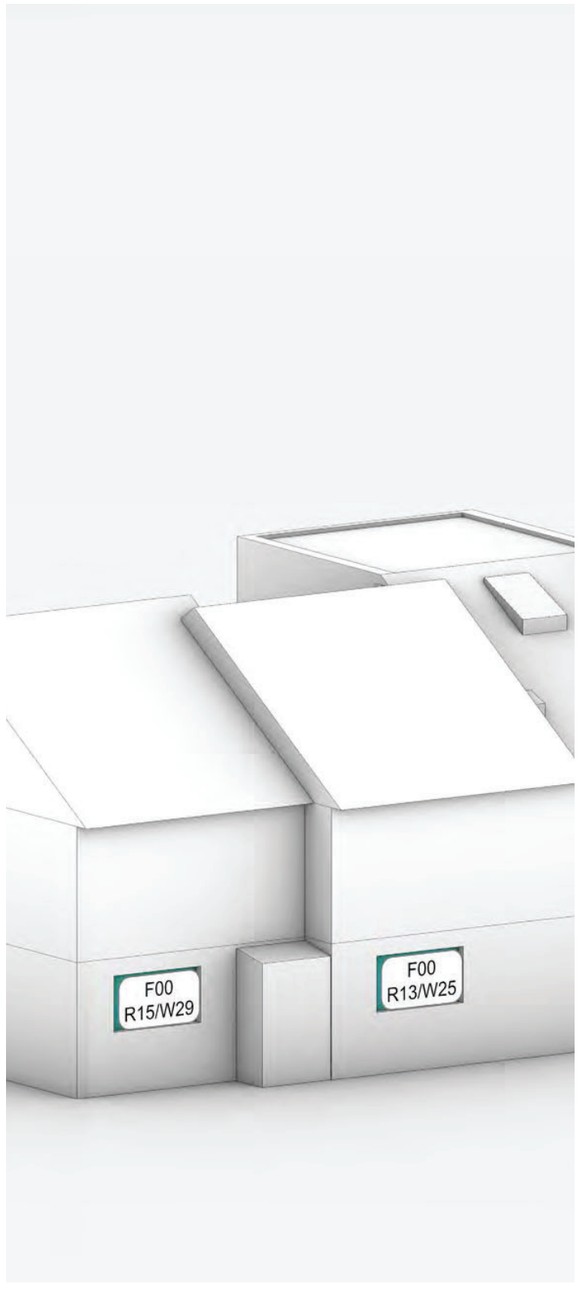
28. 1-14 & 16-46 Dewberry St

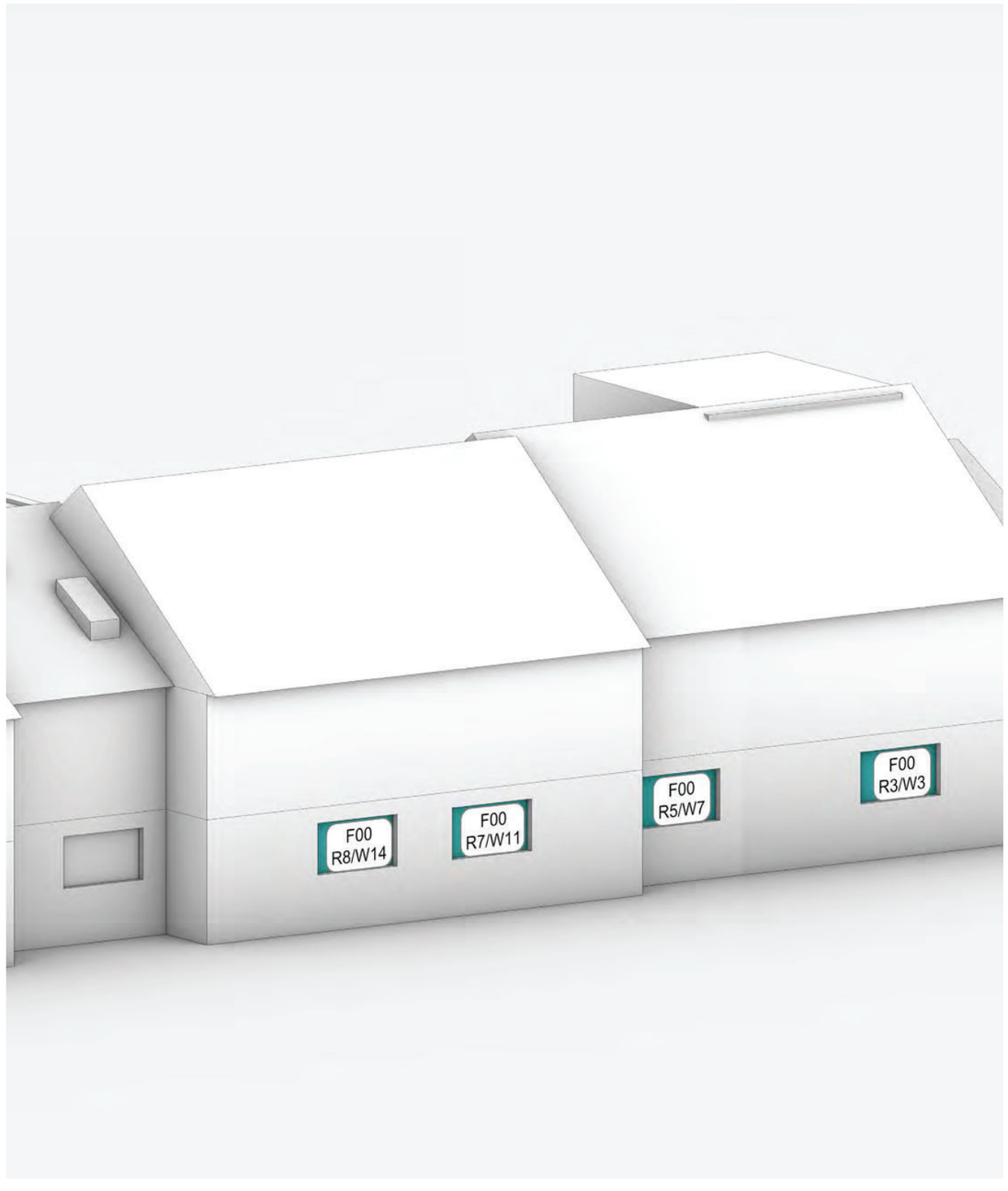




28. 1-14 & 16-46 Dewberry St



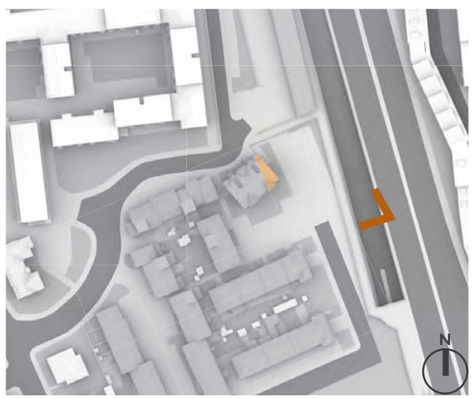




28. 1-14 & 16-46 Dewberry St



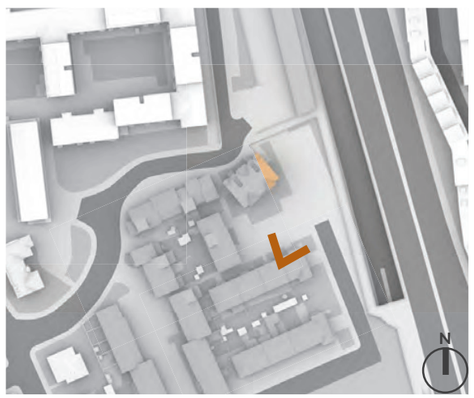




28. 1-14 & 16-46 Dewberry St

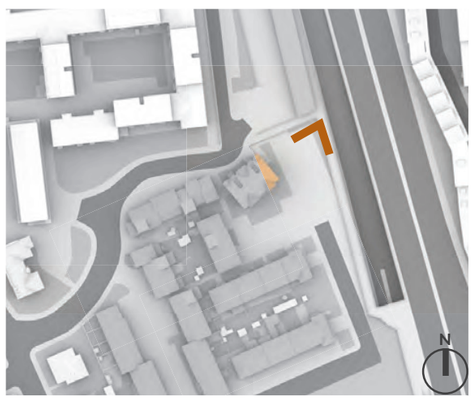




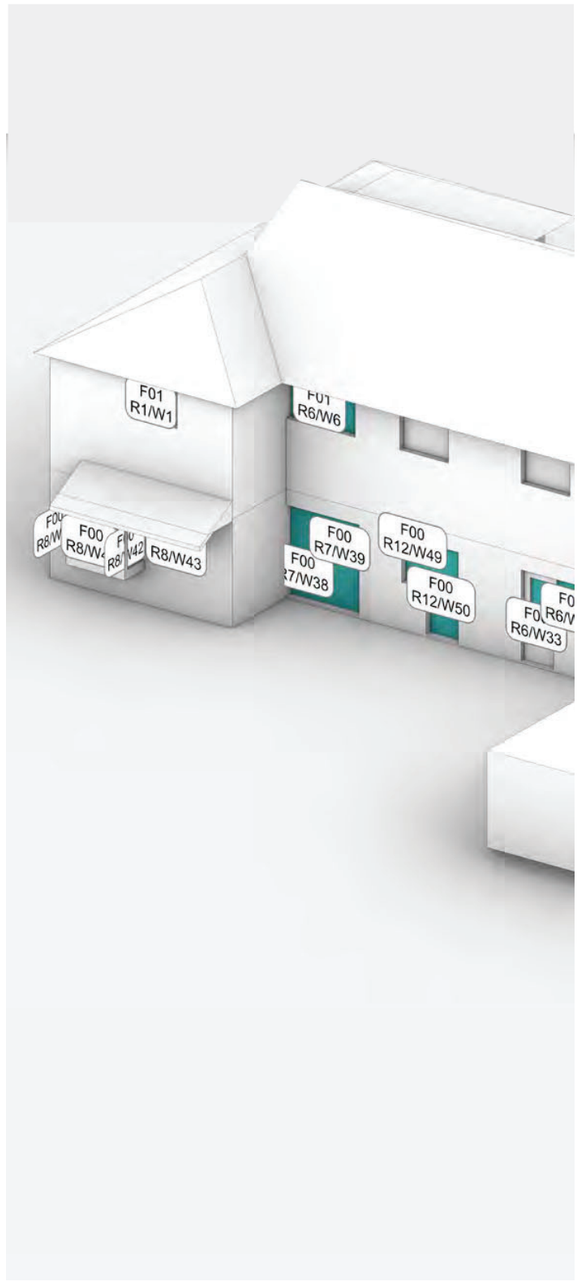


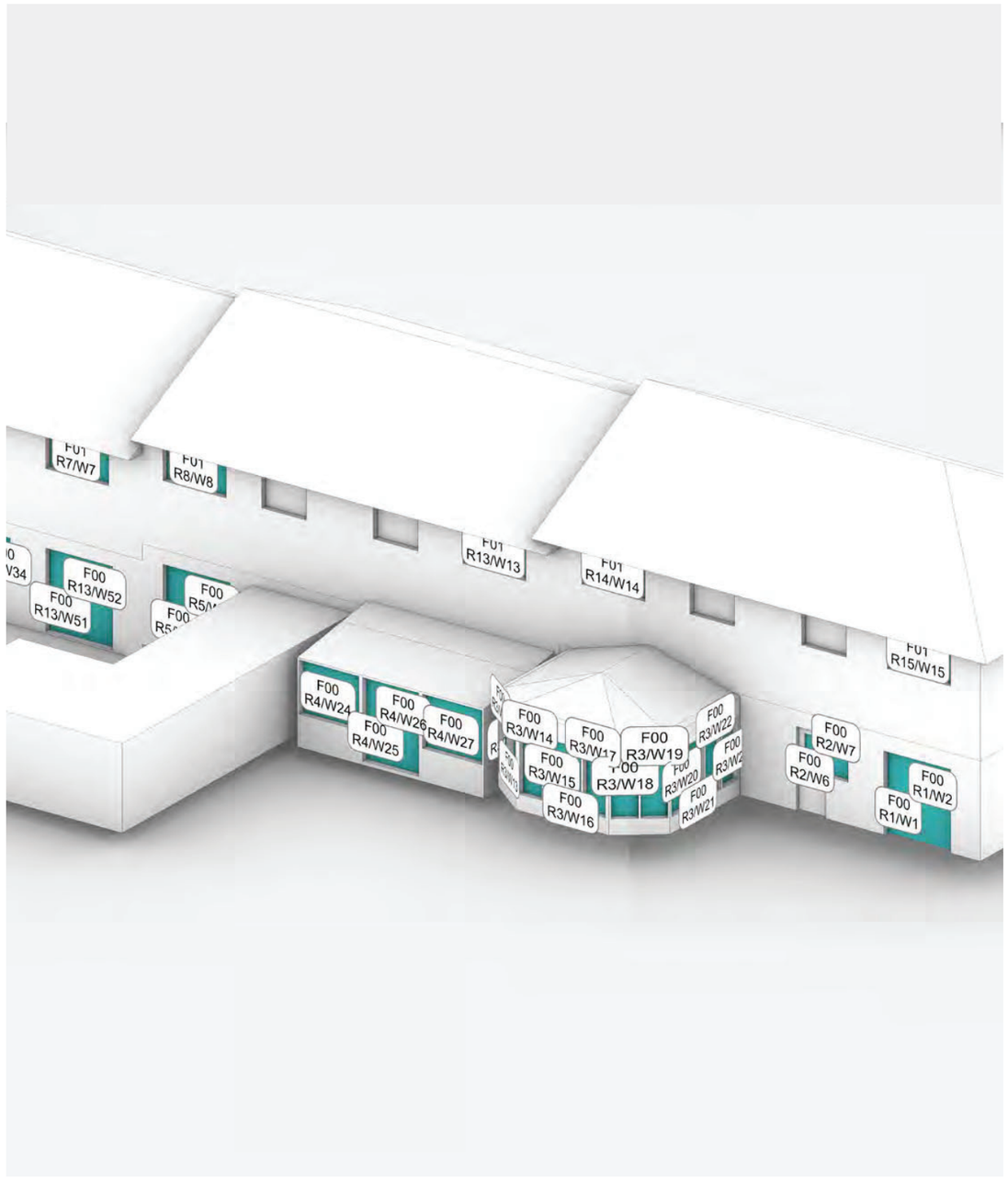
28. 1-14 & 16-46 Dewberry St

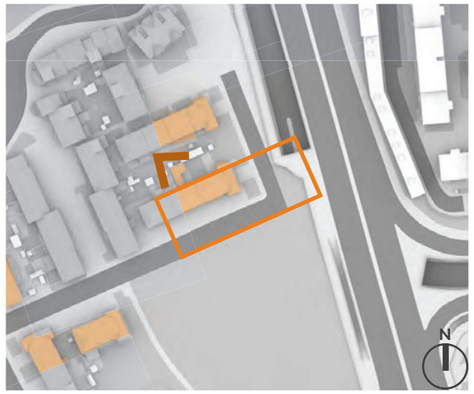




29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

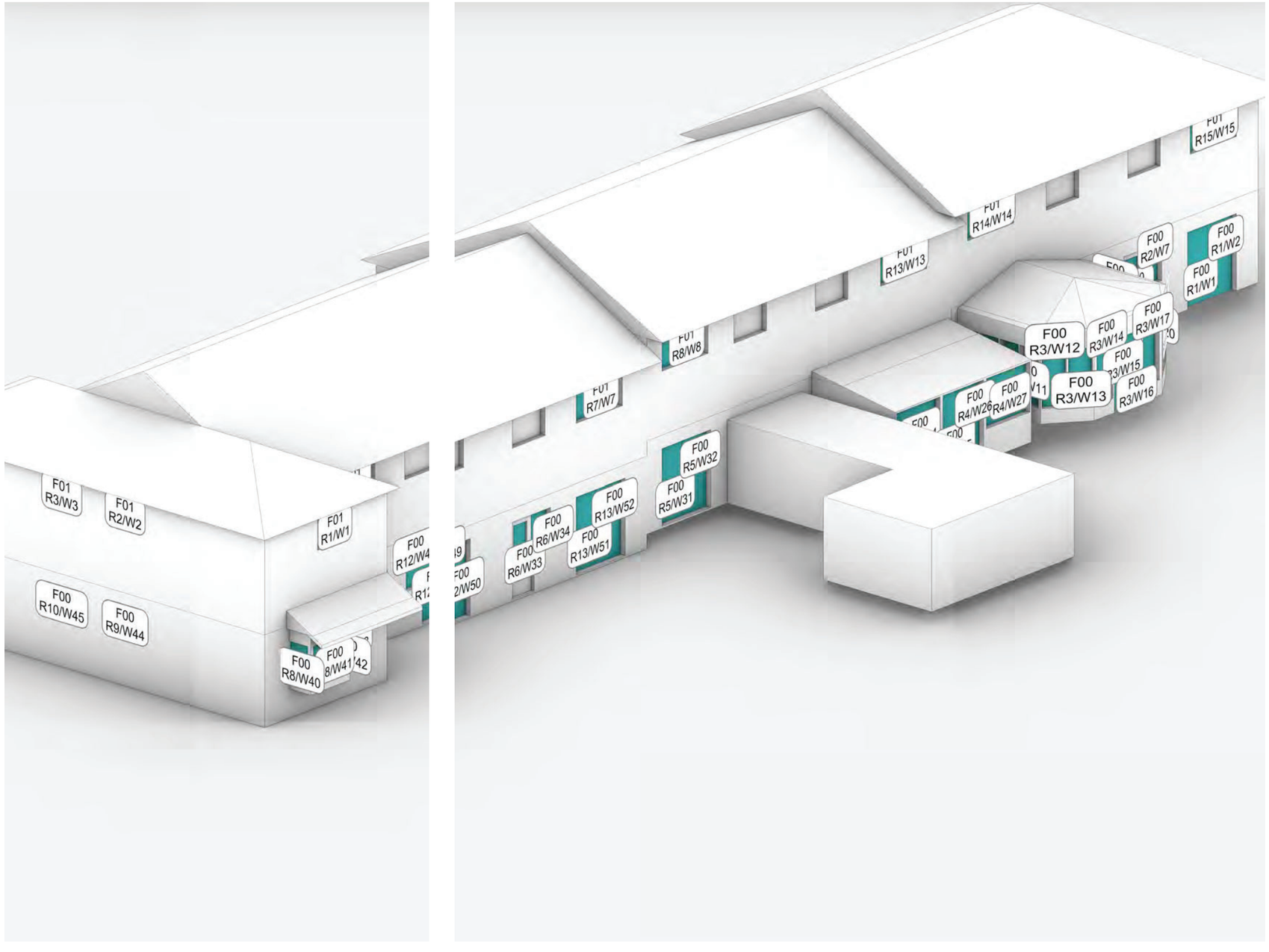


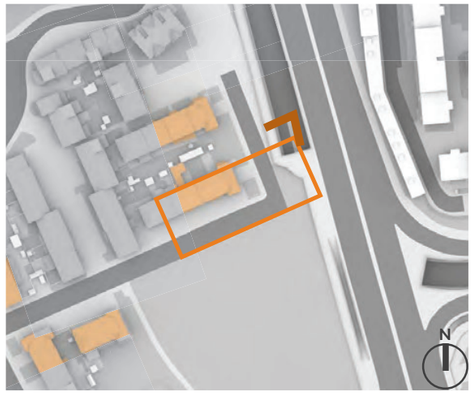




gia
CHARTERED SURVEYORS

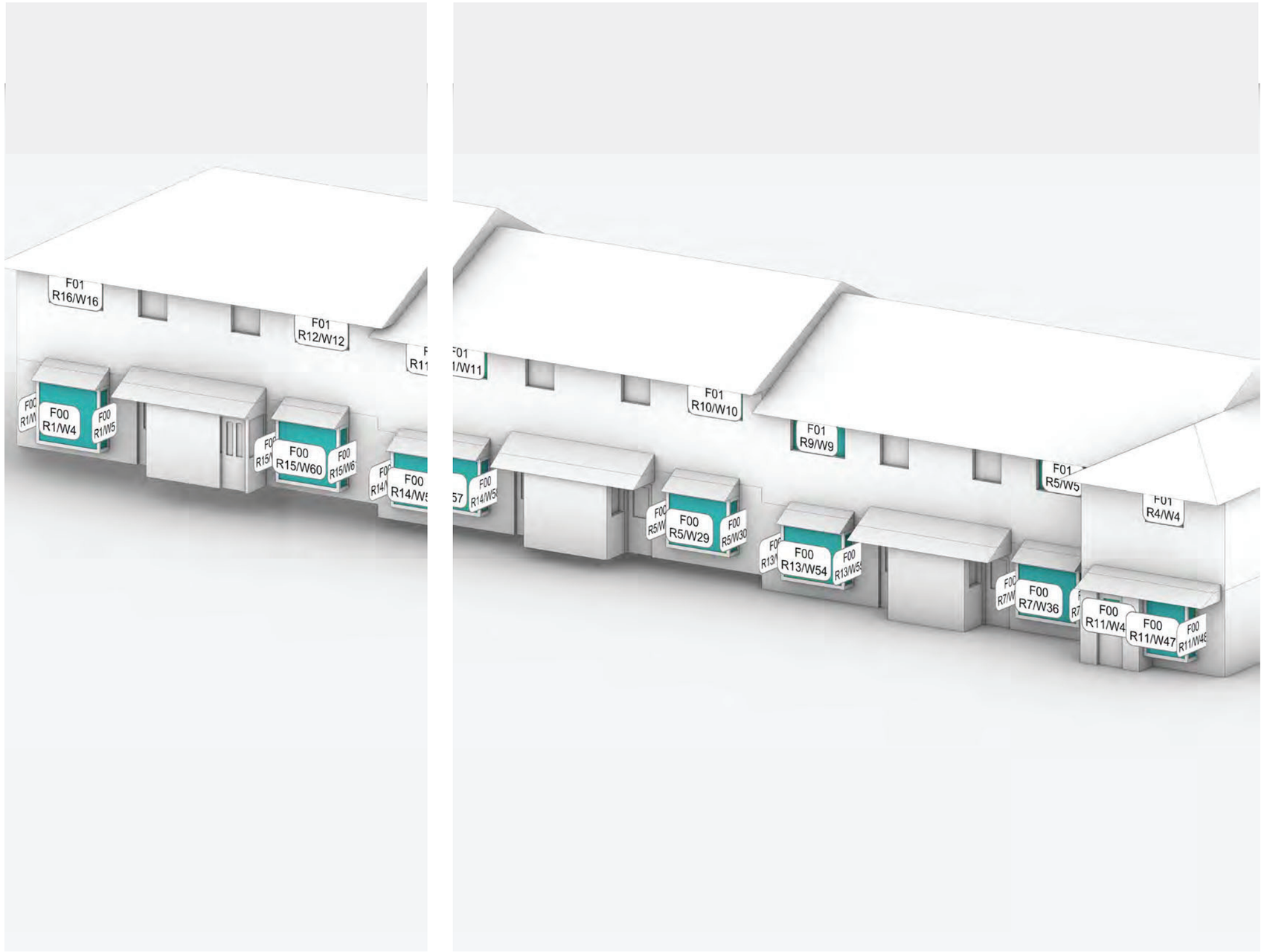
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

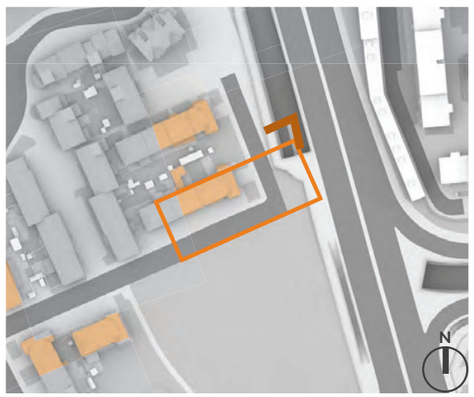




gia
CHARTERED SURVEYORS

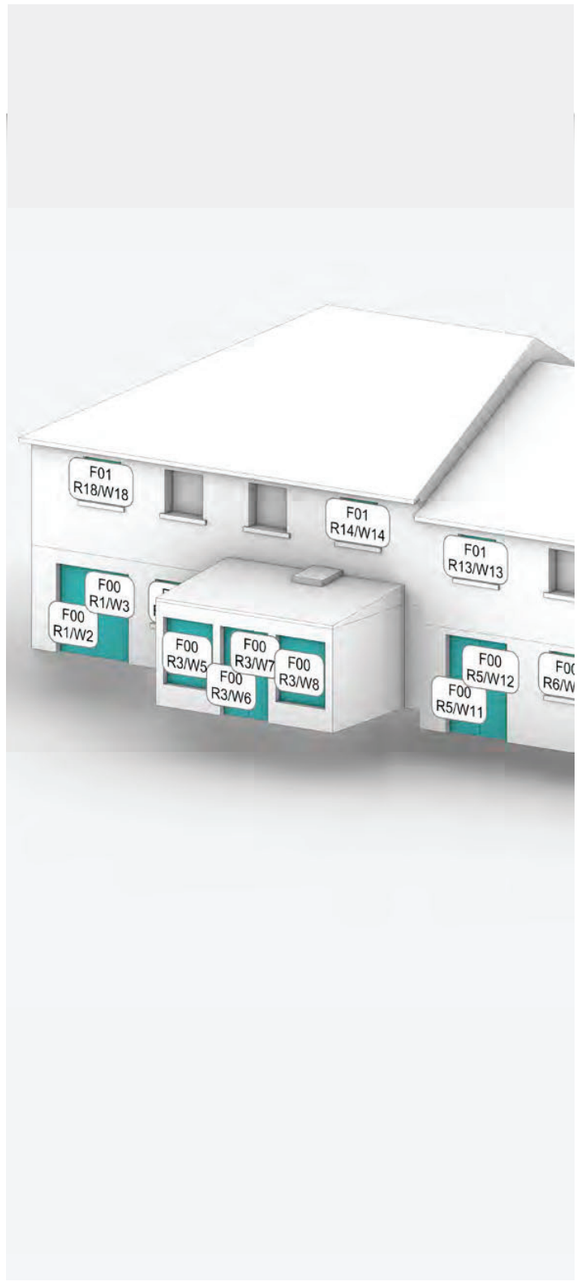
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

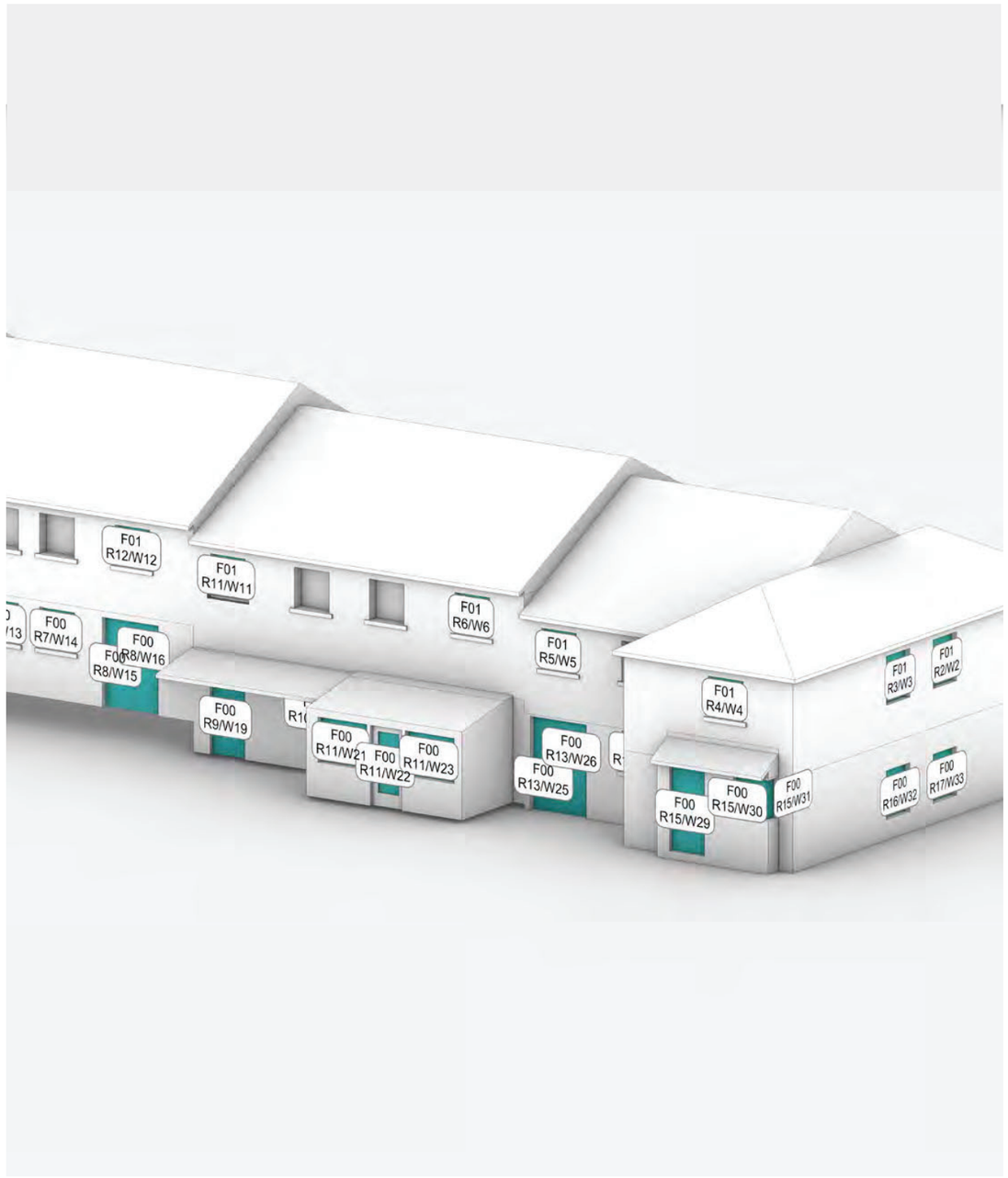


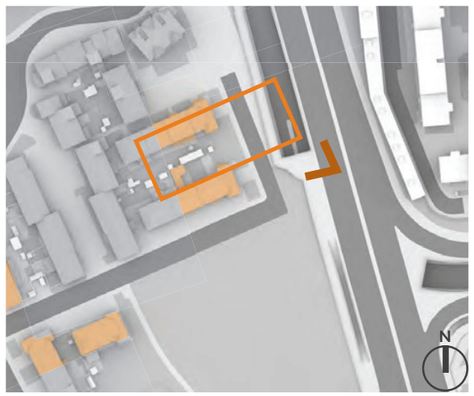


gia
CHARTERED SURVEYORS

29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St





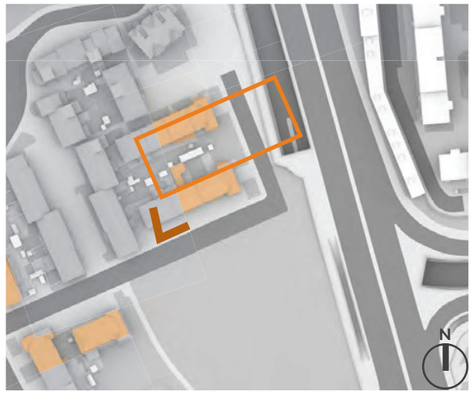


gia
CHARTERED SURVEYORS

29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

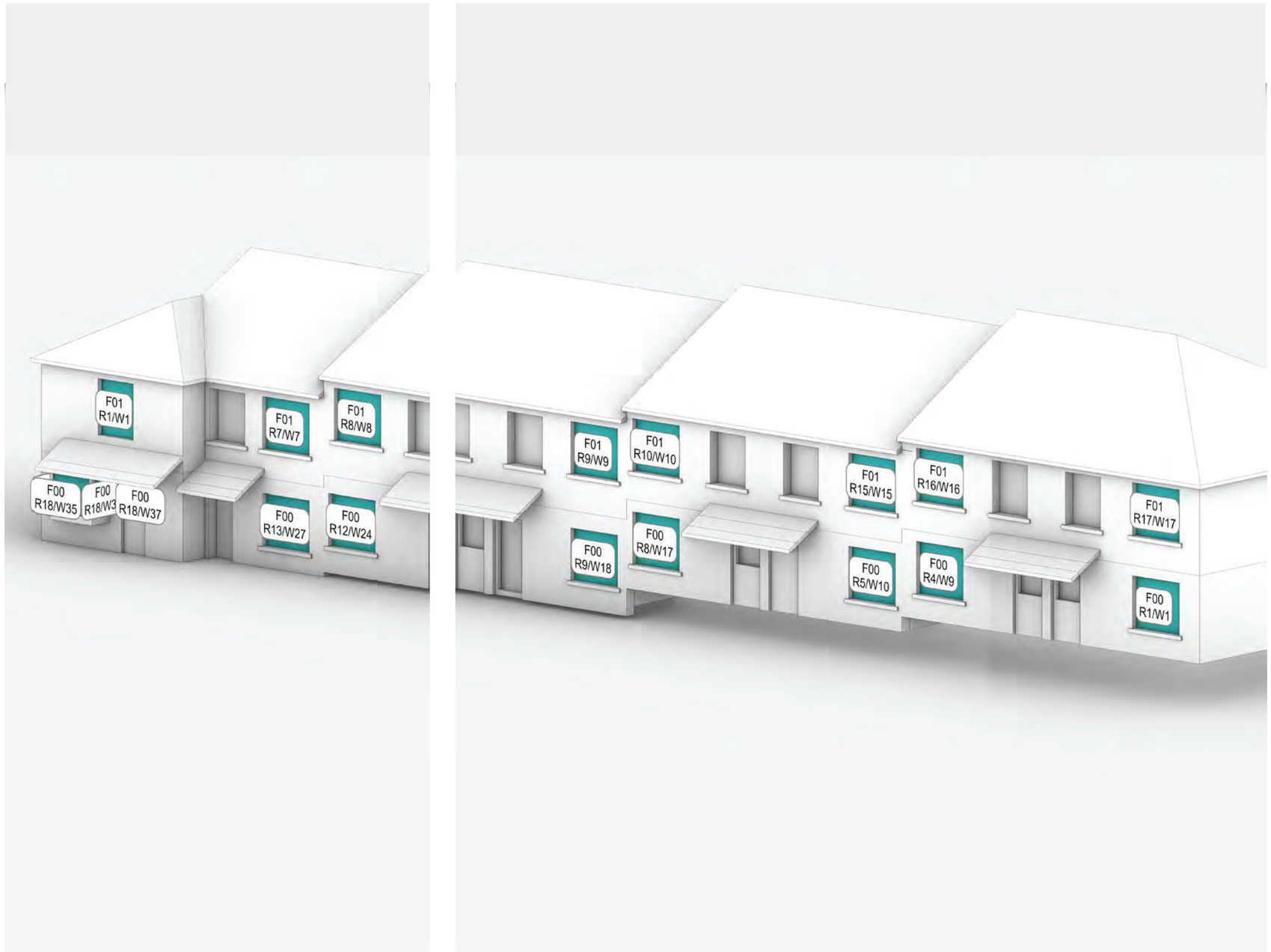


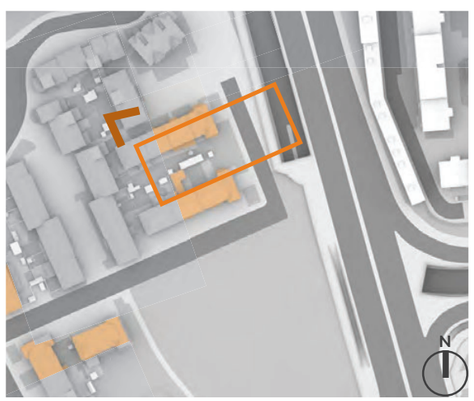




gia
CHARTERED SURVEYORS

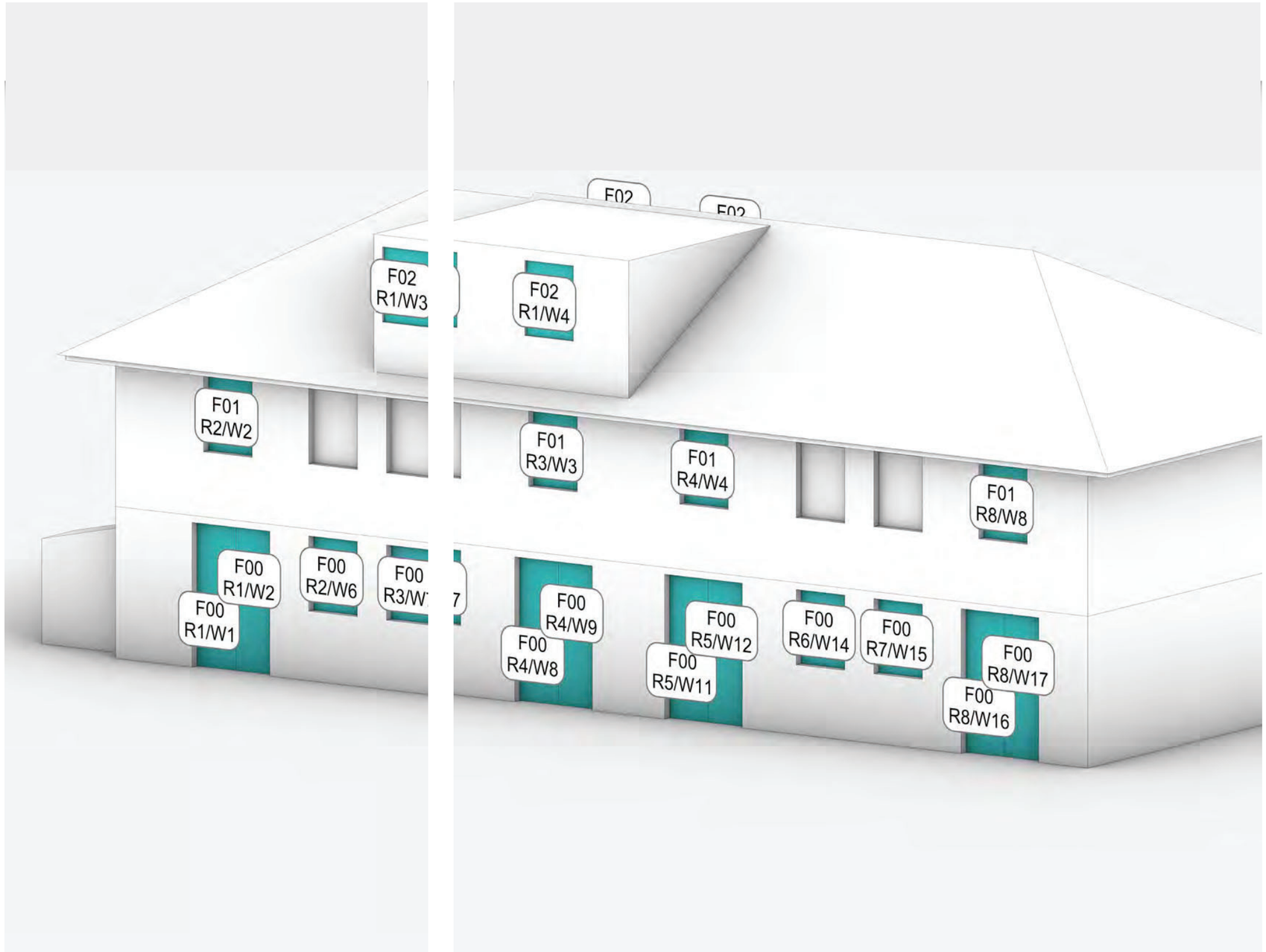
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

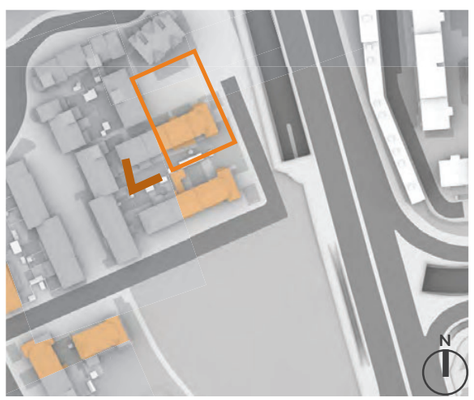




gia
CHARTERED SURVEYORS

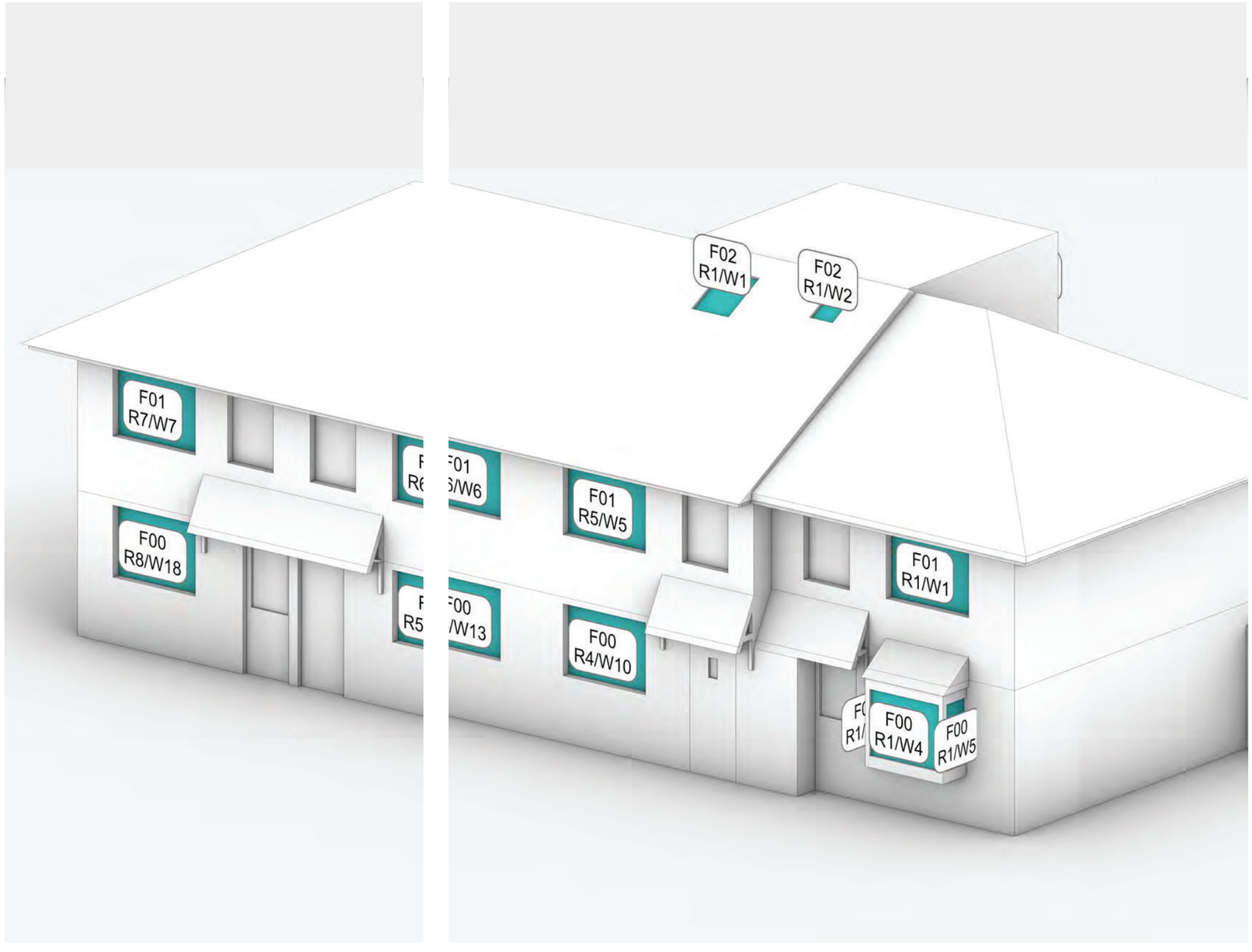
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

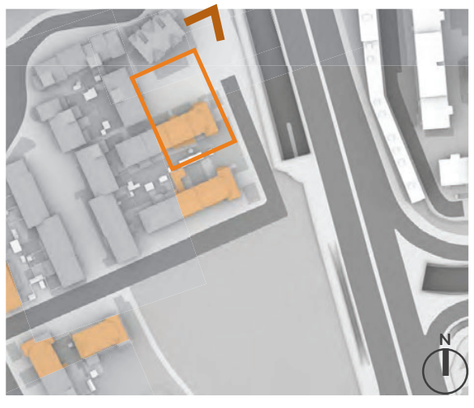




gia
CHARTERED SURVEYORS

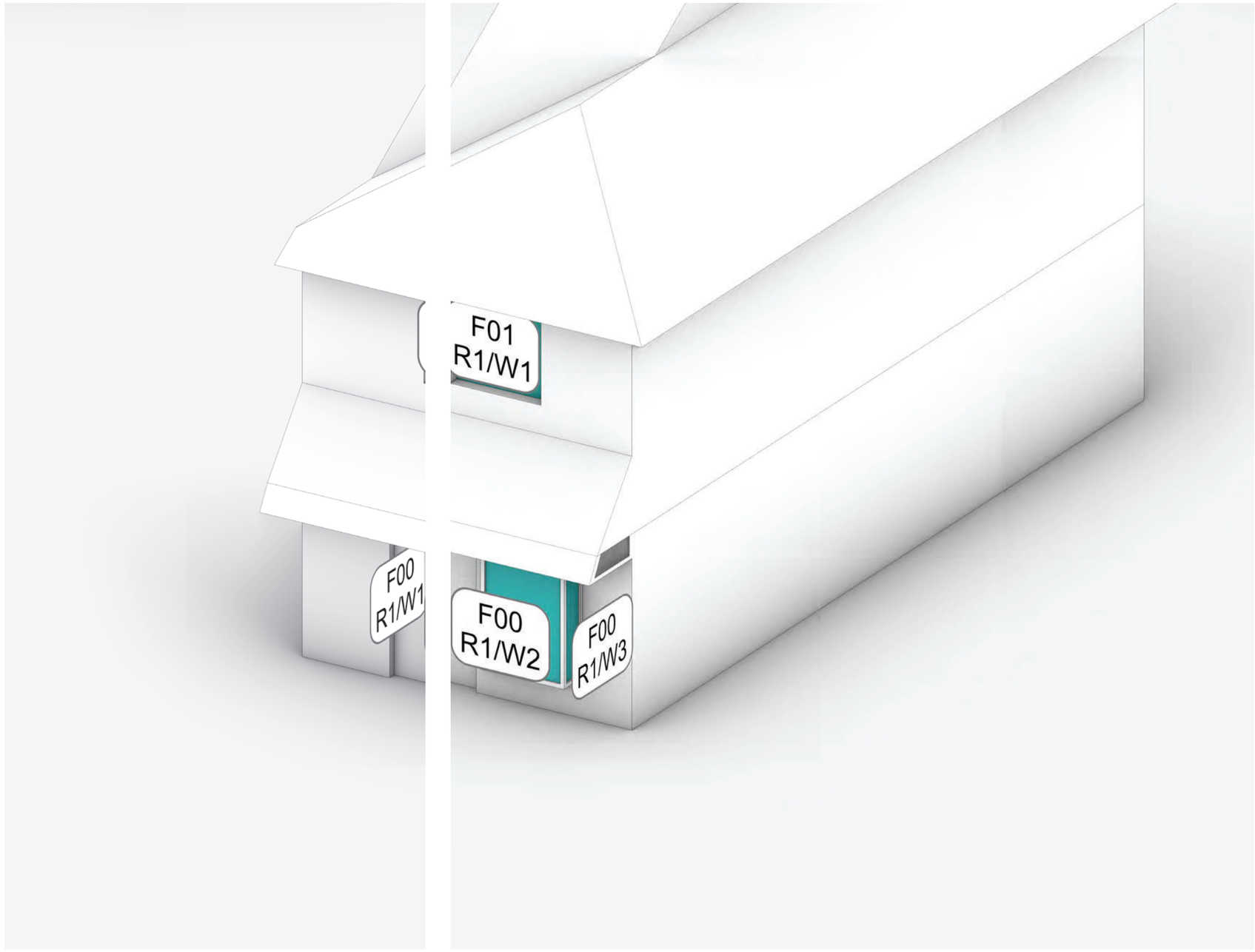
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

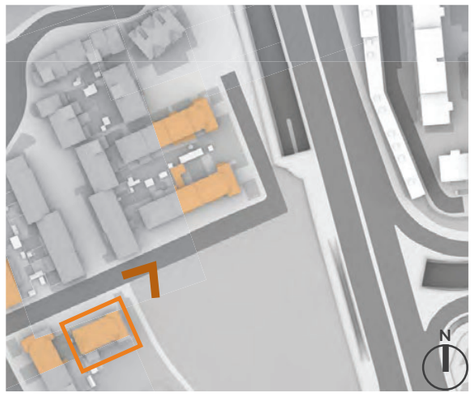




gia
CHARTERED SURVEYORS

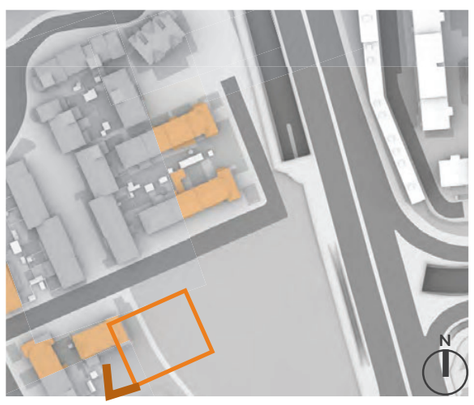
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St





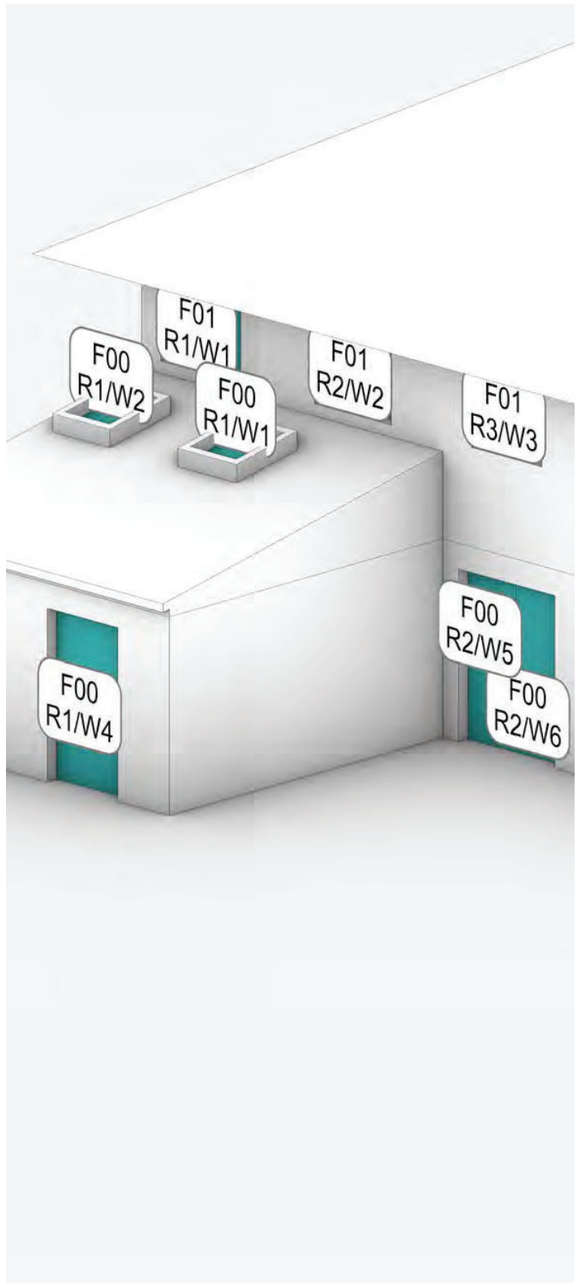
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

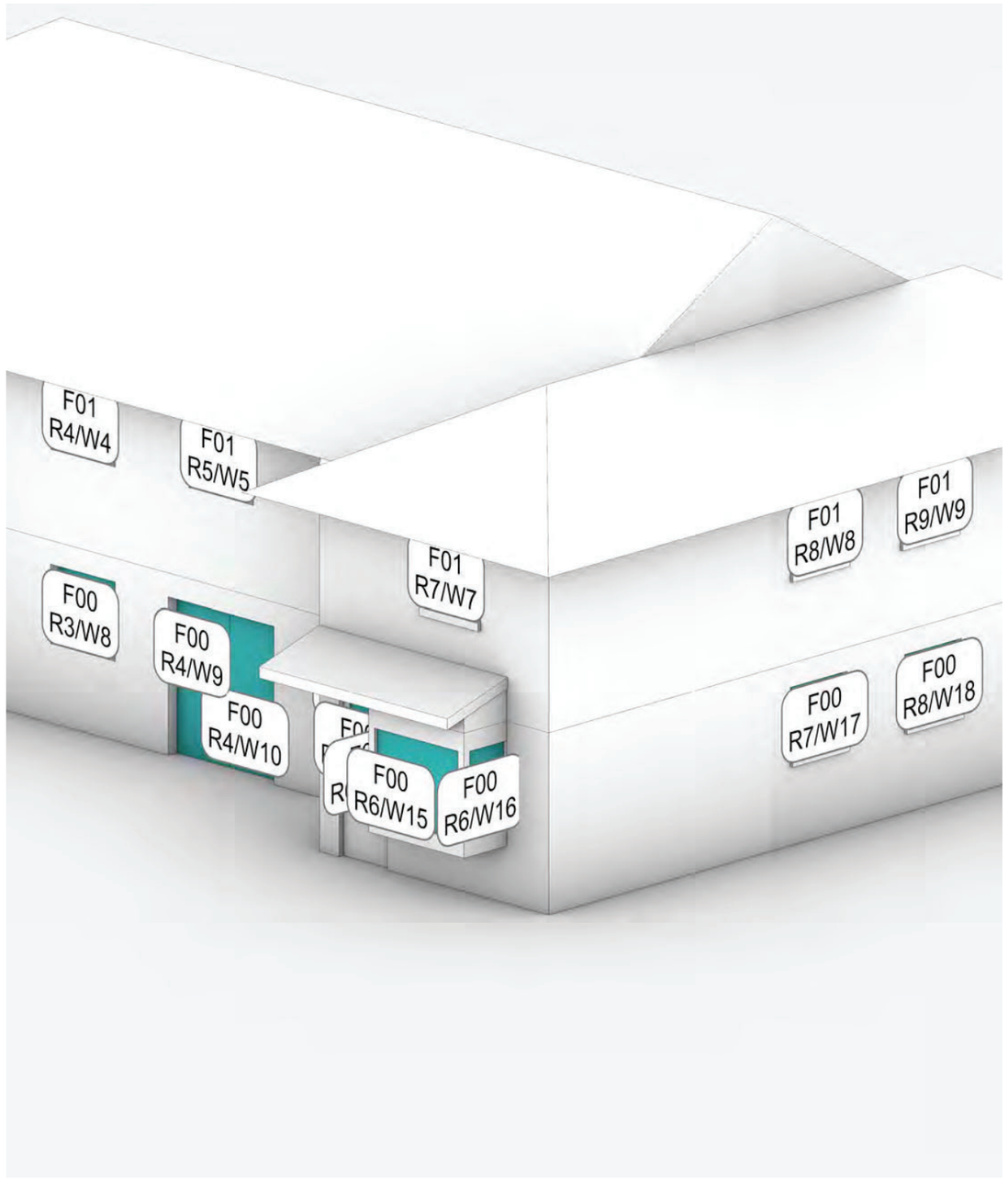


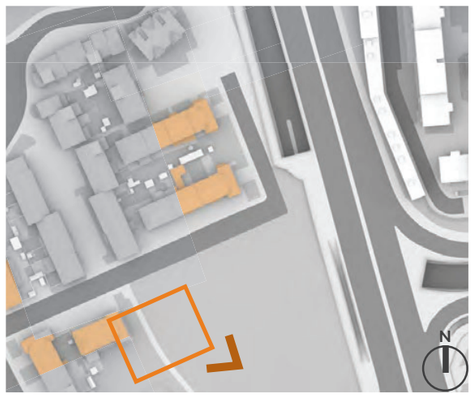


gia
CHARTERED SURVEYORS

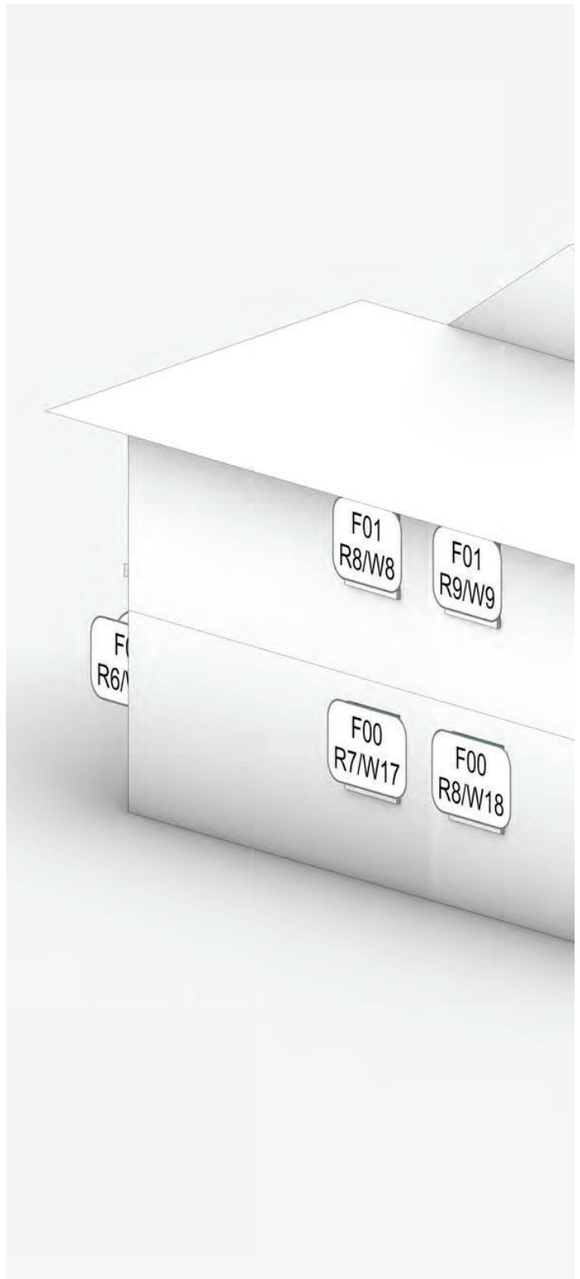
29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St



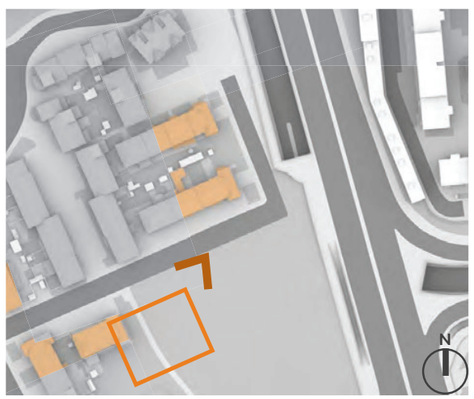




29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St



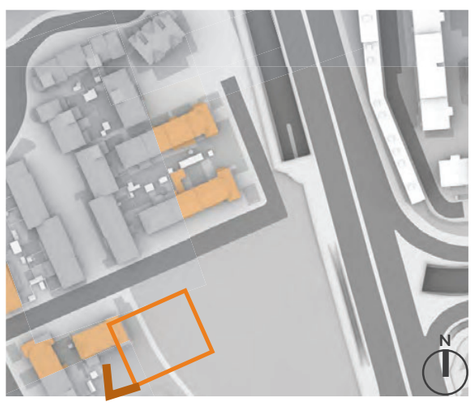




gia
CHARTERED SURVEYORS

29. 4, 6-14, 1-15, 17-33 & 35-41 Joshua St

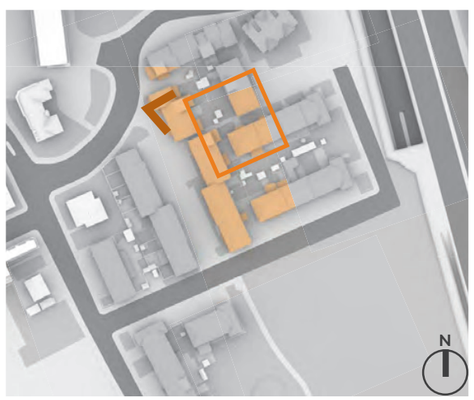




gia
CHARTERED SURVEYORS

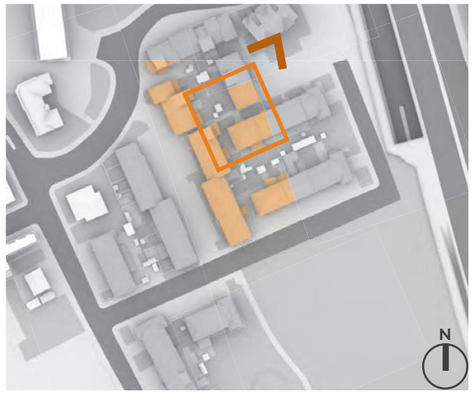
30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove





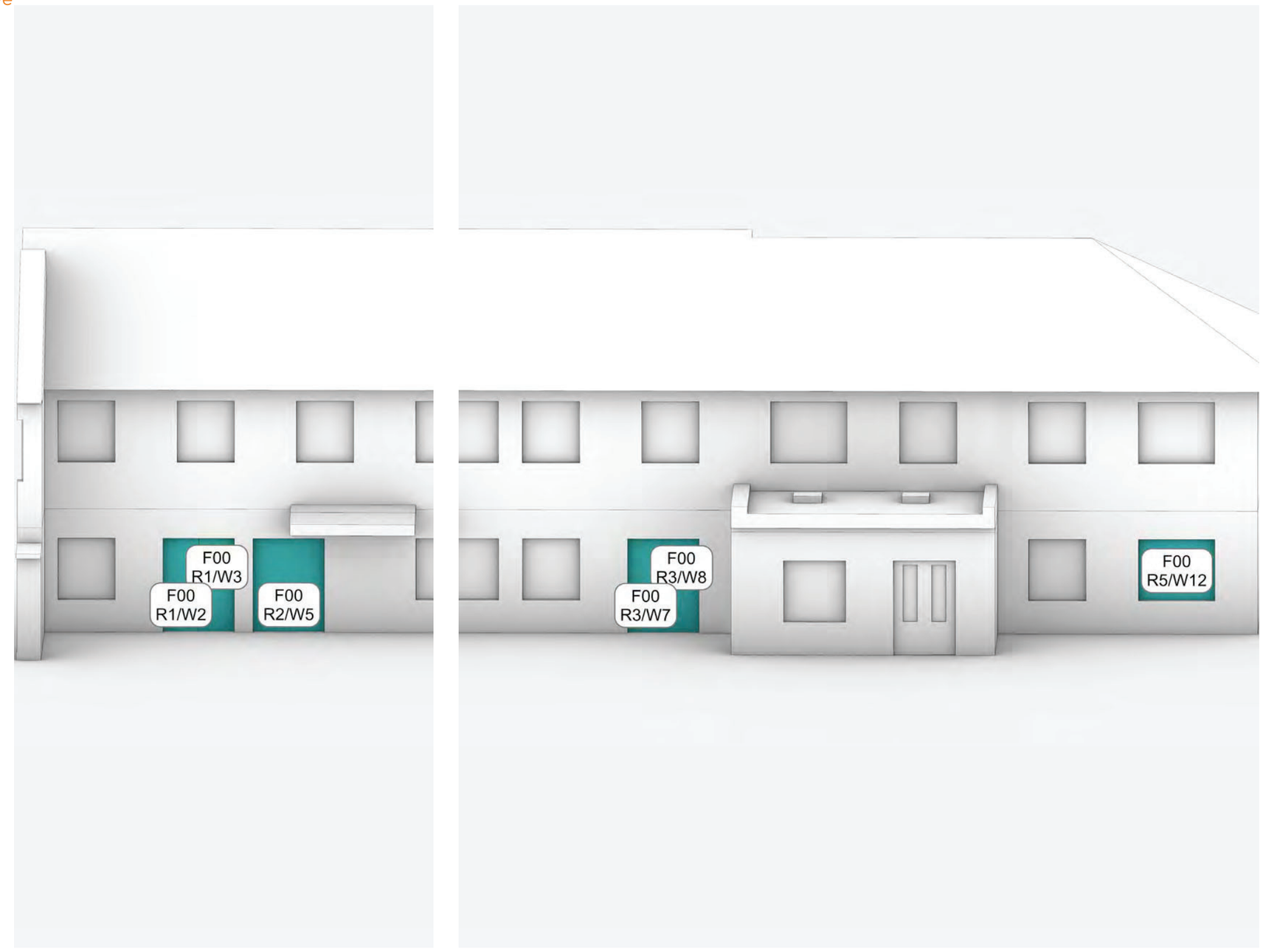
30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove





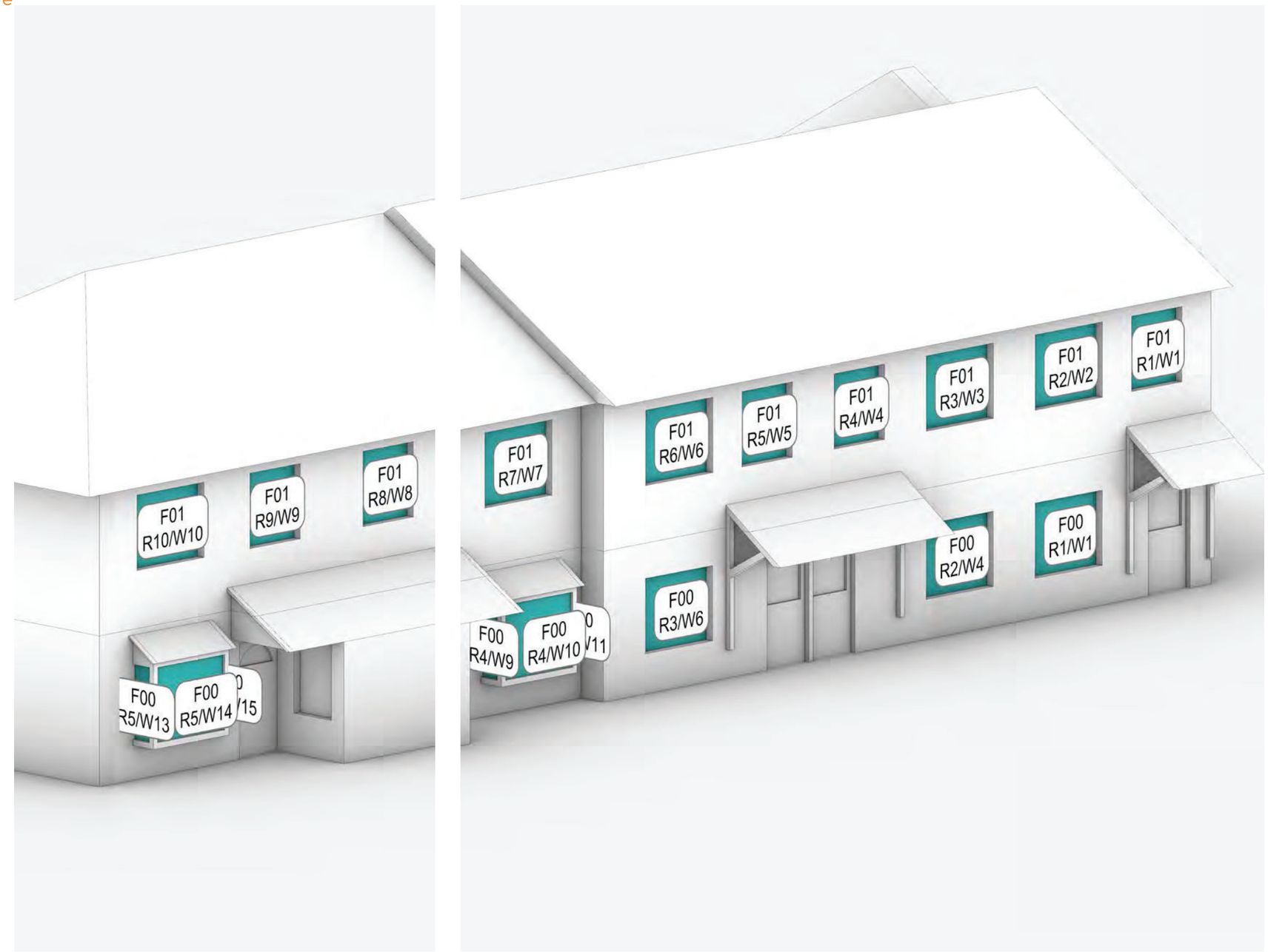
gia
CHARTERED SURVEYORS

30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove





30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove





gia
CHARTERED SURVEYORS

30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove

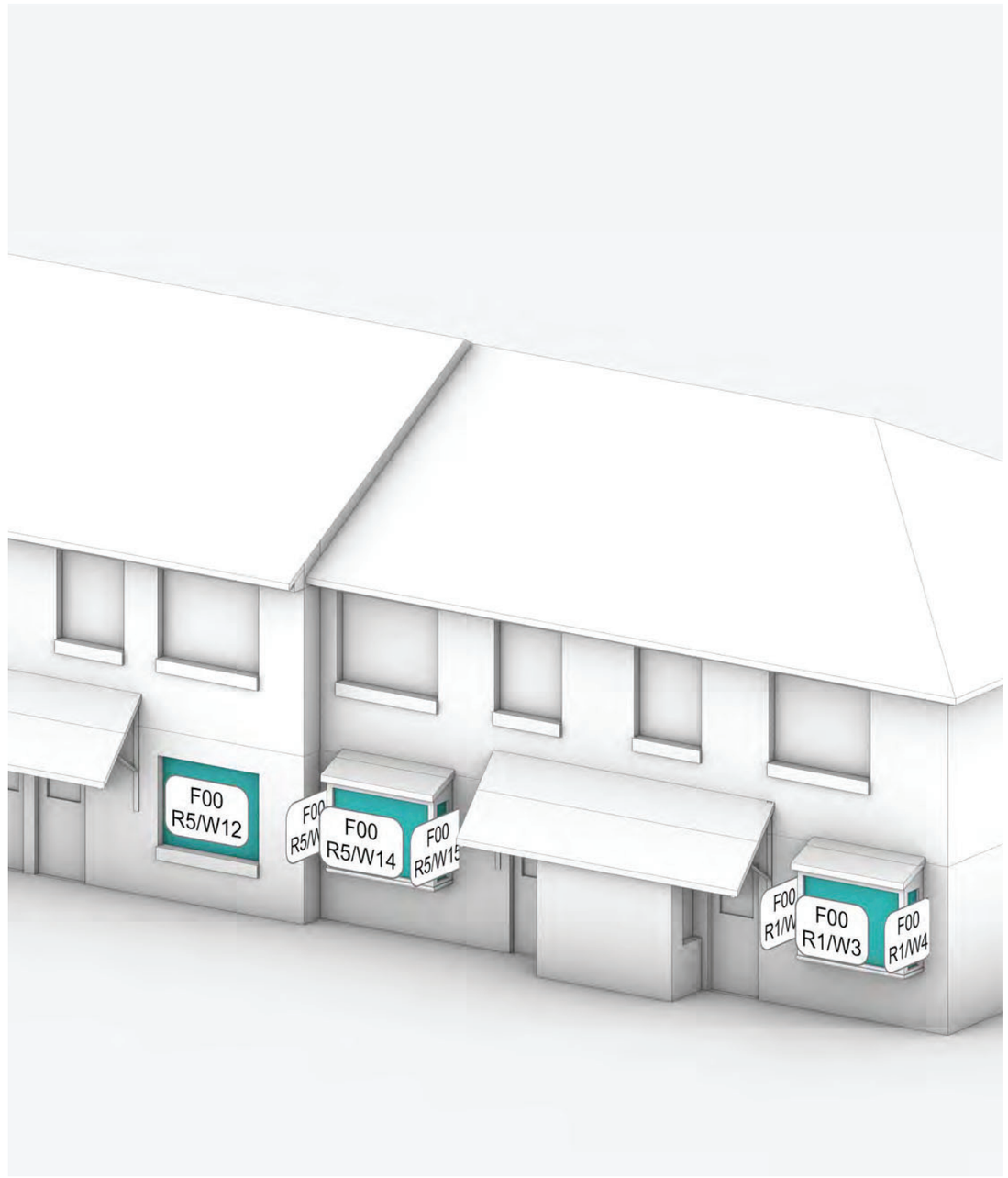




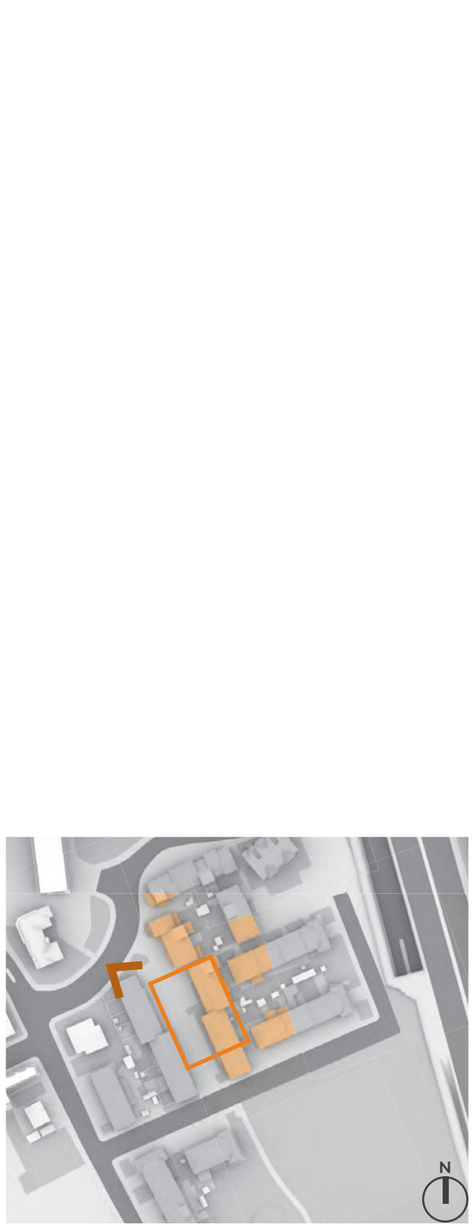
gia
CHARTERED SURVEYORS

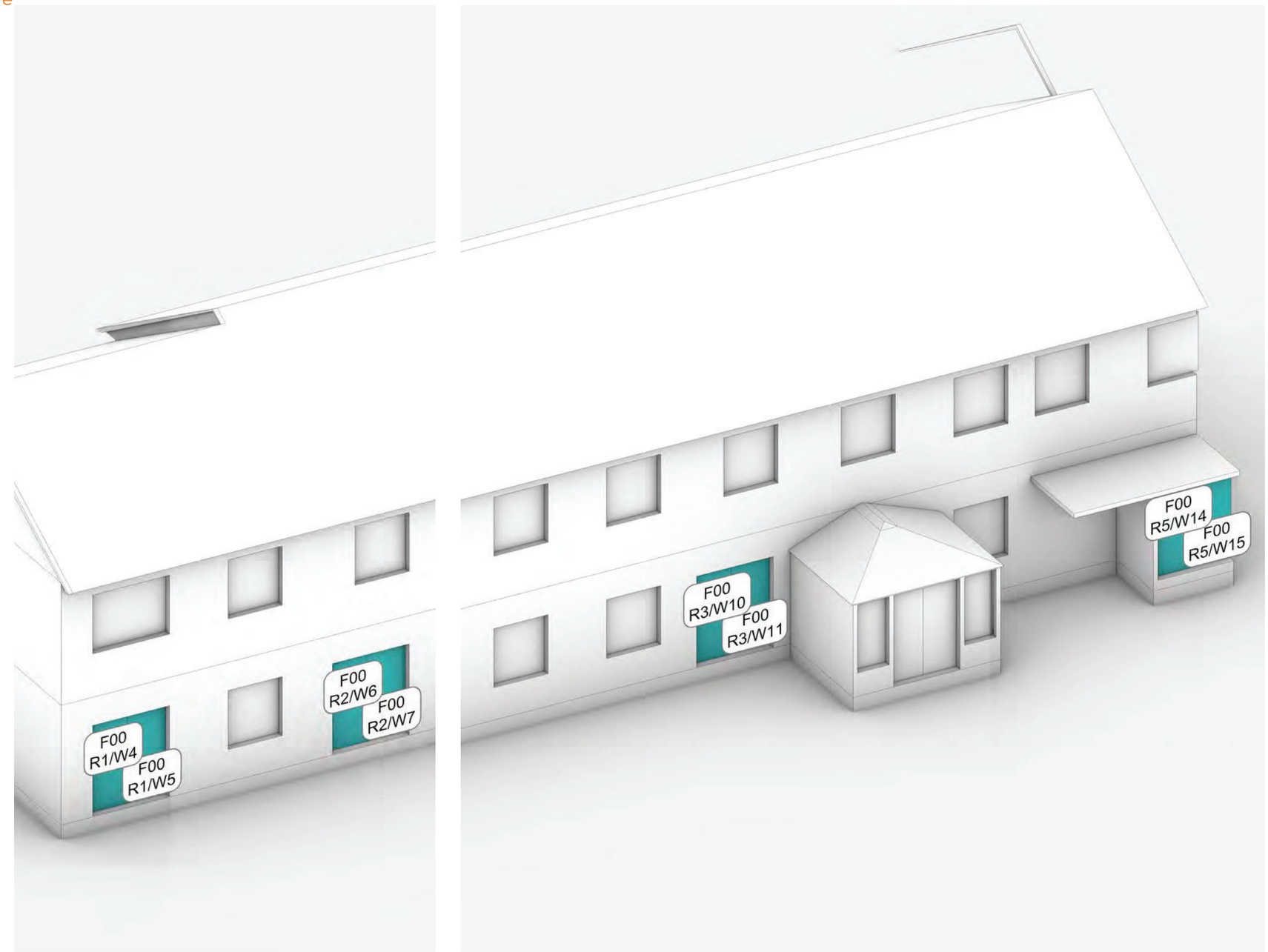
30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove



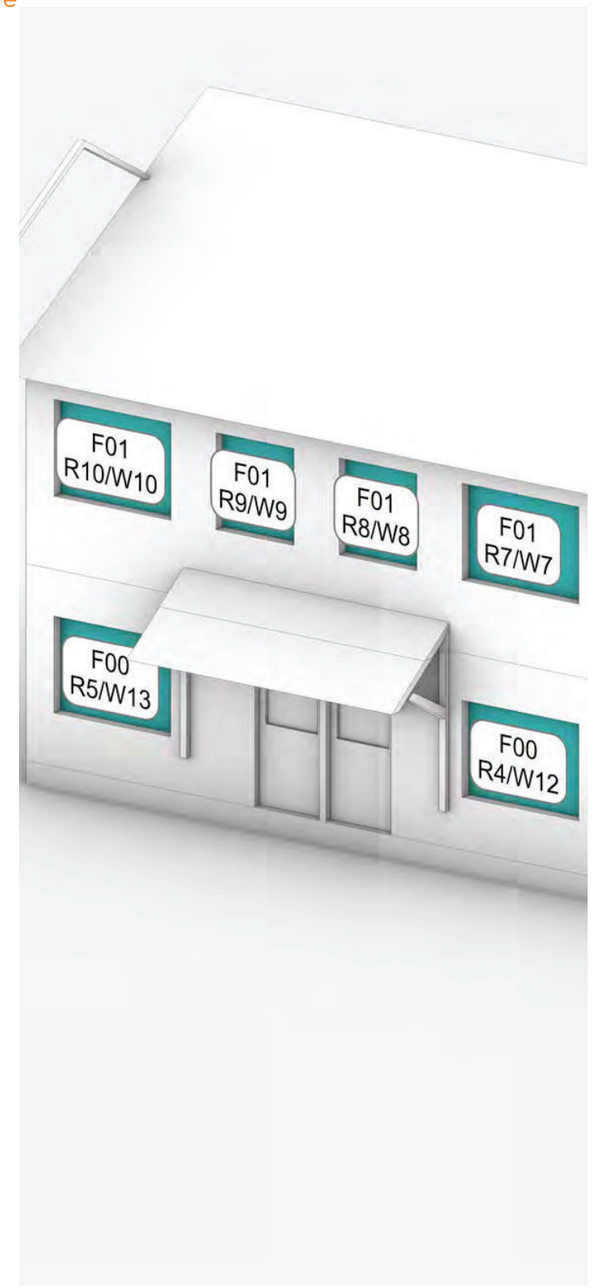


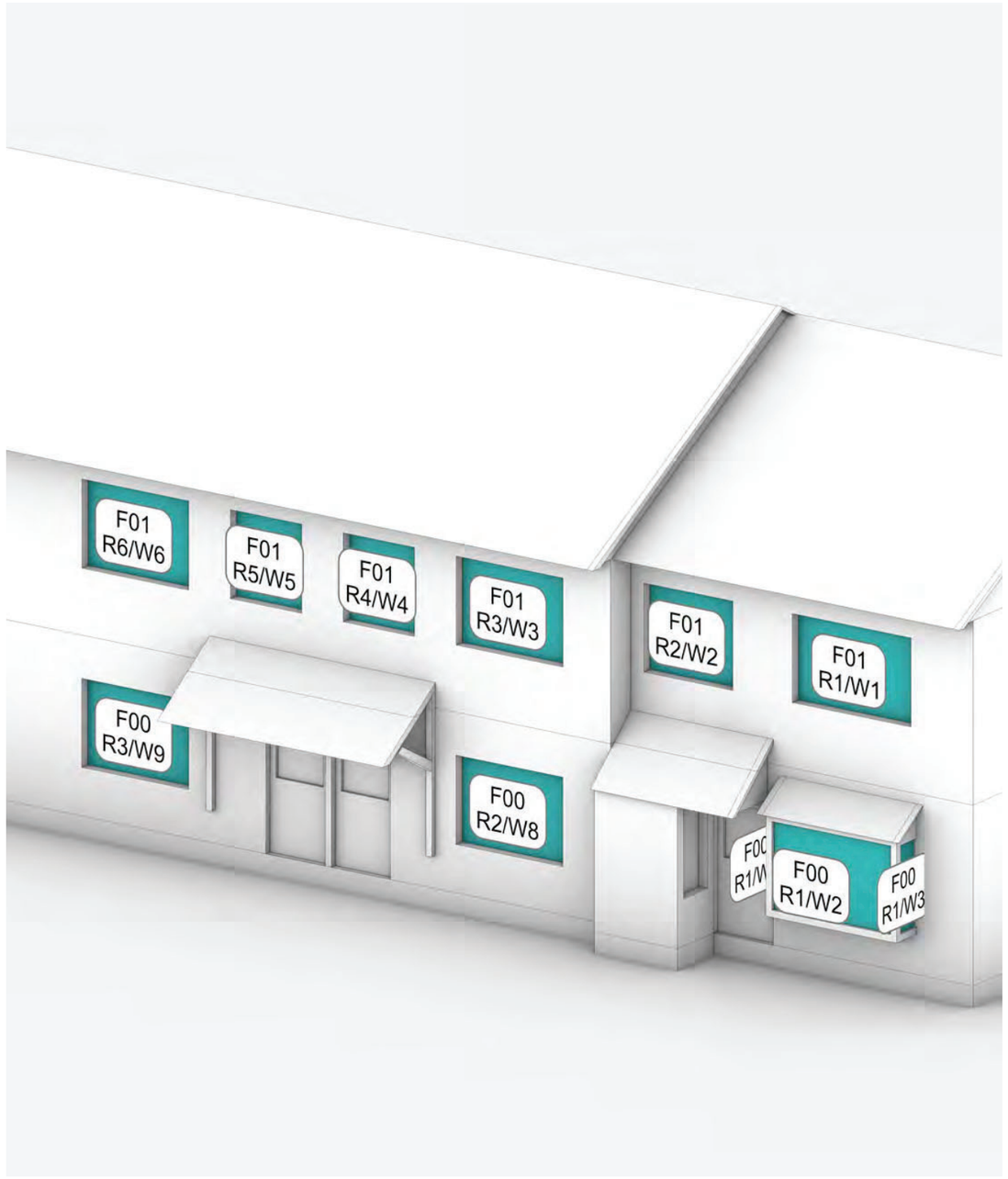
30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove





30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove



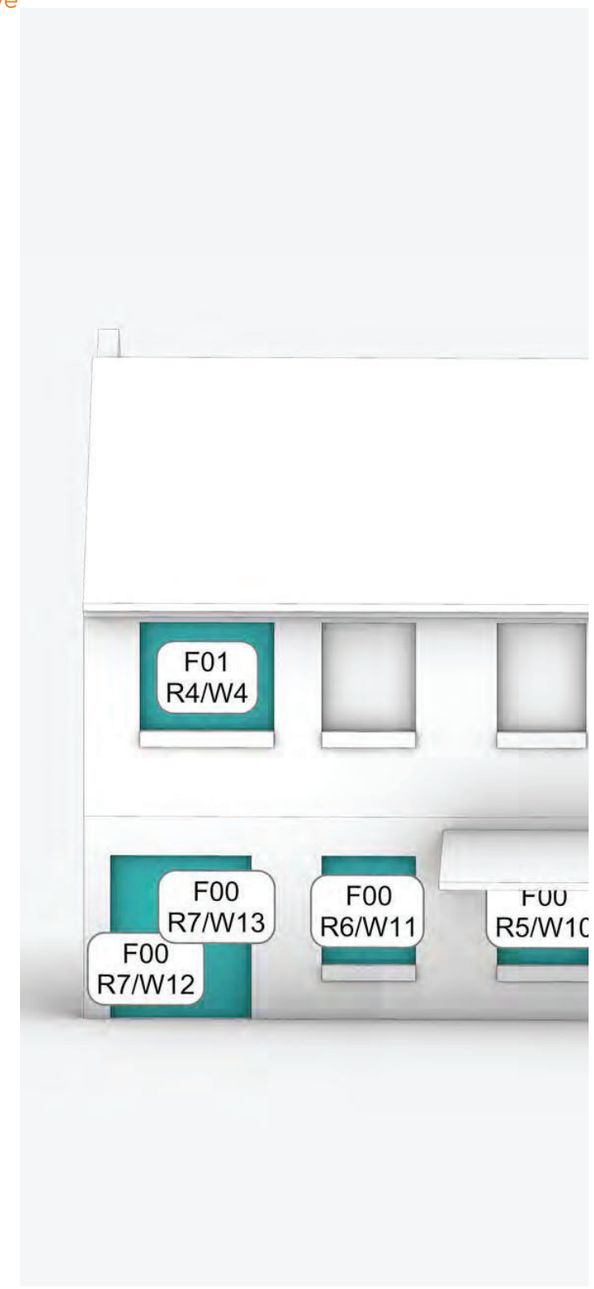


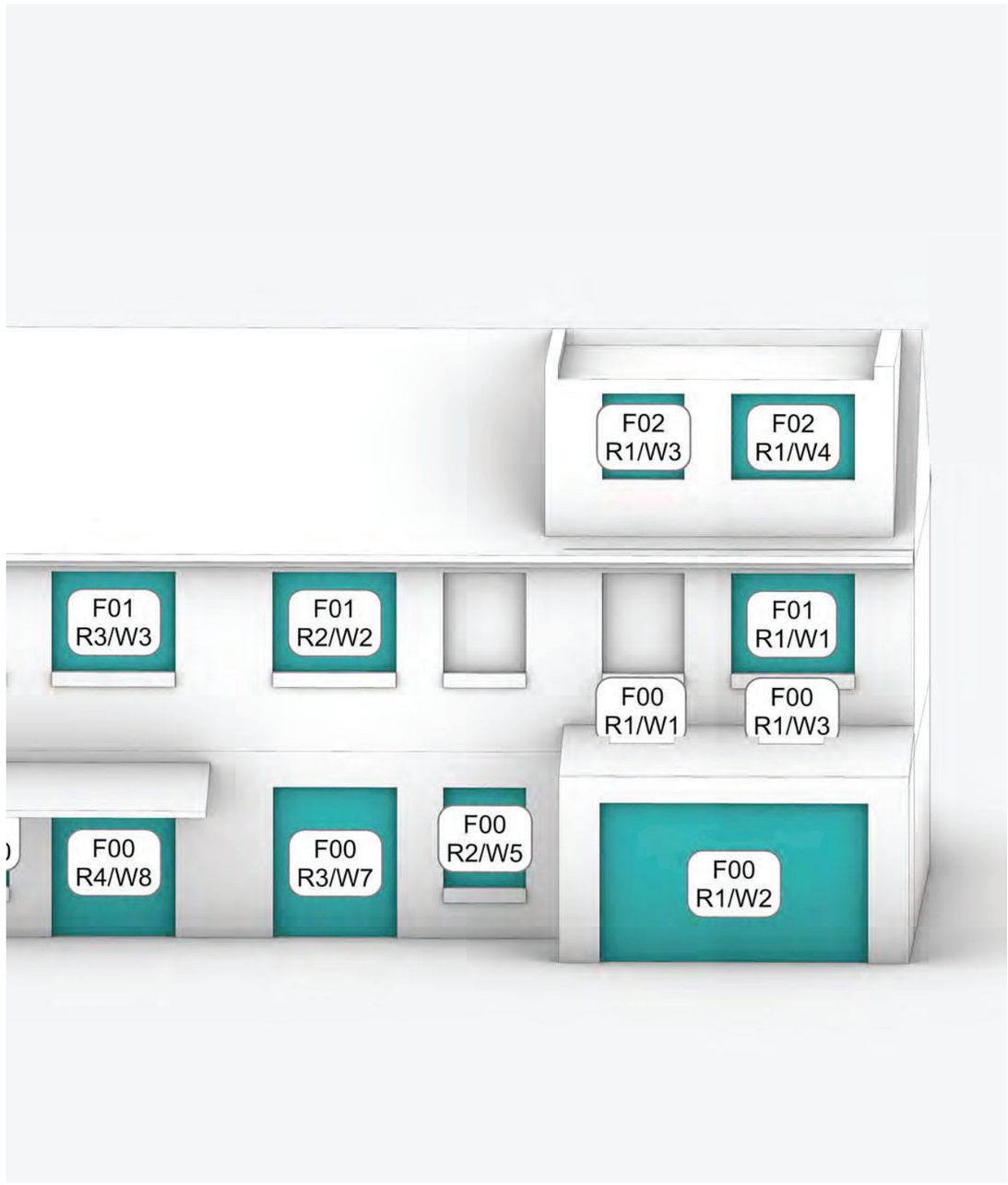


gia
CHARTERED SURVEYORS

30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove

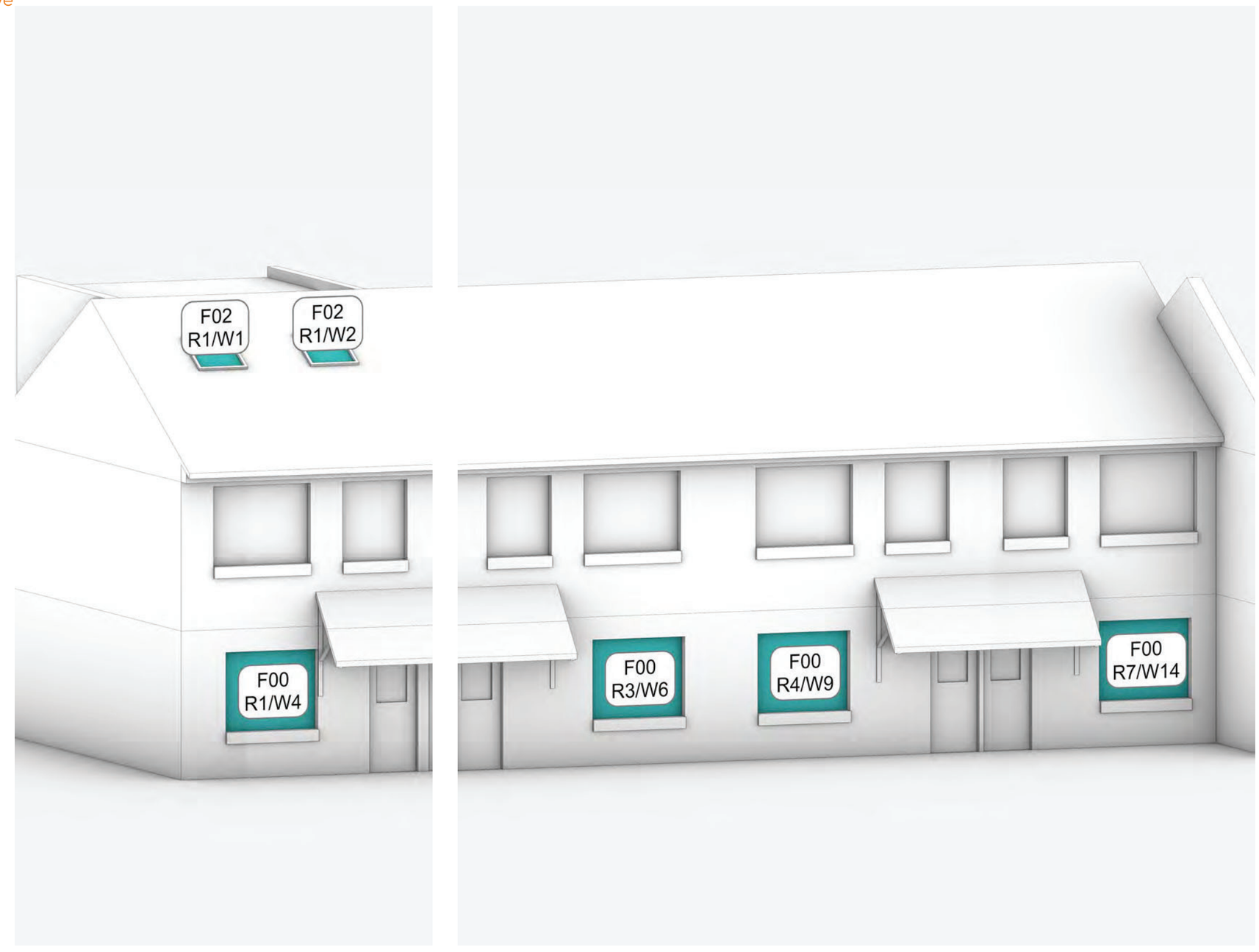




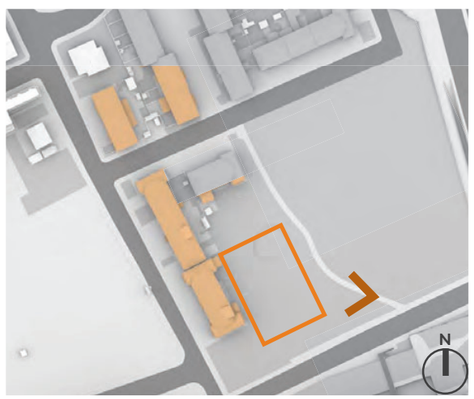


30. 1-9, 2-10, 9-15, 12-20, 17-25 Mills Grove

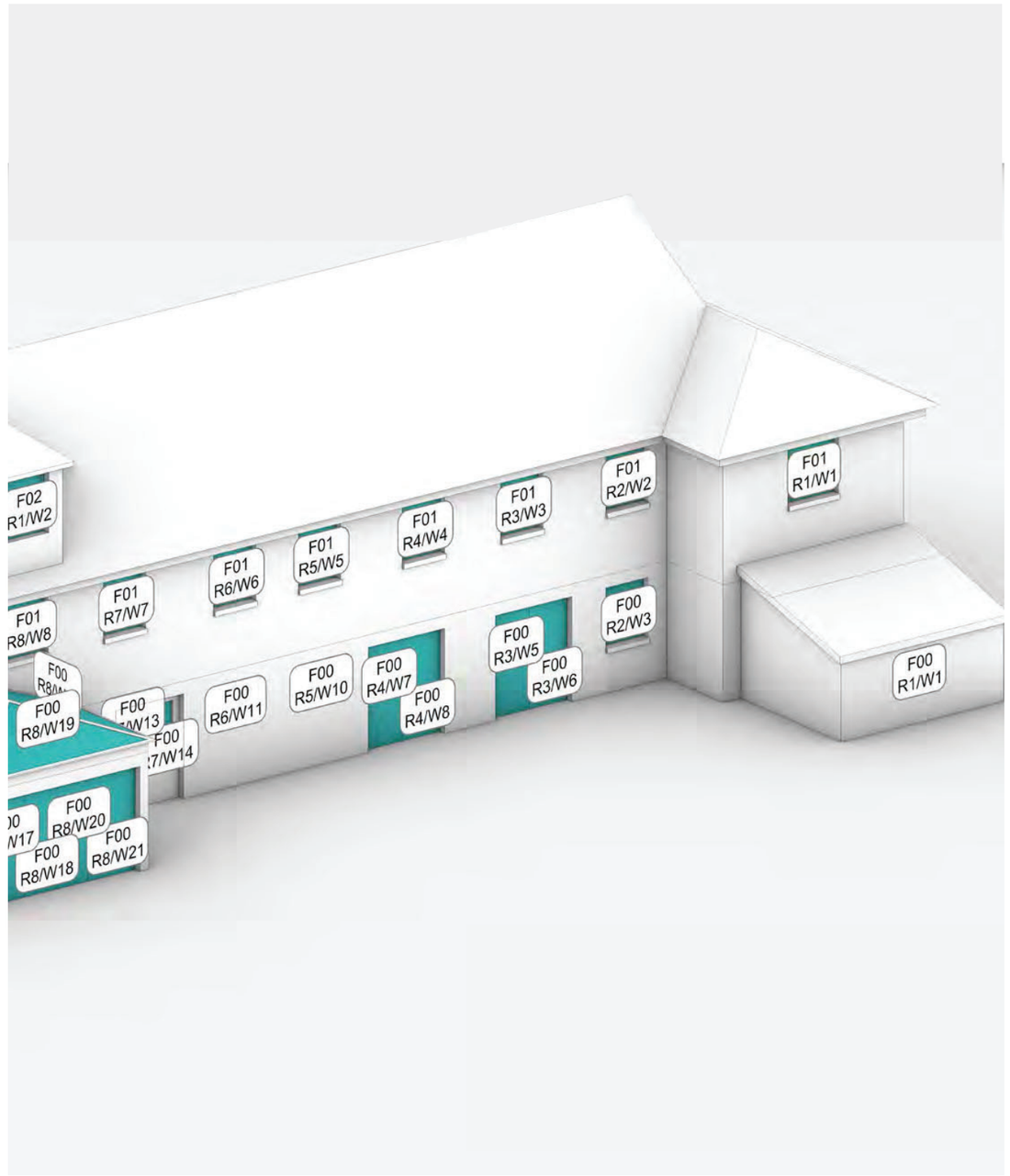




31. 118-132, 134-146, 148-154 St Leonards Rd

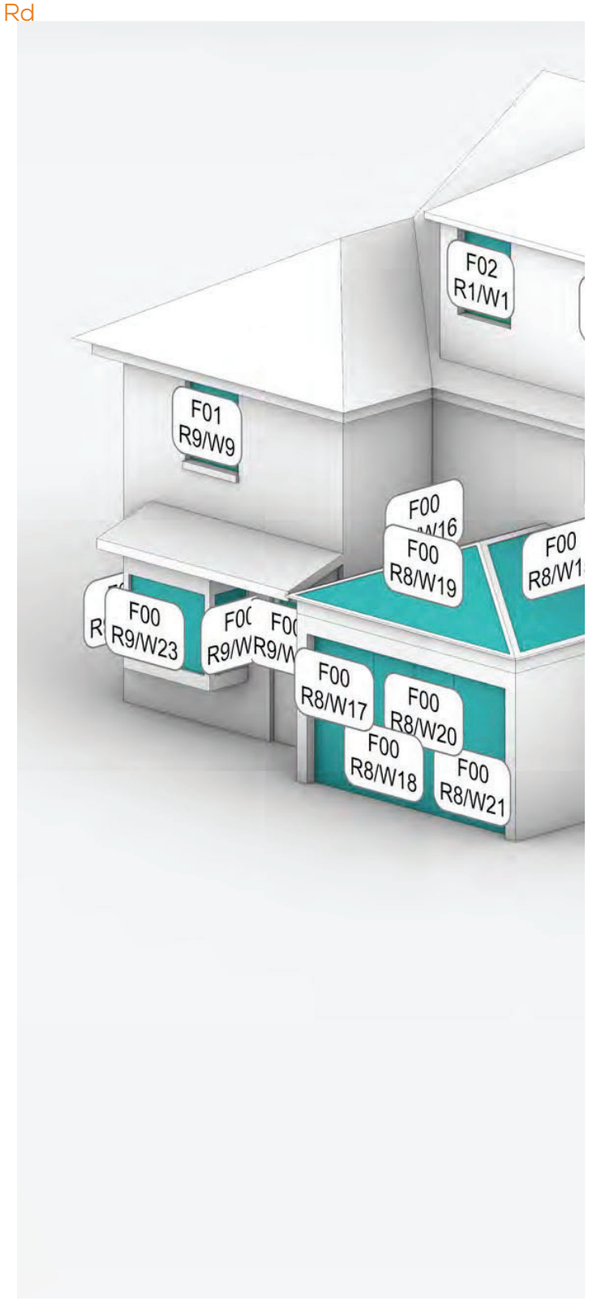


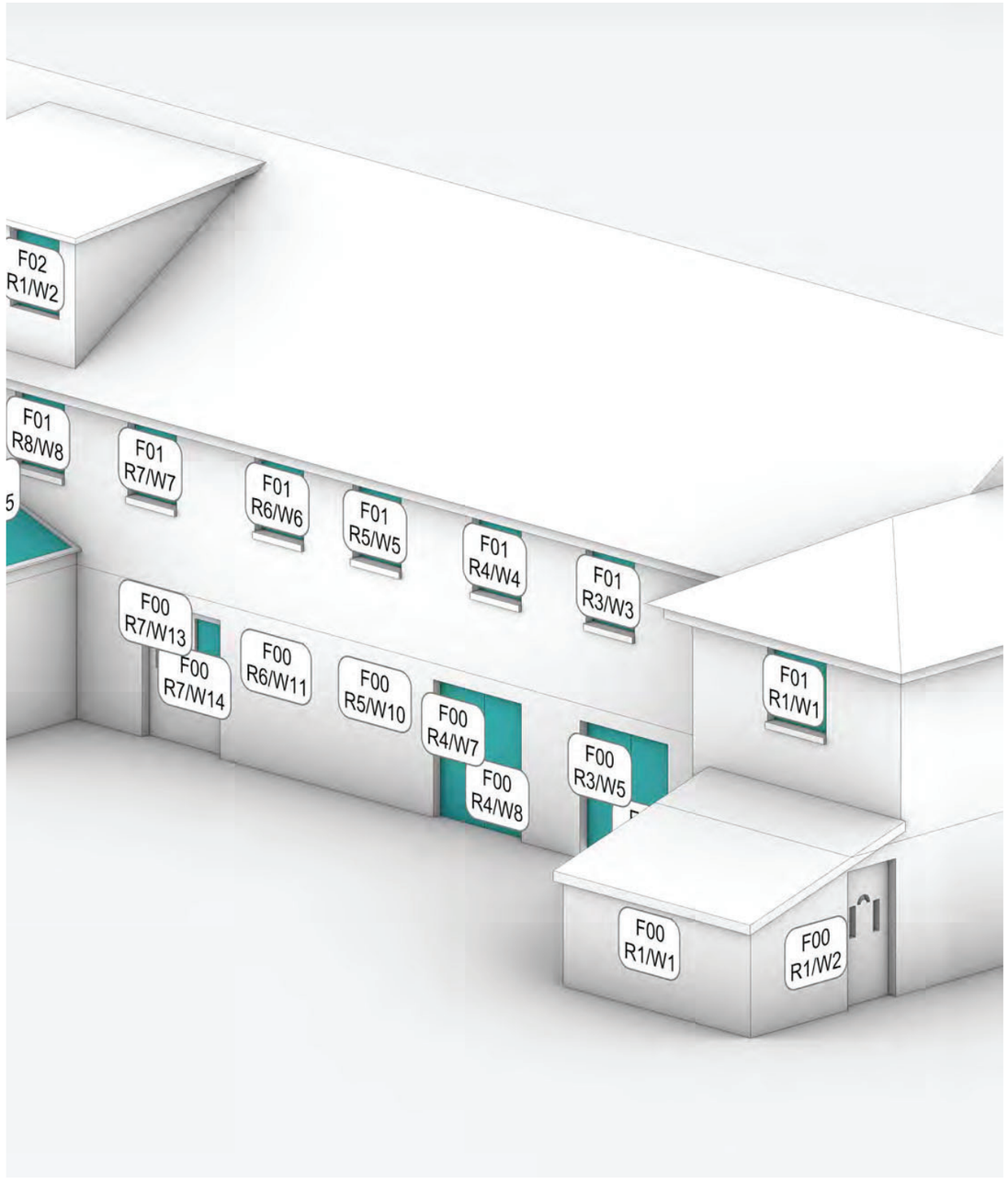


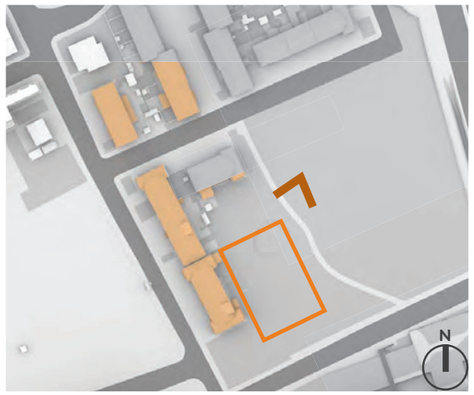


gia
CHARTERED SURVEYORS

31. 118-132, 134-146, 148-154 St Leonards Rd

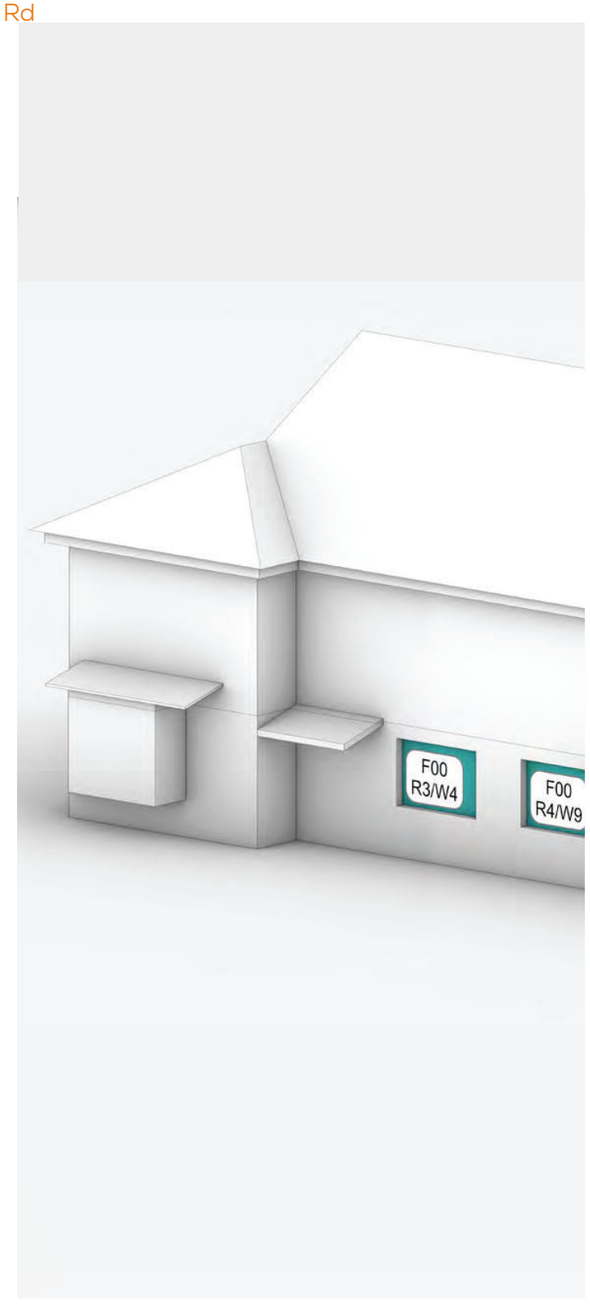


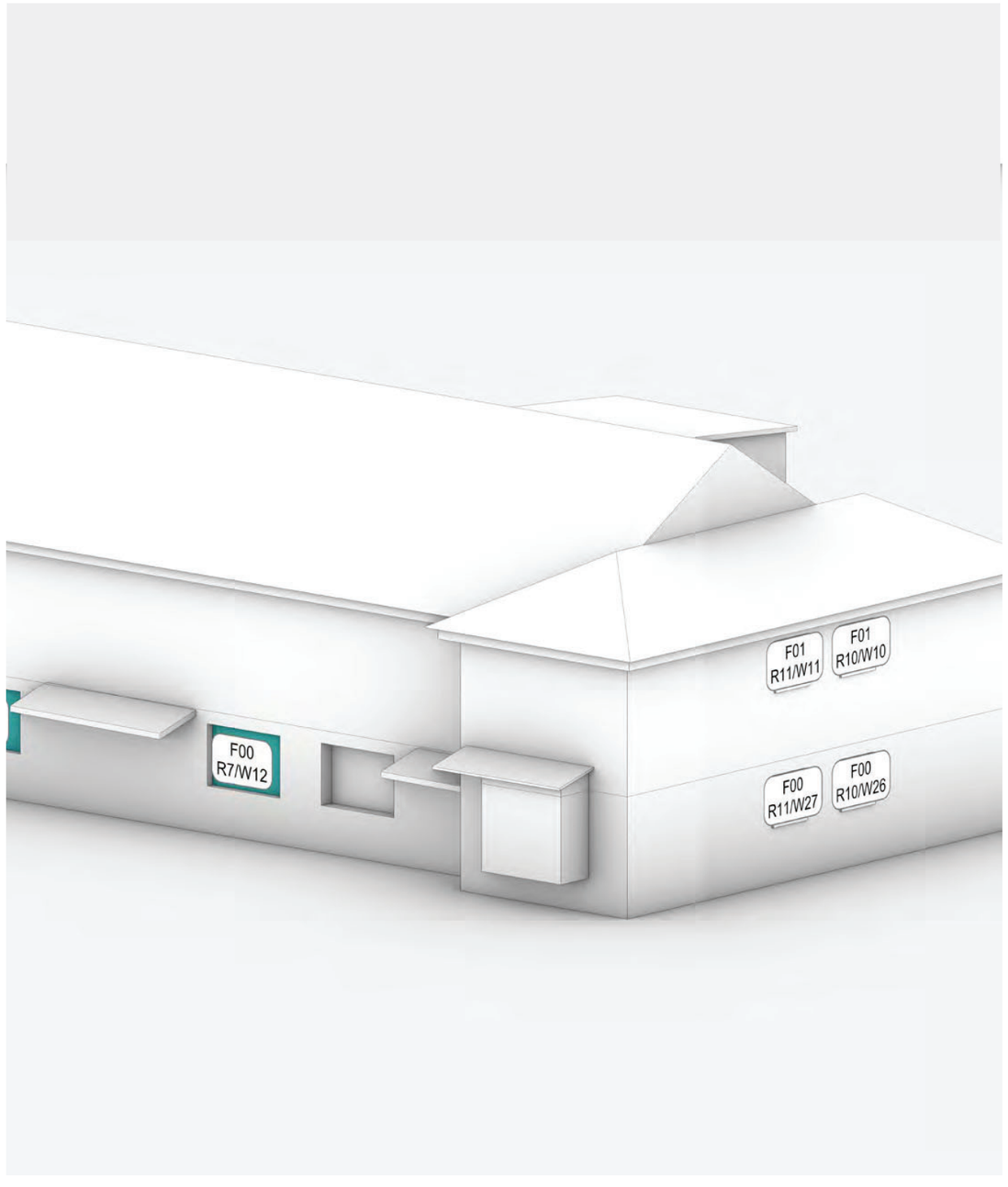




gia
CHARTERED SURVEYORS

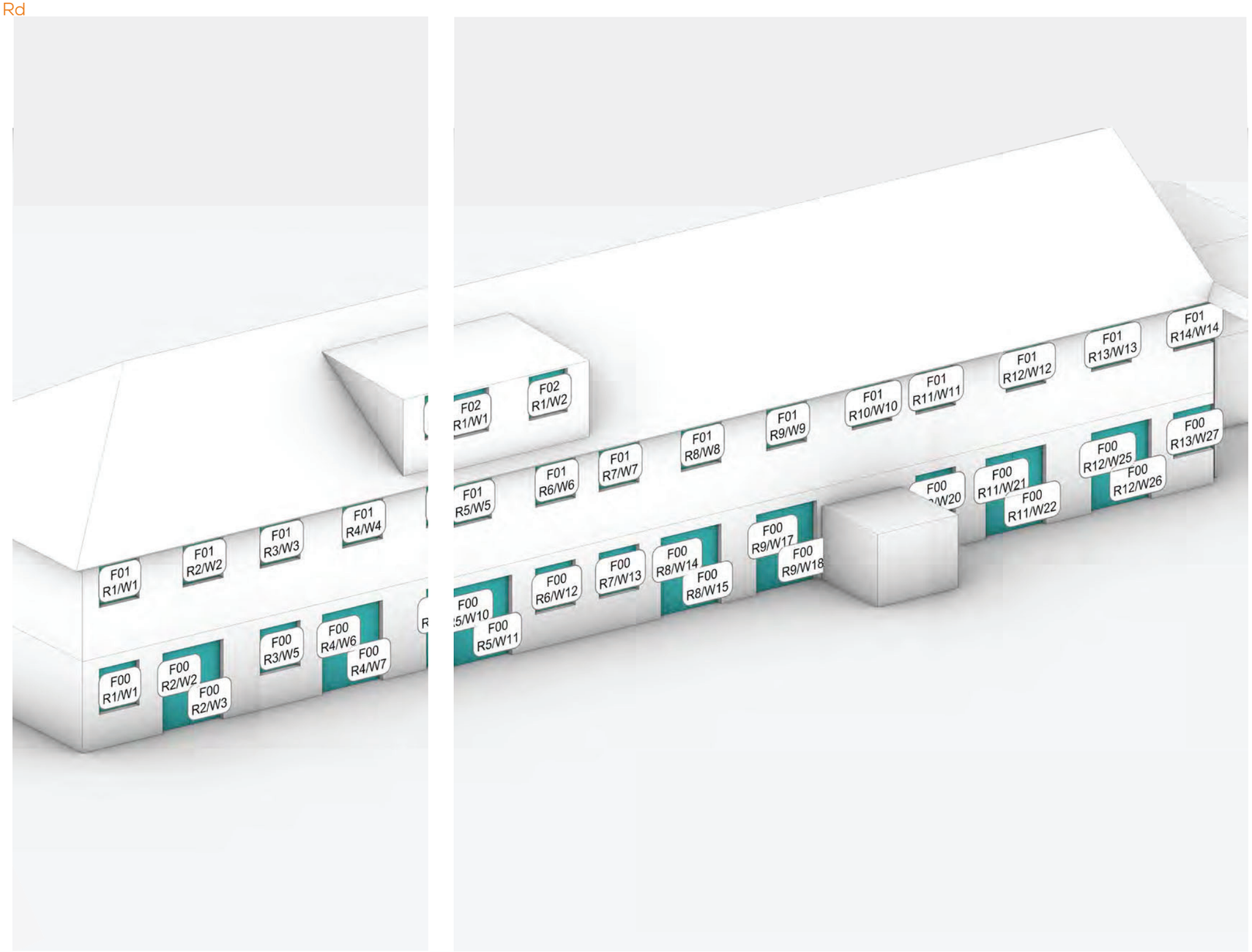
31. 118-132, 134-146, 148-154 St Leonards Rd

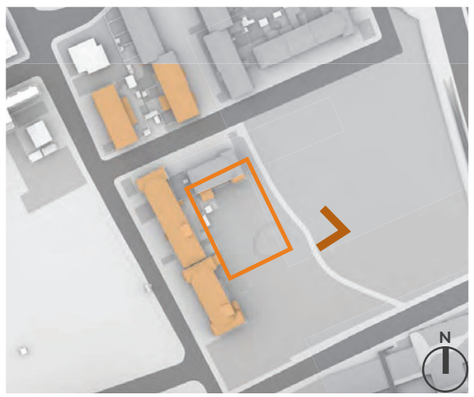




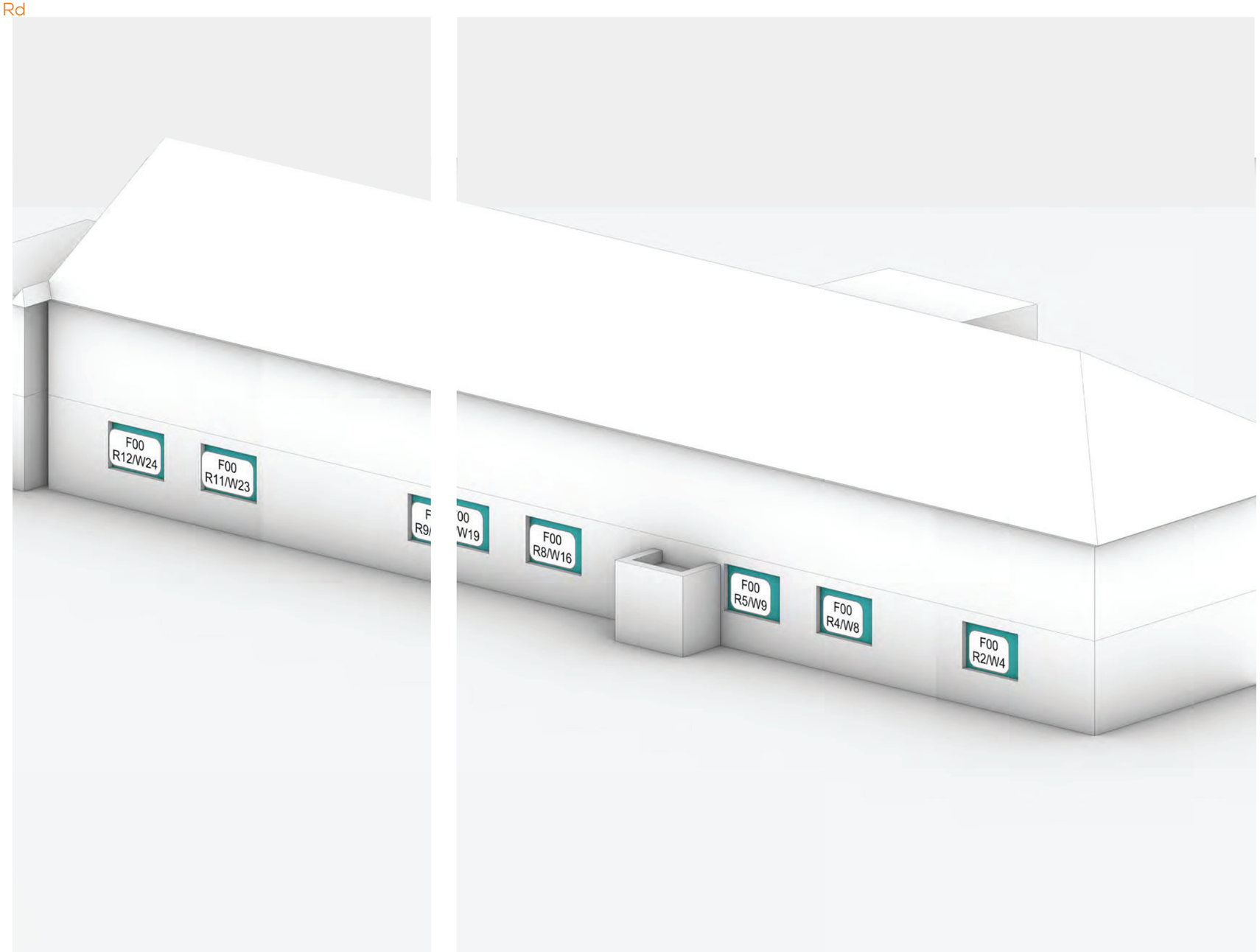


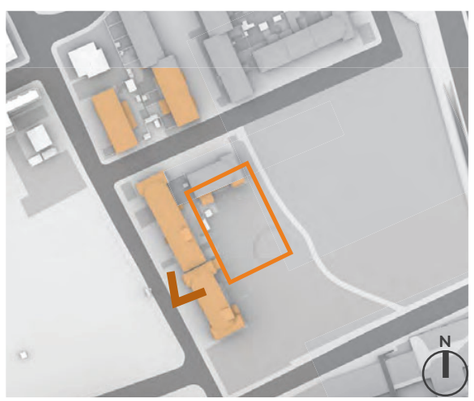
31. 118-132, 134-146, 148-154 St Leonards Rd



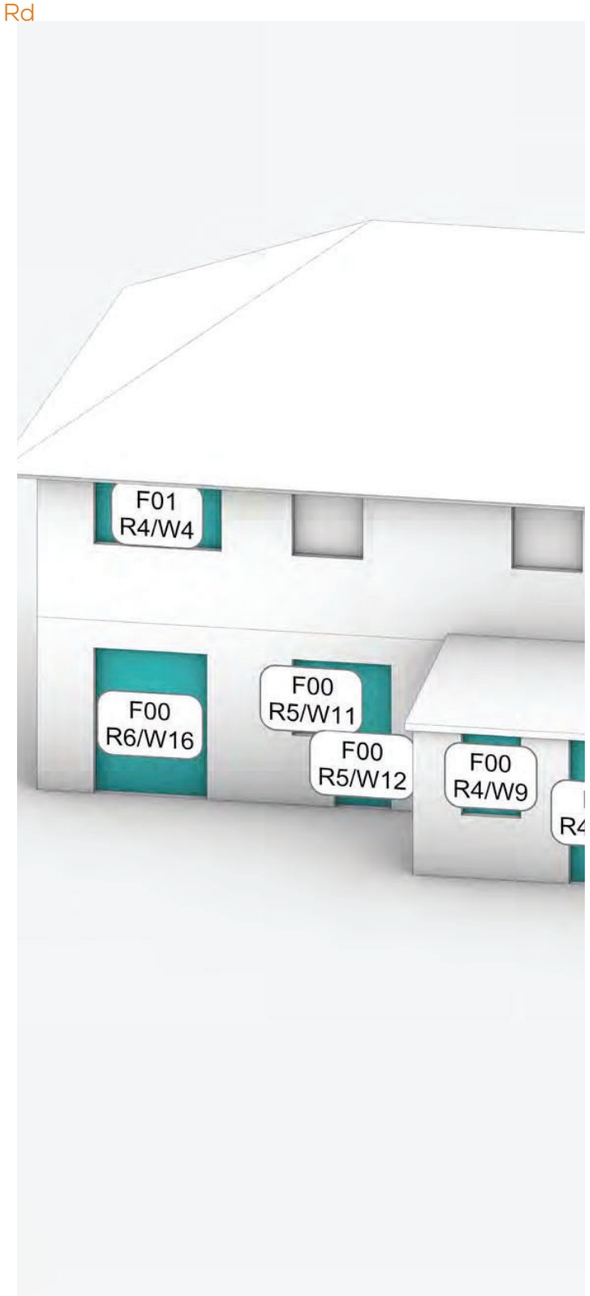


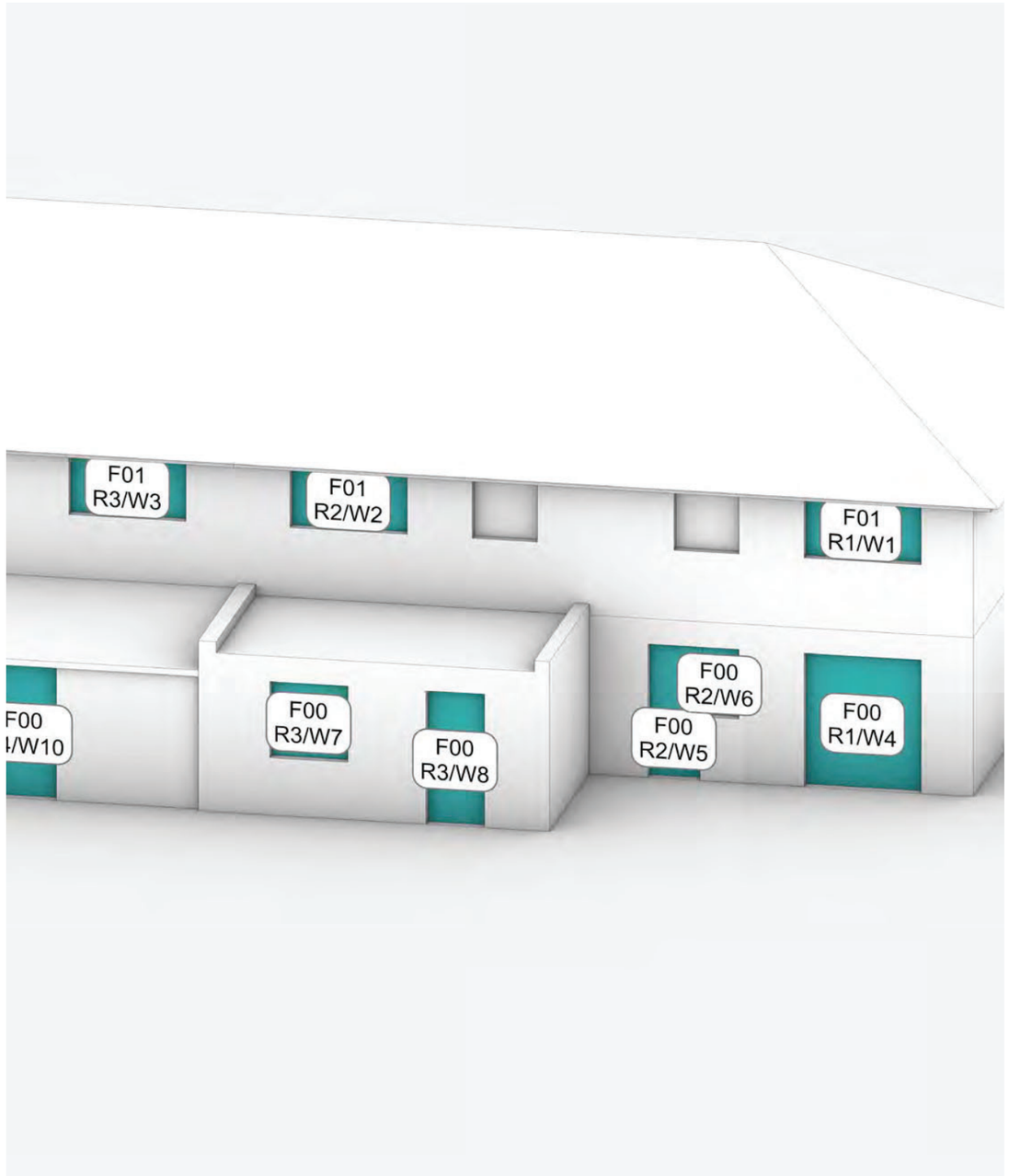
31. 118-132, 134-146, 148-154 St Leonards Rd

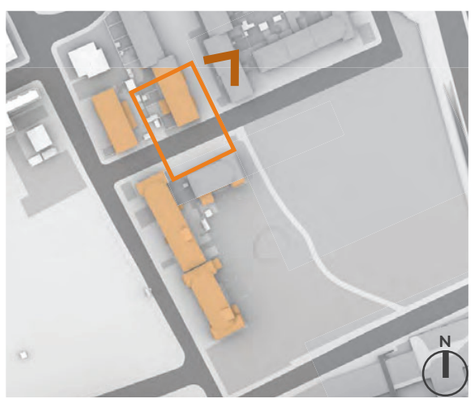




31. 118-132, 134-146, 148-154 St Leonards Rd

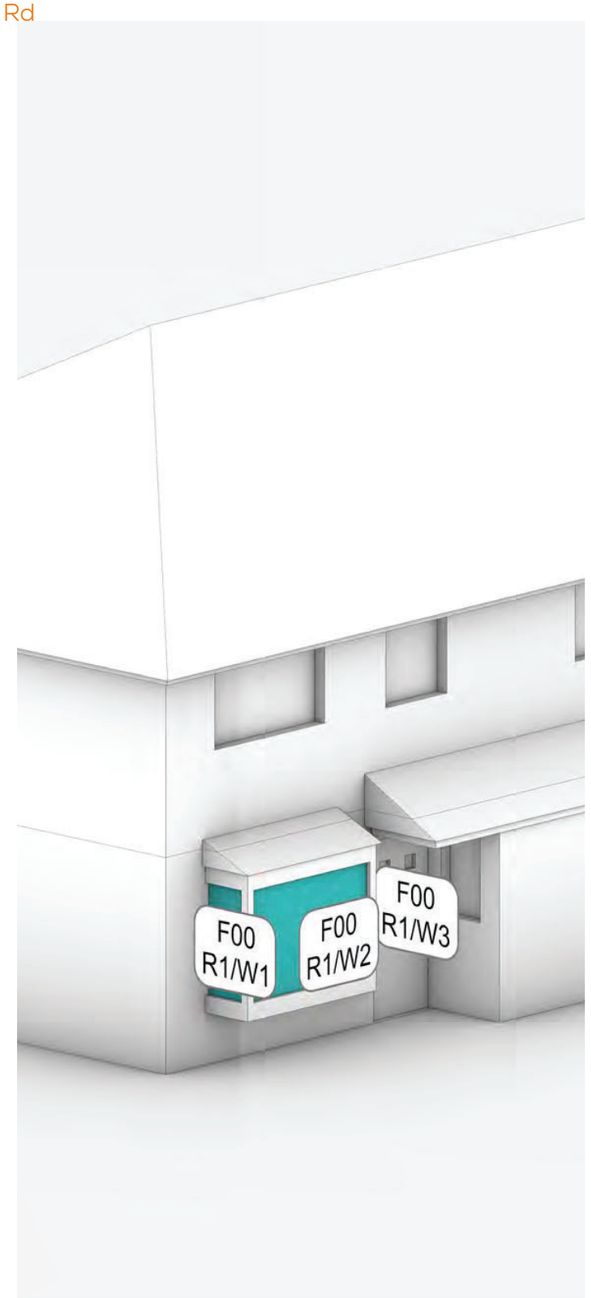


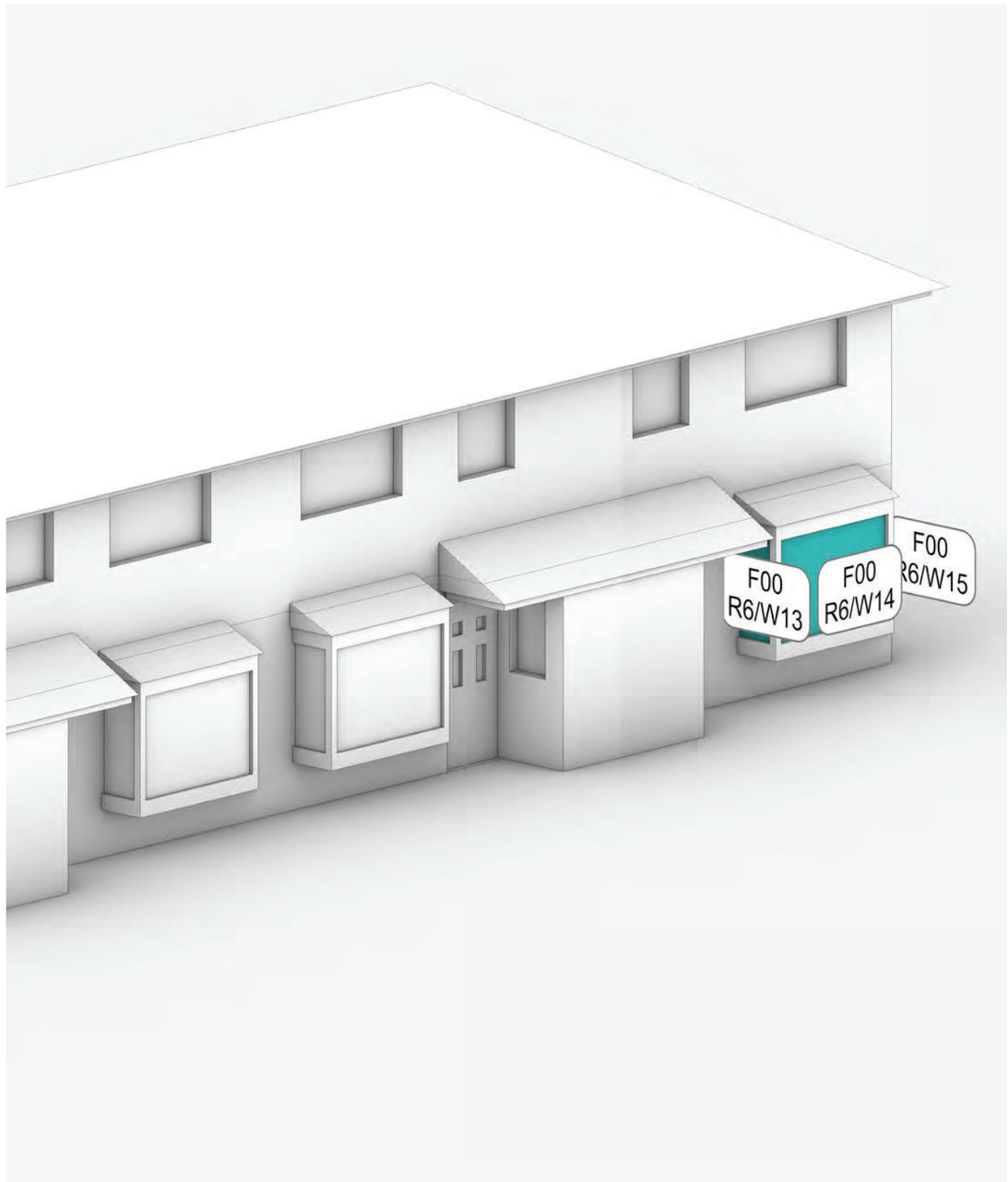




31. 118-132, 134-146, 148-154 St Leonards Rd







45-47 Abbott Rd

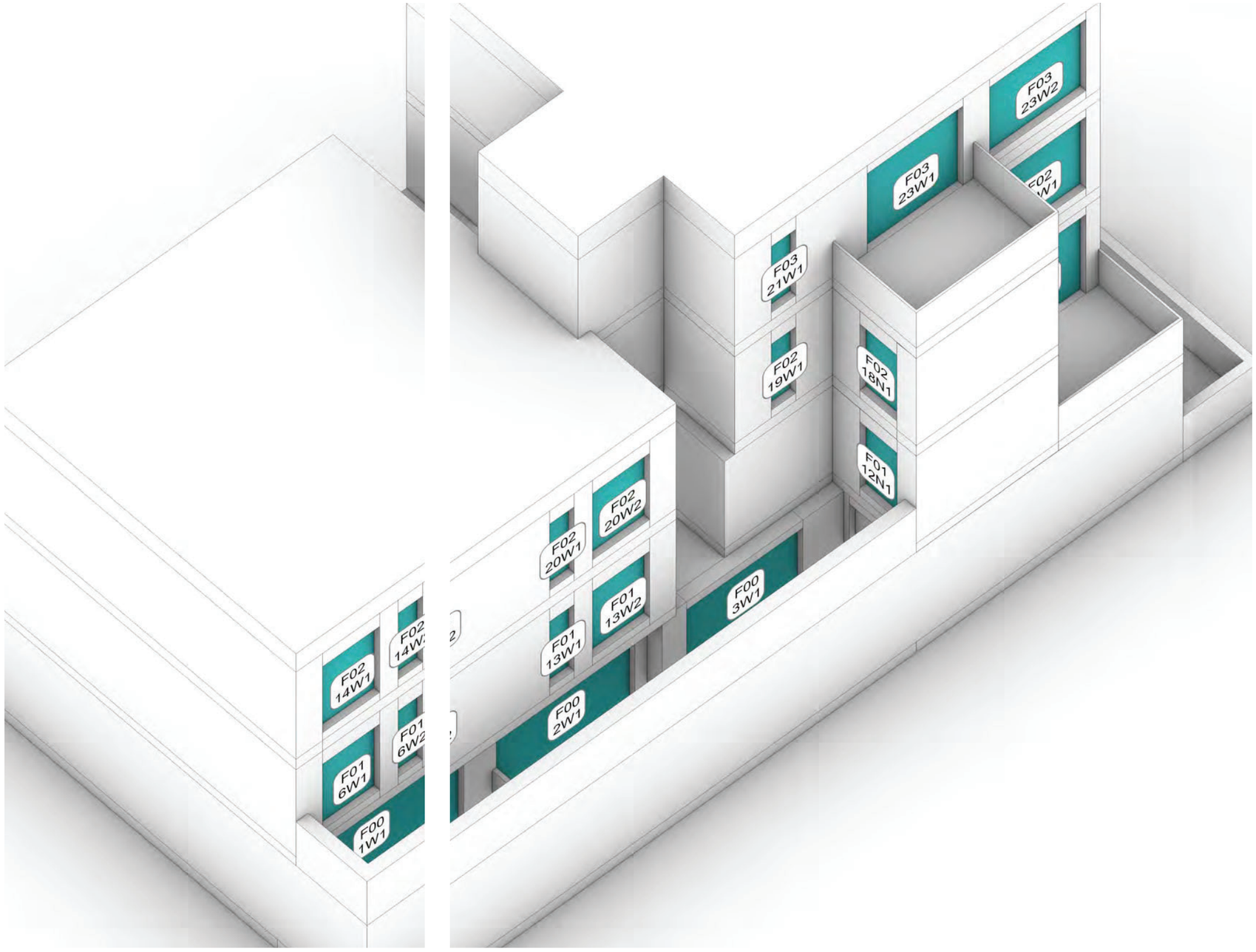




gia
CHARTERED SURVEYORS

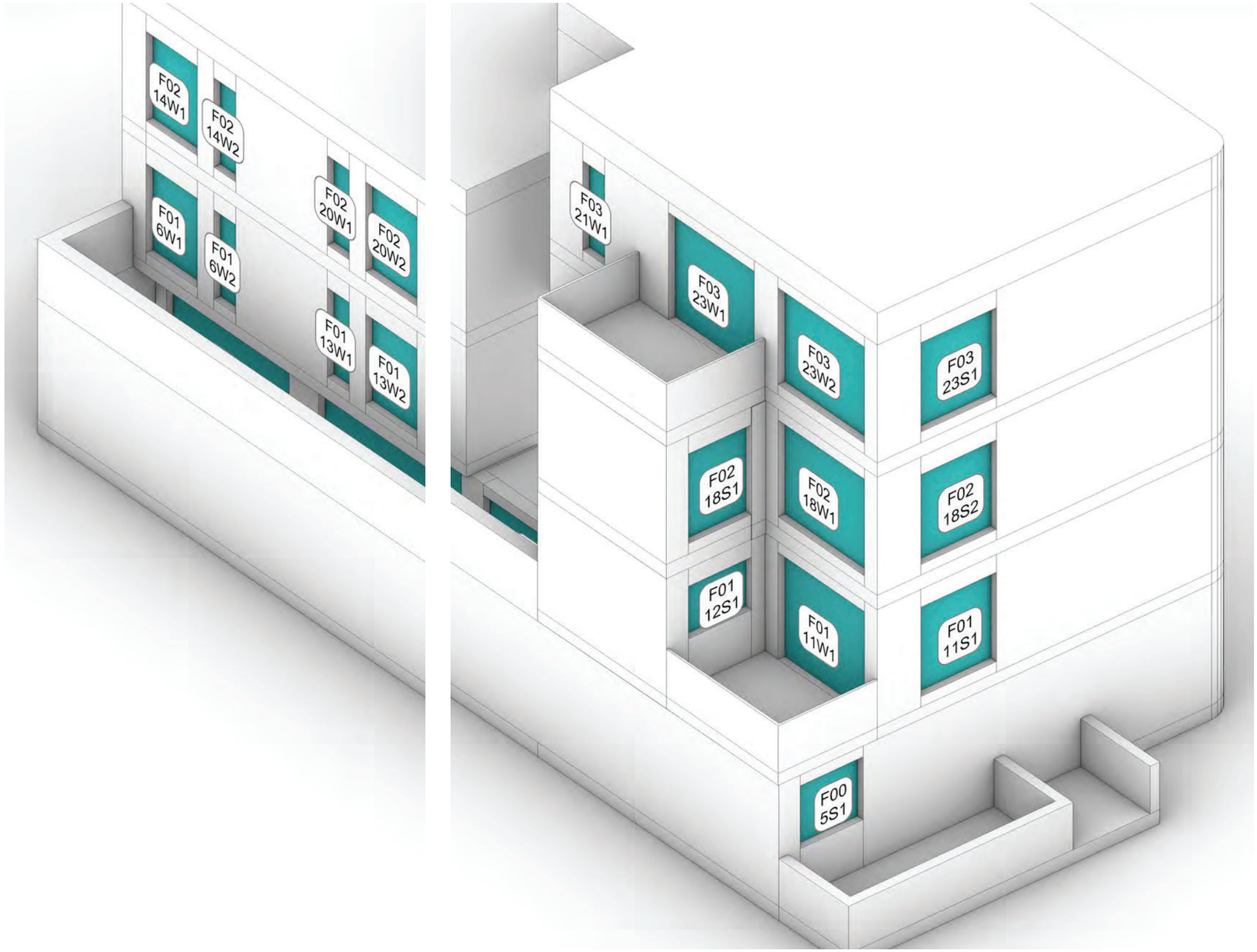
45-47 Abbott Rd





gia
CHARTERED SURVEYORS

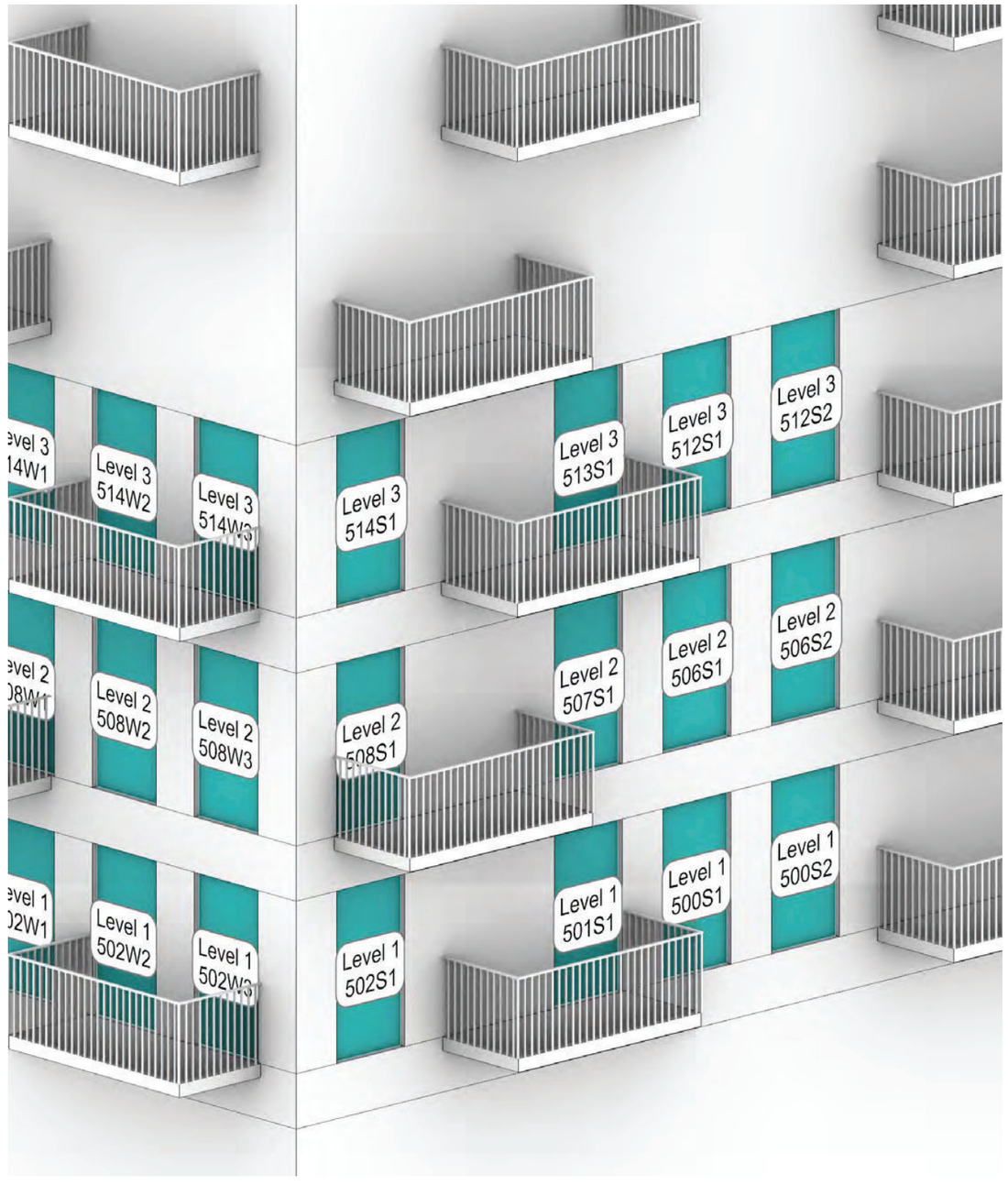
45-47 Abbott Rd





Islay Wharf

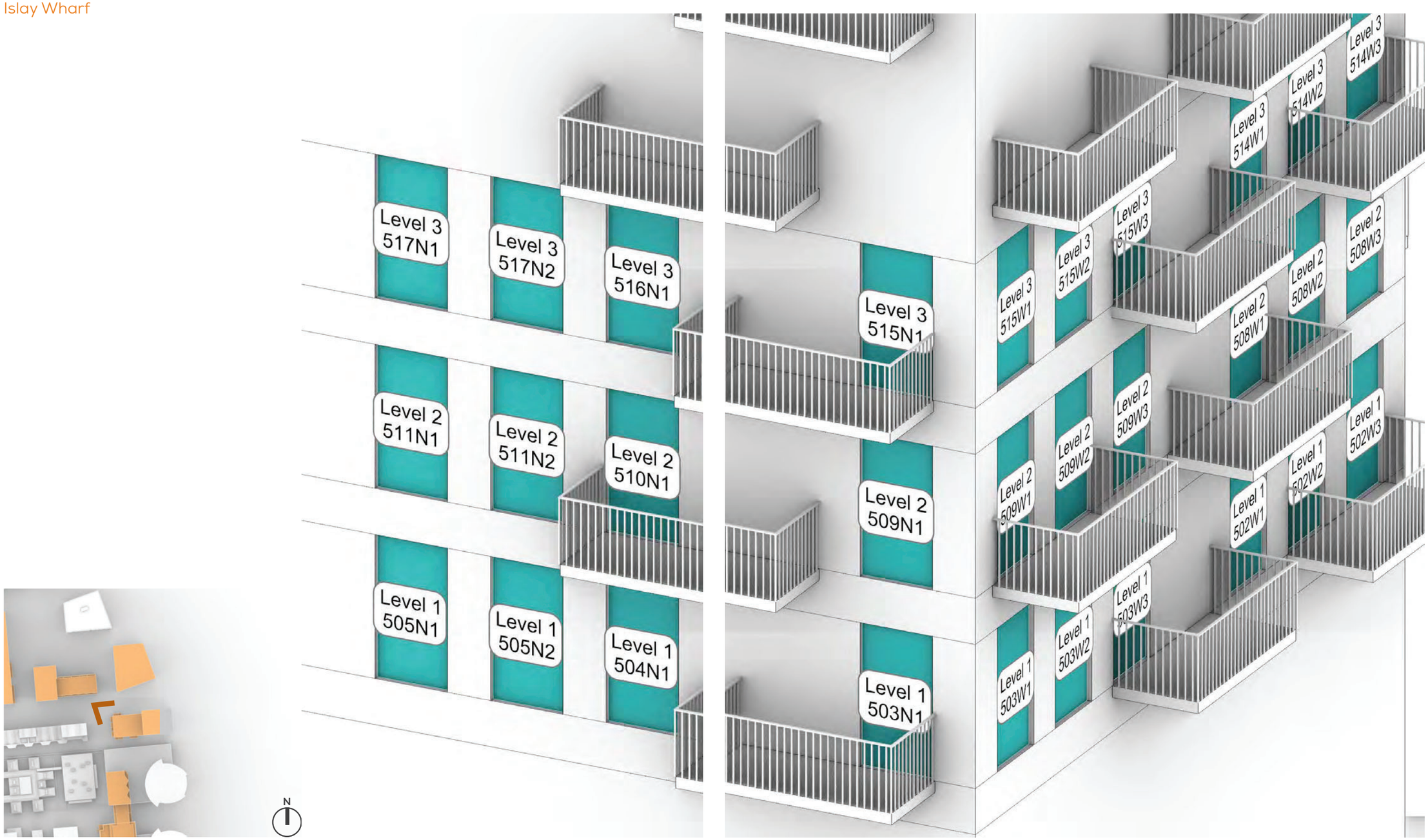






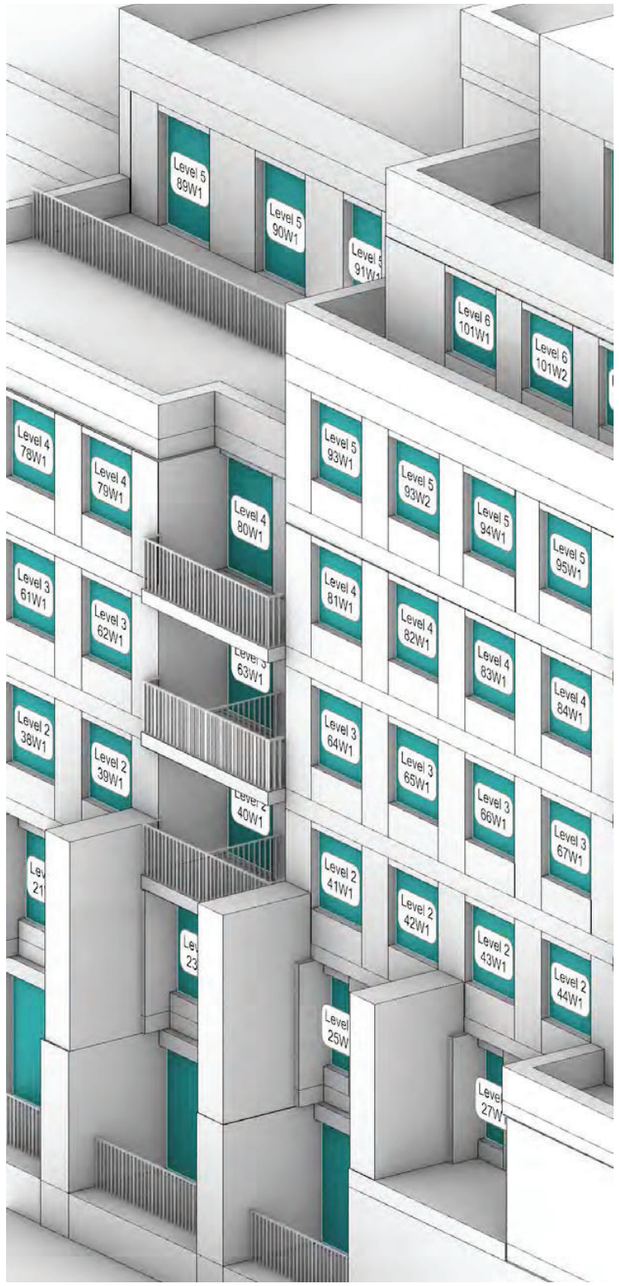
gia
CHARTERED SURVEYORS

Islay Wharf


Level 3
517N1
Level 3
517N2
Level 3
516N1
Level 2
511N1
Level 2
511N2
Level 2
510N1
Level 1
505N1
Level 1
505N2
Level 1
504N1
Level 3
515N1
Level 2
509N1
Level 1
503N1
Level 3
515W1
Level 3
515W2
Level 3
515W3
Level 3
514W1
Level 3
514W2
Level 3
514W3
Level 2
508W1
Level 2
508W2
Level 2
508W3
Level 2
509W1
Level 2
509W2
Level 2
509W3
Level 1
502W1
Level 1
502W2
Level 1
502W3
Level 1
503W1
Level 1
503W2
Level 1
503W3
N

Former Bus Depot 1/3







Former Bus Depot 1/3

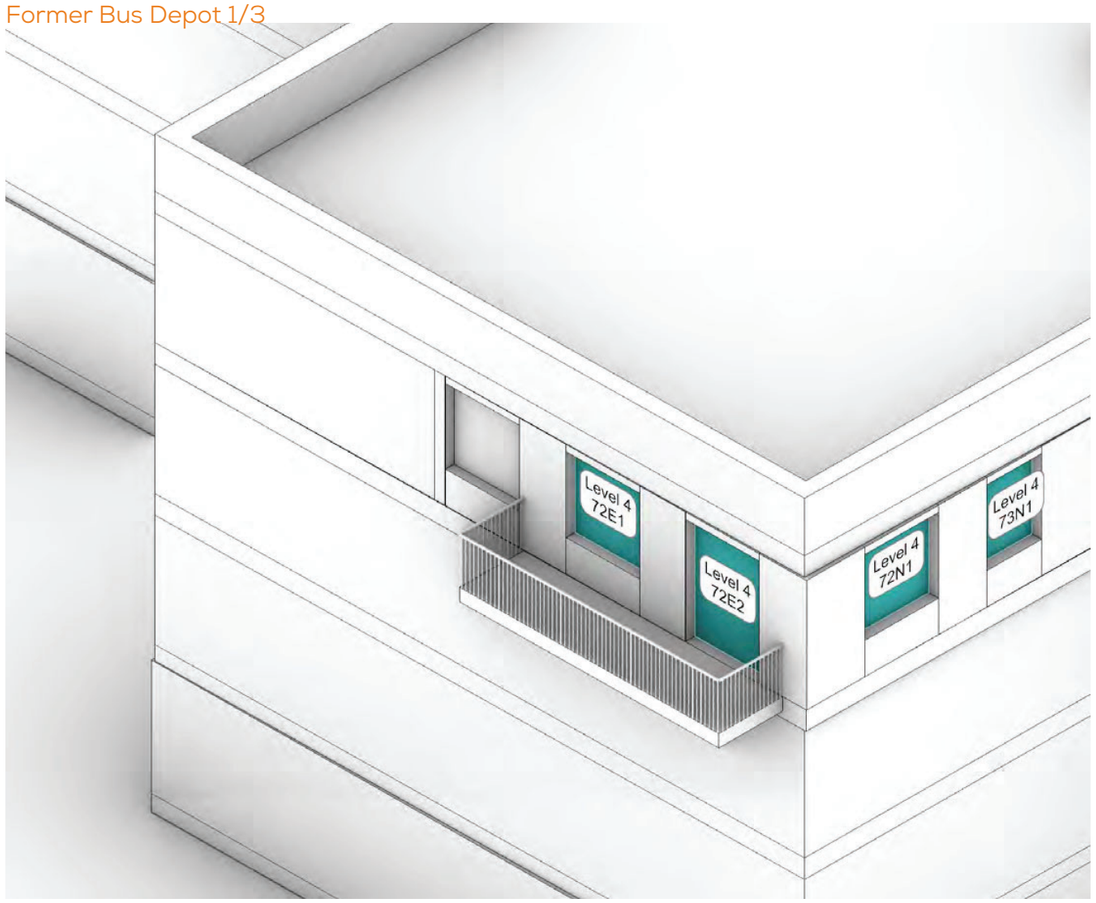






gia
CHARTERED SURVEYORS

Former Bus Depot 1/3







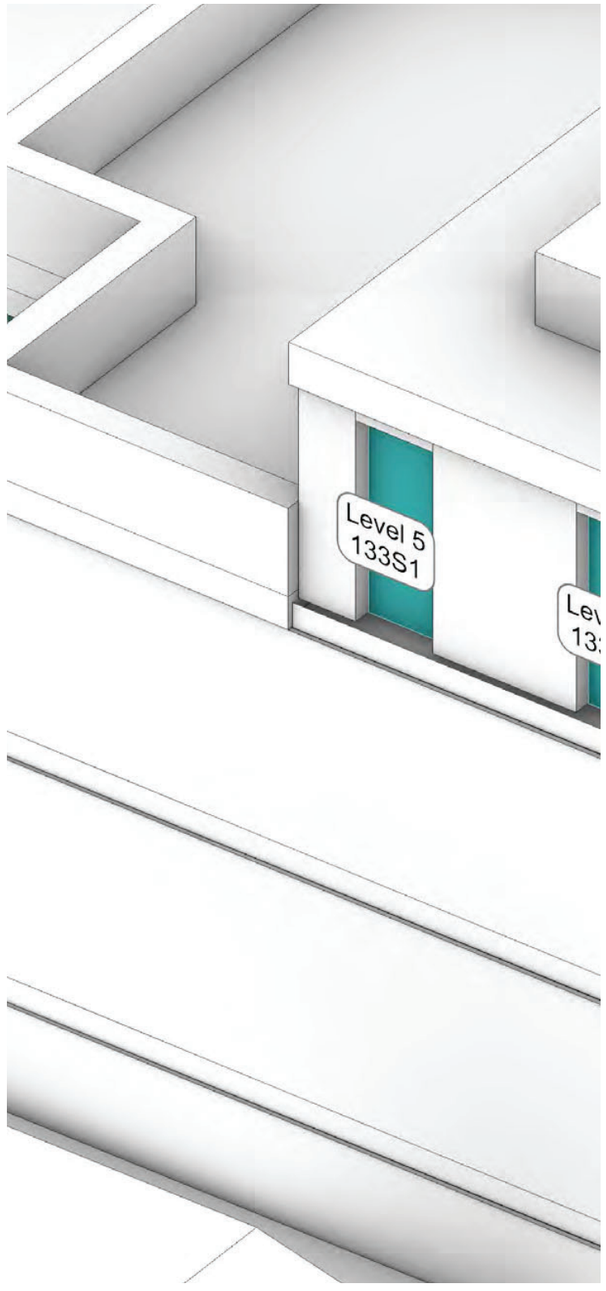
Former Bus Depot 2/3





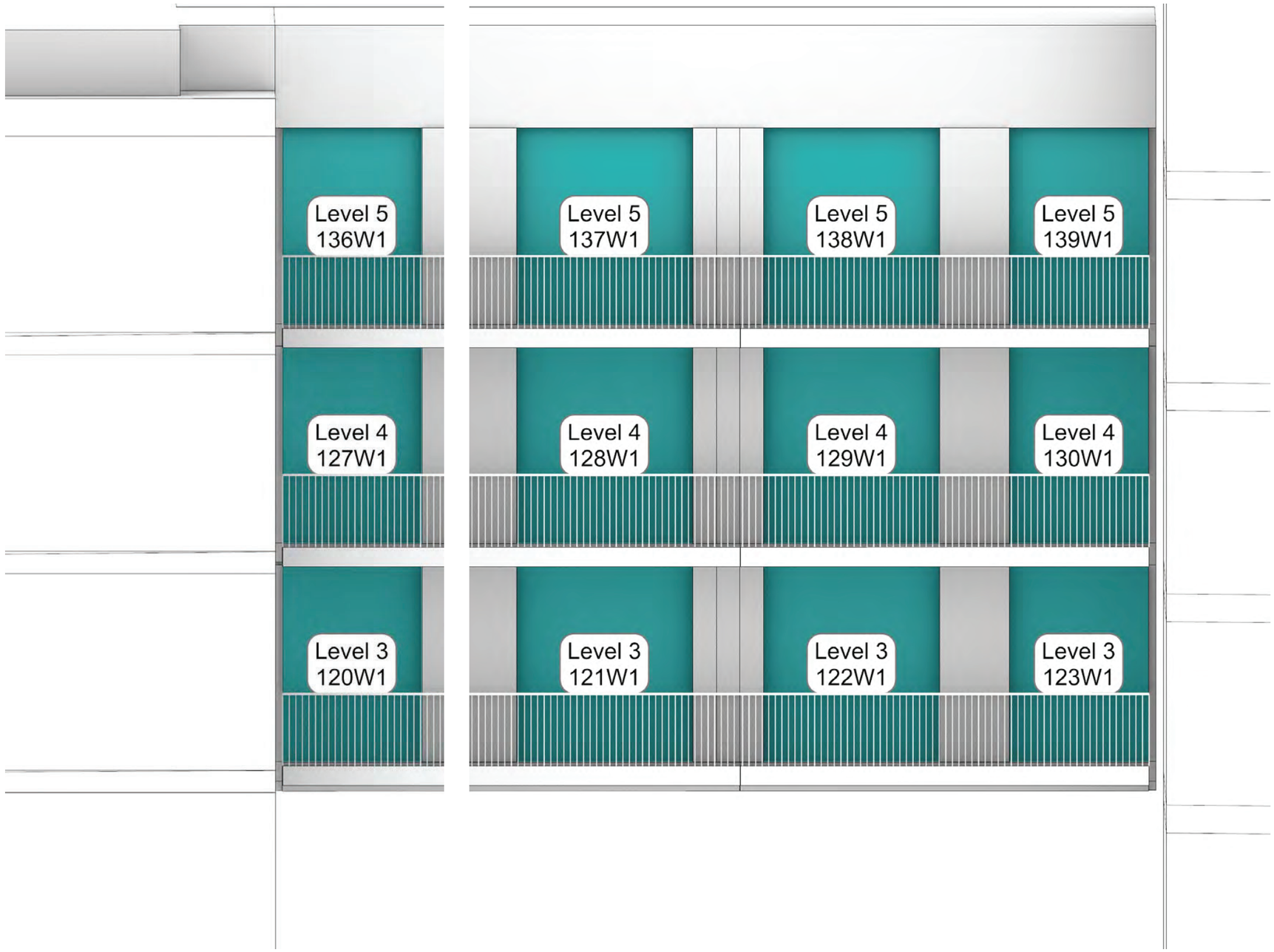
gia
CHARTERED SURVEYORS

Former Bus Depot 2/3





Former Bus Depot 2/3





Former Bus Depot 3/3





gia CHARTERED SURVEYORS

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

Baseline v
Max Parameter

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
110-126 LEVEN ROAD																	
F00	R1	LIVING ROOM	W1	24.7	24.7	0.0	0.0	99.7	98.0	1.7	1.7	7	0	7	0	0.0	0.0
			W2	27.7	17.1	10.6	38.3					62	24	39	11	37.1	54.2
	R2	KITCHEN	W3	21.5	10.9	10.6	49.3	98.9	89.7	9.2	9.3	38	12	18	3	52.6	75.0
			W4	30.5	18.7	11.8	38.7					67	24	44	12	34.3	50.0
	R3	LIVING ROOM	W5	25.5	25.5	0.0	0.0	98.2	97.5	0.7	0.7	6	0	6	0	0.0	0.0
			W6	29.4	18.8	10.6	36.1					64	23	42	12	34.4	47.8
	R4	KITCHEN	W7	22.8	12.6	10.2	44.7	98.9	93.6	5.3	5.4	41	13	20	4	51.2	69.2
			W8	31.4	20.2	11.2	35.7					70	25	46	13	34.3	48.0
	R5	LIVING ROOM	W9	26.1	26.1	0.0	0.0	98.2	98.0	0.2	0.2	7	0	7	0	0.0	0.0
			W10	29.5	19.6	9.9	33.6					64	23	45	13	29.7	43.5
	R6	KITCHEN	W11	23.1	13.7	9.4	40.7	98.9	95.3	3.6	3.6	42	13	24	5	42.9	61.5
			W12	31.7	21.3	10.4	32.8					72	25	49	16	31.9	36.0
	R7	LIVING ROOM	W13	26.9	26.9	0.0	0.0	98.5	98.0	0.5	0.5	7	0	7	0	0.0	0.0
			W14	29.6	20.6	9.0	30.4					64	23	45	14	29.7	39.1
	R8	KITCHEN	W15	23.2	14.7	8.5	36.6	98.9	92.2	6.7	6.8	42	13	24	6	42.9	53.8
			W16	31.9	22.1	9.8	30.7					73	26	49	15	32.9	42.3
	R9	KITCHEN	W17	32.0	22.5	9.5	29.7	98.3	92.0	6.3	6.4	73	25	53	15	27.4	40.0
			W18	23.6	18.3	5.3	22.5					53	23	44	15	17.0	34.8
	R10	LIVING ROOM	W19	31.6	23.0	8.6	27.2	100.0	99.0	1.0	1.0	72	24	54	16	25.0	33.3
			W20	28.2	28.1	0.1	0.4					6	0	6	0	0.0	0.0
	R11	LIVING ROOM	W21	28.2	28.1	0.1	0.4	100.0	99.0	1.0	1.0	6	0	6	0	0.0	0.0
			W22	31.6	23.5	8.1	25.6					68	23	54	17	20.6	26.1
	R12	KITCHEN	W23	23.5	15.5	8.0	34.0	98.9	88.6	10.3	10.4	43	13	27	6	37.2	53.8
			W24	32.1	23.5	8.6	26.8					73	25	54	16	26.0	36.0
	R13	LIVING ROOM	W25	27.9	27.8	0.1	0.4	99.7	98.7	1.0	1.0	6	0	6	0	0.0	0.0
			W26	29.6	22.4	7.2	24.3					63	22	51	15	19.0	31.8
	R14	KITCHEN	W27	23.5	15.7	7.8	33.2	98.9	87.8	11.1	11.2	43	13	28	4	34.9	69.2
			W28	32.2	23.9	8.3	25.8					73	25	56	15	23.3	40.0
	R15	LIVING ROOM	W29	26.8	26.7	0.1	0.4	100.0	98.5	1.5	1.5	6	0	6	0	0.0	0.0
			W30	29.5	22.7	6.8	23.1					64	23	50	14	21.9	39.1
	R16	KITCHEN	W31	23.5	16.0	7.5	31.9	98.3	85.8	12.5	12.7	43	13	28	4	34.9	69.2
			W32	27.8	19.9	7.9	28.4					56	18	40	9	28.6	50.0
	R17	LKD (ASSUMED)	W33	30.3	22.8	7.5	24.8	97.9	97.7	0.2	0.2	63	23	52	15	17.5	34.8
			W34	30.2	23.8	6.4	21.2					66	23	54	14	18.2	39.1
			W35	31.8	24.2	7.6	23.9					68	24	56	15	17.6	37.5
			W36	30.7	23.0	7.7	25.1					62	22	52	15	16.1	31.8
			W37	1.8	1.8	0.0	0.0					7	0	7	0	0.0	0.0
			W38	27.9	27.4	0.5	1.8					49	18	46	15	6.1	16.7
			W39	7.5	6.3	1.2	16.0					25	13	24	12	4.0	7.7
	R18	BED (ASSUMED)	W40	26.5	26.2	0.3	1.1	99.2	99.2	0.0	0.0	43	13	43	13	0.0	0.0
			W41	21.4	21.3	0.1	0.5					6	0	6	0	0.0	0.0
F01	R1	BEDROOM	W1	26.2	26.2	0.0	0.0	98.9	97.3	1.6	1.6	4	0	4	0	0.0	0.0
			W2	29.4	16.3	13.1	44.6					61	25	38	12	37.7	52.0
	R2	BEDROOM	W3	26.7	26.7	0.0	0.0	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W4	26.5	26.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	26.8	26.8	0.0	0.0	98.9	98.7	0.2	0.2	4	0	4	0	0.0	0.0
			W6	29.8	17.5	12.3	41.3					62	25	40	14	35.5	44.0
	R4	BEDROOM	W7	27.0	27.0	0.0	0.0	99.1	99.1	0.0	0.0	4	0	4	0	0.0	0.0
			W8	26.9	26.9	0.0	0.0					4	0	4	0	0.0	0.0
			W9	23.1	12.0	11.1	48.1					44	14	23	6	47.7	57.1
	R5	BEDROOM	W10	30.9	18.7	12.2	39.5	99.2	99.2	0.0	0.0	64	24	41	12	35.9	50.0
			W11	30.0	18.5	11.5	38.3					62	25	42	14	32.3	44.0
			W12	27.2	27.1	0.1	0.4					4	0	4	0	0.0	0.0
	R6	BEDROOM	W13	27.5	27.4	0.1	0.4	99.1	99.1	0.0	0.0	5	0	5	0	0.0	0.0
			W14	27.3	27.2	0.1	0.4					4	0	4	0	0.0	0.0
			W15	23.4	13.2	10.2	43.6					44	14	26	6	40.9	57.1

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	BEDROOM	W16	31.1	19.9	11.2	36.0	100.0	99.7	0.3	0.3	64	24	44	15	31.3	37.5
			W17	30.1	19.3	10.8	35.9					63	26	44	16	30.2	38.5
			W18	27.7	27.6	0.1	0.4					5	0	5	0	0.0	0.0
	R8	BEDROOM	W19	28.0	27.9	0.1	0.4	99.1	99.1	0.0	0.0	6	0	6	0	0.0	0.0
			W20	27.9	27.8	0.1	0.4					5	0	5	0	0.0	0.0
			W21	23.6	14.1	9.5	40.3					45	14	27	7	40.0	50.0
			W22	31.2	20.7	10.5	33.7					64	24	44	14	31.3	41.7
	R9	BEDROOM	W23	31.3	21.1	10.2	32.6	99.1	99.1	0.0	0.0	64	24	47	14	26.6	41.7
			W24	23.9	17.9	6.0	25.1					50	23	41	15	18.0	34.8
			W25	28.3	28.2	0.1	0.4					4	0	4	0	0.0	0.0
			W26	28.2	28.1	0.1	0.4					5	0	5	0	0.0	0.0
	R10	BEDROOM	W27	32.3	22.1	10.2	31.6	100.0	98.7	1.3	1.3	70	27	50	17	28.6	37.0
			W28	28.4	28.2	0.2	0.7					4	0	4	0	0.0	0.0
	R11	BEDROOM	W29	28.3	28.2	0.1	0.4	100.0	98.7	1.3	1.3	3	0	3	0	0.0	0.0
			W30	32.3	22.2	10.1	31.3					70	26	51	17	27.1	34.6
	R12	BEDROOM	W31	27.8	27.7	0.1	0.4	99.1	99.1	0.0	0.0	3	0	3	0	0.0	0.0
			W32	28.1	28.0	0.1	0.4					3	0	3	0	0.0	0.0
			W33	23.9	15.1	8.8	36.8					46	15	30	7	34.8	53.3
	R13	BEDROOM	W34	31.3	22.0	9.3	29.7	100.0	98.7	1.3	1.3	65	25	48	15	26.2	40.0
			W35	30.3	21.7	8.6	28.4					63	26	48	15	23.8	42.3
			W36	27.6	27.5	0.1	0.4					3	0	3	0	0.0	0.0
	R14	BEDROOM	W37	27.0	26.9	0.1	0.4	99.1	99.1	0.0	0.0	3	0	3	0	0.0	0.0
			W38	27.3	27.2	0.1	0.4					3	0	3	0	0.0	0.0
			W39	23.9	15.3	8.6	36.0					46	15	30	5	34.8	66.7
	R15	BEDROOM	W40	31.4	22.3	9.1	29.0	100.0	98.1	1.9	1.9	65	25	50	15	23.1	40.0
			W41	30.2	22.3	7.9	26.2					62	25	48	15	22.6	40.0
			W42	26.5	26.4	0.1	0.4					3	0	3	0	0.0	0.0
	R16	BEDROOM	W43	23.6	23.5	0.1	0.4	99.1	99.1	0.0	0.0	0	0	0	0	0.0	0.0
			W44	26.0	25.9	0.1	0.4					3	0	3	0	0.0	0.0
			W45	23.9	15.4	8.5	35.6					45	14	30	5	33.3	64.3
	R17	BED (ASSUMED)	W46	21.5	21.2	0.3	1.4	99.2	98.8	0.4	0.4	37	13	37	13	0.0	0.0
			W47	23.2	23.1	0.1	0.4					6	0	6	0	0.0	0.0
	R18	LKD (ASSUMED)	W48	28.7	20.0	8.7	30.3	98.4	98.1	0.3	0.3	58	19	44	10	24.1	47.4
			W49	32.7	23.9	8.8	26.9					64	24	53	16	17.2	33.3
			W50	32.8	23.9	8.9	27.1					64	24	53	16	17.2	33.3
			W51	32.8	24.0	8.8	26.8					63	23	53	16	15.9	30.4
			W52	3.5	3.5	0.0	0.0					9	0	9	0	0.0	0.0
			W53	30.3	29.5	0.8	2.6					51	19	48	16	5.9	15.8
			W54	8.2	6.6	1.6	19.5					25	13	24	12	4.0	7.7
128-132 LEVEN ROAD																	
F00	R1	KITCHEN	W1	14.5	14.4	0.1	0.7	33.8	33.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	LIVING ROOM	W2	29.6	24.6	5.0	16.9	97.3	97.1	0.2	0.2	62	22	53	16	14.5	27.3
			W3	30.9	26.2	4.7	15.2					71	24	60	17	15.5	29.2
			W4	30.9	26.0	4.9	15.9					67	22	55	16	17.9	27.3
			W5	29.5	24.6	4.9	16.6					62	22	52	16	16.1	27.3
			W6	23.3	23.2	0.1	0.4					37	13	36	12	2.7	7.7
	R3	LIVING ROOM	W7	29.7	24.0	5.7	19.2	96.3	90.4	5.9	6.1	63	23	55	18	12.7	21.7
			W8	31.2	25.7	5.5	17.6					71	24	61	18	14.1	25.0
			W9	31.1	25.6	5.5	17.7					68	23	57	17	16.2	26.1
			W10	29.7	24.3	5.4	18.2					62	22	55	18	11.3	18.2
	R4	KITCHEN	W11	16.2	16.1	0.1	0.6	74.9	74.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W12	29.4	24.2	5.2	17.7	98.5	97.6	0.9	0.9	26	4	19	2	26.9	50.0
			W13	29.8	23.5	6.3	21.1					61	21	53	16	13.1	23.8
			W14	31.2	25.2	6.0	19.2					69	22	60	17	13.0	22.7
			W15	31.1	25.1	6.0	19.3					67	22	56	16	16.4	27.3
			W16	29.6	23.7	5.9	19.9					63	23	53	17	15.9	26.1
	R6	KITCHEN	W17	16.9	16.9	0.0	0.0	80.4	80.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F01	R1	BEDROOM	W1	19.4	19.3	0.1	0.5	87.0	87.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	33.9	26.5	7.4	21.8	99.1	82.8	16.3	16.4	74	25	63	19	14.9	24.0
	R3	BEDROOM	W3	33.6	26.6	7.0	20.8	98.7	79.3	19.4	19.7	73	26	62	20	15.1	23.1
	R4	BEDROOM	W4	33.7	26.9	6.8	20.2	98.2	82.2	16.0	16.3	74	27	65	21	12.2	22.2
	R5	BEDROOM	W5	18.6	18.5	0.1	0.5	82.5	82.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	33.8	27.1	6.7	19.8	98.7	72.2	26.5	26.8	73	26	65	21	11.0	19.2
	R7	BEDROOM	W7	33.7	27.4	6.3	18.7	98.4	79.0	19.4	19.7	74	27	63	20	14.9	25.9
	R8	BEDROOM	W8	33.9	27.7	6.2	18.3	99.1	85.8	13.3	13.4	76	27	63	20	17.1	25.9
	R9	BEDROOM	W9	17.0	16.9	0.1	0.6	45.9	45.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	6.6	6.5	0.1	1.5	83.4	83.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	30.6	22.6	8.0	26.1	99.1	85.8	13.3	13.4	67	26	58	21	13.4	19.2
	R3	BEDROOM	W3	30.5	22.8	7.7	25.2	98.7	82.1	16.6	16.8	67	27	57	21	14.9	22.2
	R4	BEDROOM	W4	30.6	23.1	7.5	24.5	98.2	85.5	12.7	12.9	68	28	58	21	14.7	25.0
	R5	BEDROOM	W5	6.1	6.0	0.1	1.6	78.9	78.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	30.6	23.3	7.3	23.9	98.7	75.8	22.9	23.2	68	28	58	21	14.7	25.0
	R7	BEDROOM	W7	30.7	23.6	7.1	23.1	98.4	82.8	15.6	15.9	68	28	56	20	17.6	28.6
	R8	BEDROOM	W8	30.7	24.0	6.7	21.8	99.1	89.1	10.0	10.1	68	28	55	20	19.1	28.6
	R9	BEDROOM	W9	4.4	4.3	0.1	2.3	40.5	40.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
134-144 LEVEN ROAD																	
F00	R1	LIVING ROOM	W1	13.8	13.8	0.0	0.0	98.9	83.0	15.9	16.1	6	0	6	0	0.0	0.0
			W2	29.9	26.2	3.7	12.4					59	20	53	16	10.2	20.0
	R2	KITCHEN	W3	21.1	17.4	3.7	17.5	94.4	83.2	11.2	11.9	39	10	31	6	20.5	40.0
			W4	31.4	27.8	3.6	11.5					72	23	61	18	15.3	21.7
	R3	LIVING ROOM	W5	13.7	13.7	0.0	0.0	97.8	86.4	11.4	11.7	5	0	5	0	0.0	0.0
			W6	26.3	24.5	1.8	6.8					55	21	51	18	7.3	14.3
	R4	KITCHEN	W7	21.0	18.0	3.0	14.3	99.2	91.1	8.1	8.2	40	11	33	8	17.5	27.3
			W8	31.5	28.4	3.1	9.8					73	24	63	20	13.7	16.7
	R5	LIVING ROOM	W9	14.3	14.3	0.0	0.0	99.1	90.7	8.4	8.5	6	0	6	0	0.0	0.0
			W10	27.0	25.2	1.8	6.7					58	21	55	19	5.2	9.5
	R6	KITCHEN	W11	21.2	18.3	2.9	13.7	99.5	94.4	5.1	5.1	41	12	36	9	12.2	25.0
			W12	31.9	28.9	3.0	9.4					74	25	66	21	10.8	16.0
	R7	LIVING ROOM	W13	16.1	16.1	0.0	0.0	99.1	94.7	4.4	4.4	6	0	6	0	0.0	0.0
			W14	27.1	25.4	1.7	6.3					59	22	56	20	5.1	9.1
	R8	KITCHEN	W15	21.3	18.6	2.7	12.7	99.5	96.0	3.5	3.5	40	11	36	9	10.0	18.2
			W16	31.7	28.9	2.8	8.8					73	24	66	21	9.6	12.5
	R9	LIVING ROOM	W17	18.8	18.8	0.0	0.0	99.7	97.7	2.0	2.0	5	0	5	0	0.0	0.0
			W18	28.2	26.3	1.9	6.7					60	22	58	21	3.3	4.5
	R10	KITCHEN	W19	21.1	18.7	2.4	11.4	97.7	93.9	3.8	3.9	40	11	36	9	10.0	18.2
			W20	24.2	21.6	2.6	10.7					47	14	40	12	14.9	14.3
	R11	LKD (ASSUMED)	W21	30.9	28.7	2.2	7.1	99.0	99.0	0.0	0.0	67	23	62	21	7.5	8.7
			W22	31.0	28.8	2.2	7.1					67	24	62	22	7.5	8.3
			W23	31.3	29.3	2.0	6.4					67	23	62	21	7.5	8.7
			W24	11.2	11.2	0.0	0.0					39	8	38	7	2.6	12.5
			W25	28.5	28.4	0.1	0.4					52	21	52	21	0.0	0.0
			W26	10.1	10.1	0.0	0.0					8	0	8	0	0.0	0.0
	R12	BED (ASSUMED)	W27	27.6	27.6	0.0	0.0	98.4	98.4	0.0	0.0	49	18	49	18	0.0	0.0
			W28	19.1	19.1	0.0	0.0					5	0	5	0	0.0	0.0
F01	R1	BEDROOM	W1	13.9	13.9	0.0	0.0	99.2	97.0	2.2	2.2	4	0	4	0	0.0	0.0
			W2	30.6	25.9	4.7	15.4					64	25	55	19	14.1	24.0
	R2	BEDROOM	W3	13.8	13.8	0.0	0.0	51.6	51.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W4	13.8	13.8	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	13.8	13.8	0.0	0.0	98.9	95.3	3.6	3.6	3	0	3	0	0.0	0.0
			W6	27.2	23.8	3.4	12.5					57	24	52	20	8.8	16.7
	R4	BEDROOM	W7	14.0	14.0	0.0	0.0	52.8	52.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W8	13.9	13.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W9	14.3	14.3	0.0	0.0	99.5	97.3	2.2	2.2	3	0	3	0	0.0	0.0
			W10	28.0	24.6	3.4	12.1					59	26	52	20	11.9	23.1
	R6	BEDROOM	W11	15.0	15.0	0.0	0.0	79.1	79.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W12	14.7	14.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W13	15.9	15.9	0.0	0.0	99.5	98.4	1.1	1.1	3	0	3	0	0.0	0.0
			W14	27.9	24.9	3.0	10.8					59	26	54	22	8.5	15.4
	R8	BEDROOM	W15	17.9	17.9	0.0	0.0	89.7	89.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	17.1	17.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W17	18.4	18.4	0.0	0.0	99.5	98.9	0.6	0.6	3	0	3	0	0.0	0.0
			W18	29.0	26.1	2.9	10.0					61	25	57	22	6.6	12.0
	R10	BEDROOM	W19	18.2	18.2	0.0	0.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	18.7	18.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R11	LKD (ASSUMED)	W21	33.0	29.9	3.1	9.4	99.0	99.0	0.0	0.0	69	25	63	22	8.7	12.0
			W22	33.0	30.0	3.0	9.1					69	25	63	22	8.7	12.0
			W23	33.2	30.3	2.9	8.7					68	24	63	22	7.4	8.3
			W24	20.4	19.9	0.5	2.5					54	23	53	22	1.9	4.3
			W25	28.2	28.1	0.1	0.4					48	20	47	19	2.1	5.0
			W26	10.3	10.3	0.0	0.0					8	0	8	0	0.0	0.0
	R12	BED (ASSUMED)	W27	26.3	26.2	0.1	0.4	98.1	98.1	0.0	0.0	44	16	44	16	0.0	0.0
			W28	20.7	20.7	0.0	0.0					5	0	5	0	0.0	0.0
177-195 ABBOTT ROAD																	
F00	R1	KITCHEN	W1	30.7	17.5	13.2	43.0	94.7	57.9	36.8	38.9	65	24	38	13	41.5	45.8
	R2	LIVING ROOM	W2	26.0	25.9	0.1	0.4	98.5	96.0	2.5	2.5	9	0	9	0	0.0	0.0
			W3	26.8	26.8	0.0	0.0					9	0	9	0	0.0	0.0
			W4	24.7	23.5	1.2	4.9					4	0	1	0	75.0	0.0
			W5	26.8	15.2	11.6	43.3					33	7	13	0	60.6	100.0
	R3	LIVING ROOM	W6	15.8	15.8	0.0	0.0	96.6	77.1	19.5	20.2	0	0	0	0	0.0	0.0
			W7	19.1	19.1	0.0	0.0					3	0	3	0	0.0	0.0
			W8	29.1	18.0	11.1	38.1					61	25	41	14	32.8	44.0
	R4	KITCHEN	W9	25.9	25.8	0.1	0.4	60.6	60.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W10	17.5	17.5	0.0	0.0	98.5	81.6	16.9	17.2	0	0	0	0	0.0	0.0
			W11	23.7	23.7	0.0	0.0					3	0	3	0	0.0	0.0
			W12	32.7	21.7	11.0	33.6					70	25	46	14	34.3	44.0
	R6	KITCHEN	W13	26.0	25.9	0.1	0.4	62.2	60.6	1.6	2.6	N/A	N/A	N/A	N/A	N/A	N/A
	R7	LIVING ROOM	W14	17.2	17.2	0.0	0.0	98.5	83.0	15.5	15.7	0	0	0	0	0.0	0.0
			W15	23.4	23.4	0.0	0.0					3	0	3	0	0.0	0.0
			W16	32.8	22.7	10.1	30.8					70	25	48	16	31.4	36.0
	R8	KITCHEN	W17	21.7	21.7	0.0	0.0	67.3	65.0	2.3	3.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	LIVING ROOM	W18	25.3	25.2	0.1	0.4	54.7	54.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W19	25.7	25.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R10	KITCHEN	W20	31.1	21.8	9.3	29.9	95.2	79.2	16.0	16.8	65	24	50	16	23.1	33.3
	R11	KITCHEN	W21	31.1	23.1	8.0	25.7	94.7	93.8	0.9	1.0	65	26	52	19	20.0	26.9
	R12	LIVING ROOM	W22	26.0	26.0	0.0	0.0	54.7	54.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W23	25.2	25.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R13	KITCHEN	W24	21.2	21.2	0.0	0.0	77.7	77.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	LIVING ROOM	W25	33.3	25.9	7.4	22.2	98.5	96.1	2.4	2.4	70	25	57	18	18.6	28.0
			W26	23.7	23.7	0.0	0.0					1	0	1	0	0.0	0.0
			W27	16.9	16.9	0.0	0.0					3	0	3	0	0.0	0.0
	R15	KITCHEN	W28	25.8	25.7	0.1	0.4	88.0	87.6	0.4	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R16	LIVING ROOM	W29	33.4	26.7	6.7	20.1	98.5	97.1	1.4	1.4	70	25	59	19	15.7	24.0
			W30	24.0	24.0	0.0	0.0					0	0	0	0	0.0	0.0
			W31	17.1	17.1	0.0	0.0					1	0	1	0	0.0	0.0
	R17	KITCHEN	W32	25.5	25.4	0.1	0.4	100.0	98.4	1.6	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R18	LIVING ROOM	W33	30.8	24.8	6.0	19.5	97.3	97.0	0.3	0.3	61	22	51	17	16.4	22.7
			W34	19.5	19.5	0.0	0.0					0	0	0	0	0.0	0.0
			W35	15.6	15.6	0.0	0.0					0	0	0	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R19	LIVING ROOM	W36	26.3	26.2	0.1	0.4	72.5	72.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W37	25.3	25.3	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R20	KITCHEN	W38	33.1	27.8	5.3	16.0	97.7	97.7	0.0	0.0	67	25	62	21	7.5	16.0
	R21	LIVING ROOM	W39	29.0	24.5	4.5	15.5	96.1	93.1	3.0	3.1	56	22	52	19	7.1	13.6
			W40	18.0	18.0	0.0	0.0					16	1	16	1	0.0	0.0
			W41	27.9	27.8	0.1	0.4					10	0	9	0	10.0	0.0
			W42	16.2	15.4	0.8	4.9					1	0	0	0	100.0	0.0
F01	R1	BEDROOM	W1	28.2	28.0	0.2	0.7	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.8	15.9	12.9	44.8	96.9	45.9	51.0	52.6	60	25	35	14	41.7	44.0
	R3	BEDROOM	W3	28.9	16.2	12.7	43.9	97.6	60.1	37.5	38.4	61	26	37	14	39.3	46.2
	R4	BEDROOM	W4	20.9	20.9	0.0	0.0	96.4	94.8	1.6	1.7	7	0	7	0	0.0	0.0
			W5	25.9	16.3	9.6	37.1					54	24	39	14	27.8	41.7
	R5	BEDROOM	W6	30.2	18.8	11.4	37.7	97.3	77.0	20.3	20.9	66	26	44	14	33.3	46.2
			W7	30.4	19.2	11.2	36.8					66	26	43	14	34.8	46.2
	R6	BEDROOM	W8	25.1	25.1	0.0	0.0	98.7	98.4	0.3	0.3	6	0	6	0	0.0	0.0
			W9	30.3	19.6	10.7	35.3					66	26	46	15	30.3	42.3
	R7	BEDROOM	W10	30.4	20.0	10.4	34.2	97.3	81.0	16.3	16.8	66	26	46	16	30.3	38.5
			W11	30.4	20.4	10.0	32.9					66	26	47	16	28.8	38.5
	R8	BEDROOM	W12	24.6	24.6	0.0	0.0	98.7	98.4	0.3	0.3	3	0	3	0	0.0	0.0
			W13	30.4	20.8	9.6	31.6					65	25	49	17	24.6	32.0
	R9	BEDROOM	W14	30.4	21.0	9.4	30.9	97.8	85.3	12.5	12.8	65	25	51	17	21.5	32.0
			W15	28.3	19.1	9.2	32.5					59	22	45	14	23.7	36.4
	R10	BEDROOM	W16	27.1	27.1	0.0	0.0	91.9	91.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W17	31.5	22.6	8.9	28.3	94.6	77.3	17.3	18.3	66	26	51	17	22.7	34.6
	R12	BEDROOM	W18	31.5	22.9	8.6	27.3	92.1	79.8	12.3	13.4	65	25	52	18	20.0	28.0
	R13	BEDROOM	W19	31.5	23.4	8.1	25.7	93.9	93.9	0.0	0.0	65	25	52	18	20.0	28.0
	R14	BEDROOM	W20	31.6	23.8	7.8	24.7	93.8	88.9	4.9	5.2	65	25	52	18	20.0	28.0
	R15	BEDROOM	W21	26.2	26.1	0.1	0.4	91.5	91.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W22	28.2	22.1	6.1	21.6	97.8	93.3	4.5	4.6	60	25	51	18	15.0	28.0
			W23	30.7	23.5	7.2	23.5					65	25	55	18	15.4	28.0
	R17	BEDROOM	W24	30.8	23.8	7.0	22.7	99.7	99.0	0.7	0.7	65	25	55	18	15.4	28.0
			W25	24.7	24.7	0.0	0.0					0	0	0	0	0.0	0.0
	R18	BEDROOM	W26	30.8	24.1	6.7	21.8	98.0	94.4	3.6	3.7	65	25	56	19	13.8	24.0
			W27	30.8	24.4	6.4	20.8					65	25	58	20	10.8	20.0
	R19	BEDROOM	W28	30.9	24.6	6.3	20.4	100.0	99.3	0.7	0.7	65	25	59	20	9.2	20.0
			W29	25.0	25.0	0.0	0.0					0	0	0	0	0.0	0.0
	R20	BEDROOM	W30	30.9	24.8	6.1	19.7	97.3	93.7	3.6	3.7	66	26	58	20	12.1	23.1
			W31	30.8	25.0	5.8	18.8					66	26	58	20	12.1	23.1
	R21	BEDROOM	W32	27.2	21.6	5.6	20.6	100.0	99.7	0.3	0.3	55	20	47	14	14.5	30.0
			W33	21.9	21.9	0.0	0.0					0	0	0	0	0.0	0.0
	R22	BEDROOM	W34	29.3	23.8	5.5	18.8	97.7	97.7	0.0	0.0	61	26	54	21	11.5	19.2
	R23	BEDROOM	W35	29.2	24.1	5.1	17.5	97.7	97.7	0.0	0.0	61	26	54	21	11.5	19.2
			W36	25.2	22.5	2.7	10.7					51	24	49	22	3.9	8.3
			W37	31.0	26.5	4.5	14.5					63	26	58	22	7.9	15.4
	R24	BEDROOM	W38	22.3	22.2	0.1	0.4	97.9	97.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R25	BEDROOM	W39	31.7	31.6	0.1	0.3	99.7	99.7	0.0	0.0	47	15	46	14	2.1	6.7
			W40	19.3	19.3	0.0	0.0					1	0	1	0	0.0	0.0
			W41	19.2	19.2	0.0	0.0					1	0	1	0	0.0	0.0
F02	R1	BEDROOM	W1	26.8	26.6	0.2	0.7	97.2	97.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	29.0	28.9	0.1	0.3	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
199-225 ABBOTT ROAD																	
F00	R1	BEDROOM	W1	19.1	8.3	10.8	56.5	98.9	85.9	13.0	13.1	30	8	11	0	63.3	100.0
			W2	28.7	12.5	16.2	56.4					61	21	32	5	47.5	76.2
			W3	27.3	17.8	9.5	34.8					52	20	32	5	38.5	75.0
	R2	BEDROOM	W4	14.2	12.1	2.1	14.8	87.0	59.1	27.9	32.1	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W5	18.5	0.8	17.7	95.7					N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W6	23.5	23.5	0.0	0.0	98.4	98.2	0.2	0.2	N/A	N/A	N/A	N/A	N/A	N/A
			W7	18.1	7.9	10.2	56.4					N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W8	3.5	3.5	0.0	0.0	96.2	96.2	0.0	0.0	3	0	3	0	0.0	0.0
			W9	9.3	9.3	0.0	0.0					5	0	5	0	0.0	0.0
			W10	6.2	6.2	0.0	0.0					1	0	1	0	0.0	0.0
			W11	22.3	22.3	0.0	0.0					0	0	0	0	0.0	0.0
	R5	BEDROOM	W12	11.3	11.3	0.0	0.0	77.8	77.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W13	22.5	8.9	13.6	60.4	99.6	96.3	3.3	3.3	37	11	14	1	62.2	90.9
			W14	31.4	14.0	17.4	55.4					66	23	38	8	42.4	65.2
			W15	24.8	15.9	8.9	35.9					46	20	31	7	32.6	65.0
	R7	BEDROOM	W16	22.4	8.3	14.1	62.9	99.3	95.6	3.7	3.7	38	11	17	1	55.3	90.9
			W17	32.2	15.0	17.2	53.4					67	23	39	7	41.8	69.6
			W18	27.2	18.1	9.1	33.5					52	20	37	7	28.8	65.0
	R8	BEDROOM	W19	11.4	11.4	0.0	0.0	78.1	78.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W20	26.5	26.5	0.0	0.0	91.4	91.4	0.0	0.0	9	0	9	0	0.0	0.0
			W21	16.4	16.3	0.1	0.6					0	0	0	0	0.0	0.0
			W22	9.8	8.9	0.9	9.2					0	0	0	0	0.0	0.0
			W23	3.5	3.1	0.4	11.4					0	0	0	0	0.0	0.0
	R10	L/K/D	W24	3.6	3.6	0.0	0.0	92.1	92.1	0.0	0.0	3	0	3	0	0.0	0.0
			W25	9.7	9.7	0.0	0.0					6	0	6	0	0.0	0.0
			W26	16.5	16.5	0.0	0.0					1	0	1	0	0.0	0.0
			W27	25.8	25.8	0.0	0.0					4	0	4	0	0.0	0.0
	R11	BEDROOM	W28	11.3	11.3	0.0	0.0	77.4	78.1	-0.7	-0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R12	BEDROOM	W29	25.7	11.0	14.7	57.2	99.6	97.8	1.8	1.8	42	13	21	3	50.0	76.9
			W30	32.9	16.3	16.6	50.5					70	25	43	9	38.6	64.0
			W31	24.7	15.4	9.3	37.7					46	20	30	6	34.8	70.0
	R13	BEDROOM	W32	24.4	10.2	14.2	58.2	99.3	97.8	1.5	1.5	42	13	19	2	54.8	84.6
			W33	33.1	16.8	16.3	49.2					71	25	42	8	40.8	68.0
			W34	27.1	17.7	9.4	34.7					52	20	36	6	30.8	70.0
	R14	BEDROOM	W35	11.4	11.4	0.0	0.0	78.8	79.2	-0.4	-0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R15	L/K/D	W36	21.4	21.4	0.0	0.0	93.2	93.2	0.0	0.0	0	0	0	0	0.0	0.0
			W37	16.9	16.9	0.0	0.0					0	0	0	0	0.0	0.0
			W38	9.8	8.9	0.9	9.2					0	0	0	0	0.0	0.0
			W39	3.5	3.2	0.3	8.6					0	0	0	0	0.0	0.0
	R16	L/K/D	W40	3.6	3.6	0.0	0.0	94.3	94.3	0.0	0.0	3	0	3	0	0.0	0.0
			W41	9.6	9.6	0.0	0.0					6	0	6	0	0.0	0.0
			W42	16.5	16.5	0.0	0.0					1	0	1	0	0.0	0.0
			W43	26.3	26.3	0.0	0.0					9	0	9	0	0.0	0.0
	R17	BEDROOM	W44	11.4	11.4	0.0	0.0	77.4	78.5	-1.1	-1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W45	26.8	13.0	13.8	51.5	99.6	98.9	0.7	0.7	43	13	21	3	51.2	76.9
			W46	33.2	17.5	15.7	47.3					71	25	40	5	43.7	80.0
			W47	24.6	15.1	9.5	38.6					46	20	29	4	37.0	80.0
	R19	BEDROOM	W48	24.9	12.1	12.8	51.4	99.3	98.9	0.4	0.4	43	14	22	3	48.8	78.6
			W49	33.2	17.7	15.5	46.7					73	27	39	5	46.6	81.5
			W50	27.0	17.4	9.6	35.6					54	22	36	6	33.3	72.7
	R20	BEDROOM	W51	11.4	11.4	0.0	0.0	79.2	78.8	0.4	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R21	L/K/D	W52	25.5	25.5	0.0	0.0	94.6	94.4	0.2	0.2	8	0	8	0	0.0	0.0
			W53	12.4	10.6	1.8	14.5					4	0	1	0	75.0	0.0
			W54	16.9	16.9	0.0	0.0					0	0	0	0	0.0	0.0
			W55	9.8	9.0	0.8	8.2					0	0	0	0	0.0	0.0
			W56	3.5	3.2	0.3	8.6					0	0	0	0	0.0	0.0
	R22	L/K/D	W57	3.5	3.5	0.0	0.0	94.6	94.6	0.0	0.0	3	0	3	0	0.0	0.0
			W58	9.5	9.5	0.0	0.0					6	0	6	0	0.0	0.0
			W59	16.2	16.2	0.0	0.0					1	0	1	0	0.0	0.0
			W60	25.3	25.3	0.0	0.0					9	0	9	0	0.0	0.0
	R23	BEDROOM	W61	11.3	11.3	0.0	0.0	78.8	79.2	-0.4	-0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R24	BEDROOM	W62	27.2	14.6	12.6	46.3	99.6	96.7	2.9	2.9	45	15	24	4	46.7	73.3
			W63	33.2	17.6	15.6	47.0					73	27	41	5	43.8	81.5

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W64	24.5	14.8	9.7	39.6					46	20	29	4	37.0	80.0
	R25	BEDROOM	W65	25.2	13.1	12.1	48.0	99.3	95.9	3.4	3.4	43	14	24	3	44.2	78.6
			W66	33.2	17.5	15.7	47.3					72	26	39	4	45.8	84.6
			W67	26.8	17.1	9.7	36.2					53	21	35	4	34.0	81.0
	R26	BEDROOM	W68	11.4	11.4	0.0	0.0	78.8	79.2	-0.4	-0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R27	L/K/D	W69	27.6	27.5	0.1	0.4	95.0	95.0	0.0	0.0	8	0	8	0	0.0	0.0
			W70	17.0	17.0	0.0	0.0					0	0	0	0	0.0	0.0
			W71	9.8	9.2	0.6	6.1					0	0	0	0	0.0	0.0
			W72	3.5	3.3	0.2	5.7					0	0	0	0	0.0	0.0
	R28	L/K/D	W73	9.4	9.4	0.0	0.0	96.2	96.2	0.0	0.0	3	0	3	0	0.0	0.0
			W74	13.7	13.7	0.0	0.0					12	0	12	0	0.0	0.0
			W75	16.2	16.2	0.0	0.0					19	1	19	1	0.0	0.0
			W76	27.5	27.5	0.0	0.0					9	0	9	0	0.0	0.0
	R29	BEDROOM	W77	11.8	11.8	0.0	0.0	79.5	79.9	-0.4	-0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R30	BEDROOM	W78	27.4	15.0	12.4	45.3	99.6	89.3	10.3	10.3	44	13	22	3	50.0	76.9
			W79	33.1	17.0	16.1	48.6					72	25	38	6	47.2	76.0
			W80	24.4	14.5	9.9	40.6					46	20	28	5	39.1	75.0
	R31	BEDROOM	W81	25.3	13.3	12.0	47.4	99.3	86.7	12.6	12.7	43	13	20	2	53.5	84.6
			W82	33.0	16.9	16.1	48.8					72	25	39	5	45.8	80.0
			W83	26.8	17.0	9.8	36.6					53	21	35	5	34.0	76.2
	R32	BEDROOM	W84	12.1	12.1	0.0	0.0	87.8	87.5	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R33	L/K/D	W85	27.2	27.1	0.1	0.4	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W86	15.8	14.8	1.0	6.3					N/A	N/A	N/A	N/A	N/A	N/A
			W87	11.5	10.8	0.7	6.1					N/A	N/A	N/A	N/A	N/A	N/A
	R34	L/K/D	W88	25.6	25.5	0.1	0.4	79.1	79.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R35	BEDROOM	W89	6.2	6.2	0.0	0.0	72.9	72.2	0.7	1.0	N/A	N/A	N/A	N/A	N/A	N/A
	R36	BEDROOM	W90	27.5	15.0	12.5	45.5	99.6	94.8	4.8	4.8	44	13	20	1	54.5	92.3
			W91	32.8	16.8	16.0	48.8					72	25	39	6	45.8	76.0
			W92	14.8	5.9	8.9	60.1					31	14	13	0	58.1	100.0
	R37	BEDROOM	W93	15.0	7.2	7.8	52.0	99.3	82.7	16.6	16.7	29	10	13	0	55.2	100.0
			W94	32.6	16.9	15.7	48.2					71	24	41	8	42.3	66.7
			W95	26.9	18.5	8.4	31.2					53	21	34	8	35.8	61.9
	R38	BEDROOM	W96	5.6	5.6	0.0	0.0	75.3	75.7	-0.4	-0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R39	L/K/D	W97	24.8	24.8	0.0	0.0	83.5	83.5	0.0	0.0	9	0	9	0	0.0	0.0
			W98	9.3	9.3	0.0	0.0					0	0	0	0	0.0	0.0
			W99	1.3	1.3	0.0	0.0					0	0	0	0	0.0	0.0
			W100	0.9	0.9	0.0	0.0					0	0	0	0	0.0	0.0
	R40	L/K/D	W101	3.8	3.8	0.0	0.0	88.9	88.9	0.0	0.0	4	0	4	0	0.0	0.0
			W102	10.1	10.1	0.0	0.0					7	0	7	0	0.0	0.0
			W103	15.5	15.5	0.0	0.0					2	0	2	0	0.0	0.0
			W104	26.0	26.0	0.0	0.0					8	0	8	0	0.0	0.0
	R41	BEDROOM	W105	10.8	10.8	0.0	0.0	79.9	79.2	0.7	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R42	BEDROOM	W106	27.8	14.1	13.7	49.3	99.6	80.4	19.2	19.3	43	12	17	1	60.5	91.7
			W107	32.5	17.0	15.5	47.7					70	23	38	9	45.7	60.9
			W108	24.4	16.7	7.7	31.6					47	20	29	10	38.3	50.0
	R43	BEDROOM	W109	25.4	12.3	13.1	51.6	99.3	61.3	38.0	38.3	42	12	15	1	64.3	91.7
			W110	32.5	17.1	15.4	47.4					71	24	39	10	45.1	58.3
			W111	28.1	20.8	7.3	26.0					56	22	38	12	32.1	45.5
	R44	BEDROOM	W112	11.4	11.4	0.0	0.0	80.6	79.9	0.7	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R45	L/K/D	W113	21.6	21.6	0.0	0.0	94.1	94.1	0.0	0.0	0	0	0	0	0.0	0.0
			W114	17.8	17.3	0.5	2.8					6	0	6	0	0.0	0.0
			W115	16.8	16.8	0.0	0.0					0	0	0	0	0.0	0.0
			W116	10.4	10.4	0.0	0.0					0	0	0	0	0.0	0.0
			W117	3.7	3.6	0.1	2.7					0	0	0	0	0.0	0.0
F01	R1	BEDROOM	W1	27.5	27.5	0.0	0.0	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.5	28.5	0.0	0.0	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	29.8	29.8	0.0	0.0	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	30.0	30.0	0.0	0.0	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	BEDROOM	W5	30.4	30.4	0.0	0.0	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	30.5	30.5	0.0	0.0	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	30.5	30.4	0.1	0.3	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	30.4	30.3	0.1	0.3	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	30.3	30.2	0.1	0.3	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	30.2	30.1	0.1	0.3	98.5	98.0	0.5	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	30.0	29.9	0.1	0.3	98.7	97.8	0.9	0.9	N/A	N/A	N/A	N/A	N/A	N/A
			W12	25.9	19.9	6.0	23.2					N/A	N/A	N/A	N/A	N/A	N/A
			W13	22.7	18.0	4.7	20.7					N/A	N/A	N/A	N/A	N/A	N/A
	R12	BEDROOM	W14	29.9	29.8	0.1	0.3	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W15	20.0	20.0	0.0	0.0	94.2	94.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W16	19.7	19.7	0.0	0.0	95.1	94.5	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BEDROOM	W17	29.2	29.1	0.1	0.3	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W18	29.5	29.3	0.2	0.7	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W19	28.6	28.5	0.1	0.3	96.6	96.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W20	33.0	17.7	15.3	46.4	97.7	93.8	3.9	4.0	67	24	40	11	40.3	54.2
			W21	33.0	17.8	15.2	46.1					68	25	42	12	38.2	52.0
	R19	BEDROOM	W22	25.0	25.0	0.0	0.0	95.4	95.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R20	BEDROOM	W23	24.4	24.4	0.0	0.0	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R21	BEDROOM	W24	33.1	17.7	15.4	46.5	97.4	93.3	4.1	4.2	67	24	41	10	38.8	58.3
			W25	33.1	17.7	15.4	46.5					67	24	41	11	38.8	54.2
	R22	BEDROOM	W26	33.8	18.1	15.7	46.4	98.0	94.8	3.2	3.3	68	24	42	8	38.2	66.7
			W27	33.8	18.1	15.7	46.4					68	24	44	9	35.3	62.5
	R23	BEDROOM	W28	33.4	17.7	15.7	47.0	97.4	93.6	3.8	3.9	68	25	39	6	42.6	76.0
			W29	33.2	17.6	15.6	47.0					68	25	40	7	41.2	72.0
	R24	BEDROOM	W30	33.4	17.9	15.5	46.4	98.0	94.8	3.2	3.3	68	25	40	7	41.2	72.0
			W31	33.4	17.7	15.7	47.0					68	25	39	6	42.6	76.0
	R25	BEDROOM	W32	26.2	26.2	0.0	0.0	95.7	95.4	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R26	BEDROOM	W33	25.3	25.3	0.0	0.0	95.3	95.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R27	BEDROOM	W34	33.5	18.1	15.4	46.0	97.4	92.3	5.1	5.2	68	25	39	7	42.6	72.0
			W35	33.5	17.9	15.6	46.6					68	25	39	7	42.6	72.0
	R28	BEDROOM	W36	33.4	18.3	15.1	45.2	98.0	93.4	4.6	4.7	69	26	40	6	42.0	76.9
			W37	33.5	18.1	15.4	46.0					68	25	41	8	39.7	68.0
	R29	BEDROOM	W38	26.2	26.2	0.0	0.0	95.4	95.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R30	BEDROOM	W39	25.5	25.5	0.0	0.0	95.0	95.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R31	BEDROOM	W40	33.4	18.4	15.0	44.9	97.4	91.7	5.7	5.9	70	27	41	7	41.4	74.1
			W41	33.4	18.4	15.0	44.9					70	27	41	7	41.4	74.1
	R32	BEDROOM	W42	33.3	18.2	15.1	45.3	98.0	91.8	6.2	6.3	69	27	40	8	42.0	70.4
			W43	33.4	18.3	15.1	45.2					70	27	42	10	40.0	63.0
	R33	BEDROOM	W44	26.0	26.0	0.0	0.0	95.4	95.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R34	BEDROOM	W45	25.8	25.8	0.0	0.0	95.0	95.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R35	BEDROOM	W46	33.3	17.8	15.5	46.5	97.4	91.1	6.3	6.5	69	26	41	9	40.6	65.4
			W47	33.3	18.0	15.3	45.9					69	26	40	9	42.0	65.4
	R36	BEDROOM	W48	33.2	17.1	16.1	48.5	98.0	92.1	5.9	6.0	67	25	40	9	40.3	64.0
			W49	33.2	17.4	15.8	47.6					68	26	40	9	41.2	65.4
	R37	BEDROOM	W50	26.0	26.0	0.0	0.0	95.4	95.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R38	BEDROOM	W51	25.8	25.8	0.0	0.0	95.4	95.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R39	BEDROOM	W52	33.0	16.3	16.7	50.6	97.4	92.3	5.1	5.2	67	25	40	11	40.3	56.0
			W53	33.0	16.6	16.4	49.7					67	25	39	8	41.8	68.0
	R40	BEDROOM	W54	32.6	15.1	17.5	53.7	97.7	93.1	4.6	4.7	67	25	39	10	41.8	60.0
			W55	32.8	15.6	17.2	52.4					67	25	42	12	37.3	52.0
	R41	BEDROOM	W56	25.4	25.4	0.0	0.0	95.4	95.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R42	BEDROOM	W57	26.0	26.0	0.0	0.0	95.7	95.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R43	BEDROOM	W58	32.0	13.8	18.2	56.9	98.0	93.4	4.6	4.7	65	23	34	9	47.7	60.9
			W59	32.3	14.4	17.9	55.4					66	24	36	9	45.5	62.5
	R44	BEDROOM	W60	30.9	12.5	18.4	59.5	97.1	92.0	5.1	5.3	65	23	31	6	52.3	73.9
			W61	31.5	13.1	18.4	58.4					65	23	31	7	52.3	69.6
	R45	BEDROOM	W62	25.9	23.7	2.2	8.5	81.2	72.3	8.9	11.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
					MAX				MAX			WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	PARAMETER	LOSS	%	BASELINE	PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
49-67 ABBOTT ROAD																	
F00	R1	KITCHEN	W1	32.2	30.8	1.4	4.3	99.5	99.5	0.0	0.0	72	25	69	22	4.2	12.0
	R2	LIVING ROOM	W2	24.3	24.3	0.0	0.0	73.5	73.5	0.0	0.0	30	1	30	1	0.0	0.0
			W3	71.5	71.4	0.1	0.1					29	3	29	3	0.0	0.0
			W4	27.2	27.2	0.0	0.0					14	0	14	0	0.0	0.0
			W5	20.6	20.4	0.2	1.0					1	0	1	0	0.0	0.0
	R3	LIVING ROOM	W6	19.9	19.9	0.0	0.0	95.9	95.9	0.0	0.0	0	0	0	0	0.0	0.0
			W7	23.5	23.5	0.0	0.0					5	0	5	0	0.0	0.0
			W8	25.0	23.5	1.5	6.0					58	24	54	20	6.9	16.7
	R4	KITCHEN	W9	28.0	28.0	0.0	0.0	88.4	88.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W10	20.3	20.3	0.0	0.0	99.1	99.1	0.0	0.0	0	0	0	0	0.0	0.0
			W11	27.1	27.1	0.0	0.0					5	0	5	0	0.0	0.0
			W12	31.8	30.0	1.8	5.7					72	25	68	21	5.6	16.0
	R6	KITCHEN	W13	28.5	28.5	0.0	0.0	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	LIVING ROOM	W14	20.2	20.2	0.0	0.0	99.0	99.0	0.0	0.0	0	0	0	0	0.0	0.0
			W15	26.5	26.5	0.0	0.0					5	0	5	0	0.0	0.0
			W16	31.3	29.1	2.2	7.0					70	23	66	19	5.7	17.4
	R8	KITCHEN	W17	25.8	25.8	0.0	0.0	96.4	96.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	LIVING ROOM	W18	29.6	29.6	0.0	0.0	72.0	72.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	KITCHEN	W19	30.9	28.3	2.6	8.4	100.0	100.0	0.0	0.0	68	21	62	15	8.8	28.6
	R11	KITCHEN	W20	30.4	27.4	3.0	9.9	100.0	96.9	3.1	3.1	65	19	60	14	7.7	26.3
	R12	LIVING ROOM	W21	28.5	28.5	0.0	0.0	72.0	72.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	KITCHEN	W22	26.9	26.9	0.0	0.0	56.2	56.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W23	25.9	25.9	0.0	0.0	52.4	52.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	LIVING ROOM	W24	29.9	26.5	3.4	11.4	94.1	85.9	8.2	8.7	65	20	58	13	10.8	35.0
	R16	KITCHEN	W25	26.9	26.9	0.0	0.0	82.2	82.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	LIVING ROOM	W26	29.5	26.0	3.5	11.9	98.3	98.3	0.0	0.0	66	19	60	13	9.1	31.6
			W27	26.7	26.7	0.0	0.0					3	0	3	0	0.0	0.0
			W28	20.0	20.0	0.0	0.0					5	0	5	0	0.0	0.0
	R18	KITCHEN	W29	27.3	27.3	0.0	0.0	83.5	83.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R19	LIVING ROOM	W30	24.0	20.5	3.5	14.6	96.2	96.0	0.2	0.2	47	13	41	7	12.8	46.2
			W31	21.8	21.8	0.0	0.0					0	0	0	0	0.0	0.0
			W32	20.3	20.3	0.0	0.0					0	0	0	0	0.0	0.0
	R20	LIVING ROOM	W33	24.0	24.0	0.0	0.0	71.9	71.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R21	KITCHEN	W34	26.1	22.5	3.6	13.8	97.9	93.2	4.7	4.8	57	14	53	10	7.0	28.6
F01	R1	BEDROOM	W1	29.7	29.7	0.0	0.0	83.5	83.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	32.1	30.8	1.3	4.0	98.4	98.4	0.0	0.0	70	26	67	23	4.3	11.5
			W3	32.0	30.7	1.3	4.1					70	26	66	22	5.7	15.4
	R3	BEDROOM	W4	25.5	25.5	0.0	0.0	95.1	95.1	0.0	0.0	9	0	9	0	0.0	0.0
			W5	25.1	23.7	1.4	5.6					55	24	51	20	7.3	16.7
	R4	BEDROOM	W6	31.2	29.8	1.4	4.5	98.0	97.7	0.3	0.3	68	26	64	22	5.9	15.4
			W7	31.8	30.2	1.6	5.0					70	26	66	22	5.7	15.4
	R5	BEDROOM	W8	29.6	29.6	0.0	0.0	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W9	31.7	30.0	1.7	5.4					70	26	66	22	5.7	15.4
	R6	BEDROOM	W10	31.7	29.8	1.9	6.0	98.0	97.7	0.3	0.3	70	26	66	22	5.7	15.4
			W11	31.7	29.6	2.1	6.6					70	26	66	22	5.7	15.4
	R7	BEDROOM	W12	29.6	29.6	0.0	0.0	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W13	31.5	29.3	2.2	7.0					70	26	66	22	5.7	15.4
	R8	BEDROOM	W14	31.0	28.7	2.3	7.4	97.7	93.0	4.7	4.8	69	25	64	20	7.2	20.0
			W15	26.7	24.7	2.0	7.5					54	20	49	15	9.3	25.0
	R9	BEDROOM	W16	30.8	30.8	0.0	0.0	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W17	31.1	28.4	2.7	8.7	98.9	98.9	0.0	0.0	69	25	63	19	8.7	24.0
			W18	30.9	28.1	2.8	9.1					68	24	62	18	8.8	25.0
	R11	BEDROOM	W19	30.8	27.9	2.9	9.4	99.5	97.8	1.7	1.7	67	23	60	16	10.4	30.4
			W20	30.6	27.5	3.1	10.1					65	21	59	15	9.2	28.6
	R12	BEDROOM	W21	30.6	30.6	0.0	0.0	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W22	24.0	21.0	3.0	12.5	97.8	92.1	5.7	5.8	51	19	45	13	11.8	31.6

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W23	29.9	26.7	3.2	10.7					64	22	57	15	10.9	31.8
	R14	BEDROOM	W24	30.4	27.0	3.4	11.2	100.0	100.0	0.0	0.0	65	21	60	16	7.7	23.8
			W25	29.1	29.1	0.0	0.0					0	0	0	0	0.0	0.0
	R15	BEDROOM	W26	30.2	26.7	3.5	11.6	97.9	89.8	8.1	8.3	65	21	58	14	10.8	33.3
			W27	30.1	26.5	3.6	12.0					64	20	57	13	10.9	35.0
	R16	BEDROOM	W28	29.9	26.2	3.7	12.4	98.8	98.8	0.0	0.0	64	20	59	15	7.8	25.0
			W29	29.2	29.2	0.0	0.0					1	0	1	0	0.0	0.0
	R17	BEDROOM	W30	29.6	26.0	3.6	12.2	96.8	89.0	7.8	8.1	64	20	59	15	7.8	25.0
			W31	28.9	25.4	3.5	12.1					61	17	55	11	9.8	35.3
	R18	BEDROOM	W32	24.3	20.8	3.5	14.4	99.7	99.7	0.0	0.0	46	14	40	8	13.0	42.9
			W33	24.6	24.6	0.0	0.0					0	0	0	0	0.0	0.0
	R19	BEDROOM	W34	28.4	24.7	3.7	13.0	95.1	87.1	8.0	8.4	63	19	57	13	9.5	31.6
			W35	27.8	24.2	3.6	12.9					62	18	57	13	8.1	27.8
	R20	BEDROOM	W36	27.0	27.0	0.0	0.0	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
ABERFELDY ESTATE PHASE ONE BLOCK A																	
F00	R1	LIVING ROOM	W1	10.3	8.9	1.4	13.6	98.4	98.2	0.2	0.2	4	0	4	0	0.0	0.0
			W2	12.8	12.8	0.0	0.0					14	2	14	2	0.0	0.0
			W3	11.8	11.8	0.0	0.0					11	2	11	2	0.0	0.0
	R2	KITCHEN	W4	7.2	6.4	0.8	11.1	84.5	80.1	4.4	5.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	17.2	17.2	0.0	0.0	92.5	92.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W6	23.4	22.4	1.0	4.3					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W7	2.8	2.8	0.0	0.0	15.8	15.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W8	12.9	12.4	0.5	3.9	80.4	73.6	6.8	8.5	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	19.1	17.9	1.2	6.3	96.0	94.5	1.5	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	24.0	22.7	1.3	5.4	80.7	80.6	0.1	0.1	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W11	22.3	21.1	1.2	5.4	77.4	76.7	0.7	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W12	11.7	10.6	1.1	9.4	96.8	94.9	1.9	2.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W13	11.5	10.5	1.0	8.7	85.5	84.2	1.3	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W14	15.1	14.1	1.0	6.6	95.6	95.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W15	23.3	22.3	1.0	4.3	69.2	69.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W16	19.7	18.8	0.9	4.6	94.0	94.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W17	16.8	15.9	0.9	5.4	65.8	65.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BEDROOM	W18	8.6	7.8	0.8	9.3	60.9	60.6	0.3	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W19	3.2	3.2	0.0	0.0	58.3	58.3	0.0	0.0	7	0	7	0	0.0	0.0
	R17	BEDROOM	W20	16.0	15.5	0.5	3.1	81.0	81.0	0.0	0.0	9	0	9	0	0.0	0.0
	R18	BEDROOM	W21	18.4	17.9	0.5	2.7	66.4	66.4	0.0	0.0	14	0	14	0	0.0	0.0
	R19	L/K/D	W22	22.0	21.7	0.3	1.4	53.8	53.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W23	10.2	9.8	0.4	3.9					N/A	N/A	N/A	N/A	N/A	N/A
	R20	BEDROOM	W24	23.1	22.9	0.2	0.9	80.1	80.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R21	BEDROOM	W25	23.2	23.0	0.2	0.9	75.5	74.5	1.0	1.3	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	27.2	25.4	1.8	6.6	96.0	95.8	0.2	0.2	7	0	7	0	0.0	0.0
			W2	14.4	14.4	0.0	0.0					15	2	15	2	0.0	0.0
			W3	13.3	13.3	0.0	0.0					12	2	12	2	0.0	0.0
	R2	BEDROOM	W4	28.5	27.0	1.5	5.3	93.8	78.4	15.4	16.4	6	0	6	0	0.0	0.0
			W5	14.6	14.6	0.0	0.0					8	0	8	0	0.0	0.0
	R3	BEDROOM	W6	28.2	26.7	1.5	5.3	98.1	87.3	10.8	11.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W7	18.4	18.4	0.0	0.0	91.3	91.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	27.5	25.9	1.6	5.8					N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	17.0	17.0	0.0	0.0	86.2	85.0	1.2	1.4	N/A	N/A	N/A	N/A	N/A	N/A
			W10	16.5	14.9	1.6	9.7					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W11	9.4	9.4	0.0	0.0	57.6	57.6	0.0	0.0	0	0	0	0	0.0	0.0
	R7	BEDROOM	W12	17.5	16.3	1.2	6.9	91.7	81.1	10.6	11.6	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W13	22.2	20.6	1.6	7.2	93.3	92.1	1.2	1.3	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W14	19.9	18.4	1.5	7.5	97.4	97.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W15	27.3	25.8	1.5	5.5	98.7	97.4	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W16	28.0	26.6	1.4	5.0	96.7	95.4	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R12	L/K/D	W17	28.3	26.9	1.4	4.9	88.6	88.5	0.1	0.1	N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W18	28.1	26.8	1.3	4.6	89.9	84.7	5.2	5.8	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W19	27.4	26.1	1.3	4.7	97.4	92.5	4.9	5.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BEDROOM	W20	26.3	25.0	1.3	4.9	98.1	98.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	L/K/D	W21	18.1	17.0	1.1	6.1	97.4	95.8	1.6	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W22	20.4	19.3	1.1	5.4	94.2	94.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W23	17.1	16.0	1.1	6.4	95.3	95.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R19	BEDROOM	W24	10.0	10.0	0.0	0.0	73.2	73.2	0.0	0.0	9	0	9	0	0.0	0.0
	R20	BEDROOM	W25	17.4	16.8	0.6	3.4	82.7	82.7	0.0	0.0	9	0	9	0	0.0	0.0
	R21	L/K/D	W26	26.8	26.0	0.8	3.0	93.4	93.1	0.3	0.3	7	0	7	0	0.0	0.0
			W27	20.2	19.5	0.7	3.5					17	0	17	0	0.0	0.0
	R22	BEDROOM	W28	25.8	25.2	0.6	2.3	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R23	BEDROOM	W29	25.9	25.5	0.4	1.5	87.9	87.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R24	L/K/D	W30	10.2	10.2	0.0	0.0	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W31	14.8	14.8	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W32	25.9	25.6	0.3	1.2					N/A	N/A	N/A	N/A	N/A	N/A
ABERFELDY ESTATE PHASE ONE BLOCK C																	
F00	R1	L/K/D	W1	14.9	7.6	7.3	49.0	94.1	92.1	2.0	2.1	0	0	0	0	0.0	0.0
			W2	19.4	12.0	7.4	38.1					1	0	1	0	0.0	0.0
			W3	20.1	20.1	0.0	0.0					27	5	27	5	0.0	0.0
	R2	L/K/D	W4	0.1	0.0	0.1	100.0	46.3	29.7	16.6	35.9	0	0	0	0	0.0	0.0
			W5	4.6	4.6	0.0	0.0					14	3	14	3	0.0	0.0
	R3	BEDROOM	W6	0.2	0.0	0.2	100.0	42.5	13.8	28.7	67.5	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W7	0.6	0.0	0.6	100.0	63.1	46.5	16.6	26.3	0	0	0	0	0.0	0.0
			W8	16.2	16.2	0.0	0.0					41	4	41	4	0.0	0.0
	R5	BEDROOM	W9	1.4	0.1	1.3	92.9	53.8	22.7	31.1	57.8	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W10	2.3	0.8	1.5	65.2	82.0	71.1	10.9	13.3	0	0	0	0	0.0	0.0
			W11	3.9	3.9	0.0	0.0					13	4	13	4	0.0	0.0
	R7	BEDROOM	W12	2.5	1.3	1.2	48.0	93.7	82.7	11.0	11.7	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W13	19.1	13.7	5.4	28.3	91.2	88.6	2.6	2.9	2	0	2	0	0.0	0.0
			W14	4.6	4.6	0.0	0.0					13	5	13	5	0.0	0.0
	R9	BEDROOM	W15	18.4	13.6	4.8	26.1	96.3	96.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W16	15.3	11.4	3.9	25.5	71.1	63.2	7.9	11.1	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W17	3.5	3.5	0.0	0.0	43.1	43.1	0.0	0.0	9	3	9	3	0.0	0.0
			W18	14.6	11.3	3.3	22.6					2	0	1	0	50.0	0.0
	R12	BEDROOM	W19	0.3	0.0	0.3	100.0	14.5	14.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W20	14.8	14.8	0.0	0.0	61.7	45.4	16.3	26.4	33	4	33	4	0.0	0.0
			W21	0.4	0.0	0.4	100.0					0	0	0	0	0.0	0.0
	R14	L/K/D	W22	6.7	5.7	1.0	14.9	23.5	14.9	8.6	36.6	N/A	N/A	N/A	N/A	N/A	N/A
	R15	L/K/D	W23	15.8	15.8	0.0	0.0	58.7	49.3	9.4	16.0	14	2	14	2	0.0	0.0
			W24	10.1	8.7	1.4	13.9					11	1	9	1	18.2	0.0
	R16	BEDROOM	W25	11.5	9.7	1.8	15.7	79.6	73.1	6.5	8.2	N/A	N/A	N/A	N/A	N/A	N/A
	R17	KITCHEN	W26	16.5	9.9	6.6	40.0	79.4	87.4	-8.0	-10.1	19	4	14	4	26.3	0.0
			W27	16.1	11.9	4.2	26.1					22	5	25	6	-13.6	-20.0
	R18	LIVING ROOM	W28	19.8	19.6	0.2	1.0	98.2	98.2	0.0	0.0	1	0	1	0	0.0	0.0
			W29	18.1	11.1	7.0	38.7					20	3	9	3	55.0	0.0
F01	R1	BEDROOM	W1	21.8	12.3	9.5	43.6	88.8	69.1	19.7	22.2	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	4.8	4.8	0.0	0.0	44.8	30.5	14.3	31.9	16	6	16	6	0.0	0.0
			W3	0.3	0.0	0.3	100.0					1	0	0	0	100.0	0.0
	R3	L/K/D	W4	1.8	1.8	0.0	0.0	58.0	41.1	16.9	29.1	3	3	3	3	0.0	0.0
			W5	0.7	0.0	0.7	100.0					0	0	0	0	0.0	0.0
	R4	L/K/D	W6	4.6	4.6	0.0	0.0	57.4	49.8	7.6	13.2	15	6	15	6	0.0	0.0
			W7	0.7	0.5	0.2	28.6					0	0	0	0	0.0	0.0
	R5	BEDROOM	W8	20.2	14.7	5.5	27.2	85.6	62.0	23.6	27.6	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	18.1	13.9	4.2	23.2	76.8	66.2	10.6	13.8	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	0.0	0.0	0.0	0.0	43.2	41.1	2.1	4.9	0	0	0	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W11	2.6	2.6	0.0	0.0					5	4	5	4	0.0	0.0
	R8	L/K/D	W12	3.1	1.3	1.8	58.1	70.6	58.3	12.3	17.4	4	0	1	0	75.0	0.0
			W13	5.7	5.7	0.0	0.0					4	2	4	2	0.0	0.0
	R9	BEDROOM	W14	19.7	13.6	6.1	31.0	90.3	90.0	0.3	0.3	26	6	25	7	3.8	-16.7
			W15	20.5	20.5	0.0	0.0					49	8	49	8	0.0	0.0
	R10	BEDROOM	W16	19.5	10.0	9.5	48.7	69.7	44.7	25.0	35.9	24	6	15	6	37.5	0.0
	R11	BEDROOM	W17	33.2	32.8	0.4	1.2	92.8	92.4	0.4	0.4	7	0	7	0	0.0	0.0
			W18	21.5	12.4	9.1	42.3					27	5	13	3	51.9	40.0
	R12	BEDROOM	W19	32.6	32.2	0.4	1.2	96.4	96.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	25.3	14.3	11.0	43.5	91.4	73.7	17.7	19.4	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	5.8	5.8	0.0	0.0	57.2	40.3	16.9	29.5	16	6	16	6	0.0	0.0
			W3	0.6	0.0	0.6	100.0					1	0	0	0	100.0	0.0
	R3	L/K/D	W4	2.5	2.5	0.0	0.0	67.5	53.9	13.6	20.1	5	5	5	5	0.0	0.0
			W5	1.1	0.0	1.1	100.0					0	0	0	0	0.0	0.0
	R4	L/K/D	W6	5.9	5.9	0.0	0.0	64.9	57.8	7.1	10.9	18	8	18	8	0.0	0.0
			W7	0.7	0.5	0.2	28.6					0	0	0	0	0.0	0.0
	R5	BEDROOM	W8	23.1	17.6	5.5	23.8	89.7	71.9	17.8	19.8	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	21.3	17.0	4.3	20.2	87.1	80.6	6.5	7.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	0.0	0.0	0.0	0.0	52.4	51.4	1.0	1.9	0	0	0	0	0.0	0.0
			W11	3.3	3.3	0.0	0.0					5	4	5	4	0.0	0.0
	R8	L/K/D	W12	4.1	2.2	1.9	46.3	74.6	62.4	12.2	16.4	5	0	1	0	80.0	0.0
			W13	6.1	6.1	0.0	0.0					5	2	5	2	0.0	0.0
	R9	KITCHEN	W14	6.5	5.5	1.0	15.4	100.0	99.6	0.4	0.4	8	0	5	0	37.5	0.0
			W15	24.3	11.4	12.9	53.1					31	8	15	6	51.6	25.0
			W16	24.2	24.2	0.0	0.0					56	14	56	14	0.0	0.0
	R10	LIVING ROOM	W17	33.1	32.6	0.5	1.5	96.5	96.5	0.0	0.0	5	0	5	0	0.0	0.0
			W18	4.3	3.6	0.7	16.3					5	0	5	0	0.0	0.0
F03	R1	BEDROOM	W1	28.4	16.7	11.7	41.2	91.4	82.7	8.7	9.5	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	22.0	22.0	0.0	0.0	87.3	64.6	22.7	26.0	55	8	55	8	0.0	0.0
			W3	2.3	0.0	2.3	100.0					1	0	0	0	100.0	0.0
	R3	L/K/D	W4	3.3	3.3	0.0	0.0	84.9	80.2	4.7	5.5	5	5	5	5	0.0	0.0
			W5	2.1	0.1	2.0	95.2					0	0	0	0	0.0	0.0
	R4	L/K/D	W6	23.0	23.0	0.0	0.0	87.0	84.2	2.8	3.2	58	11	58	11	0.0	0.0
			W7	1.4	0.6	0.8	57.1					0	0	0	0	0.0	0.0
	R5	BEDROOM	W8	26.3	20.7	5.6	21.3	92.0	76.4	15.6	17.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	24.8	20.6	4.2	16.9	93.2	89.0	4.2	4.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	0.0	0.0	0.0	0.0	70.0	70.0	0.0	0.0	0	0	0	0	0.0	0.0
			W11	3.9	3.9	0.0	0.0					7	6	7	6	0.0	0.0
	R8	L/K/D	W12	5.3	3.3	2.0	37.7	75.9	65.7	10.2	13.4	6	0	1	0	83.3	0.0
			W13	6.5	6.5	0.0	0.0					5	2	5	2	0.0	0.0
	R9	BEDROOM	W14	28.1	17.2	10.9	38.8	100.0	94.0	6.0	6.0	38	11	29	11	23.7	0.0
			W15	26.6	26.6	0.0	0.0					59	16	59	16	0.0	0.0
	R10	BEDROOM	W16	27.9	13.3	14.6	52.3	96.0	44.2	51.8	54.0	39	10	17	6	56.4	40.0
	R11	BEDROOM	W17	34.0	33.5	0.5	1.5	96.7	96.2	0.5	0.5	7	0	7	0	0.0	0.0
			W18	28.4	15.2	13.2	46.5					40	8	16	3	60.0	62.5
	R12	BEDROOM	W19	33.5	33.0	0.5	1.5	97.1	97.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	6.7	4.8	1.9	28.4	77.1	71.6	5.5	7.1	7	0	3	0	57.1	0.0
			W2	24.4	24.4	0.0	0.0					32	6	32	6	0.0	0.0
	R2	L/K/D	W3	1.1	1.1	0.0	0.0	93.9	93.9	0.0	0.0	0	0	0	0	0.0	0.0
			W4	4.7	4.7	0.0	0.0					8	7	8	7	0.0	0.0
	R3	BEDROOM	W5	28.7	24.7	4.0	13.9	93.2	91.6	1.6	1.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	28.2	28.2	0.0	0.0	91.7	91.7	0.0	0.0	62	18	62	18	0.0	0.0
	R5	KITCHEN	W7	13.7	13.2	0.5	3.6	99.7	99.3	0.4	0.4	7	0	7	0	0.0	0.0
			W8	32.2	16.5	15.7	48.8					44	10	22	6	50.0	40.0
	R6	BEDROOM	W9	36.0	35.6	0.4	1.1	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F05	R1	BEDROOM	W1	29.5	29.5	0.0	0.0	91.7	91.7	0.0	0.0	66	22	66	22	0.0	0.0
	R2	KITCHEN	W2	13.9	13.3	0.6	4.3	99.7	99.7	0.0	0.0	7	0	7	0	0.0	0.0
			W3	35.1	20.5	14.6	41.6					50	15	30	11	40.0	26.7
	R3	BEDROOM	W4	36.3	35.8	0.5	1.4	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
ABERFELDY ESTATE PHASE THREE BLOCK G																	
F01	R1	L/K/D	W1	27.9	25.0	2.9	10.4	97.2	97.2	0.0	0.0	2	0	0	0	100.0	0.0
			W2	31.4	27.5	3.9	12.4					8	0	5	0	37.5	0.0
			W3	2.9	2.3	0.6	20.7					5	0	5	0	0.0	0.0
	R2	BEDROOM	W4	7.8	3.4	4.4	56.4	77.5	67.9	9.6	12.4	5	0	4	0	20.0	0.0
			W5	11.9	9.9	2.0	16.8					11	1	10	1	9.1	0.0
	R3	BEDROOM	W6	0.3	0.3	0.0	0.0	13.4	13.4	0.0	0.0	0	0	0	0	0.0	0.0
	R4	L/K/D	W7	4.5	1.4	3.1	68.9	57.2	45.5	11.7	20.5	2	0	1	0	50.0	0.0
			W8	12.8	11.1	1.7	13.3					14	4	13	4	7.1	0.0
F02	R1	L/K/D	W1	35.8	33.8	2.0	5.6	99.7	99.7	0.0	0.0	11	0	6	0	45.5	0.0
			W2	5.4	3.8	1.6	29.6					6	0	2	0	66.7	0.0
			W3	5.3	5.3	0.0	0.0					11	8	11	8	0.0	0.0
	R2	BEDROOM	W4	9.8	9.2	0.6	6.1	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	34.1	31.3	2.8	8.2	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	31.5	28.2	3.3	10.5	98.0	98.0	0.0	0.0	5	0	2	0	60.0	0.0
			W7	34.5	30.4	4.1	11.9					8	0	5	0	37.5	0.0
			W8	3.1	2.5	0.6	19.4					5	0	5	0	0.0	0.0
	R5	BEDROOM	W9	8.4	4.2	4.2	50.0	82.2	73.3	8.9	10.8	5	0	3	0	40.0	0.0
			W10	14.4	12.4	2.0	13.9					15	1	14	1	6.7	0.0
	R6	BEDROOM	W11	0.4	0.4	0.0	0.0	13.5	13.5	0.0	0.0	1	0	1	0	0.0	0.0
	R7	L/K/D	W12	4.7	1.9	2.8	59.6	57.7	48.9	8.8	15.3	2	0	1	0	50.0	0.0
			W13	14.4	12.8	1.6	11.1					18	5	18	5	0.0	0.0
F03	R1	L/K/D	W1	36.5	34.0	2.5	6.8	100.0	100.0	0.0	0.0	9	0	5	0	44.4	0.0
			W2	4.6	3.3	1.3	28.3					6	0	3	0	50.0	0.0
			W3	6.1	6.1	0.0	0.0					13	10	13	10	0.0	0.0
	R2	BEDROOM	W4	11.2	10.1	1.1	9.8	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	37.0	33.8	3.2	8.6	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	36.3	32.6	3.7	10.2	98.0	98.0	0.0	0.0	8	0	6	0	25.0	0.0
			W7	37.1	32.9	4.2	11.3					9	0	7	0	22.2	0.0
			W8	3.1	2.5	0.6	19.4					4	0	4	0	0.0	0.0
	R5	BEDROOM	W9	8.4	4.8	3.6	42.9	81.9	80.3	1.6	2.0	5	0	4	0	20.0	0.0
			W10	16.4	14.7	1.7	10.4					18	2	17	2	5.6	0.0
	R6	BEDROOM	W11	0.3	0.3	0.0	0.0	13.5	13.5	0.0	0.0	0	0	0	0	0.0	0.0
	R7	L/K/D	W12	4.7	2.4	2.3	48.9	58.5	53.5	5.0	8.5	2	0	1	0	50.0	0.0
			W13	15.3	14.0	1.3	8.5					18	4	17	4	5.6	0.0
F04	R1	L/K/D	W1	37.0	34.9	2.1	5.7	100.0	100.0	0.0	0.0	9	0	7	0	22.2	0.0
			W2	4.7	3.8	0.9	19.1					6	0	4	0	33.3	0.0
			W3	6.7	6.7	0.0	0.0					14	11	14	11	0.0	0.0
	R2	BEDROOM	W4	11.5	10.4	1.1	9.6	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	37.6	34.8	2.8	7.4	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	36.7	33.7	3.0	8.2	98.0	98.0	0.0	0.0	8	0	6	0	25.0	0.0
			W7	37.5	34.1	3.4	9.1					9	0	7	0	22.2	0.0
			W8	3.1	2.6	0.5	16.1					4	0	4	0	0.0	0.0
	R5	BEDROOM	W9	8.9	6.1	2.8	31.5	81.9	81.9	0.0	0.0	6	0	5	0	16.7	0.0
			W10	18.4	17.1	1.3	7.1					20	2	19	2	5.0	0.0
	R6	BEDROOM	W11	0.3	0.3	0.0	0.0	13.5	13.5	0.0	0.0	0	0	0	0	0.0	0.0
	R7	L/K/D	W12	5.3	3.4	1.9	35.8	58.5	58.5	0.0	0.0	3	0	2	0	33.3	0.0
			W13	17.5	16.5	1.0	5.7					20	4	20	4	0.0	0.0
ABERFELDY ESTATE PHASE THREE BLOCK J																	

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F00	R1	L/K/D	W1	35.0	28.4	6.6	18.9	100.0	100.0	0.0	0.0	8	0	8	0	0.0	0.0
			W2	24.0	23.7	0.3	1.3					34	13	34	13	0.0	0.0
			W3	24.1	24.0	0.1	0.4					43	11	43	11	0.0	0.0
	R2	BEDROOM	W4	35.1	27.6	7.5	21.4	98.5	97.9	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	35.1	27.1	8.0	22.8	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	34.9	26.4	8.5	24.4	97.1	95.9	1.2	1.2	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	34.6	25.7	8.9	25.7	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W8	34.2	25.0	9.2	26.9	97.1	95.6	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	36.7	30.5	6.2	16.9	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W2	20.3	19.9	0.4	2.0					27	13	27	13	0.0	0.0
			W3	22.8	22.5	0.3	1.3					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	36.8	29.8	7.0	19.0	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	1.9	1.9	0.0	0.0	99.2	97.9	1.3	1.3	3	3	3	3	0.0	0.0
			W6	6.4	2.4	4.0	62.5					0	0	0	0	0.0	0.0
			W7	36.8	29.2	7.6	20.7					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.4	8.4	6.0	41.7	98.6	97.8	0.8	0.8	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	2.8	2.8	0.0	0.0	99.5	98.9	0.6	0.6	5	5	5	5	0.0	0.0
			W10	6.9	3.0	3.9	56.5					0	0	0	0	0.0	0.0
			W11	36.7	27.9	8.8	24.0					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.3	7.1	7.2	50.3	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	17.2	17.2	0.0	0.0	100.0	97.5	2.5	2.5	36	13	36	13	0.0	0.0
			W14	6.5	3.4	3.1	47.7					0	0	0	0	0.0	0.0
			W15	36.5	26.5	10.0	27.4					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.0	5.5	7.5	57.7	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.1	5.8	0.3	4.9	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	34.7	24.3	10.4	30.0					N/A	N/A	N/A	N/A	N/A	N/A
			W19	33.3	21.8	11.5	34.5					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	20.5	20.3	0.2	1.0	92.7	92.1	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	11.7	10.4	1.3	11.1					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	37.2	31.6	5.6	15.1	99.9	99.9	0.0	0.0	9	0	9	0	0.0	0.0
			W2	21.0	20.6	0.4	1.9					28	14	28	14	0.0	0.0
			W3	23.5	23.1	0.4	1.7					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.2	30.9	6.3	16.9	98.5	97.6	0.9	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	2.2	2.2	0.0	0.0	99.4	98.2	1.2	1.2	3	3	3	3	0.0	0.0
			W6	6.6	3.2	3.4	51.5					0	0	0	0	0.0	0.0
			W7	37.2	30.4	6.8	18.3					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.6	9.1	5.5	37.7	98.6	97.8	0.8	0.8	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	3.5	3.5	0.0	0.0	99.7	99.2	0.5	0.5	6	6	6	6	0.0	0.0
			W10	7.3	3.8	3.5	47.9					0	0	0	0	0.0	0.0
			W11	37.2	29.2	8.0	21.5					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.6	7.6	7.0	47.9	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	3.3	3.3	0.0	0.0	100.0	99.1	0.9	0.9	5	5	5	5	0.0	0.0
			W14	6.9	4.1	2.8	40.6					0	0	0	0	0.0	0.0
			W15	37.2	27.9	9.3	25.0					10	9	10	0	0.0	0.0
	R8	BEDROOM	W16	13.5	5.7	7.8	57.8	98.5	97.1	1.4	1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.4	6.1	0.3	4.7	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	36.4	26.1	10.3	28.3					N/A	N/A	N/A	N/A	N/A	N/A
			W19	34.8	23.7	11.1	31.9					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	22.5	22.2	0.3	1.3	92.7	92.1	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	13.0	11.6	1.4	10.8					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	37.5	32.6	4.9	13.1	99.9	99.9	0.0	0.0	10	0	10	0	0.0	0.0
			W2	21.3	20.9	0.4	1.9					28	14	28	14	0.0	0.0
			W3	23.8	23.5	0.3	1.3					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.5	32.1	5.4	14.4	98.5	97.9	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	2.8	2.8	0.0	0.0	99.5	99.5	0.0	0.0	4	4	4	4	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W6	6.7	3.9	2.8	41.8					0	0	0	0	0.0	0.0
			W7	37.5	31.7	5.8	15.5					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.8	9.8	5.0	33.8	98.6	98.2	0.4	0.4	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.3	4.3	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W10	7.4	4.5	2.9	39.2					0	0	0	0	0.0	0.0
			W11	37.6	30.6	7.0	18.6					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.8	8.2	6.6	44.6	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	3.9	3.9	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W14	7.1	4.8	2.3	32.4					0	0	0	0	0.0	0.0
			W15	37.5	29.4	8.1	21.6					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.7	6.0	7.7	56.2	98.5	97.4	1.1	1.1	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.5	6.3	0.2	3.1	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	36.8	27.8	9.0	24.5					N/A	N/A	N/A	N/A	N/A	N/A
			W19	35.1	25.4	9.7	27.6					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	24.4	24.2	0.2	0.8	93.0	92.4	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	13.6	12.4	1.2	8.8					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	37.7	33.7	4.0	10.6	99.9	99.9	0.0	0.0	9	0	9	0	0.0	0.0
			W2	21.6	21.2	0.4	1.9					28	14	28	14	0.0	0.0
			W3	24.1	23.7	0.4	1.7					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.7	33.2	4.5	11.9	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	5.7	5.7	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W6	6.8	4.6	2.2	32.4					0	0	0	0	0.0	0.0
			W7	37.8	32.8	5.0	13.2					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.9	10.7	4.2	28.2	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	37.8	31.9	5.9	15.6	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W10	5.4	5.4	0.0	0.0					8	8	8	8	0.0	0.0
	R6	BEDROOM	W11	15.0	9.3	5.7	38.0	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W12	37.8	30.9	6.9	18.3	100.0	100.0	0.0	0.0	10	0	10	0	0.0	0.0
			W13	4.6	4.6	0.0	0.0					7	7	7	7	0.0	0.0
	R8	BEDROOM	W14	13.8	7.3	6.5	47.1	98.5	97.8	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W15	7.5	7.4	0.1	1.3	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	37.1	29.8	7.3	19.7					N/A	N/A	N/A	N/A	N/A	N/A
			W17	35.3	27.4	7.9	22.4					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W18	26.6	26.5	0.1	0.4	94.2	93.6	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W19	14.1	13.2	0.9	6.4					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	L/K/D	W1	37.9	34.7	3.2	8.4	99.9	99.9	0.0	0.0	10	0	10	0	0.0	0.0
			W2	38.4	38.1	0.3	0.8					56	20	56	20	0.0	0.0
			W3	38.2	37.9	0.3	0.8					54	19	54	19	0.0	0.0
	R2	BEDROOM	W4	37.9	34.3	3.6	9.5	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	6.0	6.0	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W6	6.2	4.6	1.6	25.8					0	0	0	0	0.0	0.0
			W7	38.0	34.1	3.9	10.3					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.0	10.5	3.5	25.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	5.6	5.6	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W10	6.9	5.2	1.7	24.6					0	0	0	0	0.0	0.0
			W11	38.0	33.3	4.7	12.4					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.0	9.5	4.5	32.1	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	4.7	4.7	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W14	6.7	5.3	1.4	20.9					0	0	0	0	0.0	0.0
			W15	38.0	32.6	5.4	14.2					11	0	11	0	0.0	0.0
	R8	BEDROOM	W16	12.9	7.7	5.2	40.3	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	9.4	9.3	0.1	1.1	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	37.2	31.8	5.4	14.5					N/A	N/A	N/A	N/A	N/A	N/A
			W19	35.5	29.6	5.9	16.6					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	29.0	29.0	0.0	0.0	96.8	96.2	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	14.6	13.9	0.7	4.8					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
ABERFELDY ESTATE PHASE TWO BLOCK D																	
F00	R1	KITCHEN	W1	12.7	12.0	0.7	5.5	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	33.1	32.9	0.2	0.6					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	18.7	15.0	3.7	19.8	55.1	60.1	-5.0	-9.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	18.7	15.8	2.9	15.5	53.7	63.2	-9.5	-17.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W5	14.8	14.8	0.0	0.0	84.9	85.5	-0.6	-0.7	29	3	29	3	0.0	0.0
			W6	12.6	12.9	-0.3	-2.4					27	1	27	1	0.0	0.0
	R5	KITCHEN	W7	1.2	1.2	0.0	0.0	86.3	86.0	0.3	0.3	9	0	9	0	0.0	0.0
			W8	21.6	17.4	4.2	19.4					23	0	23	0	0.0	0.0
	R6	BEDROOM	W9	2.6	2.4	0.2	7.7	89.0	87.7	1.3	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W10	2.7	2.3	0.4	14.8	91.6	90.3	1.3	1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W11	22.7	18.7	4.0	17.6	90.2	90.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W12	1.9	0.7	1.2	63.2					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	11.5	10.0	1.5	13.0	97.9	97.2	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
			W2	33.7	33.4	0.3	0.9					N/A	N/A	N/A	N/A	N/A	N/A
			W3	33.7	33.4	0.3	0.9					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	15.3	12.6	2.7	17.6	93.5	90.7	2.8	3.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	21.8	17.6	4.2	19.3	63.0	61.0	2.0	3.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W6	12.1	11.5	0.6	5.0	82.8	82.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	3.5	3.0	0.5	14.3	93.9	87.9	6.0	6.4	N/A	N/A	N/A	N/A	N/A	N/A
			W8	24.8	19.7	5.1	20.6					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	3.7	3.1	0.6	16.2	96.3	93.9	2.4	2.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	25.3	20.8	4.5	17.8	93.3	93.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	2.8	0.7	2.1	75.0					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	13.9	10.6	3.3	23.7	98.6	97.4	1.2	1.2	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.4	33.8	0.6	1.7					N/A	N/A	N/A	N/A	N/A	N/A
			W3	34.3	33.8	0.5	1.5					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	18.4	13.7	4.7	25.5	94.7	90.7	4.0	4.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	25.6	19.8	5.8	22.7	71.0	61.0	10.0	14.1	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W6	15.2	12.6	2.6	17.1	84.6	84.0	0.6	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	5.2	4.1	1.1	21.2	98.5	92.6	5.9	6.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	28.2	22.3	5.9	20.9					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	5.7	4.5	1.2	21.1	98.3	94.6	3.7	3.8	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	28.4	23.5	4.9	17.3	96.2	96.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	3.7	0.8	2.9	78.4					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	16.2	11.0	5.2	32.1	99.5	97.4	2.1	2.1	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.8	34.2	0.6	1.7					N/A	N/A	N/A	N/A	N/A	N/A
			W3	34.9	34.2	0.7	2.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	20.9	14.6	6.3	30.1	97.2	90.7	6.5	6.7	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	29.9	22.9	7.0	23.4	89.7	61.3	28.4	31.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W6	31.5	24.7	6.8	21.6	86.7	84.2	2.5	2.9	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	6.7	4.7	2.0	29.9	98.5	92.9	5.6	5.7	N/A	N/A	N/A	N/A	N/A	N/A
			W8	31.1	24.5	6.6	21.2					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	7.4	5.5	1.9	25.7	98.3	94.6	3.7	3.8	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	31.3	26.2	5.1	16.3	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	4.4	0.9	3.5	79.5					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	18.4	11.4	7.0	38.0	99.9	97.4	2.5	2.5	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.1	34.4	0.7	2.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.1	34.5	0.6	1.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	23.3	15.5	7.8	33.5	99.7	90.7	9.0	9.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	29.4	29.4	0.0	0.0	98.8	89.4	9.4	9.5	62	22	62	22	0.0	0.0
			W6	32.4	24.5	7.9	24.4					28	3	25	3	10.7	0.0
F05	R1	L/K/D	W1	36.3	28.0	8.3	22.9	99.9	97.4	2.5	2.5	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	35.4	34.7	0.7	2.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.4	34.8	0.6	1.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	35.9	27.2	8.7	24.2	99.7	94.1	5.6	5.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	30.3	30.3	0.0	0.0	98.8	92.4	6.4	6.5	64	24	64	24	0.0	0.0
			W6	34.6	26.2	8.4	24.3					30	4	26	4	13.3	0.0
AILSA WHARF BLOCK A																	
F01	R1	L/K/D	W1	4.8	3.8	1.0	20.8	98.5	98.5	0.0	0.0	12	10	9	7	25.0	30.0
			W2	33.2	31.8	1.4	4.2					72	26	70	24	2.8	7.7
	R2	BEDROOM	W3	6.0	6.0	0.0	0.0	92.4	92.4	0.0	0.0	7	7	7	7	0.0	0.0
	R3	BEDROOM	W4	33.6	32.1	1.5	4.5	98.7	98.7	0.0	0.0	73	27	69	23	5.5	14.8
	R4	L/K/D	W5	10.2	8.2	2.0	19.6	99.4	99.4	0.0	0.0	20	13	16	9	20.0	30.8
			W6	6.3	4.3	2.0	31.7					14	12	9	7	35.7	41.7
			W7	33.9	32.1	1.8	5.3					73	27	67	21	8.2	22.2
			W8	33.1	31.3	1.8	5.4					74	27	69	22	6.8	18.5
	R5	BEDROOM	W9	16.9	15.9	1.0	5.9	98.7	98.7	0.0	0.0	13	4	11	2	15.4	50.0
			W10	19.7	17.7	2.0	10.2					24	8	19	3	20.8	62.5
	R6	L/K/D	W11	0.0	0.0	0.0	0.0	82.1	82.1	0.0	0.0	0	0	0	0	0.0	0.0
			W12	19.8	18.2	1.6	8.1					23	8	19	4	17.4	50.0
			W13	17.5	16.4	1.1	6.3					13	3	11	1	15.4	66.7
	R7	BEDROOM	W14	1.0	1.0	0.0	0.0	78.0	78.0	0.0	0.0	3	0	3	0	0.0	0.0
			W15	2.9	2.9	0.0	0.0					4	0	4	0	0.0	0.0
F02	R1	L/K/D	W1	5.1	3.9	1.2	23.5	98.5	98.5	0.0	0.0	12	10	10	8	16.7	20.0
			W2	33.9	32.2	1.7	5.0					72	26	70	24	2.8	7.7
	R2	BEDROOM	W3	6.3	6.1	0.2	3.2	92.4	92.4	0.0	0.0	7	7	7	7	0.0	0.0
	R3	BEDROOM	W4	34.3	32.5	1.8	5.2	98.7	98.7	0.0	0.0	73	27	70	24	4.1	11.1
	R4	L/K/D	W5	10.6	8.8	1.8	17.0	99.4	99.4	0.0	0.0	20	13	17	10	15.0	23.1
			W6	6.4	4.7	1.7	26.6					14	12	10	8	28.6	33.3
			W7	34.7	32.7	2.0	5.8					73	27	68	22	6.8	18.5
			W8	33.8	31.9	1.9	5.6					74	27	70	23	5.4	14.8
	R5	BEDROOM	W9	18.8	18.0	0.8	4.3	99.0	99.0	0.0	0.0	15	4	14	3	6.7	25.0
			W10	21.6	19.9	1.7	7.9					25	8	21	4	16.0	50.0
	R6	L/K/D	W11	0.0	0.0	0.0	0.0	85.6	85.6	0.0	0.0	0	0	0	0	0.0	0.0
			W12	21.8	20.4	1.4	6.4					27	8	25	6	7.4	25.0
			W13	19.6	18.7	0.9	4.6					17	3	16	2	5.9	33.3
	R7	BEDROOM	W14	1.4	1.4	0.0	0.0	85.0	85.0	0.0	0.0	4	0	4	0	0.0	0.0
			W15	3.4	3.4	0.0	0.0					5	0	5	0	0.0	0.0
F03	R1	L/K/D	W1	5.2	4.0	1.2	23.1	98.5	98.5	0.0	0.0	12	10	10	8	16.7	20.0
			W2	34.2	32.6	1.6	4.7					73	27	71	25	2.7	7.4
	R2	BEDROOM	W3	6.4	6.2	0.2	3.1	92.4	92.4	0.0	0.0	7	7	7	7	0.0	0.0
	R3	BEDROOM	W4	34.6	32.9	1.7	4.9	98.7	98.7	0.0	0.0	74	28	71	25	4.1	10.7
	R4	L/K/D	W5	10.7	9.3	1.4	13.1	99.4	99.4	0.0	0.0	20	13	18	11	10.0	15.4
			W6	6.6	5.0	1.6	24.2					14	12	12	10	14.3	16.7
			W7	35.0	33.2	1.8	5.1					74	28	71	25	4.1	10.7
			W8	34.2	32.3	1.9	5.6					75	28	72	25	4.0	10.7
	R5	BEDROOM	W9	21.3	20.7	0.6	2.8	99.0	99.0	0.0	0.0	20	4	19	3	5.0	25.0
			W10	23.9	22.6	1.3	5.4					27	8	25	6	7.4	25.0
	R6	L/K/D	W11	0.0	0.0	0.0	0.0	89.0	89.0	0.0	0.0	0	0	0	0	0.0	0.0
			W12	24.3	23.2	1.1	4.5					31	8	29	6	6.5	25.0
			W13	22.1	21.4	0.7	3.2					21	3	20	2	4.8	33.3
	R7	BEDROOM	W14	2.2	2.2	0.0	0.0	98.3	98.3	0.0	0.0	5	0	5	0	0.0	0.0
			W15	3.9	3.9	0.0	0.0					6	0	6	0	0.0	0.0
AILSA WHARF BLOCK D																	
F00	R1	L/K/D	W1	15.2	14.2	1.0	6.6	99.8	99.8	0.0	0.0	25	10	22	7	12.0	30.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	18.7	17.3	1.4	7.5					34	14	30	10	11.8	28.6
			W3	19.6	18.4	1.2	6.1					31	11	29	9	6.5	18.2
			W4	14.2	8.3	5.9	41.5					23	21	16	14	30.4	33.3
			W5	12.0	7.9	4.1	34.2					20	19	16	15	20.0	21.1
	R2	BEDROOM	W6	8.1	6.8	1.3	16.0	99.4	99.4	0.0	0.0	16	9	14	7	12.5	22.2
			W7	33.7	24.4	9.3	27.6					71	27	58	18	18.3	33.3
			W8	33.7	24.0	9.7	28.8					71	27	56	16	21.1	40.7
	R3	BEDROOM	W9	24.2	14.7	9.5	39.3	96.5	82.2	14.3	14.8	48	20	32	7	33.3	65.0
	R4	BEDROOM	W10	32.9	21.9	11.0	33.4	97.7	71.0	26.7	27.3	67	26	49	11	26.9	57.7
	R5	BEDROOM	W11	32.9	22.8	10.1	30.7	98.5	68.3	30.2	30.7	68	27	52	13	23.5	51.9
	R6	BEDROOM	W12	32.7	24.6	8.1	24.8	98.1	79.4	18.7	19.1	68	27	56	16	17.6	40.7
	R7	BEDROOM	W13	32.3	25.8	6.5	20.1	98.5	90.3	8.2	8.3	67	26	55	15	17.9	42.3
	R8	L/K/D	W14	2.9	2.9	0.0	0.0	99.8	99.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W15	2.1	2.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W16	1.4	1.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W17	8.9	8.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W18	8.2	8.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W19	9.9	9.9	0.0	0.0	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	9.5	9.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R10	L/K/D	W21	9.7	9.7	0.0	0.0	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	10.7	10.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W23	8.7	8.7	0.0	0.0	96.7	96.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W24	9.4	9.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W25	5.3	5.3	0.0	0.0	84.0	84.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W26	4.6	4.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BEDROOM	W1	16.7	16.1	0.6	3.6	75.8	75.8	0.0	0.0	25	10	23	8	8.0	20.0
	R2	L/K/D	W2	20.1	19.2	0.9	4.5	98.1	97.8	0.3	0.3	34	14	31	11	8.8	21.4
			W3	21.0	20.3	0.7	3.3					31	11	30	10	3.2	9.1
			W4	14.6	9.8	4.8	32.9					23	21	18	16	21.7	23.8
			W5	12.3	9.4	2.9	23.6					20	19	18	17	10.0	10.5
	R3	BEDROOM	W6	8.2	7.5	0.7	8.5	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	34.2	26.8	7.4	21.6					71	27	65	22	8.5	18.5
			W8	34.2	26.2	8.0	23.4					71	27	60	18	15.5	33.3
	R4	L/K/D	W9	35.5	26.6	8.9	25.1	100.0	100.0	0.0	0.0	77	27	66	19	14.3	29.6
			W10	35.5	26.3	9.2	25.9					79	29	68	20	13.9	31.0
			W11	7.1	5.1	2.0	28.2					12	5	8	2	33.3	60.0
	R5	BEDROOM	W12	9.7	4.0	5.7	58.8	100.0	100.0	0.0	0.0	18	13	10	5	44.4	61.5
			W13	13.0	6.8	6.2	47.7					23	16	15	8	34.8	50.0
	R6	BEDROOM	W14	24.2	15.7	8.5	35.1	97.8	97.8	0.0	0.0	49	20	37	8	24.5	60.0
			W15	31.3	21.9	9.4	30.0					68	25	54	11	20.6	56.0
	R7	BEDROOM	W16	32.6	23.0	9.6	29.4	98.3	98.3	0.0	0.0	69	27	54	12	21.7	55.6
			W17	34.1	24.7	9.4	27.6					77	27	61	11	20.8	59.3
	R8	BEDROOM	W18	32.8	23.8	9.0	27.4	98.6	98.6	0.0	0.0	69	27	55	13	20.3	51.9
			W19	34.2	26.0	8.2	24.0					78	27	63	12	19.2	55.6
	R9	BEDROOM	W20	32.8	25.6	7.2	22.0	98.3	98.3	0.0	0.0	69	27	59	17	14.5	37.0
			W21	34.2	27.8	6.4	18.7					78	27	69	18	11.5	33.3
	R10	BEDROOM	W22	32.8	27.1	5.7	17.4	98.4	98.4	0.0	0.0	69	27	59	17	14.5	37.0
			W23	34.2	28.9	5.3	15.5					78	27	71	20	9.0	25.9
			W24	6.8	6.8	0.0	0.0					11	2	11	2	0.0	0.0
	R11	BEDROOM	W25	2.7	2.7	0.0	0.0	78.8	78.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W26	1.9	1.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W27	1.1	1.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W28	6.2	6.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R12	BEDROOM	W29	6.1	6.1	0.0	0.0	71.2	71.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W30	4.5	4.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W31	6.2	6.2	0.0	0.0	68.9	68.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W32	7.0	7.0	0.0	0.0	67.4	67.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W33	5.5	5.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R15	BEDROOM	W34	6.1	6.1	0.0	0.0	72.1	72.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W35	7.6	7.6	0.0	0.0	68.0	68.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W36	6.7	6.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W37	6.1	6.1	0.0	0.0	80.4	80.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W38	7.0	7.0	0.0	0.0	72.4	72.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	6.5	6.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R19	BEDROOM	W40	3.7	3.7	0.0	0.0	86.8	86.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R20	BEDROOM	W41	3.1	3.1	0.0	0.0	47.4	47.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W42	2.6	2.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	18.6	18.2	0.4	2.2	77.5	77.5	0.0	0.0	25	10	24	9	4.0	10.0
	R2	L/K/D	W2	21.8	21.1	0.7	3.2	98.1	97.8	0.3	0.3	34	14	32	12	5.9	14.3
			W3	22.7	22.2	0.5	2.2					31	11	30	10	3.2	9.1
			W4	14.9	10.6	4.3	28.9					23	21	19	17	17.4	19.0
			W5	12.7	10.1	2.6	20.5					20	19	18	17	10.0	10.5
	R3	BEDROOM	W6	8.4	7.9	0.5	6.0	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	34.6	28.4	6.2	17.9					71	27	67	23	5.6	14.8
			W8	34.6	27.9	6.7	19.4					71	27	66	22	7.0	18.5
	R4	L/K/D	W9	35.9	28.4	7.5	20.9	100.0	100.0	0.0	0.0	77	27	69	19	10.4	29.6
			W10	35.9	28.1	7.8	21.7					79	29	71	21	10.1	27.6
			W11	7.2	5.6	1.6	22.2					12	5	9	2	25.0	60.0
	R5	BEDROOM	W12	10.0	4.5	5.5	55.0	100.0	100.0	0.0	0.0	18	13	10	5	44.4	61.5
			W13	13.3	7.6	5.7	42.9					23	16	15	8	34.8	50.0
	R6	L/K/D	W14	23.6	17.0	6.6	28.0	100.0	100.0	0.0	0.0	53	18	44	9	17.0	50.0
			W15	29.2	21.7	7.5	25.7					61	24	51	14	16.4	41.7
			W16	5.5	5.1	0.4	7.3					12	5	11	4	8.3	20.0
			W17	0.7	0.7	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	8.2	2.3	5.9	72.0	99.3	80.2	19.1	19.2	11	11	5	5	54.5	54.5
			W19	8.4	2.8	5.6	66.7					12	12	5	5	58.3	58.3
	R8	L/K/D	W20	34.3	26.3	8.0	23.3	100.0	94.5	5.5	5.5	75	27	65	17	13.3	37.0
			W21	35.1	27.3	7.8	22.2					74	28	62	16	16.2	42.9
			W22	5.5	5.5	0.0	0.0					12	5	12	5	0.0	0.0
			W23	2.5	2.5	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	8.1	3.3	4.8	59.3	99.3	87.5	11.8	11.9	11	11	6	6	45.5	45.5
			W25	8.5	2.2	6.3	74.1					12	12	4	4	66.7	66.7
	R10	L/K/D	W26	34.3	27.4	6.9	20.1	100.0	96.3	3.7	3.7	75	27	65	17	13.3	37.0
			W27	35.7	29.1	6.6	18.5					78	29	69	20	11.5	31.0
			W28	5.5	5.5	0.0	0.0					12	5	12	5	0.0	0.0
			W29	1.2	1.2	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	8.2	5.5	2.7	32.9	99.3	96.7	2.6	2.6	11	11	8	8	27.3	27.3
			W31	8.5	3.7	4.8	56.5					12	12	6	6	50.0	50.0
	R12	BEDROOM	W32	34.6	29.4	5.2	15.0	100.0	100.0	0.0	0.0	75	27	69	21	8.0	22.2
			W33	35.8	30.9	4.9	13.7					78	29	71	22	9.0	24.1
			W34	7.2	7.2	0.0	0.0					17	5	17	5	0.0	0.0
	R13	L/K/D	W35	12.2	10.0	2.2	18.0	99.8	99.8	0.0	0.0	18	18	14	14	22.2	22.2
			W36	12.7	8.6	4.1	32.3					19	19	13	13	31.6	31.6
			W37	0.3	0.3	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.3	0.3	0.0	0.0	60.0	60.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	14.0	14.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	11.5	11.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	BEDROOM	W1	21.0	20.6	0.4	1.9	80.2	80.2	0.0	0.0	27	10	27	10	0.0	0.0
	R2	L/K/D	W2	23.8	23.2	0.6	2.5	98.1	97.8	0.3	0.3	35	14	34	13	2.9	7.1
			W3	24.7	24.2	0.5	2.0					31	11	31	11	0.0	0.0
			W4	15.2	11.5	3.7	24.3					23	21	21	19	8.7	9.5
			W5	12.8	10.5	2.3	18.0					20	19	19	18	5.0	5.3
	R3	BEDROOM	W6	8.5	8.1	0.4	4.7	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	34.9	29.8	5.1	14.6					71	27	68	24	4.2	11.1
			W8	34.9	29.5	5.4	15.5					71	27	67	23	5.6	14.8

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R4	L/K/D	W9	36.2	30.2	6.0	16.6	100.0	100.0	0.0	0.0	77	27	72	22	6.5	18.5
			W10	36.2	29.9	6.3	17.4					79	29	73	23	7.6	20.7
			W11	7.3	6.1	1.2	16.4					12	5	10	3	16.7	40.0
	R5	BEDROOM	W12	10.2	5.9	4.3	42.2	100.0	100.0	0.0	0.0	18	13	12	7	33.3	46.2
			W13	13.6	8.8	4.8	35.3					23	16	17	10	26.1	37.5
	R6	L/K/D	W14	23.2	17.9	5.3	22.8	100.0	100.0	0.0	0.0	53	18	48	13	9.4	27.8
			W15	28.9	22.8	6.1	21.1					61	24	54	17	11.5	29.2
			W16	4.9	4.6	0.3	6.1					9	5	8	4	11.1	20.0
			W17	0.7	0.7	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	7.7	3.2	4.5	58.4	99.3	85.5	13.8	13.9	9	9	4	4	55.6	55.6
			W19	8.0	3.4	4.6	57.5					10	10	4	4	60.0	60.0
	R8	L/K/D	W20	33.6	27.3	6.3	18.8	100.0	94.8	5.2	5.2	75	27	67	19	10.7	29.6
			W21	34.4	28.3	6.1	17.7					74	28	65	19	12.2	32.1
			W22	4.9	4.9	0.0	0.0					9	5	9	5	0.0	0.0
			W23	2.4	2.4	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	7.7	4.1	3.6	46.8	99.3	89.8	9.5	9.6	9	9	5	5	44.4	44.4
			W25	8.0	3.1	4.9	61.3					10	10	4	4	60.0	60.0
	R10	L/K/D	W26	33.7	28.2	5.5	16.3	100.0	96.5	3.5	3.5	75	27	68	20	9.3	25.9
			W27	35.0	29.8	5.2	14.9					77	29	71	23	7.8	20.7
			W28	4.9	4.9	0.0	0.0					9	5	9	5	0.0	0.0
			W29	1.3	1.3	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	7.8	5.7	2.1	26.9	99.3	98.3	1.0	1.0	9	9	7	7	22.2	22.2
			W31	8.0	4.3	3.7	46.3					10	10	5	5	50.0	50.0
	R12	BEDROOM	W32	33.9	29.9	4.0	11.8	100.0	100.0	0.0	0.0	75	27	71	23	5.3	14.8
			W33	35.0	31.3	3.7	10.6					77	29	73	25	5.2	13.8
			W34	6.3	6.3	0.0	0.0					13	5	13	5	0.0	0.0
	R13	L/K/D	W35	11.4	9.6	1.8	15.8	99.8	99.8	0.0	0.0	15	15	12	12	20.0	20.0
			W36	11.8	8.6	3.2	27.1					16	16	11	11	31.3	31.3
			W37	0.0	0.0	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.0	0.0	0.0	0.0	58.4	58.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	14.1	14.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	11.7	11.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	BEDROOM	W1	24.1	23.7	0.4	1.7	83.2	83.2	0.0	0.0	28	10	28	10	0.0	0.0
	R2	L/K/D	W2	26.5	25.9	0.6	2.3	98.0	97.7	0.3	0.3	36	14	35	13	2.8	7.1
			W3	27.3	26.8	0.5	1.8					31	11	31	11	0.0	0.0
			W4	15.4	12.4	3.0	19.5					23	21	22	20	4.3	4.8
			W5	13.1	10.8	2.3	17.6					20	19	19	18	5.0	5.3
	R3	BEDROOM	W6	8.5	8.2	0.3	3.5	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	35.1	31.2	3.9	11.1					71	27	70	26	1.4	3.7
			W8	35.1	31.0	4.1	11.7					71	27	70	26	1.4	3.7
	R4	L/K/D	W9	36.4	31.9	4.5	12.4	100.0	100.0	0.0	0.0	77	27	74	24	3.9	11.1
			W10	36.5	31.8	4.7	12.9					79	29	75	25	5.1	13.8
			W11	7.4	6.7	0.7	9.5					12	5	12	5	0.0	0.0
	R5	BEDROOM	W12	10.4	7.3	3.1	29.8	100.0	100.0	0.0	0.0	18	13	16	11	11.1	15.4
			W13	13.8	10.1	3.7	26.8					23	16	19	12	17.4	25.0
	R6	L/K/D	W14	23.4	19.6	3.8	16.2	100.0	100.0	0.0	0.0	53	18	50	15	5.7	16.7
			W15	29.2	24.6	4.6	15.8					61	24	57	20	6.6	16.7
			W16	5.0	4.8	0.2	4.0					9	5	9	5	0.0	0.0
			W17	0.9	0.9	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	7.9	4.7	3.2	40.5	99.3	99.3	0.0	0.0	9	9	6	6	33.3	33.3
			W19	8.1	4.6	3.5	43.2					10	10	5	5	50.0	50.0
	R8	L/K/D	W20	33.9	29.4	4.5	13.3	100.0	97.8	2.2	2.2	75	27	70	22	6.7	18.5
			W21	34.6	30.4	4.2	12.1					74	28	70	24	5.4	14.3
			W22	5.0	5.0	0.0	0.0					9	5	9	5	0.0	0.0
			W23	2.8	2.8	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	7.9	5.4	2.5	31.6	99.3	99.3	0.0	0.0	9	9	7	7	22.2	22.2
			W25	8.1	4.5	3.6	44.4					10	10	6	6	40.0	40.0
	R10	L/K/D	W26	33.9	30.1	3.8	11.2	100.0	99.8	0.2	0.2	75	27	71	23	5.3	14.8

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W27	35.2	31.6	3.6	10.2					77	29	73	25	5.2	13.8
			W28	5.0	5.0	0.0	0.0					9	5	9	5	0.0	0.0
			W29	1.6	1.6	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	7.9	6.4	1.5	19.0	99.3	99.3	0.0	0.0	9	9	8	8	11.1	11.1
			W31	8.2	5.5	2.7	32.9					10	10	7	7	30.0	30.0
	R12	BEDROOM	W32	34.1	31.4	2.7	7.9	100.0	100.0	0.0	0.0	75	27	72	24	4.0	11.1
			W33	35.2	32.7	2.5	7.1					77	29	74	26	3.9	10.3
			W34	6.4	6.4	0.0	0.0					15	5	15	5	0.0	0.0
	R13	L/K/D	W35	11.6	10.2	1.4	12.1	99.8	99.8	0.0	0.0	15	15	13	13	13.3	13.3
			W36	11.9	9.5	2.4	20.2					16	16	13	13	18.8	18.8
			W37	0.0	0.0	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.0	0.0	0.0	0.0	58.8	58.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	15.0	15.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	12.5	12.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	BEDROOM	W1	27.7	27.3	0.4	1.4	96.6	96.6	0.0	0.0	33	10	33	10	0.0	0.0
	R2	L/K/D	W2	29.6	29.1	0.5	1.7	98.1	97.8	0.3	0.3	40	14	39	13	2.5	7.1
			W3	30.1	29.8	0.3	1.0					35	11	35	11	0.0	0.0
			W4	15.6	13.2	2.4	15.4					23	21	22	20	4.3	4.8
			W5	13.2	11.1	2.1	15.9					20	19	19	18	5.0	5.3
	R3	BEDROOM	W6	8.6	8.3	0.3	3.5	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	35.3	32.5	2.8	7.9					71	27	70	26	1.4	3.7
			W8	35.3	32.4	2.9	8.2					71	27	70	26	1.4	3.7
	R4	L/K/D	W9	36.6	33.5	3.1	8.5	100.0	100.0	0.0	0.0	77	27	76	26	1.3	3.7
			W10	36.7	33.5	3.2	8.7					79	29	77	27	2.5	6.9
			W11	7.5	7.2	0.3	4.0					12	5	12	5	0.0	0.0
	R5	BEDROOM	W12	10.6	8.7	1.9	17.9	100.0	100.0	0.0	0.0	18	13	17	12	5.6	7.7
	R6	L/K/D	W13	14.0	11.3	2.7	19.3					23	16	21	14	8.7	12.5
			W14	23.4	21.1	2.3	9.8	100.0	100.0	0.0	0.0	52	18	51	17	1.9	5.6
			W15	28.8	25.9	2.9	10.1					58	24	56	22	3.4	8.3
			W16	5.1	5.0	0.1	2.0					9	5	9	5	0.0	0.0
			W17	1.0	1.0	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	8.1	6.1	2.0	24.7	99.3	99.3	0.0	0.0	9	9	8	8	11.1	11.1
			W19	8.2	5.6	2.6	31.7					10	10	7	7	30.0	30.0
	R8	L/K/D	W20	34.1	31.1	3.0	8.8	100.0	100.0	0.0	0.0	75	27	72	24	4.0	11.1
			W21	34.9	31.9	3.0	8.6					72	27	69	24	4.2	11.1
			W22	5.1	5.1	0.0	0.0					9	5	9	5	0.0	0.0
			W23	3.1	3.1	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	8.0	6.4	1.6	20.0	99.3	99.3	0.0	0.0	9	9	8	8	11.1	11.1
			W25	8.2	5.7	2.5	30.5					10	10	7	7	30.0	30.0
	R10	L/K/D	W26	34.1	31.5	2.6	7.6	100.0	100.0	0.0	0.0	75	27	72	24	4.0	11.1
			W27	35.4	32.9	2.5	7.1					77	29	74	26	3.9	10.3
			W28	5.1	5.1	0.0	0.0					9	5	9	5	0.0	0.0
			W29	1.8	1.8	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	8.1	6.9	1.2	14.8	99.3	99.3	0.0	0.0	9	9	8	8	11.1	11.1
			W31	8.3	6.2	2.1	25.3					10	10	7	7	30.0	30.0
	R12	BEDROOM	W32	34.3	32.1	2.2	6.4	100.0	100.0	0.0	0.0	75	27	72	24	4.0	11.1
			W33	35.5	33.3	2.2	6.2					77	29	74	26	3.9	10.3
			W34	6.5	6.5	0.0	0.0					15	5	15	5	0.0	0.0
	R13	L/K/D	W35	11.8	10.4	1.4	11.9	99.8	99.8	0.0	0.0	15	15	13	13	13.3	13.3
			W36	12.1	10.0	2.1	17.4					16	16	14	14	12.5	12.5
			W37	0.2	0.2	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.2	0.2	0.0	0.0	59.6	59.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	16.0	16.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	13.4	13.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
AILSA WHARF BLOCKS K L																	
F00	R1	L/K/D	W1	34.5	29.6	4.9	14.2	95.0	85.2	9.8	10.3	72	27	66	21	8.3	22.2

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	10.1	10.1	0.0	0.0					0	0	0	0	0.0	0.0
			W3	9.4	9.4	0.0	0.0					0	0	0	0	0.0	0.0
	R2	L/K/D	W4	34.4	29.4	5.0	14.5	93.6	82.3	11.3	12.1	72	27	65	21	9.7	22.2
			W5	11.3	11.3	0.0	0.0					0	0	0	0	0.0	0.0
			W6	11.0	11.0	0.0	0.0					0	0	0	0	0.0	0.0
	R3	L/K/D	W7	11.3	11.3	0.0	0.0	94.8	81.5	13.3	14.0	0	0	0	0	0.0	0.0
			W8	11.4	11.4	0.0	0.0					0	0	0	0	0.0	0.0
			W9	34.4	29.2	5.2	15.1					72	27	66	22	8.3	18.5
	R4	L/K/D	W10	10.0	10.0	0.0	0.0	95.3	79.4	15.9	16.7	0	0	0	0	0.0	0.0
			W11	10.5	10.5	0.0	0.0					0	0	0	0	0.0	0.0
			W12	34.4	28.6	5.8	16.9					72	27	65	21	9.7	22.2
	R5	L/K/D	W13	12.4	12.4	0.0	0.0	18.9	18.9	0.0	0.0	9	0	9	0	0.0	0.0
			W14	11.6	11.6	0.0	0.0					4	0	4	0	0.0	0.0
	R6	BEDROOM	W15	12.3	12.3	0.0	0.0	24.0	24.0	0.0	0.0	9	0	9	0	0.0	0.0
	R7	L/K/D	W16	12.1	12.1	0.0	0.0	14.2	14.2	0.0	0.0	11	1	11	1	0.0	0.0
			W17	13.4	13.4	0.0	0.0					15	0	15	0	0.0	0.0
			W18	13.2	13.2	0.0	0.0					13	0	13	0	0.0	0.0
	R8	BEDROOM	W19	14.4	14.2	0.2	1.4	55.0	55.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	6.6	6.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W21	3.6	3.6	0.0	0.0	40.8	40.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	12.5	12.2	0.3	2.4					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W23	15.3	13.6	1.7	11.1	67.0	67.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W24	14.7	13.1	1.6	10.9					N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W25	16.2	14.2	2.0	12.3	59.6	59.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W26	13.5	8.9	4.6	34.1	96.7	96.6	0.1	0.1	22	18	16	12	27.3	33.3
			W27	12.2	7.7	4.5	36.9					20	18	13	11	35.0	38.9
			W28	17.5	11.4	6.1	34.9					30	24	21	15	30.0	37.5
			W29	18.3	16.0	2.3	12.6					34	9	29	4	14.7	55.6
F01	R1	L/K/D	W1	32.8	28.3	4.5	13.7	97.5	97.5	0.0	0.0	67	27	61	21	9.0	22.2
			W2	32.9	28.2	4.7	14.3					67	27	62	22	7.5	18.5
			W3	18.1	13.8	4.3	23.8					30	24	28	22	6.7	8.3
			W4	19.4	17.7	1.7	8.8					34	9	31	6	8.8	33.3
	R2	BEDROOM	W5	16.9	15.5	1.4	8.3	53.0	53.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W6	16.0	14.7	1.3	8.1	72.6	72.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	15.4	14.2	1.2	7.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	0.0	0.0	0.0	0.0	6.8	6.5	0.3	4.4	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.1	3.4	0.7	17.1	90.4	88.8	1.6	1.8	5	4	5	4	0.0	0.0
			W10	13.6	13.1	0.5	3.7					13	5	13	5	0.0	0.0
			W11	11.9	11.6	0.3	2.5					8	2	8	2	0.0	0.0
F02	R1	L/K/D	W1	33.3	30.1	3.2	9.6	97.5	97.5	0.0	0.0	68	28	63	23	7.4	17.9
			W2	33.3	30.1	3.2	9.6					68	28	64	24	5.9	14.3
			W3	18.5	15.5	3.0	16.2					30	24	28	22	6.7	8.3
			W4	20.6	19.4	1.2	5.8					34	9	31	6	8.8	33.3
	R2	BEDROOM	W5	18.6	17.6	1.0	5.4	54.2	54.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W6	17.9	16.9	1.0	5.6	72.6	72.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	17.3	16.5	0.8	4.6					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	0.1	0.1	0.0	0.0	12.2	12.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	5.8	5.3	0.5	8.6	90.4	90.1	0.3	0.3	9	5	9	5	0.0	0.0
			W10	15.5	15.2	0.3	1.9					14	5	14	5	0.0	0.0
			W11	13.6	13.3	0.3	2.2					9	2	9	2	0.0	0.0
F03	R1	L/K/D	W1	33.6	31.0	2.6	7.7	97.5	97.5	0.0	0.0	68	28	65	25	4.4	10.7
			W2	33.6	30.9	2.7	8.0					68	28	66	26	2.9	7.1
			W3	18.8	16.2	2.6	13.8					30	24	29	23	3.3	4.2
			W4	22.0	21.3	0.7	3.2					32	9	30	7	6.3	22.2
	R2	BEDROOM	W5	19.9	19.2	0.7	3.5	56.2	56.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W6	19.1	18.5	0.6	3.1	72.6	72.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W7	18.6	18.1	0.5	2.7					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	0.0	0.0	0.0	0.0	8.9	8.6	0.3	3.4	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.6	4.2	0.4	8.7	90.5	90.5	0.0	0.0	8	4	8	4	0.0	0.0
			W10	16.9	16.7	0.2	1.2					17	5	17	5	0.0	0.0
			W11	15.0	14.9	0.1	0.7					12	2	12	2	0.0	0.0
ATELIER COURT																	
F00	R1	LIVING ROOM	W1	17.0	3.4	13.6	80.0	98.8	54.3	44.5	45.0	27	8	0	0	100.0	100.0
			W2	21.4	5.2	16.2	75.7					32	11	2	0	93.8	100.0
	R2	BEDROOM	W3	27.3	9.9	17.4	63.7	87.8	23.7	64.1	73.0	33	9	2	0	93.9	100.0
	R3	BEDROOM	W4	26.9	10.1	16.8	62.5	99.7	36.4	63.3	63.5	31	8	3	0	90.3	100.0
			W5	27.1	10.2	16.9	62.4					32	8	3	0	90.6	100.0
	R4	BEDROOM	W6	13.9	3.2	10.7	77.0	98.6	35.4	63.2	64.1	20	3	1	0	95.0	100.0
			W7	13.3	4.4	8.9	66.9					10	0	1	0	90.0	0.0
	R5	L/K/D	W8	25.6	10.7	14.9	58.2	62.5	18.4	44.1	70.6	29	8	4	1	86.2	87.5
			W9	26.7	10.9	15.8	59.2					37	11	9	2	75.7	81.8
	R6	KITCHEN	W10	25.2	10.8	14.4	57.1	58.0	21.0	37.0	63.8	29	8	3	0	89.7	100.0
	R7	LIVING ROOM	W11	17.0	6.6	10.4	61.2	82.0	33.1	48.9	59.6	19	3	2	0	89.5	100.0
F01	R1	LIVING ROOM	W1	15.1	2.3	12.8	84.8	98.8	43.0	55.8	56.5	22	7	0	0	100.0	100.0
			W2	13.1	3.0	10.1	77.1					14	3	1	0	92.9	100.0
	R2	BEDROOM	W3	32.9	13.4	19.5	59.3	98.7	32.4	66.3	67.2	39	10	2	0	94.9	100.0
	R3	BEDROOM	W4	32.6	13.7	18.9	58.0	99.7	47.8	51.9	52.1	38	10	3	0	92.1	100.0
			W5	32.7	13.6	19.1	58.4					38	10	3	0	92.1	100.0
	R4	L/K/D	W6	31.9	14.5	17.4	54.5	97.4	43.3	54.1	55.5	36	10	8	2	77.8	80.0
			W7	11.3	1.8	9.5	84.1					16	4	1	0	93.8	100.0
	R5	BEDROOM	W8	31.7	14.7	17.0	53.6	98.8	32.2	66.6	67.4	36	10	8	2	77.8	80.0
	R6	BEDROOM	W9	31.4	15.2	16.2	51.6	98.0	45.3	52.7	53.8	35	9	6	0	82.9	100.0
	R7	LIVING ROOM	W10	11.9	3.2	8.7	73.1	100.0	54.8	45.2	45.2	17	3	4	0	76.5	100.0
	R8	LIVING ROOM	W11	31.1	15.9	15.2	48.9	99.2	53.2	46.0	46.4	36	8	10	0	72.2	100.0
			W12	7.2	1.4	5.8	80.6					13	4	3	0	76.9	100.0
	R9	BEDROOM	W13	31.3	16.2	15.1	48.2	98.7	35.8	62.9	63.7	37	8	10	0	73.0	100.0
	R10	BEDROOM	W14	31.4	16.3	15.1	48.1	98.2	38.0	60.2	61.3	36	8	10	0	72.2	100.0
	R11	BEDROOM	W15	31.5	16.6	14.9	47.3	99.1	47.0	52.1	52.6	35	8	11	0	68.6	100.0
	R12	BEDROOM	W16	31.8	16.7	15.1	47.5	98.0	46.4	51.6	52.7	37	9	12	0	67.6	100.0
	R13	BEDROOM	W17	32.0	16.7	15.3	47.8	98.1	46.7	51.4	52.4	36	8	13	0	63.9	100.0
	R14	BEDROOM	W18	32.6	16.8	15.8	48.5	98.6	46.3	52.3	53.0	38	9	14	0	63.2	100.0
	R15	LIVING ROOM	W19	16.9	4.7	12.2	72.2	100.0	31.5	68.5	68.5	24	6	7	0	70.8	100.0
	R16	LIVING ROOM	W20	14.6	4.4	10.2	69.9	100.0	29.2	70.8	70.8	22	5	7	0	68.2	100.0
	R17	BEDROOM	W21	33.1	16.8	16.3	49.2	97.2	36.2	61.0	62.8	40	12	14	0	65.0	100.0
	R18	BEDROOM	W22	33.1	16.7	16.4	49.5	97.3	36.8	60.5	62.2	40	11	15	0	62.5	100.0
	R19	BEDROOM	W23	33.2	16.8	16.4	49.4	98.4	34.9	63.5	64.5	40	11	15	0	62.5	100.0
	R20	BEDROOM	W24	33.1	16.6	16.5	49.8	98.6	41.3	57.3	58.1	40	11	15	0	62.5	100.0
	R21	LIVING ROOM	W25	18.7	5.0	13.7	73.3	99.7	43.7	56.0	56.2	26	6	7	0	73.1	100.0
	R22	LIVING ROOM	W26	18.2	4.5	13.7	75.3	100.0	37.9	62.1	62.1	26	6	7	0	73.1	100.0
	R23	BEDROOM	W27	32.8	15.1	17.7	54.0	97.9	30.4	67.5	68.9	39	10	12	0	69.2	100.0
	R24	KITCHEN	W28	33.0	16.4	16.6	50.3	97.9	65.1	32.8	33.5	39	10	11	0	71.8	100.0
	R25	LIVING ROOM	W29	16.2	16.1	0.1	0.6	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	LIVING ROOM	W1	10.2	1.0	9.2	90.2	98.6	49.2	49.4	50.1	16	8	1	1	93.8	87.5
			W2	20.2	3.8	16.4	81.2					27	8	3	1	88.9	87.5
	R2	BEDROOM	W3	35.7	14.5	21.2	59.4	98.7	37.5	61.2	62.0	42	12	3	0	92.9	100.0
	R3	BEDROOM	W4	35.5	14.9	20.6	58.0	99.7	53.3	46.4	46.5	42	12	5	0	88.1	100.0
			W5	35.6	14.8	20.8	58.4					42	12	4	0	90.5	100.0
	R4	L/K/D	W6	35.0	16.2	18.8	53.7	97.4	67.2	30.2	31.0	42	12	10	2	76.2	83.3
			W7	12.3	3.5	8.8	71.5					14	2	2	0	85.7	100.0
	R5	BEDROOM	W8	34.8	16.5	18.3	52.6	98.8	42.3	56.5	57.2	42	12	10	2	76.2	83.3
	R6	BEDROOM	W9	34.6	17.2	17.4	50.3	98.0	63.1	34.9	35.6	41	11	9	0	78.0	100.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	LIVING ROOM	W10	11.1	2.5	8.6	77.5	100.0	93.9	6.1	6.1	14	5	2	0	85.7	100.0
	R8	LIVING ROOM	W11	34.6	18.5	16.1	46.5	99.2	82.2	17.0	17.1	40	10	13	0	67.5	100.0
			W12	14.0	4.9	9.1	65.0					21	5	6	0	71.4	100.0
	R9	BEDROOM	W13	34.8	18.8	16.0	46.0	98.7	71.7	27.0	27.4	40	10	13	0	67.5	100.0
	R10	BEDROOM	W14	35.0	19.0	16.0	45.7	99.1	85.8	13.3	13.4	40	10	13	0	67.5	100.0
	R11	BEDROOM	W15	35.3	19.2	16.1	45.6	99.1	74.8	24.3	24.5	40	10	15	0	62.5	100.0
	R12	BEDROOM	W16	35.4	19.1	16.3	46.0	98.0	60.2	37.8	38.6	41	11	16	0	61.0	100.0
	R13	BEDROOM	W17	35.3	19.0	16.3	46.2	98.1	73.2	24.9	25.4	41	11	16	0	61.0	100.0
	R14	BEDROOM	W18	35.5	18.8	16.7	47.0	98.6	63.3	35.3	35.8	41	11	15	0	63.4	100.0
	R15	LIVING ROOM	W19	14.1	3.8	10.3	73.0	100.0	43.0	57.0	57.0	13	4	0	0	100.0	100.0
	R16	LIVING ROOM	W20	18.8	6.3	12.5	66.5	100.0	28.7	71.3	71.3	20	2	6	0	70.0	100.0
	R17	BEDROOM	W21	35.4	18.8	16.6	46.9	97.2	39.4	57.8	59.5	42	12	18	1	57.1	91.7
	R18	BEDROOM	W22	35.4	18.9	16.5	46.6	97.3	37.9	59.4	61.0	41	11	18	1	56.1	90.9
	R19	BEDROOM	W23	35.5	19.0	16.5	46.5	98.4	41.3	57.1	58.0	41	11	18	1	56.1	90.9
	R20	BEDROOM	W24	35.4	19.0	16.4	46.3	98.6	46.7	51.9	52.6	41	11	18	1	56.1	90.9
	R21	LIVING ROOM	W25	14.6	5.2	9.4	64.4	99.7	76.8	22.9	23.0	13	4	1	0	92.3	100.0
	R22	LIVING ROOM	W26	13.2	4.5	8.7	65.9	100.0	75.4	24.6	24.6	14	5	1	0	92.9	100.0
	R23	BEDROOM	W27	34.8	18.8	16.0	46.0	97.9	41.1	56.8	58.0	40	11	16	0	60.0	100.0
	R24	KITCHEN	W28	34.9	20.0	14.9	42.7	97.9	82.2	15.7	16.0	41	12	15	0	63.4	100.0
	R25	LIVING ROOM	W29	16.7	16.6	0.1	0.6	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	LIVING ROOM	W1	13.0	1.5	11.5	88.5	98.8	47.7	51.1	51.7	20	8	3	1	85.0	87.5
			W2	10.4	1.1	9.3	89.4					17	14	1	1	94.1	92.9
	R2	BEDROOM	W3	30.7	10.4	20.3	66.1	98.7	42.9	55.8	56.5	36	12	2	0	94.4	100.0
	R3	BEDROOM	W4	30.7	10.8	19.9	64.8	99.7	60.6	39.1	39.2	36	12	2	0	94.4	100.0
			W5	30.7	10.6	20.1	65.5					36	12	2	0	94.4	100.0
	R4	L/K/D	W6	31.5	12.7	18.8	59.7	97.4	49.9	47.5	48.8	39	12	8	2	79.5	83.3
	R5	BEDROOM	W7	10.7	1.3	9.4	87.9					17	6	2	0	88.2	100.0
	R5	BEDROOM	W8	31.5	13.0	18.5	58.7	98.8	45.9	52.9	53.5	39	12	8	2	79.5	83.3
	R6	BEDROOM	W9	31.5	13.8	17.7	56.2	98.0	66.6	31.4	32.0	39	12	8	0	79.5	100.0
	R7	LIVING ROOM	W10	12.2	3.3	8.9	73.0	100.0	94.1	5.9	5.9	14	2	5	0	64.3	100.0
	R8	LIVING ROOM	W11	30.6	14.8	15.8	51.6	99.2	86.2	13.0	13.1	36	12	10	0	72.2	100.0
			W12	8.0	2.5	5.5	68.8					13	4	4	0	69.2	100.0
	R9	BEDROOM	W13	30.6	15.1	15.5	50.7	98.7	73.3	25.4	25.7	36	12	9	0	75.0	100.0
	R10	BEDROOM	W14	30.6	15.3	15.3	50.0	99.1	88.0	11.1	11.2	36	12	9	0	75.0	100.0
	R11	BEDROOM	W15	30.7	15.3	15.4	50.2	99.1	73.9	25.2	25.4	36	12	15	2	58.3	83.3
	R12	BEDROOM	W16	30.7	15.0	15.7	51.1	98.0	62.2	35.8	36.5	36	12	15	3	58.3	75.0
	R13	BEDROOM	W17	30.6	14.8	15.8	51.6	98.1	76.2	21.9	22.3	36	12	15	3	58.3	75.0
	R14	BEDROOM	W18	30.7	14.5	16.2	52.8	98.6	67.1	31.5	31.9	36	12	12	1	66.7	91.7
	R15	LIVING ROOM	W19	11.7	3.7	8.0	68.4	100.0	48.3	51.7	51.7	16	8	6	1	62.5	87.5
	R16	LIVING ROOM	W20	19.0	5.1	13.9	73.2	100.0	35.1	64.9	64.9	23	7	5	1	78.3	85.7
	R17	BEDROOM	W21	31.5	15.4	16.1	51.1	97.2	44.3	52.9	54.4	39	12	16	2	59.0	83.3
	R18	BEDROOM	W22	31.4	15.6	15.8	50.3	97.3	40.2	57.1	58.7	39	12	16	2	59.0	83.3
	R19	BEDROOM	W23	31.5	15.8	15.7	49.8	98.4	45.8	52.6	53.5	39	12	16	2	59.0	83.3
	R20	BEDROOM	W24	31.4	16.1	15.3	48.7	98.6	48.9	49.7	50.4	39	12	17	2	56.4	83.3
	R21	LIVING ROOM	W25	18.6	6.4	12.2	65.6	99.7	87.2	12.5	12.5	20	4	4	1	80.0	75.0
	R22	LIVING ROOM	W26	20.0	8.3	11.7	58.5	100.0	95.0	5.0	5.0	24	5	7	1	70.8	80.0
	R23	BEDROOM	W27	35.8	22.4	13.4	37.4	97.9	68.7	29.2	29.8	41	12	17	0	58.5	100.0
	R24	KITCHEN	W28	35.8	23.4	12.4	34.6	97.9	87.0	10.9	11.1	41	12	19	0	53.7	100.0
	R25	LIVING ROOM	W29	12.8	12.8	0.0	0.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	KITCHEN	W1	36.1	23.7	12.4	34.3	94.9	93.1	1.8	1.9	42	12	21	3	50.0	75.0
	R2	KITCHEN	W2	31.0	23.8	7.2	23.2	97.4	90.2	7.2	7.4	67	24	54	13	19.4	45.8
	R3	LIVING ROOM	W3	21.3	9.3	12.0	56.3	100.0	98.1	1.9	1.9	32	13	12	3	62.5	76.9
			W4	34.6	27.0	7.6	22.0					73	27	60	16	17.8	40.7
	R4	BEDROOM	W5	36.1	25.0	11.1	30.7	97.9	70.2	27.7	28.3	41	12	21	1	48.8	91.7
	R5	KITCHEN	W6	36.1	26.0	10.1	28.0	97.9	91.1	6.8	6.9	41	12	23	1	43.9	91.7
	R6	LIVING ROOM	W7	17.7	17.7	0.0	0.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F05	R1	KITCHEN	W1	35.6	28.8	6.8	19.1	97.4	89.6	7.8	8.0	76	29	65	19	14.5	34.5
	R2	LIVING ROOM	W2	13.1	3.0	10.1	77.1	100.0	99.1	0.9	0.9	19	9	3	2	84.2	77.8
			W3	35.7	28.6	7.1	19.9					76	29	64	19	15.8	34.5
	R3	BEDROOM	W4	28.9	19.0	9.9	34.3	97.9	72.7	25.2	25.7	35	12	18	3	48.6	75.0
	R4	KITCHEN	W5	36.2	27.1	9.1	25.1	97.9	94.5	3.4	3.5	41	12	27	3	34.1	75.0
	R5	LIVING ROOM	W6	18.3	18.3	0.0	0.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	KITCHEN	W1	36.5	28.3	8.2	22.5	97.9	97.9	0.0	0.0	41	12	29	4	29.3	66.7
	R2	LIVING ROOM	W2	31.1	24.8	6.3	20.3	100.0	98.8	1.2	1.2	62	24	53	16	14.5	33.3
			W3	14.5	14.5	0.0	0.0					8	0	8	0	0.0	0.0
F07	R1	KITCHEN	W1	36.6	29.4	7.2	19.7	97.9	97.9	0.0	0.0	41	12	31	5	24.4	58.3
	R2	LIVING ROOM	W2	34.6	28.8	5.8	16.8	100.0	98.8	1.2	1.2	73	27	64	19	12.3	29.6
			W3	25.8	25.8	0.0	0.0					8	0	8	0	0.0	0.0
BALFRON TOWER																	
F00	R1	L/K/D	W1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	0.0
			W2	25.2	25.2	0.0	0.0					36	10	36	10	0.0	0.0
	R2	L/K/D	W3	26.2	26.2	0.0	0.0	0.0	0.0	0.0	0.0	36	10	36	10	0.0	0.0
			W4	0.0	0.0	0.0	0.0					0	0	0	0	0.0	0.0
	R3	L/K/D	W5	0.1	0.0	0.1	100.0	0.3	0.3	0.0	0.0	0	0	0	0	0.0	0.0
			W6	26.5	26.5	0.0	0.0					36	10	36	10	0.0	0.0
	R4	L/K/D	W7	26.7	26.7	0.0	0.0	0.1	0.1	0.0	0.0	36	10	36	10	0.0	0.0
			W8	0.1	0.0	0.1	100.0					0	0	0	0	0.0	0.0
	R5	KITCHEN	W9	0.2	0.1	0.1	50.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BEDROOM	W1	31.4	25.4	6.0	19.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	34.3	27.4	6.9	20.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	35.1	28.3	6.8	19.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	34.8	28.2	6.6	19.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	35.3	28.9	6.4	18.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	35.1	29.0	6.1	17.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	35.4	29.5	5.9	16.7	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	35.3	29.6	5.7	16.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	35.4	29.9	5.5	15.5	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	35.3	30.1	5.2	14.7	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	33.6	28.5	5.1	15.2	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	26.1	20.4	5.7	21.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.2	21.5	6.7	23.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	28.5	22.0	6.5	22.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	28.3	22.0	6.3	22.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	28.6	22.5	6.1	21.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	28.4	22.6	5.8	20.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	28.7	23.1	5.6	19.5	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	28.5	23.2	5.3	18.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	28.7	23.6	5.1	17.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	28.6	23.6	5.0	17.5	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	27.8	23.0	4.8	17.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	12.0	12.0	0.0	0.0	100.0	99.6	0.4	0.4	18	7	18	7	0.0	0.0
			W2	0.4	0.0	0.4	100.0					0	0	0	0	0.0	0.0
	R2	L/K/D	W3	0.3	0.0	0.3	100.0	100.0	99.1	0.9	0.9	0	0	0	0	0.0	0.0
			W4	11.6	11.6	0.0	0.0					17	6	17	6	0.0	0.0
	R3	L/K/D	W5	12.2	12.2	0.0	0.0	99.9	99.6	0.3	0.3	18	7	18	7	0.0	0.0
			W6	0.4	0.0	0.4	100.0					0	0	0	0	0.0	0.0
	R4	L/K/D	W7	0.4	0.1	0.3	75.0	100.0	99.9	0.1	0.1	0	0	0	0	0.0	0.0
			W8	11.9	11.9	0.0	0.0					18	6	18	6	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	KITCHEN	W9	0.4	0.1	0.3	75.0	69.0	47.6	21.4	31.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	BEDROOM	W1	32.0	27.2	4.8	15.0	97.1	97.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	35.1	29.3	5.8	16.5	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	36.0	30.3	5.7	15.8	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	35.6	30.2	5.4	15.2	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	36.0	30.8	5.2	14.4	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	35.8	30.9	4.9	13.7	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	36.1	31.3	4.8	13.3	98.8	98.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	35.9	31.4	4.5	12.5	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	36.0	31.7	4.3	11.9	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	36.0	31.9	4.1	11.4	98.8	98.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	34.2	30.2	4.0	11.7	96.2	96.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	BEDROOM	W1	26.5	22.2	4.3	16.2	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.8	23.4	5.4	18.8	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	29.1	23.9	5.2	17.9	98.2	98.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	28.9	24.0	4.9	17.0	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	29.1	24.4	4.7	16.2	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	29.0	24.5	4.5	15.5	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	29.2	24.8	4.4	15.1	98.2	98.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	29.1	25.0	4.1	14.1	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	29.2	25.2	4.0	13.7	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	29.1	25.3	3.8	13.1	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	28.3	24.7	3.6	12.7	97.9	97.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
BROMLEY HALL																	
F00	R1	CLASSROOM	W1	18.7	18.6	0.1	0.5	100.0	100.0	0.0	0.0	6	0	6	0	0.0	0.0
			W2	25.2	24.5	0.7	2.8					31	6	29	4	6.5	33.3
			W3	82.7	81.0	1.7	2.1					79	24	70	16	11.4	33.3
	R2	STORAGE	W4	28.2	28.1	0.1	0.4	98.4	98.4	0.0	0.0	37	13	37	13	0.0	0.0
	R3	STORAGE	W5	29.7	29.7	0.0	0.0	98.4	98.4	0.0	0.0	36	8	36	8	0.0	0.0
	R4	OFFICE	W6	88.9	86.4	2.5	2.8	99.1	99.1	0.0	0.0	89	27	78	17	12.4	37.0
			W7	25.1	24.6	0.5	2.0					3	0	3	0	0.0	0.0
			W8	32.5	32.5	0.0	0.0					42	14	42	14	0.0	0.0
	R5	OFFICE	W9	32.6	32.6	0.0	0.0	92.5	92.5	0.0	0.0	42	14	42	14	0.0	0.0
	R6	STAFF BASE	W10	33.9	33.9	0.0	0.0	99.1	99.1	0.0	0.0	43	13	43	13	0.0	0.0
			W11	22.7	17.3	5.4	23.8					55	13	41	11	25.5	15.4
			W12	89.3	84.6	4.7	5.3					89	27	68	15	23.6	44.4
	R7	PARENT ROOM	W13	19.1	19.1	0.0	0.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W14	26.2	21.3	4.9	18.7					N/A	N/A	N/A	N/A	N/A	N/A
			W15	25.5	21.2	4.3	16.9					N/A	N/A	N/A	N/A	N/A	N/A
	R8	CANTEEN	W16	92.0	87.2	4.8	5.2	100.0	100.0	0.0	0.0	90	27	72	13	20.0	51.9
	R9	ASSEMBLY HALL	W17	63.5	58.2	5.3	8.3	100.0	100.0	0.0	0.0	55	18	34	2	38.2	88.9
			W18	84.6	69.2	15.4	18.2					88	25	58	6	34.1	76.0
			W19	78.2	73.4	4.8	6.1					70	18	48	1	31.4	94.4
			W20	81.2	80.8	0.4	0.5					84	5	63	4	1.6	20.0
	R10	CLASSROOM	W21	27.4	22.8	4.6	16.8	100.0	100.0	0.0	0.0	34	8	19	1	44.1	87.5
			W22	83.2	71.6	11.6	13.9					76	20	35	1	53.9	95.0
			W23	21.6	21.2	0.4	1.9					15	0	13	0	13.3	0.0
			W24	25.0	23.8	1.2	4.8					23	4	24	3	17.2	25.0
			W25	18.4	17.4	1.0	5.4					31	5	24	2	22.6	60.0
	R11	STORAGE	W26	85.0	80.2	4.8	5.6	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W27	28.7	28.3	0.4	1.4					N/A	N/A	N/A	N/A	N/A	N/A
			W28	27.5	27.1	0.4	1.5					N/A	N/A	N/A	N/A	N/A	N/A
			W29	28.8	28.2	0.6	2.1					N/A	N/A	N/A	N/A	N/A	N/A
	R12	STORAGE	W30	84.8	81.5	3.3	3.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W31	29.2	28.6	0.6	2.1					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W32	28.9	28.2	0.7	2.4					N/A	N/A	N/A	N/A	N/A	N/A
			W33	27.8	27.2	0.6	2.2					N/A	N/A	N/A	N/A	N/A	N/A
	R13	CLASSROOM	W34	19.5	19.4	0.1	0.5	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W35	26.0	25.1	0.9	3.5					32	6	31	5	3.1	16.7
			W36	19.5	19.4	0.1	0.5					34	6	33	5	2.9	16.7
			W37	81.7	79.5	2.2	2.7					77	21	68	12	11.7	42.9
			W38	27.8	26.7	1.1	4.0					37	7	33	5	10.8	28.6
	R14	CLASSROOM	W39	19.0	18.8	0.2	1.1	100.0	100.0	0.0	0.0	7	0	7	0	0.0	0.0
			W40	26.1	24.8	1.3	5.0					35	6	35	6	0.0	0.0
			W41	20.5	20.5	0.0	0.0					36	6	36	6	0.0	0.0
			W42	78.0	76.5	1.5	1.9					74	19	68	14	8.1	26.3
			W43	28.9	26.6	2.3	8.0					39	9	34	5	12.8	44.4
	R15	CLASSROOM	W44	22.7	19.7	3.0	13.2	100.0	100.0	0.0	0.0	38	10	26	1	31.6	90.0
			W45	30.0	26.4	3.6	12.0					46	14	32	3	30.4	78.6
			W46	86.8	81.6	5.2	6.0					85	25	73	15	14.1	40.0
	R16	CLASSROOM	W47	87.0	80.1	6.9	7.9	100.0	100.0	0.0	0.0	85	25	68	12	20.0	52.0
			W48	29.5	25.6	3.9	13.2					40	10	26	1	35.0	90.0
			W49	19.6	19.6	0.0	0.0					6	0	6	0	0.0	0.0
	R17	CLASSROOM	W50	29.5	22.4	7.1	24.1	100.0	100.0	0.0	0.0	38	9	15	1	60.5	88.9
			W51	78.3	74.5	3.8	4.9					73	19	51	10	30.1	47.4
			W52	21.7	21.6	0.1	0.5					12	0	12	0	0.0	0.0
			W53	25.4	24.3	1.1	4.3					33	7	28	2	15.2	71.4
			W54	18.0	17.3	0.7	3.9					33	7	30	4	9.1	42.9
	R18	CLASSROOM	W55	28.2	21.2	7.0	24.8	100.0	100.0	0.0	0.0	37	10	16	1	56.8	90.0
			W56	76.6	75.4	1.2	1.6					70	16	55	7	21.4	56.3
			W57	23.8	23.8	0.0	0.0					16	0	16	0	0.0	0.0
			W58	26.3	26.3	0.0	0.0					25	3	25	3	0.0	0.0
	R19	CLASSROOM	W59	21.1	21.1	0.0	0.0					29	3	29	3	0.0	0.0
			W60	24.0	23.7	0.3	1.3	99.8	99.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W61	22.7	22.0	0.7	3.1					N/A	N/A	N/A	N/A	N/A	N/A
			W62	84.3	83.4	0.9	1.1					N/A	N/A	N/A	N/A	N/A	N/A
	R20	STAFF WORK	W63	88.2	86.9	1.3	1.5	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W64	27.1	27.0	0.1	0.4					N/A	N/A	N/A	N/A	N/A	N/A
	R21	CLASSROOM	W65	28.7	26.3	2.4	8.4	100.0	100.0	0.0	0.0	38	8	34	5	10.5	37.5
			W66	78.8	77.6	1.2	1.5					75	18	70	14	6.7	22.2
			W67	20.0	18.9	1.1	5.5					8	0	8	0	0.0	0.0
			W68	28.8	26.9	1.9	6.6					37	4	37	4	0.0	0.0
			W69	24.5	24.4	0.1	0.4					40	7	40	7	0.0	0.0
	R22	CLASSROOM	W70	85.1	84.1	1.0	1.2	99.7	99.5	0.2	0.2	78	18	70	11	10.3	38.9
			W71	22.8	21.9	0.9	3.9					53	8	52	7	1.9	12.5
			W72	23.2	22.8	0.4	1.7					28	5	28	5	0.0	0.0
	R23	CLASSROOM	W73	21.5	11.7	9.8	45.6	98.1	82.2	15.9	16.2	N/A	N/A	N/A	N/A	N/A	N/A
			W74	21.9	12.3	9.6	43.8					N/A	N/A	N/A	N/A	N/A	N/A
			W75	22.0	13.1	8.9	40.5					N/A	N/A	N/A	N/A	N/A	N/A
			W76	69.5	65.2	4.3	6.2					N/A	N/A	N/A	N/A	N/A	N/A
	R24	CLASSROOM	W77	68.9	63.5	5.4	7.8	99.5	95.4	4.1	4.1	N/A	N/A	N/A	N/A	N/A	N/A
			W78	21.3	12.8	8.5	39.9					N/A	N/A	N/A	N/A	N/A	N/A
			W79	21.7	11.7	10.0	46.1					N/A	N/A	N/A	N/A	N/A	N/A
			W80	21.1	11.1	10.0	47.4					N/A	N/A	N/A	N/A	N/A	N/A
	R25	CLASSROOM	W81	0.9	0.9	0.0	0.0	92.5	87.6	4.9	5.3	N/A	N/A	N/A	N/A	N/A	N/A
			W82	1.8	1.8	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W83	69.3	64.6	4.7	6.8					N/A	N/A	N/A	N/A	N/A	N/A
	R26	CLASSROOM	W84	71.9	70.5	1.4	1.9	50.6	50.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W85	1.7	1.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W86	1.0	1.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R27	STORAGE	W87	1.8	1.8	0.0	0.0	27.3	27.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R28	CLASSROOM	W88	3.7	3.4	0.3	8.1	99.9	99.9	0.0	0.0	6	3	6	3	0.0	0.0
			W89	2.3	2.2	0.1	4.3					5	0	5	0	0.0	0.0
			W90	72.4	71.4	1.0	1.4					60	0	55	0	1.7	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R29	CLASSROOM	W91	73.1	72.2	0.9	1.2	100.0	100.0	0.0	0.0	61	0	60	0	1.6	0.0
			W92	6.9	5.3	1.6	23.2					13	4	10	3	23.1	25.0
			W93	4.0	3.1	0.9	22.5					10	6	6	3	40.0	50.0
			W94	3.8	3.4	0.4	10.5					7	4	7	4	0.0	0.0
	R30	KITCHEN	W95	30.0	26.0	4.0	13.3	97.0	97.0	0.0	0.0	36	7	31	3	13.9	57.1
	R31	OFFICE	W96	70.3	66.7	3.6	5.1	100.0	100.0	0.0	0.0	61	0	61	0	0.0	0.0
			W97	29.7	26.4	3.3	11.1					44	13	36	6	18.2	53.8
			W98	31.3	28.0	3.3	10.5					40	11	32	4	20.0	63.6
			W99	31.4	28.0	3.4	10.8					42	12	34	5	19.0	58.3
			W100	72.0	70.3	1.7	2.4					62	0	62	0	0.0	0.0
CARRADALE HOUSE																	
F00	R1	KITCHEN	W1	28.6	26.7	1.9	6.6	100.0	100.0	0.0	0.0	63	19	58	17	7.9	10.5
			W2	8.0	4.5	3.5	43.8					23	4	17	2	26.1	50.0
	R2	LIVING ROOM	W3	9.7	8.8	0.9	9.3	100.0	99.5	0.5	0.5	13	13	11	11	15.4	15.4
	R3	BEDROOM	W4	35.0	20.2	14.8	42.3	100.0	88.6	11.4	11.4	N/A	N/A	N/A	N/A	N/A	N/A
			W5	35.4	20.4	15.0	42.4					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	34.2	19.4	14.8	43.3	99.4	81.6	17.8	17.9	N/A	N/A	N/A	N/A	N/A	N/A
			W7	29.2	17.1	12.1	41.4					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	KITCHEN	W1	29.0	27.1	1.9	6.6	100.0	100.0	0.0	0.0	65	21	61	19	6.2	9.5
			W2	8.2	4.7	3.5	42.7					24	5	19	3	20.8	40.0
	R2	LIVING ROOM	W3	9.8	9.0	0.8	8.2	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	36.6	22.1	14.5	39.6	100.0	88.9	11.1	11.1	N/A	N/A	N/A	N/A	N/A	N/A
			W5	36.7	22.1	14.6	39.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	35.5	20.9	14.6	41.1	100.0	82.9	17.1	17.1	N/A	N/A	N/A	N/A	N/A	N/A
			W7	30.8	18.6	12.2	39.6					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	KITCHEN	W1	29.3	27.6	1.7	5.8	100.0	100.0	0.0	0.0	65	21	61	19	6.2	9.5
			W2	8.4	5.0	3.4	40.5					24	5	20	3	16.7	40.0
	R2	LIVING ROOM	W3	10.0	9.2	0.8	8.0	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	36.9	23.0	13.9	37.7	100.0	90.0	10.0	10.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.0	23.0	14.0	37.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	35.9	21.8	14.1	39.3	100.0	84.1	15.9	15.9	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.0	19.3	11.7	37.7					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	KITCHEN	W1	29.6	28.0	1.6	5.4	100.0	100.0	0.0	0.0	65	21	61	19	6.2	9.5
			W2	8.5	5.4	3.1	36.5					24	5	20	3	16.7	40.0
	R2	LIVING ROOM	W3	10.1	9.4	0.7	6.9	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	37.1	24.0	13.1	35.3	100.0	90.8	9.2	9.2	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.2	23.9	13.3	35.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.1	22.8	13.3	36.8	100.0	84.8	15.2	15.2	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.3	20.2	11.1	35.5					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	KITCHEN	W1	29.8	28.4	1.4	4.7	100.0	100.0	0.0	0.0	65	21	62	19	4.6	9.5
			W2	8.6	5.7	2.9	33.7					24	5	21	3	12.5	40.0
	R2	LIVING ROOM	W3	10.2	9.6	0.6	5.9	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	37.3	24.8	12.5	33.5	100.0	91.9	8.1	8.1	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.4	24.8	12.6	33.7					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.2	23.6	12.6	34.8	100.0	85.7	14.3	14.3	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.4	21.0	10.4	33.1					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	KITCHEN	W1	30.0	28.8	1.2	4.0	100.0	100.0	0.0	0.0	65	21	64	20	1.5	4.8
			W2	8.6	6.1	2.5	29.1					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.3	9.8	0.5	4.9	100.0	99.8	0.2	0.2	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	37.4	25.7	11.7	31.3	100.0	93.4	6.6	6.6	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.5	25.7	11.8	31.5					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.3	24.5	11.8	32.5	100.0	87.0	13.0	13.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W7	31.5	21.8	9.7	30.8					N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	KITCHEN	W1	30.2	29.1	1.1	3.6	100.0	100.0	0.0	0.0	65	21	64	20	1.5	4.8
			W2	8.7	6.5	2.2	25.3					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.4	9.9	0.5	4.8	100.0	99.8	0.2	0.2	14	14	13	13	7.1	7.1
	R3	BEDROOM	W4	37.6	26.7	10.9	29.0	100.0	94.8	5.2	5.2	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.6	26.7	10.9	29.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.5	25.5	11.0	30.1	100.0	89.2	10.8	10.8	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.6	22.7	8.9	28.2					N/A	N/A	N/A	N/A	N/A	N/A
F07	R1	KITCHEN	W1	30.4	29.5	0.9	3.0	100.0	100.0	0.0	0.0	65	21	64	20	1.5	4.8
			W2	8.7	6.8	1.9	21.8					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.5	10.1	0.4	3.8	100.0	100.0	0.0	0.0	14	14	13	13	7.1	7.1
	R3	BEDROOM	W4	37.7	27.7	10.0	26.5	100.0	97.0	3.0	3.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.8	27.6	10.2	27.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.6	26.4	10.2	27.9	100.0	91.4	8.6	8.6	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.7	23.6	8.1	25.6					N/A	N/A	N/A	N/A	N/A	N/A
F08	R1	KITCHEN	W1	30.6	29.8	0.8	2.6	100.0	100.0	0.0	0.0	65	21	65	21	0.0	0.0
			W2	8.7	7.2	1.5	17.2					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.5	10.1	0.4	3.8	100.0	100.0	0.0	0.0	14	14	13	13	7.1	7.1
	R3	BEDROOM	W4	37.8	28.6	9.2	24.3	100.0	98.5	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.8	28.6	9.2	24.3					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.7	27.4	9.3	25.3	100.0	94.6	5.4	5.4	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.8	24.4	7.4	23.3					N/A	N/A	N/A	N/A	N/A	N/A
F09	R1	KITCHEN	W1	30.7	30.1	0.6	2.0	100.0	100.0	0.0	0.0	66	22	66	22	0.0	0.0
			W2	8.8	7.6	1.2	13.6					24	5	24	5	0.0	0.0
	R2	LIVING ROOM	W3	10.5	10.3	0.2	1.9	100.0	100.0	0.0	0.0	14	14	14	14	0.0	0.0
	R3	BEDROOM	W4	37.9	29.6	8.3	21.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	38.0	29.6	8.4	22.1					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.8	28.3	8.5	23.1	100.0	99.0	1.0	1.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.9	25.3	6.6	20.7					N/A	N/A	N/A	N/A	N/A	N/A
F10	R1	KITCHEN	W1	30.9	30.5	0.4	1.3	100.0	100.0	0.0	0.0	67	22	67	22	0.0	0.0
			W2	8.8	7.9	0.9	10.2					24	5	24	5	0.0	0.0
	R2	LIVING ROOM	W3	10.6	10.4	0.2	1.9	100.0	100.0	0.0	0.0	14	14	14	14	0.0	0.0
	R3	BEDROOM	W4	38.0	30.5	7.5	19.7	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	38.1	30.5	7.6	19.9					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.9	29.2	7.7	20.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	32.0	26.1	5.9	18.4					N/A	N/A	N/A	N/A	N/A	N/A
CULLODEN PRIMARY SCHOOL																	
F00	R1	TEACHER ROOM	W1	7.0	6.2	0.8	11.4	0.0	0.0	0.0	0.0	2	2	2	2	0.0	0.0
			W2	7.3	6.2	1.1	15.1					2	2	2	2	0.0	0.0
			W3	0.6	0.6	0.0	0.0					0	0	0	0	0.0	0.0
	R2	OFFICE	W4	9.5	7.7	1.8	18.9	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	OFFICE	W5	9.4	7.2	2.2	23.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STAFF ROOM	W6	28.0	22.8	5.2	18.6	0.2	0.1	0.1	50.0	21	1	18	1	14.3	0.0
			W7	31.5	24.9	6.6	21.0					29	3	26	3	10.3	0.0
			W8	23.0	8.3	14.7	63.9					0	0	1	0	-0.0	0.0
			W9	26.0	10.9	15.1	58.1					0	0	1	0	0.0	0.0
			W10	26.0	11.5	14.5	55.8					0	0	1	0	0.0	0.0
			W11	25.8	12.7	13.1	50.8					1	0	2	0	-100.0	0.0
			W12	30.3	30.3	0.0	0.0					56	24	56	24	0.0	0.0
			W13	30.5	30.5	0.0	0.0					56	24	56	24	0.0	0.0
			W14	20.4	20.4	0.0	0.0					30	7	30	7	0.0	0.0
			W15	7.9	6.1	1.8	22.8					2	2	2	2	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	OFFICE	W16	17.9	3.4	14.5	81.0	0.3	0.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	OFFICE	W17	18.4	3.1	15.3	83.2	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	OFFICE	W18	18.2	3.2	15.0	82.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W19	18.3	3.1	15.2	83.1					N/A	N/A	N/A	N/A	N/A	N/A
	R8	OFFICE	W20	18.2	3.5	14.7	80.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	OFFICE	W21	17.6	4.3	13.3	75.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	17.9	3.9	14.0	78.2					N/A	N/A	N/A	N/A	N/A	N/A
	R10	OFFICE	W23	16.1	4.8	11.3	70.2	0.2	0.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	OFFICE	W24	12.5	8.3	4.2	33.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	KITCHEN	W25	22.1	12.9	9.2	41.6	16.0	13.5	2.5	15.6	N/A	N/A	N/A	N/A	N/A	N/A
			W26	24.2	15.1	9.1	37.6					N/A	N/A	N/A	N/A	N/A	N/A
			W27	26.9	9.8	17.1	63.6					N/A	N/A	N/A	N/A	N/A	N/A
	R13	MAIN HALL	W28	28.3	11.3	17.0	60.1	50.1	28.3	21.8	43.5	31	4	12	1	61.3	75.0
			W29	24.5	12.0	12.5	51.0					3	0	0	0	100.0	0.0
			W30	25.3	12.9	12.4	49.0					4	0	0	0	100.0	0.0
			W31	26.1	13.8	12.3	47.1					4	0	0	0	100.0	0.0
			W32	26.9	14.7	12.2	45.4					4	0	0	0	100.0	0.0
			W33	27.4	15.3	12.1	44.2					3	0	0	0	100.0	0.0
			W34	27.9	15.9	12.0	43.0					3	0	0	0	100.0	0.0
			W35	28.4	16.5	11.9	41.9					5	0	1	0	80.0	0.0
			W36	28.9	16.9	12.0	41.5					5	0	2	0	60.0	0.0
			W37	29.2	17.3	11.9	40.8					5	0	2	0	60.0	0.0
			W38	15.4	10.3	5.1	33.1					0	0	0	0	0.0	0.0
			W39	29.8	17.8	12.0	40.3					5	0	3	0	40.0	0.0
			W40	22.0	15.5	6.5	29.5					27	10	25	10	7.4	0.0
			W41	10.5	9.5	1.0	9.5					4	0	4	0	0.0	0.0
			W42	10.6	6.5	4.1	38.7					15	7	13	7	13.3	0.0
			W43	10.5	6.5	4.0	38.1					15	7	13	7	13.3	0.0
			W44	10.5	6.5	4.0	38.1					15	7	13	7	13.3	0.0
			W45	10.5	6.6	3.9	37.1					16	7	13	7	18.8	0.0
			W46	10.5	6.6	3.9	37.1					16	7	13	7	18.8	0.0
			W47	10.5	6.7	3.8	36.2					15	7	12	7	20.0	0.0
			W48	10.6	6.8	3.8	35.8					14	7	12	7	14.3	0.0
			W49	10.6	6.9	3.7	34.9					14	7	12	7	14.3	0.0
			W50	10.6	7.0	3.6	34.0					15	7	14	7	6.7	0.0
			W51	10.6	7.1	3.5	33.0					14	7	13	7	7.1	0.0
			W52	10.7	7.2	3.5	32.7					14	7	13	7	7.1	0.0
			W53	21.8	17.2	4.6	21.1					31	15	30	15	3.2	0.0
			W54	24.5	23.6	0.9	3.7					52	29	49	27	5.8	6.9
			W55	23.5	22.7	0.8	3.4					45	29	42	27	6.7	6.9
			W56	22.6	21.8	0.8	3.5					44	29	41	27	6.8	6.9
			W57	21.7	20.9	0.8	3.7					41	29	38	27	7.3	6.9
			W58	20.8	20.0	0.8	3.8					38	29	36	27	5.3	6.9
			W59	19.9	19.0	0.9	4.5					36	29	34	27	5.6	6.9
			W60	19.0	18.0	1.0	5.3					35	29	33	27	5.7	6.9
			W61	17.8	16.9	0.9	5.1					30	29	28	27	6.7	6.9
			W62	16.7	15.8	0.9	5.4					29	29	27	27	6.9	6.9
			W63	15.3	14.7	0.6	3.9					27	27	27	27	0.0	0.0
	R14	OFFICE	W64	22.8	13.7	9.1	39.9	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	OFFICE	W65	23.7	2.1	21.6	91.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	OFFICE	W66	23.8	2.3	21.5	90.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NURSERY	W67	0.9	0.9	0.0	0.0	46.3	45.7	0.6	1.3	0	0	0	0	0.0	0.0
			W68	1.7	1.7	0.0	0.0					2	2	2	2	0.0	0.0
			W69	1.3	1.3	0.0	0.0					0	0	0	0	0.0	0.0
			W70	1.6	1.6	0.0	0.0					0	0	0	0	0.0	0.0
			W71	1.0	1.0	0.0	0.0					0	0	0	0	0.0	0.0
			W72	2.2	1.4	0.8	36.4					2	0	0	0	100.0	0.0
			W73	2.3	0.7	1.6	69.6					3	1	1	1	66.7	0.0
			W74	21.7	0.9	20.8	95.9					19	2	1	0	94.7	100.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W75	17.1	0.0	17.1	100.0					16	3	0	0	100.0	100.0
			W76	29.6	15.3	14.3	48.3					0	0	0	0	0.0	0.0
	R18	NURSERY	W77	2.2	2.2	0.0	0.0	40.3	3.1	37.2	92.3	4	4	4	4	0.0	0.0
			W78	1.5	1.4	0.1	6.7					1	1	1	1	0.0	0.0
	R19	RECEPTION	W79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	0.0
			W80	0.0	0.0	0.0	0.0					1	1	1	1	0.0	0.0
			W81	0.2	0.2	0.0	0.0					0	0	0	0	0.0	0.0
	R20	RECEPTION	W82	29.6	18.2	11.4	38.5	19.8	17.1	2.7	13.6	N/A	N/A	N/A	N/A	N/A	N/A
			W83	29.4	17.7	11.7	39.8					N/A	N/A	N/A	N/A	N/A	N/A
			W84	27.6	17.5	10.1	36.6					N/A	N/A	N/A	N/A	N/A	N/A
			W85	10.5	10.1	0.4	3.8					N/A	N/A	N/A	N/A	N/A	N/A
	R21	RECEPTION	W86	0.3	0.3	0.0	0.0	0.8	0.8	0.0	0.0	0	0	0	0	0.0	0.0
			W87	1.8	1.7	0.1	5.6					3	2	3	2	0.0	0.0
			W88	3.1	3.0	0.1	3.2					7	4	7	4	0.0	0.0
			W89	28.7	19.4	9.3	32.4					32	5	23	5	28.1	0.0
			W90	26.2	18.1	8.1	30.9					35	7	25	7	28.6	0.0
DEWBERRY STREET 16-46																	
F00	R1	BED (ASSUMED)	W1	22.6	22.6	0.0	0.0	86.3	86.3	0.0	0.0	40	11	40	11	0.0	0.0
	R2	BED (ASSUMED)	W2	25.3	25.3	0.0	0.0	88.6	88.6	0.0	0.0	46	14	46	14	0.0	0.0
	R3	UNKNOWN	W3	27.8	23.4	4.4	15.8	95.3	95.3	0.0	0.0	61	23	52	19	14.8	17.4
	R4	LIVING (ASSUMED)	W4	14.5	14.5	0.0	0.0	100.0	100.0	0.0	0.0	32	12	32	12	0.0	0.0
			W5	32.6	25.7	6.9	21.2					67	23	53	19	20.9	17.4
			W6	32.9	25.7	7.2	21.9					67	23	50	18	25.4	21.7
			W7	12.5	8.2	4.3	34.4					12	0	3	0	75.0	0.0
	R5	BED (ASSUMED)	W8	27.4	20.2	7.2	26.3	97.8	97.8	0.0	0.0	49	15	31	10	36.7	33.3
	R6	BED (ASSUMED)	W9	27.2	22.6	4.6	16.9	98.2	98.2	0.0	0.0	55	23	46	18	16.4	21.7
	R7	LIVING (ASSUMED)	W10	11.5	11.5	0.0	0.0	100.0	100.0	0.0	0.0	23	11	23	11	0.0	0.0
			W11	34.1	26.2	7.9	23.2					67	23	49	18	26.9	21.7
			W12	34.3	26.2	8.1	23.6					67	23	50	18	25.4	21.7
			W13	17.8	11.4	6.4	36.0					13	0	3	0	76.9	0.0
	R8	UNKNOWN	W14	29.6	21.4	8.2	27.7	96.1	93.7	2.4	2.5	50	15	32	10	36.0	33.3
	R9	BED (ASSUMED)	W15	32.9	25.5	7.4	22.5	98.3	90.3	8.0	8.1	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	30.1	23.3	6.8	22.6	95.4	80.6	14.8	15.5	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	30.4	24.1	6.3	20.7	94.1	94.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	28.9	28.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	28.0	28.0	0.0	0.0	94.3	94.3	0.0	0.0	47	15	47	15	0.0	0.0
	R2	BED (ASSUMED)	W2	30.4	30.4	0.0	0.0	97.7	97.7	0.0	0.0	54	19	54	19	0.0	0.0
	R3	UNKNOWN	W3	29.4	24.8	4.6	15.6	95.3	95.3	0.0	0.0	61	23	53	20	13.1	13.0
	R4	LIVING (ASSUMED)	W4	16.4	16.4	0.0	0.0	100.0	100.0	0.0	0.0	34	14	34	14	0.0	0.0
			W5	34.0	27.0	7.0	20.6					67	23	54	19	19.4	17.4
			W6	34.1	26.9	7.2	21.1					67	23	51	18	23.9	21.7
			W7	12.9	8.7	4.2	32.6					12	0	4	0	66.7	0.0
	R5	BED (ASSUMED)	W8	28.1	20.8	7.3	26.0	97.8	97.8	0.0	0.0	49	15	32	10	34.7	33.3
	R6	BED (ASSUMED)	W9	28.0	23.5	4.5	16.1	98.2	98.2	0.0	0.0	55	23	46	18	16.4	21.7
	R7	LIVING (ASSUMED)	W10	12.4	12.4	0.0	0.0	100.0	100.0	0.0	0.0	24	12	24	12	0.0	0.0
			W11	34.4	26.6	7.8	22.7					67	23	49	18	26.9	21.7
			W12	34.5	26.5	8.0	23.2					67	23	50	18	25.4	21.7
			W13	17.9	11.7	6.2	34.6					13	0	3	0	76.9	0.0
	R8	UNKNOWN	W14	30.0	21.8	8.2	27.3	96.1	93.7	2.4	2.5	50	15	33	11	34.0	26.7
	R9	BED (ASSUMED)	W15	33.4	26.2	7.2	21.6	98.3	91.4	6.9	7.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	30.5	23.8	6.7	22.0	95.4	82.3	13.1	13.7	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	30.7	24.6	6.1	19.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	32.1	32.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BED (ASSUMED)	W1	31.3	31.3	0.0	0.0	94.3	94.3	0.0	0.0	53	18	53	18	0.0	0.0
	R2	BED (ASSUMED)	W2	33.9	33.9	0.0	0.0	97.7	97.7	0.0	0.0	59	21	59	21	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R3	UNKNOWN	W3	30.1	25.6	4.5	15.0	95.3	95.3	0.0	0.0	61	23	53	20	13.1	13.0
	R4	LIVING (ASSUMED)	W4	17.8	17.8	0.0	0.0	100.0	100.0	0.0	0.0	36	16	36	16	0.0	0.0
			W5	34.8	27.9	6.9	19.8					67	23	55	20	17.9	13.0
			W6	34.8	27.7	7.1	20.4					67	23	52	19	22.4	17.4
			W7	13.8	9.8	4.0	29.0					12	0	4	0	66.7	0.0
	R5	BED (ASSUMED)	W8	28.5	21.4	7.1	24.9	97.8	97.8	0.0	0.0	49	15	33	11	32.7	26.7
	R6	BED (ASSUMED)	W9	28.5	24.1	4.4	15.4	98.2	98.2	0.0	0.0	55	23	47	19	14.5	17.4
	R7	LIVING (ASSUMED)	W10	13.8	13.8	0.0	0.0	100.0	100.0	0.0	0.0	27	12	27	12	0.0	0.0
			W11	34.9	27.4	7.5	21.5					67	23	51	19	23.9	17.4
			W12	34.9	27.1	7.8	22.3					67	23	52	19	22.4	17.4
			W13	17.9	11.9	6.0	33.5					13	0	5	0	61.5	0.0
	R8	UNKNOWN	W14	30.2	22.3	7.9	26.2	96.1	93.7	2.4	2.5	50	15	35	11	30.0	26.7
	R9	BED (ASSUMED)	W15	33.7	26.8	6.9	20.5	98.3	93.7	4.6	4.7	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	30.8	24.4	6.4	20.8	95.4	85.1	10.3	10.8	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	31.0	25.2	5.8	18.7	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	33.7	33.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	BED (ASSUMED)	W1	32.1	32.1	0.0	0.0	94.3	94.3	0.0	0.0	53	18	53	18	0.0	0.0
	R2	BED (ASSUMED)	W2	34.9	34.9	0.0	0.0	97.7	97.7	0.0	0.0	59	21	59	21	0.0	0.0
	R3	UNKNOWN	W3	26.5	22.0	4.5	17.0	96.1	96.1	0.0	0.0	52	23	44	20	15.4	13.0
	R4	LIVING (ASSUMED)	W4	16.2	16.2	0.0	0.0	100.0	100.0	0.0	0.0	32	16	32	16	0.0	0.0
			W5	35.0	28.3	6.7	19.1					67	23	55	20	17.9	13.0
			W6	35.0	28.2	6.8	19.4					67	23	53	20	20.9	13.0
			W7	14.0	10.2	3.8	27.1					12	0	4	0	66.7	0.0
	R5	BED (ASSUMED)	W8	25.2	18.3	6.9	27.4	98.7	98.7	0.0	0.0	49	14	34	11	30.6	21.4
	R6	BED (ASSUMED)	W9	25.2	20.9	4.3	17.1	98.2	98.2	0.0	0.0	49	23	40	19	18.4	17.4
	R7	LIVING (ASSUMED)	W10	14.1	14.1	0.0	0.0	100.0	100.0	0.0	0.0	28	12	28	12	0.0	0.0
			W11	35.1	27.7	7.4	21.1					67	23	51	19	23.9	17.4
			W12	35.1	27.5	7.6	21.7					67	23	52	19	22.4	17.4
			W13	15.9	10.3	5.6	35.2					13	0	5	0	61.5	0.0
	R8	UNKNOWN	W14	26.5	18.7	7.8	29.4	96.9	93.7	3.2	3.3	50	15	35	11	30.0	26.7
	R9	BED (ASSUMED)	W15	34.0	27.3	6.7	19.7	98.3	96.6	1.7	1.7	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	31.1	25.0	6.1	19.6	95.4	89.1	6.3	6.6	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	29.1	23.5	5.6	19.2	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	34.9	34.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
DEWBERRY STREET 2-14																	
F00	R1	BED (ASSUMED)	W1	16.1	15.6	0.5	3.1	33.1	33.1	0.0	0.0	44	10	44	10	0.0	0.0
	R2	UNKNOWN	W2	1.5	1.4	0.1	6.7	22.1	22.1	0.0	0.0	6	6	5	5	16.7	16.7
	R3	L/K/D	W3	28.4	28.2	0.2	0.7	87.7	87.7	0.0	0.0	7	0	7	0	0.0	0.0
			W4	2.4	1.4	1.0	41.7					10	5	7	5	30.0	0.0
			W5	3.4	2.1	1.3	38.2					11	4	9	4	18.2	0.0
	R4	UNKNOWN	W6	23.1	21.1	2.0	8.7	84.6	84.6	0.0	0.0	54	6	50	6	7.4	0.0
	R5	L/K/D	W7	25.9	25.9	0.0	0.0	99.6	99.6	0.0	0.0	8	0	8	0	0.0	0.0
			W8	25.2	23.6	1.6	6.3					52	8	51	8	1.9	0.0
			W9	24.5	23.9	0.6	2.4					57	12	57	12	0.0	0.0
	R6	UNKNOWN	W10	23.2	21.4	1.8	7.8	93.3	93.3	0.0	0.0	49	14	47	14	4.1	0.0
	R7	L/K/D	W11	27.6	27.4	0.2	0.7	99.6	99.6	0.0	0.0	7	0	7	0	0.0	0.0
			W12	27.1	25.8	1.3	4.8					56	15	55	15	1.8	0.0
			W13	27.1	26.3	0.8	3.0					62	18	61	18	1.6	0.0
	R8	L/K/D	W14	27.4	27.2	0.2	0.7	99.4	99.4	0.0	0.0	7	0	7	0	0.0	0.0
			W15	22.2	21.6	0.6	2.7					47	10	46	10	2.1	0.0
			W16	25.6	25.3	0.3	1.2					61	16	61	16	0.0	0.0
	R9	UNKNOWN	W17	20.1	20.1	0.0	0.0	90.9	90.9	0.0	0.0	48	18	48	18	0.0	0.0
	R10	LIVING (ASSUMED)	W18	49.7	47.7	2.0	4.0	100.0	100.0	0.0	0.0	51	9	50	9	2.0	0.0
			W19	62.5	62.5	0.0	0.0					71	21	71	21	0.0	0.0
			W20	22.6	22.6	0.0	0.0					45	15	45	15	0.0	0.0
			W21	71.8	71.0	0.8	1.1					69	19	67	19	2.9	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W22	19.9	19.8	0.1	0.5					46	13	44	13	4.3	0.0
	R11	UNKNOWN	W23	14.2	13.8	0.4	2.8	60.4	56.3	4.1	6.8	34	15	32	15	5.9	0.0
	R12	UNKNOWN	W24	16.8	14.9	1.9	11.3	46.2	46.2	0.0	0.0	38	6	31	4	18.4	33.3
	R13	L/K/D	W25	26.9	26.7	0.2	0.7	78.4	76.9	1.5	1.9	8	0	8	0	0.0	0.0
			W26	19.1	17.9	1.2	6.3					39	6	35	6	10.3	0.0
			W27	15.8	15.4	0.4	2.5					35	8	35	8	0.0	0.0
	R14	UNKNOWN	W28	23.0	20.2	2.8	12.2	80.0	80.0	0.0	0.0	52	12	46	10	11.5	16.7
	R15	L/K/D	W29	26.9	26.7	0.2	0.7	98.7	98.5	0.2	0.2	5	0	5	0	0.0	0.0
			W30	13.2	11.3	1.9	14.4					31	10	28	10	9.7	0.0
			W31	11.7	11.1	0.6	5.1					27	11	24	11	11.1	0.0
F01	R1	BED (ASSUMED)	W1	21.1	19.4	1.7	8.1	45.5	45.5	0.0	0.0	56	15	51	14	8.9	6.7
	R2	BED (ASSUMED)	W2	24.3	21.7	2.6	10.7	84.3	84.3	0.0	0.0	59	17	54	16	8.5	5.9
	R3	BED (ASSUMED)	W3	27.1	24.5	2.6	9.6	98.0	98.0	0.0	0.0	63	21	59	20	6.3	4.8
	R4	BED (ASSUMED)	W4	28.1	25.8	2.3	8.2	98.0	98.0	0.0	0.0	62	21	58	20	6.5	4.8
	R5	BED (ASSUMED)	W5	27.5	25.9	1.6	5.8	98.0	98.0	0.0	0.0	64	24	61	23	4.7	4.2
	R6	BED (ASSUMED)	W6	27.0	25.1	1.9	7.0	98.8	98.8	0.0	0.0	62	22	59	22	4.8	0.0
	R7	BED (ASSUMED)	W7	21.7	20.7	1.0	4.6	90.2	89.4	0.8	0.9	46	18	45	17	2.2	5.6
	R8	BED (ASSUMED)	W8	26.4	23.6	2.8	10.6	95.7	94.9	0.8	0.8	57	24	51	21	10.5	12.5
F02	R1	BED (ASSUMED)	W1	33.7	30.9	2.8	8.3	97.9	97.9	0.0	0.0	72	25	67	24	6.9	4.0
			W2	33.9	31.4	2.5	7.4					77	28	74	27	3.9	3.6
			W3	34.4	31.4	3.0	8.7					76	28	71	27	6.6	3.6
	R2	BED (ASSUMED)	W4	33.6	30.2	3.4	10.1	96.8	96.8	0.0	0.0	75	27	68	25	9.3	7.4
			W5	33.7	30.1	3.6	10.7					75	28	68	25	9.3	10.7
DEVONS WHARF																	
F00	R1	L/K/D	W1	24.3	22.9	1.4	5.8	78.5	74.9	3.6	4.6	21	4	17	2	19.0	50.0
			W2	20.8	17.6	3.2	15.4					38	8	34	6	10.5	25.0
	R2	L/K/D	W3	25.1	21.4	3.7	14.7	96.5	93.4	3.1	3.2	29	5	25	3	13.8	40.0
			W4	27.0	23.2	3.8	14.1					28	4	24	2	14.3	50.0
			W5	27.5	23.7	3.8	13.8					29	5	25	3	13.8	40.0
	R3	L/K/D	W6	29.3	26.4	2.9	9.9	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	28.6	25.6	3.0	10.5					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	26.8	24.4	2.4	9.0	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	23.1	21.0	2.1	9.1	84.6	79.4	5.2	6.1	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W10	13.9	10.9	3.0	21.6	83.7	77.5	6.2	7.4	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W11	14.2	10.4	3.8	26.8	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W12	15.8	11.8	4.0	25.3	99.4	99.4	0.0	0.0	23	3	11	0	52.2	100.0
			W13	30.8	25.2	5.6	18.2					70	22	56	17	20.0	22.7
	R9	BEDROOM	W14	30.5	24.7	5.8	19.0	98.9	87.6	11.3	11.4	68	21	55	17	19.1	19.0
M00	R1	BEDROOM	W1	0.2	0.1	0.1	50.0	74.7	42.6	32.1	43.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	0.2	0.1	0.1	50.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	0.5	0.1	0.4	80.0	99.0	97.1	1.9	1.9	2	2	0	0	100.0	100.0
			W4	13.5	8.1	5.4	40.0					19	18	10	10	47.4	44.4
			W5	20.4	14.5	5.9	28.9					35	23	24	16	31.4	30.4
	R3	BEDROOM	W6	13.4	8.0	5.4	40.3	95.5	93.1	2.4	2.5	19	17	11	11	42.1	35.3
	R4	L/K/D	W7	19.9	14.1	5.8	29.1	99.7	72.4	27.3	27.4	38	25	28	19	26.3	24.0
	R5	L/K/D	W8	12.9	8.0	4.9	38.0	98.5	98.5	0.0	0.0	18	16	12	12	33.3	25.0
			W9	20.7	15.8	4.9	23.7					44	26	36	21	18.2	19.2
			W10	22.6	22.6	0.0	0.0					34	14	34	14	0.0	0.0
	R6	BEDROOM	W11	6.7	6.7	0.0	0.0	33.7	33.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W12	11.7	11.7	0.0	0.0	45.5	45.5	0.0	0.0	9	0	9	0	0.0	0.0
	R8	BEDROOM	W13	10.3	10.3	0.0	0.0	21.6	21.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W14	13.9	13.4	0.5	3.6	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	L/K/D	W15	19.6	17.6	2.0	10.2	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	11.5	9.6	1.9	16.5					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R11	BEDROOM	W17	29.1	26.4	2.7	9.3	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W18	12.0	9.3	2.7	22.5	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W19	21.5	18.6	2.9	13.5					N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W20	10.0	8.2	1.8	18.0	85.7	83.8	1.9	2.2	N/A	N/A	N/A	N/A	N/A	N/A
	R14	L/K/D	W21	33.9	30.9	3.0	8.8	99.0	99.0	0.0	0.0	29	6	27	4	6.9	33.3
			W22	33.9	30.8	3.1	9.1					29	6	26	4	10.3	33.3
			W23	8.8	5.7	3.1	35.2					20	6	17	4	15.0	33.3
	R15	L/K/D	W24	34.4	34.4	0.0	0.0	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W25	34.5	34.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W26	14.2	13.1	1.1	7.7					N/A	N/A	N/A	N/A	N/A	N/A
			W27	9.2	9.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W28	33.9	31.0	2.9	8.6					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	34.8	34.8	0.0	0.0	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.9	34.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	15.5	13.8	1.7	11.0					N/A	N/A	N/A	N/A	N/A	N/A
			W4	9.4	9.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W5	35.5	32.0	3.5	9.9					N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W6	35.5	31.9	3.6	10.1	99.0	99.0	0.0	0.0	31	6	29	4	6.5	33.3
			W7	35.5	31.9	3.6	10.1					31	6	28	4	9.7	33.3
			W8	9.2	5.9	3.3	35.9					21	6	18	4	14.3	33.3
	R3	BEDROOM	W9	11.4	8.9	2.5	21.9	85.7	83.8	1.9	2.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W10	13.3	9.9	3.4	25.6	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	22.9	19.5	3.4	14.8					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W12	30.7	27.4	3.3	10.7	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	20.9	18.6	2.3	11.0	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W14	12.7	10.4	2.3	18.1					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W15	14.8	14.0	0.8	5.4	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W16	10.2	10.2	0.0	0.0	98.4	97.0	1.4	1.4	N/A	N/A	N/A	N/A	N/A	N/A
			W17	16.5	12.7	3.8	23.0					N/A	N/A	N/A	N/A	N/A	N/A
			W18	15.8	13.3	2.5	15.8					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W19	21.3	17.1	4.2	19.7	93.5	85.5	8.0	8.6	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	21.4	17.0	4.4	20.6	96.9	96.5	0.4	0.4	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	22.5	16.8	5.7	25.3	100.0	89.1	10.9	10.9	20	6	5	0	75.0	100.0
			W22	22.4	17.3	5.1	22.8					15	2	4	0	73.3	100.0
			W23	22.5	16.7	5.8	25.8					41	25	31	17	24.4	32.0
			W24	22.6	15.9	6.7	29.6					42	22	29	14	31.0	36.4
			W25	10.1	9.8	0.3	3.0					21	14	21	14	0.0	0.0
	R12	BEDROOM	W26	17.3	12.8	4.5	26.0	99.0	97.0	2.0	2.0	29	22	23	16	20.7	27.3
	R13	BEDROOM	W27	21.3	15.2	6.1	28.6	96.8	94.9	1.9	2.0	35	24	24	16	31.4	33.3
	R14	BEDROOM	W28	20.8	14.7	6.1	29.3	98.0	95.9	2.1	2.1	35	22	24	15	31.4	31.8
	R15	L/K/D	W29	10.5	6.1	4.4	41.9	98.1	54.9	43.2	44.0	27	6	15	1	44.4	83.3
			W30	20.8	15.9	4.9	23.6					38	22	31	16	18.4	27.3
	R16	L/K/D	W31	20.2	15.5	4.7	23.3	99.7	99.7	0.0	0.0	34	24	28	19	17.6	20.8
			W32	21.3	16.0	5.3	24.9					35	24	28	19	20.0	20.8
			W33	21.9	16.8	5.1	23.3					38	25	32	20	15.8	20.0
			W34	23.4	18.2	5.2	22.2					46	25	40	21	13.0	16.0
			W35	25.5	25.4	0.1	0.4					38	14	38	14	0.0	0.0
	R17	BEDROOM	W36	7.6	7.6	0.0	0.0	41.5	41.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W37	14.3	14.3	0.0	0.0	56.4	56.4	0.0	0.0	14	0	14	0	0.0	0.0
	R19	BEDROOM	W38	12.1	12.1	0.0	0.0	28.3	28.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	35.2	35.2	0.0	0.0	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.2	35.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	16.4	14.2	2.2	13.4					N/A	N/A	N/A	N/A	N/A	N/A
			W4	9.5	9.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W5	36.6	32.6	4.0	10.9					N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W6	36.7	32.5	4.2	11.4	99.0	99.0	0.0	0.0	31	6	29	4	6.5	33.3
			W7	36.7	32.5	4.2	11.4					31	6	28	4	9.7	33.3

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W8	9.5	6.2	3.3	34.7					21	6	18	4	14.3	33.3
	R3	BEDROOM	W9	12.2	9.3	2.9	23.8	85.7	83.8	1.9	2.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W10	14.1	10.3	3.8	27.0	96.4	96.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	24.2	20.2	4.0	16.5					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W12	31.6	27.9	3.7	11.7	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	22.0	19.2	2.8	12.7	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W14	13.5	10.8	2.7	20.0					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W15	15.6	14.5	1.1	7.1	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W16	10.8	10.8	0.0	0.0	98.4	97.5	0.9	0.9	N/A	N/A	N/A	N/A	N/A	N/A
			W17	17.5	13.2	4.3	24.6					N/A	N/A	N/A	N/A	N/A	N/A
			W18	16.7	13.7	3.0	18.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W19	23.0	18.4	4.6	20.0	93.5	85.8	7.7	8.2	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	23.0	18.3	4.7	20.4	96.9	96.5	0.4	0.4	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	24.2	18.3	5.9	24.4	100.0	89.4	10.6	10.6	21	6	7	0	66.7	100.0
			W22	24.1	18.8	5.3	22.0					15	2	5	0	66.7	100.0
			W23	22.8	17.2	5.6	24.6					41	25	31	17	24.4	32.0
			W24	22.9	16.5	6.4	27.9					42	22	29	14	31.0	36.4
			W25	10.2	9.9	0.3	2.9					21	14	21	14	0.0	0.0
	R12	BEDROOM	W26	17.5	13.3	4.2	24.0	99.0	98.7	0.3	0.3	29	22	23	16	20.7	27.3
	R13	BEDROOM	W27	21.6	15.8	5.8	26.9	96.8	96.2	0.6	0.6	35	24	24	16	31.4	33.3
	R14	BEDROOM	W28	21.2	15.3	5.9	27.8	98.0	95.9	2.1	2.1	35	22	24	15	31.4	31.8
	R15	L/K/D	W29	10.7	6.3	4.4	41.1	98.1	61.2	36.9	37.6	27	6	16	1	40.7	83.3
			W30	22.1	17.4	4.7	21.3					41	22	37	19	9.8	13.6
	R16	L/K/D	W31	20.8	16.3	4.5	21.6	99.7	99.7	0.0	0.0	34	24	31	22	8.8	8.3
			W32	22.0	16.7	5.3	24.1					35	24	31	22	11.4	8.3
			W33	22.8	17.4	5.4	23.7					38	25	35	23	7.9	8.0
			W34	24.2	18.8	5.4	22.3					46	25	43	24	6.5	4.0
			W35	28.1	27.9	0.2	0.7					43	15	43	15	0.0	0.0
	R17	BEDROOM	W36	8.6	8.6	0.0	0.0	52.5	52.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W37	17.2	17.2	0.0	0.0	75.7	75.7	0.0	0.0	21	1	21	1	0.0	0.0
	R19	BEDROOM	W38	14.0	14.0	0.0	0.0	34.9	34.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	35.5	35.5	0.0	0.0	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.6	35.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	16.8	14.5	2.3	13.7					N/A	N/A	N/A	N/A	N/A	N/A
			W4	9.7	9.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.1	33.1	4.0	10.8					N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W6	37.1	33.0	4.1	11.1	99.0	99.0	0.0	0.0	31	6	30	5	3.2	16.7
			W7	37.1	33.0	4.1	11.1					31	6	28	4	9.7	33.3
			W8	9.7	6.3	3.4	35.1					21	6	18	4	14.3	33.3
	R3	BEDROOM	W9	12.5	9.6	2.9	23.2	85.7	83.8	1.9	2.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W10	14.5	10.6	3.9	26.9	96.4	96.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	24.9	20.6	4.3	17.3					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W12	32.5	28.6	3.9	12.0	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	24.1	20.7	3.4	14.1	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W14	15.8	12.9	2.9	18.4					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W15	17.7	16.6	1.1	6.2	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W16	11.4	11.4	0.0	0.0	98.4	97.9	0.5	0.5	N/A	N/A	N/A	N/A	N/A	N/A
			W17	18.5	14.1	4.4	23.8					N/A	N/A	N/A	N/A	N/A	N/A
			W18	17.7	14.6	3.1	17.5					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W19	24.1	19.5	4.6	19.1	93.5	89.3	4.2	4.5	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	24.1	19.3	4.8	19.9	96.9	96.5	0.4	0.4	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	25.5	19.6	5.9	23.1	100.0	92.6	7.4	7.4	23	6	9	0	60.9	100.0
			W22	25.4	20.2	5.2	20.5					16	2	6	0	62.5	100.0
			W23	24.9	19.8	5.1	20.5					47	25	38	18	19.1	28.0
			W24	25.0	19.0	6.0	24.0					47	22	35	15	25.5	31.8
			W25	10.2	10.0	0.2	2.0					21	14	21	14	0.0	0.0
	R12	BEDROOM	W26	17.9	14.1	3.8	21.2	99.0	99.0	0.0	0.0	30	23	25	18	16.7	21.7
	R13	BEDROOM	W27	22.2	16.7	5.5	24.8	96.8	96.2	0.6	0.6	36	25	28	20	22.2	20.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R14	BEDROOM	W28	21.8	16.2	5.6	25.7	98.0	95.9	2.1	2.1	36	23	28	19	22.2	17.4
	R15	L/K/D	W29	10.9	6.5	4.4	40.4	98.2	68.4	29.8	30.3	27	6	17	2	37.0	66.7
			W30	23.0	18.7	4.3	18.7					43	22	39	19	9.3	13.6
	R16	L/K/D	W31	21.5	17.3	4.2	19.5	99.7	99.7	0.0	0.0	37	26	33	23	10.8	11.5
			W32	22.7	17.7	5.0	22.0					39	27	34	24	12.8	11.1
			W33	23.5	18.6	4.9	20.9					41	27	37	24	9.8	11.1
			W34	24.8	19.8	5.0	20.2					47	26	43	24	8.5	7.7
			W35	30.2	30.1	0.1	0.3					46	16	46	16	0.0	0.0
	R17	BEDROOM	W36	9.9	9.9	0.0	0.0	66.7	66.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W37	20.4	20.4	0.0	0.0	97.0	97.0	0.0	0.0	23	3	23	3	0.0	0.0
	R19	BEDROOM	W38	15.9	15.9	0.0	0.0	45.1	45.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	30.2	28.1	2.1	7.0	100.0	98.6	1.4	1.4	70	19	62	18	11.4	5.3
	R2	BEDROOM	W2	36.2	31.0	5.2	14.4	98.3	98.3	0.0	0.0	73	26	63	22	13.7	15.4
	R3	BEDROOM	W3	29.7	27.9	1.8	6.1	100.0	100.0	0.0	0.0	69	18	61	17	11.6	5.6
	R4	L/K/D	W4	36.2	31.4	4.8	13.3	100.0	100.0	0.0	0.0	73	26	64	23	12.3	11.5
			W5	29.7	28.0	1.7	5.7					69	18	62	17	10.1	5.6
			W6	31.8	31.7	0.1	0.3					47	15	47	15	0.0	0.0
	R5	BEDROOM	W7	13.7	13.7	0.0	0.0	81.8	81.8	0.0	0.0	0	0	0	0	0.0	0.0
	R6	BEDROOM	W8	23.8	23.8	0.0	0.0	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W9	18.6	18.6	0.0	0.0	67.5	67.5	0.0	0.0	24	3	24	3	0.0	0.0
	R8	L/K/D	W10	37.0	33.0	4.0	10.8	99.3	99.0	0.3	0.3	29	4	22	1	24.1	75.0
	R9	L/K/D	W11	37.4	33.0	4.4	11.8	99.7	99.7	0.0	0.0	31	6	23	1	25.8	83.3
			W12	36.1	31.5	4.6	12.7					29	6	21	1	27.6	83.3
	R10	BEDROOM	W13	32.4	28.1	4.3	13.3	97.6	97.6	0.0	0.0	29	6	22	2	24.1	66.7
JOSHUA STREET 1-15																	
F00	R1	L/K/D	W1	28.6	28.4	0.2	0.7	100.0	100.0	0.0	0.0	3	0	3	0	0.0	0.0
			W2	28.6	28.2	0.4	1.4					1	0	1	0	0.0	0.0
			W3	14.3	14.3	0.0	0.0					33	10	33	10	0.0	0.0
			W4	31.5	28.0	3.5	11.1					73	22	66	19	9.6	13.6
			W5	9.5	6.5	3.0	31.6					21	5	17	2	19.0	60.0
	R2	UNKNOWN	W6	27.7	27.7	0.0	0.0	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	27.8	27.7	0.1	0.4					N/A	N/A	N/A	N/A	N/A	N/A
	R3	LIVING (ASSUMED)	W8	2.0	2.0	0.0	0.0	100.0	100.0	0.0	0.0	0	0	0	0	0.0	0.0
			W9	3.2	3.2	0.0	0.0					0	0	0	0	0.0	0.0
			W10	4.8	4.8	0.0	0.0					0	0	0	0	0.0	0.0
			W11	8.8	8.8	0.0	0.0					0	0	0	0	0.0	0.0
			W12	25.5	24.4	1.1	4.3					0	0	0	0	0.0	0.0
			W13	27.8	25.4	2.4	8.6					2	0	2	0	0.0	0.0
			W14	26.9	26.6	0.3	1.1					1	0	1	0	0.0	0.0
			W15	27.1	26.9	0.2	0.7					5	0	5	0	0.0	0.0
			W16	27.6	27.1	0.5	1.8					1	0	1	0	0.0	0.0
			W17	26.8	26.5	0.3	1.1					1	0	1	0	0.0	0.0
			W18	25.4	25.4	0.0	0.0					10	0	10	0	0.0	0.0
			W19	25.4	25.4	0.0	0.0					9	0	9	0	0.0	0.0
			W20	18.3	18.3	0.0	0.0					19	1	19	1	0.0	0.0
			W21	16.3	16.3	0.0	0.0					11	0	11	0	0.0	0.0
			W22	14.2	14.2	0.0	0.0					8	0	8	0	0.0	0.0
			W23	11.9	11.9	0.0	0.0					8	0	8	0	0.0	0.0
	R4	LIVING (ASSUMED)	W24	27.8	27.7	0.1	0.4	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W25	28.2	28.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W26	28.6	28.4	0.2	0.7					N/A	N/A	N/A	N/A	N/A	N/A
			W27	28.7	28.2	0.5	1.7					N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W28	7.9	7.9	0.0	0.0	100.0	100.0	0.0	0.0	21	12	21	12	0.0	0.0
			W29	32.4	27.7	4.7	14.5					76	26	65	23	14.5	11.5
			W30	15.9	9.6	6.3	39.6					28	5	18	2	35.7	60.0
			W31	29.3	28.6	0.7	2.4					2	0	2	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W32	26.8	25.7	1.1	4.1					0	0	0	0	0.0	0.0
	R6	UNKNOWN	W33	30.2	29.5	0.7	2.3	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W34	29.1	28.3	0.8	2.7					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W35	5.8	5.8	0.0	0.0	99.1	98.9	0.2	0.2	18	12	18	12	0.0	0.0
			W36	30.1	26.0	4.1	13.6					68	26	59	23	13.2	11.5
			W37	1.7	1.3	0.4	23.5					8	2	8	2	0.0	0.0
			W38	18.5	18.5	0.0	0.0					8	0	8	0	0.0	0.0
			W39	23.4	23.4	0.0	0.0					6	0	6	0	0.0	0.0
	R8	LIVING (ASSUMED)	W40	22.8	15.8	7.0	30.7	81.0	80.3	0.7	0.9	4	0	4	0	0.0	0.0
			W41	22.0	20.5	1.5	6.8					6	0	6	0	0.0	0.0
			W42	4.6	4.6	0.0	0.0					7	1	7	1	0.0	0.0
			W43	6.7	6.7	0.0	0.0					4	0	4	0	0.0	0.0
	R9	UNKNOWN	W44	32.8	19.5	13.3	40.5	96.6	88.9	7.7	8.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	UNKNOWN	W45	32.9	19.3	13.6	41.3	95.7	90.6	5.1	5.3	N/A	N/A	N/A	N/A	N/A	N/A
	R11	LIVING (ASSUMED)	W46	27.1	22.0	5.1	18.8	98.8	98.0	0.8	0.8	61	24	49	21	19.7	12.5
			W47	27.6	22.1	5.5	19.9					66	25	54	22	18.2	12.0
			W48	16.3	6.0	10.3	63.2					26	5	14	2	46.2	60.0
	R12	UNKNOWN	W49	28.7	28.3	0.4	1.4	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W50	29.2	28.8	0.4	1.4					N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W51	30.4	29.8	0.6	2.0	99.8	99.6	0.2	0.2	8	0	8	0	0.0	0.0
			W52	30.2	29.2	1.0	3.3					4	0	4	0	0.0	0.0
			W53	14.1	14.1	0.0	0.0					34	15	34	15	0.0	0.0
			W54	32.2	27.4	4.8	14.9					76	27	64	24	15.8	11.1
			W55	7.4	3.9	3.5	47.3					17	5	11	2	35.3	60.0
	R14	BED (ASSUMED)	W56	13.7	13.7	0.0	0.0	100.0	100.0	0.0	0.0	34	15	34	15	0.0	0.0
			W57	32.1	28.0	4.1	12.8					75	26	67	23	10.7	11.5
			W58	9.0	5.7	3.3	36.7					20	5	14	2	30.0	60.0
	R15	BED (ASSUMED)	W59	5.5	5.5	0.0	0.0	99.6	99.6	0.0	0.0	16	8	16	8	0.0	0.0
			W60	32.6	28.6	4.0	12.3					76	24	68	21	10.5	12.5
			W61	15.8	10.2	5.6	35.4					27	5	20	2	25.9	60.0
F01	R1	BED (ASSUMED)	W1	24.8	23.9	0.9	3.6	79.2	79.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	23.6	10.8	12.8	54.2	72.8	71.7	1.1	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	23.6	10.7	12.9	54.7	72.8	71.7	1.1	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	11.3	7.9	3.4	30.1	71.6	69.2	2.4	3.4	17	15	14	12	17.6	20.0
	R5	BED (ASSUMED)	W5	14.9	12.3	2.6	17.4	84.7	84.7	0.0	0.0	25	21	21	19	16.0	9.5
	R6	BED (ASSUMED)	W6	13.2	13.2	0.0	0.0	84.7	84.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	16.5	15.7	0.8	4.8	84.7	84.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	16.7	16.0	0.7	4.2	83.7	83.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	16.7	13.0	3.7	22.2	84.7	84.7	0.0	0.0	29	23	24	20	17.2	13.0
	R10	BED (ASSUMED)	W10	15.0	11.7	3.3	22.0	79.4	78.5	0.9	1.1	29	23	24	20	17.2	13.0
	R11	BED (ASSUMED)	W11	14.8	11.9	2.9	19.6	78.0	78.0	0.0	0.0	26	22	23	19	11.5	13.6
	R12	BED (ASSUMED)	W12	14.7	11.9	2.8	19.0	79.4	79.4	0.0	0.0	24	20	20	17	16.7	15.0
	R13	BED (ASSUMED)	W13	16.4	15.8	0.6	3.7	82.3	82.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BED (ASSUMED)	W14	16.4	16.0	0.4	2.4	83.7	83.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BED (ASSUMED)	W15	15.8	15.4	0.4	2.5	84.2	84.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BED (ASSUMED)	W16	14.3	11.8	2.5	17.5	79.4	79.4	0.0	0.0	26	22	22	19	15.4	13.6
JOSHUA STREET 17-33																	
F00	R1	L/K/D	W1	27.6	27.6	0.0	0.0	99.6	99.6	0.0	0.0	1	0	1	0	0.0	0.0
			W2	28.5	26.5	2.0	7.0					62	17	55	16	11.3	5.9
			W3	28.4	26.8	1.6	5.6					66	19	60	18	9.1	5.3
	R2	UNKNOWN	W4	25.7	25.4	0.3	1.2	94.0	94.0	0.0	0.0	59	19	58	19	1.7	0.0
	R3	UNKNOWN	W5	29.8	27.4	2.4	8.1	100.0	100.0	0.0	0.0	68	20	61	19	10.3	5.0
			W6	29.1	26.6	2.5	8.6					64	18	55	17	14.1	5.6
			W7	28.8	26.5	2.3	8.0					68	20	62	19	8.8	5.0
			W8	30.0	27.4	2.6	8.7					69	21	62	20	10.1	4.8
	R4	UNKNOWN	W9	22.7	22.2	0.5	2.2	68.8	68.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	L/K/D	W10	20.1	19.9	0.2	1.0	88.0	88.0	0.0	0.0	8	0	8	0	0.0	0.0
			W11	25.9	23.0	2.9	11.2					55	12	45	11	18.2	8.3
			W12	27.6	24.9	2.7	9.8					60	14	53	14	11.7	0.0
	R6	UNKNOWN	W13	29.7	26.6	3.1	10.4	94.8	94.8	0.0	0.0	68	22	60	22	11.8	0.0
	R7	UNKNOWN	W14	29.9	26.7	3.2	10.7	94.8	94.8	0.0	0.0	70	24	62	23	11.4	4.2
	R8	L/K/D	W15	30.5	27.3	3.2	10.5	99.3	99.3	0.0	0.0	67	20	58	20	13.4	0.0
			W16	29.9	27.3	2.6	8.7					72	22	64	22	11.1	0.0
			W17	26.4	25.9	0.5	1.9					3	0	3	0	0.0	0.0
	R9	L/K/D	W18	25.9	25.4	0.5	1.9	85.7	85.7	0.0	0.0	4	0	4	0	0.0	0.0
			W19	11.5	10.0	1.5	13.0					31	17	28	17	9.7	0.0
	R10	UNKNOWN	W20	1.7	1.6	0.1	5.9	52.6	52.6	0.0	0.0	4	4	4	4	0.0	0.0
	R11	UNKNOWN	W21	28.1	24.4	3.7	13.2	99.5	99.5	0.0	0.0	66	17	57	16	13.6	5.9
			W22	27.9	25.0	2.9	10.4					61	16	52	15	14.8	6.3
			W23	28.0	25.3	2.7	9.6					66	21	58	20	12.1	4.8
	R12	UNKNOWN	W24	28.9	28.3	0.6	2.1	89.3	89.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W25	23.7	19.4	4.3	18.1	99.5	99.5	0.0	0.0	48	12	36	9	25.0	25.0
			W26	26.4	22.8	3.6	13.6					56	17	49	15	12.5	11.8
			W27	25.1	24.9	0.2	0.8					6	0	6	0	0.0	0.0
	R14	UNKNOWN	W28	20.4	20.1	0.3	1.5	93.1	93.1	0.0	0.0	51	23	51	23	0.0	0.0
	R15	LIVING (ASSUMED)	W29	30.5	24.9	5.6	18.4	99.7	97.0	2.7	2.7	73	23	59	20	19.2	13.0
			W30	23.7	18.0	5.7	24.1					55	24	37	20	32.7	16.7
			W31	22.0	11.1	10.9	49.5					36	9	18	5	50.0	44.4
	R16	UNKNOWN	W32	33.8	21.6	12.2	36.1	100.0	86.3	13.7	13.7	N/A	N/A	N/A	N/A	N/A	N/A
	R17	UNKNOWN	W33	33.8	21.7	12.1	35.8	100.0	83.8	16.2	16.2	N/A	N/A	N/A	N/A	N/A	N/A
	R18	LIVING (ASSUMED)	W34	22.9	16.1	6.8	29.7	96.3	96.1	0.2	0.2	5	0	0	0	100.0	0.0
			W35	20.5	19.5	1.0	4.9					7	0	6	0	14.3	0.0
			W36	3.5	3.5	0.0	0.0					7	1	7	1	0.0	0.0
			W37	5.6	5.6	0.0	0.0					2	0	2	0	0.0	0.0
F01	R1	BED (ASSUMED)	W1	29.9	29.1	0.8	2.7	95.7	95.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	31.6	19.7	11.9	37.7	97.8	96.7	1.1	1.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	31.6	19.5	12.1	38.3	96.7	96.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	29.8	24.4	5.4	18.1	89.7	88.5	1.2	1.3	66	26	51	22	22.7	15.4
	R5	BED (ASSUMED)	W5	28.8	24.2	4.6	16.0	96.7	96.7	0.0	0.0	67	27	55	24	17.9	11.1
	R6	BED (ASSUMED)	W6	29.4	24.8	4.6	15.6	95.2	95.2	0.0	0.0	67	27	55	24	17.9	11.1
	R7	BED (ASSUMED)	W7	29.3	28.7	0.6	2.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	29.7	29.0	0.7	2.4	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	29.3	28.7	0.6	2.0	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	29.2	28.7	0.5	1.7	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W11	29.1	25.0	4.1	14.1	94.4	94.4	0.0	0.0	66	26	57	25	13.6	3.8
	R12	BED (ASSUMED)	W12	29.2	25.2	4.0	13.7	96.7	96.7	0.0	0.0	65	25	57	24	12.3	4.0
	R13	BED (ASSUMED)	W13	28.9	25.4	3.5	12.1	96.7	96.7	0.0	0.0	65	25	57	24	12.3	4.0
	R14	BED (ASSUMED)	W14	28.4	25.0	3.4	12.0	96.1	95.8	0.3	0.3	66	26	57	23	13.6	11.5
	R15	BED (ASSUMED)	W15	26.9	26.4	0.5	1.9	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BED (ASSUMED)	W16	28.0	27.6	0.4	1.4	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	BED (ASSUMED)	W17	29.4	29.1	0.3	1.0	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BED (ASSUMED)	W18	27.7	24.6	3.1	11.2	95.8	95.8	0.0	0.0	63	23	55	21	12.7	8.7
JOSHUA STREET 35-41																	
F00	R1	L/K/D	W1	27.5	27.5	0.0	0.0	97.8	97.0	0.8	0.8	44	12	44	12	0.0	0.0
			W2	27.1	27.1	0.0	0.0					38	8	38	8	0.0	0.0
			W3	12.9	9.1	3.8	29.5					27	4	18	2	33.3	50.0
			W4	23.9	18.0	5.9	24.7					31	5	22	3	29.0	40.0
			W5	10.8	10.8	0.0	0.0					0	0	0	0	0.0	0.0
	R2	UNKNOWN	W6	28.1	28.1	0.0	0.0	95.2	95.2	0.0	0.0	43	12	43	12	0.0	0.0
	R3	UNKNOWN	W7	28.2	28.2	0.0	0.0	96.3	96.3	0.0	0.0	44	12	44	12	0.0	0.0
	R4	L/K/D	W8	27.1	27.1	0.0	0.0	99.1	99.1	0.0	0.0	43	9	43	9	0.0	0.0
			W9	24.6	24.6	0.0	0.0					35	3	35	3	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W10	28.8	21.6	7.2	25.0					30	4	20	3	33.3	25.0
	R5	L/K/D	W11	26.6	26.6	0.0	0.0	98.9	98.9	0.0	0.0	46	13	46	13	0.0	0.0
			W12	27.3	27.3	0.0	0.0					43	10	43	10	0.0	0.0
			W13	29.6	22.3	7.3	24.7					25	1	15	0	40.0	100.0
	R6	UNKNOWN	W14	27.4	27.4	0.0	0.0	95.2	95.2	0.0	0.0	44	11	44	11	0.0	0.0
	R7	UNKNOWN	W15	27.0	27.0	0.0	0.0	96.3	96.3	0.0	0.0	40	9	40	9	0.0	0.0
	R8	L/K/D	W16	25.8	25.8	0.0	0.0	99.6	99.6	0.0	0.0	41	7	41	7	0.0	0.0
			W17	25.8	25.8	0.0	0.0					35	4	35	4	0.0	0.0
			W18	30.0	22.9	7.1	23.7					27	1	17	1	37.0	0.0
F01	R1	BED (ASSUMED)	W1	12.8	6.8	6.0	46.9	89.8	89.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	21.4	21.4	0.0	0.0	94.8	94.8	0.0	0.0	36	13	36	13	0.0	0.0
	R3	BED (ASSUMED)	W3	21.6	21.6	0.0	0.0	95.5	95.5	0.0	0.0	36	12	36	12	0.0	0.0
	R4	BED (ASSUMED)	W4	21.3	21.3	0.0	0.0	96.3	96.3	0.0	0.0	36	12	36	12	0.0	0.0
	R5	BED (ASSUMED)	W5	20.8	13.4	7.4	35.6	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	21.8	14.1	7.7	35.3	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	22.5	14.8	7.7	34.2	96.3	96.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	20.8	20.8	0.0	0.0	95.5	95.5	0.0	0.0	34	11	34	11	0.0	0.0
F02	R1	BED (ASSUMED)	W1	88.1	82.2	5.9	6.7	100.0	100.0	0.0	0.0	74	17	65	15	12.2	11.8
			W2	87.1	81.6	5.5	6.3					67	14	56	11	16.4	21.4
			W3	36.9	36.9	0.0	0.0					57	20	57	20	0.0	0.0
			W4	36.9	36.9	0.0	0.0					57	20	57	20	0.0	0.0
JOSHUA STREET 4																	
F00	R1	LIVING (ASSUMED)	W1	4.8	4.5	0.3	6.3	95.5	95.2	0.3	0.3	14	1	12	1	14.3	0.0
			W2	24.4	21.0	3.4	13.9					17	2	14	2	17.6	0.0
			W3	17.5	17.2	0.3	1.7					0	0	0	0	0.0	0.0
F01	R1	BED (ASSUMED)	W1	20.3	15.7	4.6	22.7	92.4	92.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
JOSHUA STREET 6-14																	
F00	R1	LIVING (ASSUMED)	W1	72.8	72.1	0.7	1.0	99.3	99.3	0.0	0.0	76	20	74	19	2.6	5.0
			W2	73.2	72.6	0.6	0.8					75	18	74	18	1.3	0.0
			W3	28.4	26.8	1.6	5.6					66	19	64	18	3.0	5.3
			W4	25.5	25.5	0.0	0.0					57	17	57	17	0.0	0.0
	R2	L/K/D	W5	19.7	18.4	1.3	6.6	99.4	99.4	0.0	0.0	40	8	36	6	10.0	25.0
			W6	23.2	22.2	1.0	4.3					48	11	45	10	6.3	9.1
			W7	32.9	32.3	0.6	1.8					9	0	9	0	0.0	0.0
	R3	UNKNOWN	W8	28.5	27.1	1.4	4.9	94.7	94.7	0.0	0.0	65	19	61	17	6.2	10.5
	R4	L/K/D	W9	26.9	26.0	0.9	3.3	99.6	99.6	0.0	0.0	61	18	59	17	3.3	5.6
			W10	27.2	26.8	0.4	1.5					61	18	61	18	0.0	0.0
			W11	31.4	31.3	0.1	0.3					10	0	10	0	0.0	0.0
	R5	UNKNOWN	W12	19.4	19.4	0.0	0.0	94.1	94.1	0.0	0.0	46	17	46	17	0.0	0.0
	R6	LIVING (ASSUMED)	W13	14.4	13.9	0.5	3.5	100.0	100.0	0.0	0.0	30	20	29	19	3.3	5.0
			W14	8.4	8.4	0.0	0.0					20	13	20	13	0.0	0.0
			W15	29.3	27.1	2.2	7.5					69	20	65	19	5.8	5.0
			W16	24.3	17.9	6.4	26.3					41	5	25	3	16.1	40.0
	R7	BED (ASSUMED)	W17	35.0	27.6	7.4	21.1	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W18	34.9	27.6	7.3	20.9	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	13.2	11.8	1.4	10.6	93.3	93.3	0.0	0.0	22	16	21	15	4.5	6.3
	R2	BED (ASSUMED)	W2	13.4	12.0	1.4	10.4	90.4	90.4	0.0	0.0	23	17	20	15	13.0	11.8
	R3	BED (ASSUMED)	W3	13.5	12.1	1.4	10.4	92.9	92.9	0.0	0.0	24	18	21	16	12.5	11.1
	R4	BED (ASSUMED)	W4	13.6	12.1	1.5	11.0	90.4	90.4	0.0	0.0	25	19	22	17	12.0	10.5
	R5	BED (ASSUMED)	W5	13.3	12.2	1.1	8.3	92.9	92.9	0.0	0.0	26	20	24	19	7.7	5.0
	R6	BED (ASSUMED)	W6	8.3	8.3	0.0	0.0	88.8	88.8	0.0	0.0	16	14	16	14	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	BED (ASSUMED)	W7	13.5	11.9	1.6	11.9	91.6	89.5	2.1	2.3	25	18	22	16	12.0	11.1
	R8	BED (ASSUMED)	W8	19.7	12.4	7.3	37.1	89.1	89.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	19.6	12.4	7.2	36.7	89.1	89.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
LANSBURY GARDENS 2-12																	
F00	R1	LIVING ROOM	W1	25.5	14.5	11.0	43.1	98.9	98.7	0.2	0.2	36	8	10	1	72.2	87.5
			W2	29.6	29.6	0.0	0.0					38	8	38	8	0.0	0.0
	R2	LIVING ROOM	W3	18.6	18.6	0.0	0.0	98.9	87.5	11.4	11.5	40	7	40	7	0.0	0.0
			W4	30.7	30.7	0.0	0.0					48	10	48	10	0.0	0.0
			W5	31.9	31.9	0.0	0.0					36	7	36	7	0.0	0.0
			W6	29.8	29.8	0.0	0.0					16	1	16	1	0.0	0.0
			W7	17.8	17.8	0.0	0.0					0	0	0	0	0.0	0.0
			W8	26.0	12.6	13.4	51.5					35	7	11	2	68.6	71.4
	R3	LIVING ROOM	W9	26.2	11.3	14.9	56.9	98.4	98.3	0.1	0.1	36	7	11	2	69.4	71.4
			W10	31.0	31.0	0.0	0.0					28	1	28	1	0.0	0.0
	R4	LIVING ROOM	W11	26.2	11.0	15.2	58.0	99.1	99.0	0.1	0.1	36	7	15	3	58.3	57.1
			W12	16.7	16.7	0.0	0.0					36	5	36	5	0.0	0.0
			W13	19.7	19.7	0.0	0.0					42	7	42	7	0.0	0.0
			W14	70.1	70.1	0.0	0.0					44	8	44	8	0.0	0.0
			W15	31.9	31.9	0.0	0.0					34	5	34	5	0.0	0.0
			W16	70.2	70.2	0.0	0.0					44	8	44	8	0.0	0.0
			W17	31.9	31.9	0.0	0.0					34	5	34	5	0.0	0.0
			W18	32.0	32.0	0.0	0.0					35	5	35	5	0.0	0.0
			W19	70.2	70.2	0.0	0.0					44	8	44	8	0.0	0.0
			W20	31.9	31.9	0.0	0.0					35	6	35	6	0.0	0.0
			W21	70.2	70.2	0.0	0.0					45	9	45	9	0.0	0.0
			W22	31.9	31.9	0.0	0.0					35	6	35	6	0.0	0.0
			W23	70.3	70.3	0.0	0.0					45	9	45	9	0.0	0.0
			W24	32.0	32.0	0.0	0.0					35	6	35	6	0.0	0.0
			W25	70.3	70.3	0.0	0.0					45	9	45	9	0.0	0.0
			W26	21.4	21.4	0.0	0.0					0	0	0	0	0.0	0.0
			W27	18.2	18.2	0.0	0.0					0	0	0	0	0.0	0.0
	R5	LIVING ROOM	W28	25.7	11.4	14.3	55.6	98.9	98.7	0.2	0.2	34	5	15	3	55.9	40.0
			W29	31.3	31.3	0.0	0.0					28	1	28	1	0.0	0.0
	R6	LIVING ROOM	W30	24.6	12.4	12.2	49.6	98.7	97.0	1.7	1.7	35	6	22	6	37.1	0.0
			W31	24.3	24.3	0.0	0.0					12	1	12	1	0.0	0.0
F01	R1	BEDROOM	W1	29.4	18.5	10.9	37.1	97.8	82.3	15.5	15.8	43	14	21	3	51.2	78.6
	R2	BEDROOM	W2	29.7	17.4	12.3	41.4	99.7	58.0	41.7	41.8	45	15	21	7	53.3	53.3
	R3	BEDROOM	W3	29.6	15.9	13.7	46.3	97.8	69.6	28.2	28.8	42	12	15	4	64.3	66.7
	R4	BEDROOM	W4	30.0	15.2	14.8	49.3	99.7	49.0	50.7	50.9	46	15	19	8	58.7	46.7
	R5	BEDROOM	W5	29.9	14.0	15.9	53.2	97.8	58.0	39.8	40.7	43	11	17	6	60.5	45.5
	R6	BEDROOM	W6	30.3	13.8	16.5	54.5	99.7	37.8	61.9	62.1	47	14	20	9	57.4	35.7
	R7	BEDROOM	W7	30.0	13.2	16.8	56.0	97.8	50.3	47.5	48.6	44	11	18	6	59.1	45.5
	R8	BEDROOM	W8	30.2	13.4	16.8	55.6	99.7	33.7	66.0	66.2	44	12	20	8	54.5	33.3
	R9	BEDROOM	W9	29.8	13.4	16.4	55.0	97.8	50.3	47.5	48.6	41	9	18	5	56.1	44.4
	R10	BEDROOM	W10	29.8	14.0	15.8	53.0	99.7	36.5	63.2	63.4	42	10	23	8	45.2	20.0
	R11	BEDROOM	W11	29.0	14.4	14.6	50.3	97.8	55.8	42.0	42.9	40	8	21	6	47.5	25.0
	R12	BEDROOM	W12	28.6	15.3	13.3	46.5	99.4	41.3	58.1	58.5	42	9	26	8	38.1	11.1
LEVEN ROAD PHASE THREE																	
F00	R1	KITCHEN	W1	15.6	11.5	4.1	26.3	66.7	66.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	LIVING ROOM	W2	20.4	10.4	10.0	49.0	77.3	48.4	28.9	37.4	39	16	24	4	38.5	75.0
	R3	LIVING ROOM	W3	9.0	1.7	7.3	81.1	87.6	44.0	43.6	49.8	16	13	4	4	75.0	69.2
	R4	KITCHEN	W4	9.6	9.6	0.0	0.0	90.0	90.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	KITCHEN	W5	16.4	16.4	0.0	0.0	96.6	96.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	LIVING ROOM	W6	11.6	0.8	10.8	93.1	99.2	28.3	70.9	71.5	13	2	0	0	100.0	100.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W7	1.6	1.2	0.4	25.0					7	3	4	2	42.9	33.3
	R7	LIVING ROOM	W8	11.9	0.7	11.2	94.1	94.4	10.5	83.9	88.9	13	3	0	0	100.0	100.0
	R8	LIVING ROOM	W9	11.6	0.6	11.0	94.8	89.9	11.6	78.3	87.1	15	4	0	0	100.0	100.0
	R9	KITCHEN	W10	12.4	12.3	0.1	0.8	90.3	90.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	KITCHEN	W11	15.0	14.9	0.1	0.7	92.6	92.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BEDROOM	W1	21.6	11.6	10.0	46.3	96.2	75.0	21.2	22.0	42	17	26	8	38.1	52.9
	R2	BEDROOM	W2	13.7	5.0	8.7	63.5	86.5	38.5	48.0	55.5	23	18	11	7	52.2	61.1
	R3	BEDROOM	W3	13.7	4.2	9.5	69.3	98.8	33.7	65.1	65.9	25	20	8	7	68.0	65.0
	R4	BEDROOM	W4	22.5	22.5	0.0	0.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	25.0	25.0	0.0	0.0	97.5	97.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	18.2	8.3	9.9	54.4	98.3	42.1	56.2	57.2	39	21	23	9	41.0	57.1
	R7	L/K/D	W7	13.8	4.5	9.3	67.4	72.3	30.9	41.4	57.3	27	19	11	6	59.3	68.4
	R8	BEDROOM	W8	0.8	0.0	0.8	100.0	52.4	0.3	52.1	99.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	18.2	13.4	4.8	26.4	81.5	69.7	11.8	14.5	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	17.3	2.4	14.9	86.1	97.5	45.3	52.2	53.5	20	5	3	2	85.0	60.0
			W11	0.1	0.1	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W12	17.6	2.5	15.1	85.8	98.9	27.6	71.3	72.1	20	5	3	2	85.0	60.0
	R12	BEDROOM	W13	17.7	2.4	15.3	86.4	98.2	23.4	74.8	76.2	22	7	2	2	90.9	71.4
	R13	BEDROOM	W14	17.4	2.2	15.2	87.4	97.5	19.8	77.7	79.7	22	7	1	1	95.5	85.7
	R14	BEDROOM	W15	15.8	1.7	14.1	89.2	98.2	20.4	77.8	79.2	21	7	1	0	95.2	100.0
	R15	BEDROOM	W16	15.2	1.7	13.5	88.8	97.5	18.3	79.2	81.2	20	7	1	1	95.0	85.7
	R16	BEDROOM	W17	29.8	29.6	0.2	0.7	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	29.7	29.5	0.2	0.7					N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W19	24.0	23.7	0.3	1.3	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	24.5	24.2	0.3	1.2					N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W21	24.5	24.2	0.3	1.2	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	24.1	23.9	0.2	0.8					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	LIVING ROOM	W1	27.8	27.8	0.0	0.0	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	24.9	24.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	20.7	9.4	11.3	54.6	99.5	61.5	38.0	38.2	44	26	27	14	38.6	46.2
	R3	BEDROOM	W4	14.3	4.5	9.8	68.5	99.4	35.4	64.0	64.4	24	20	10	8	58.3	60.0
	R4	LIVING ROOM	W5	15.1	6.0	9.1	60.3	99.5	91.0	8.5	8.5	27	21	13	10	51.9	52.4
			W6	16.7	6.1	10.6	63.5					27	21	13	10	51.9	52.4
	R5	BEDROOM	W7	24.1	12.6	11.5	47.7	96.2	91.4	4.8	5.0	50	22	27	13	46.0	40.9
	R6	BEDROOM	W8	20.8	15.7	5.1	24.5	82.5	80.3	2.2	2.7	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W9	23.0	6.5	16.5	71.7	94.0	34.8	59.2	63.0	15	2	0	0	100.0	100.0
	R8	LIVING ROOM	W10	20.3	4.0	16.3	80.3	97.6	69.9	27.7	28.4	25	7	4	2	84.0	71.4
	R9	BEDROOM	W11	35.7	12.5	23.2	65.0	98.1	36.2	61.9	63.1	42	12	9	3	78.6	75.0
	R10	BEDROOM	W12	35.9	12.8	23.1	64.3	97.7	37.3	60.4	61.8	42	12	9	3	78.6	75.0
	R11	BEDROOM	W13	35.7	13.0	22.7	63.6	98.7	36.0	62.7	63.5	42	12	8	2	81.0	83.3
	R12	LIVING ROOM	W14	20.7	4.3	16.4	79.2	98.2	37.5	60.7	61.8	26	9	3	2	88.5	77.8
F03	R1	LIVING ROOM	W1	31.2	31.2	0.0	0.0	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	28.4	28.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	36.7	19.8	16.9	46.0	99.5	65.1	34.4	34.6	78	28	47	16	39.7	42.9
	R3	BEDROOM	W4	35.8	18.9	16.9	47.2	99.4	38.4	61.0	61.4	74	27	42	14	43.2	48.1
	R4	LIVING ROOM	W5	34.8	21.5	13.3	38.2	99.5	94.1	5.4	5.4	75	30	50	16	33.3	46.7
			W6	36.1	19.2	16.9	46.8					74	28	45	14	39.2	50.0
	R5	BEDROOM	W7	35.6	22.1	13.5	37.9	98.1	96.5	1.6	1.6	77	30	50	16	35.1	46.7
	R6	BEDROOM	W8	25.7	20.8	4.9	19.1	88.5	86.3	2.2	2.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W9	26.1	9.0	17.1	65.5	95.0	45.7	49.3	51.9	15	2	0	0	100.0	100.0
	R8	LIVING ROOM	W10	34.9	12.6	22.3	63.9	98.8	82.4	16.4	16.6	44	11	12	3	72.7	72.7
	R9	BEDROOM	W11	37.0	13.6	23.4	63.2	98.1	41.1	57.0	58.1	42	12	10	4	76.2	66.7
	R10	BEDROOM	W12	37.0	13.9	23.1	62.4	97.7	43.8	53.9	55.2	42	12	9	3	78.6	75.0
	R11	BEDROOM	W13	37.0	14.1	22.9	61.9	98.7	39.7	59.0	59.8	42	12	8	2	81.0	83.3
	R12	LIVING ROOM	W14	34.3	13.9	20.4	59.5	98.4	47.6	50.8	51.6	36	9	6	2	83.3	77.8

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F04	R1	BEDROOM	W1	33.1	32.9	0.2	0.6	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	35.8	35.6	0.2	0.6	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	35.8	35.6	0.2	0.6	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	LIVING ROOM	W4	35.8	35.6	0.2	0.6	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.1	34.4	2.7	7.3					N/A	N/A	N/A	N/A	N/A	N/A
	R5	KITCHEN	W6	36.3	33.6	2.7	7.4	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	KITCHEN	W7	36.3	33.3	3.0	8.3	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	LIVING ROOM	W8	37.2	33.8	3.4	9.1	100.0	100.0	0.0	0.0	9	0	3	0	66.7	0.0
			W9	37.4	15.1	22.3	59.6					42	12	8	2	81.0	83.3
	R8	BEDROOM	W10	37.4	14.8	22.6	60.4	96.9	51.7	45.2	46.6	42	12	9	3	78.6	75.0
	R9	BEDROOM	W11	37.4	14.4	23.0	61.5	99.0	46.1	52.9	53.4	42	12	10	4	76.2	66.7
	R10	BEDROOM	W12	34.7	13.5	21.2	61.1	99.0	93.5	5.5	5.6	48	15	13	3	72.9	80.0
LOREN APPARTMENTS																	
F00	R1	L/K/D	W1	21.0	7.1	13.9	66.2	68.0	12.4	55.6	81.8	23	2	3	0	87.0	100.0
	R2	L/K/D	W2	24.2	8.8	15.4	63.6	56.1	15.4	40.7	72.5	30	2	12	0	60.0	100.0
	R3	BEDROOM	W3	23.4	10.3	13.1	56.0	99.6	64.4	35.2	35.3	29	2	17	3	41.4	-50.0
	R4	BEDROOM	W4	23.4	11.8	11.6	49.6	97.2	76.9	20.3	20.9	26	1	17	1	34.6	0.0
	R5	BEDROOM	W5	16.5	11.5	5.0	30.3	98.6	97.4	1.2	1.2	24	1	20	2	16.7	-100.0
			W6	13.9	13.9	0.0	0.0					31	4	31	4	0.0	0.0
F01	R1	BEDROOM	W1	29.1	10.8	18.3	62.9	97.0	28.8	68.2	70.3	39	6	14	2	64.1	66.7
	R2	BEDROOM	W2	27.3	10.3	17.0	62.3	94.4	25.4	69.0	73.1	34	4	9	0	73.5	100.0
	R3	BEDROOM	W3	28.5	12.0	16.5	57.9	99.7	35.9	63.8	64.0	36	3	17	1	52.8	66.7
	R4	L/K/D	W4	27.8	13.1	14.7	52.9	81.3	40.6	40.7	50.1	36	4	20	3	44.4	25.0
	R5	L/K/D	W5	25.6	13.0	12.6	49.2	97.0	88.8	8.2	8.5	31	3	17	2	45.2	33.3
			W6	26.5	15.3	11.2	42.3					31	2	21	2	32.3	0.0
			W7	15.8	15.8	0.0	0.0					40	5	40	5	0.0	0.0
F02	R1	BEDROOM	W1	32.0	13.1	18.9	59.1	97.5	31.8	65.7	67.4	41	8	16	2	61.0	75.0
	R2	BEDROOM	W2	29.9	12.2	17.7	59.2	94.8	26.6	68.2	71.9	37	7	14	2	62.2	71.4
	R3	L/K/D	W3	31.1	13.9	17.2	55.3	99.5	54.2	45.3	45.5	39	6	18	2	53.8	66.7
			W4	30.4	15.0	15.4	50.7					39	6	23	4	41.0	33.3
	R4	L/K/D	W5	28.0	14.9	13.1	46.8	92.6	79.6	13.0	14.0	33	4	18	2	45.5	50.0
			W6	28.7	17.3	11.4	39.7					35	4	24	4	31.4	0.0
			W7	17.9	17.9	0.0	0.0					46	7	46	7	0.0	0.0
F03	R1	L/K/D	W1	30.8	15.8	15.0	48.7	98.8	56.0	42.8	43.3	43	10	23	4	46.5	60.0
			W2	30.2	15.4	14.8	49.0					35	7	16	2	54.3	71.4
	R2	BEDROOM	W3	32.1	17.7	14.4	44.9	100.0	48.0	52.0	52.0	41	8	23	4	43.9	50.0
	R3	BEDROOM	W4	31.1	18.3	12.8	41.2	97.9	73.9	24.0	24.5	39	6	25	4	35.9	33.3
	R4	BEDROOM	W5	30.1	19.7	10.4	34.6	90.2	90.2	0.0	0.0	37	5	25	3	32.4	40.0
			W6	20.0	20.0	0.0	0.0					54	8	54	8	0.0	0.0
MILLS GROVE 1-9																	
F00	R1	L/K/D	W1	22.5	22.5	0.0	0.0	97.0	97.0	0.0	0.0	13	1	13	1	0.0	0.0
			W2	31.1	31.1	0.0	0.0					51	19	51	19	0.0	0.0
			W3	7.2	7.2	0.0	0.0					27	14	27	14	0.0	0.0
	R2	UNKNOWN	W4	0.0	0.0	0.0	0.0	11.4	3.4	8.0	70.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	UNKNOWN	W5	1.1	1.1	0.0	0.0	24.2	20.5	3.7	15.3	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	4.8	3.1	1.7	35.4	99.5	99.5	0.0	0.0	17	3	14	3	17.6	0.0
			W7	27.5	27.5	0.0	0.0					50	16	50	16	0.0	0.0
	R5	L/K/D	W8	25.9	22.7	3.2	12.4	99.5	99.5	0.0	0.0	27	2	18	1	33.3	50.0
			W9	29.5	29.5	0.0	0.0					42	9	42	9	0.0	0.0
	R6	UNKNOWN	W10	28.5	25.4	3.1	10.9	95.7	92.7	3.0	3.1	N/A	N/A	N/A	N/A	N/A	N/A
	R7	UNKNOWN	W11	4.6	4.6	0.0	0.0	74.1	59.1	15.0	20.2	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W12	0.1	0.1	0.0	0.0	95.7	91.9	3.8	4.0	0	0	0	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W13	27.7	27.7	0.0	0.0					49	14	49	14	0.0	0.0
F01	R1	BED (ASSUMED)	W1	31.8	31.8	0.0	0.0	98.2	98.2	0.0	0.0	50	18	50	18	0.0	0.0
	R2	BED (ASSUMED)	W2	28.6	24.5	4.1	14.3	96.6	96.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	31.0	31.0	0.0	0.0	98.5	98.5	0.0	0.0	52	19	52	19	0.0	0.0
	R4	BED (ASSUMED)	W4	31.5	31.5	0.0	0.0	98.5	98.5	0.0	0.0	50	17	50	17	0.0	0.0
	R5	BED (ASSUMED)	W5	31.3	26.3	5.0	16.0	98.2	98.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	31.3	26.1	5.2	16.6	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	27.1	22.9	4.2	15.5	95.8	95.1	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	30.8	30.8	0.0	0.0	98.6	98.6	0.0	0.0	48	15	48	15	0.0	0.0
F02	R1	BED (ASSUMED)	W1	36.8	31.0	5.8	15.8	100.0	100.0	0.0	0.0	34	6	25	4	26.5	33.3
			W2	36.7	31.1	5.6	15.3					34	6	26	5	23.5	16.7
			W3	90.2	90.2	0.0	0.0					86	27	86	27	0.0	0.0
			W4	90.9	90.8	0.1	0.1					87	27	87	27	0.0	0.0
MILLS GROVE 12-20																	
F00	R1	L/K/D	W1	27.5	25.0	2.5	9.1	97.4	97.2	0.2	0.2	27	5	23	3	14.8	40.0
			W2	22.1	22.1	0.0	0.0					36	4	36	4	0.0	0.0
			W3	18.4	18.4	0.0	0.0					21	0	21	0	0.0	0.0
	R2	L/K/D	W4	27.6	24.9	2.7	9.8	98.8	98.6	0.2	0.2	21	2	17	0	19.0	100.0
			W5	15.4	15.4	0.0	0.0					20	8	20	8	0.0	0.0
	R3	L/K/D	W6	26.8	23.6	3.2	11.9	92.4	92.4	0.0	0.0	28	6	24	4	14.3	33.3
			W7	23.1	23.1	0.0	0.0					32	2	32	2	0.0	0.0
			W8	21.3	21.3	0.0	0.0					23	0	23	0	0.0	0.0
	R4	L/K/D	W9	3.6	2.0	1.6	44.4	49.6	48.9	0.7	1.4	5	2	2	1	60.0	50.0
			W10	29.4	25.9	3.5	11.9					22	3	17	1	22.7	66.7
			W11	8.0	8.0	0.0	0.0					0	0	0	0	0.0	0.0
	R5	L/K/D	W12	27.4	27.4	0.0	0.0	98.3	97.9	0.4	0.4	42	9	42	9	0.0	0.0
			W13	19.7	17.6	2.1	10.7					41	10	34	8	17.1	20.0
			W14	31.1	26.2	4.9	15.8					33	7	24	5	27.3	28.6
			W15	2.7	2.7	0.0	0.0					0	0	0	0	0.0	0.0
F01	R1	BED (ASSUMED)	W1	25.5	21.2	4.3	16.9	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	25.3	20.9	4.4	17.4	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	25.3	20.8	4.5	17.8	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	25.2	20.6	4.6	18.3	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	25.2	20.6	4.6	18.3	96.5	96.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	25.4	20.7	4.7	18.5	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	22.8	17.8	5.0	21.9	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	23.9	18.5	5.4	22.6	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	24.1	18.6	5.5	22.8	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	24.3	18.6	5.7	23.5	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
MILLS GROVE 17-25																	
F00	R1	L/K/D	W1	30.9	24.8	6.1	19.7	100.0	100.0	0.0	0.0	31	4	24	3	22.6	25.0
			W2	7.7	7.7	0.0	0.0					4	0	4	0	0.0	0.0
			W3	30.7	30.7	0.0	0.0					51	19	51	19	0.0	0.0
			W4	22.4	22.3	0.1	0.4					51	22	51	22	0.0	0.0
	R2	UNKNOWN	W5	29.5	23.0	6.5	22.0	100.0	93.3	6.7	6.7	N/A	N/A	N/A	N/A	N/A	N/A
			W6	29.5	23.8	5.7	19.3					N/A	N/A	N/A	N/A	N/A	N/A
	R3	UNKNOWN	W7	22.5	19.0	3.5	15.6	86.7	85.8	0.9	1.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	21.9	17.1	4.8	21.9					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W9	20.4	18.1	2.3	11.3	100.0	100.0	0.0	0.0	36	9	32	6	11.1	33.3
			W10	17.1	16.1	1.0	5.8					21	8	18	5	14.3	37.5
	R5	L/K/D	W11	23.6	21.5	2.1	8.9	99.6	99.6	0.0	0.0	3	0	2	0	33.3	0.0
			W12	26.2	26.2	0.0	0.0					45	14	45	14	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W13	9.5	9.5	0.0	0.0					4	0	4	0	0.0	0.0
			W14	28.8	28.8	0.0	0.0					44	13	44	13	0.0	0.0
			W15	8.1	8.1	0.0	0.0					23	6	23	6	0.0	0.0
	R6	UNKNOWN	W16	28.6	24.0	4.6	16.1	100.0	89.5	10.5	10.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	UNKNOWN	W17	30.2	25.2	5.0	16.6	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W18	25.6	21.1	4.5	17.6	100.0	99.8	0.2	0.2	28	3	25	3	10.7	0.0
			W19	27.0	27.0	0.0	0.0					39	8	39	8	0.0	0.0
	R9	L/K/D	W20	25.3	25.3	0.0	0.0	100.0	100.0	0.0	0.0	45	14	45	14	0.0	0.0
			W21	27.8	22.2	5.6	20.1					29	3	25	3	13.8	0.0
	R10	UNKNOWN	W22	20.5	14.9	5.6	27.3	98.4	95.3	3.1	3.2	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	28.2	20.4	7.8	27.7	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	27.1	20.3	6.8	25.1	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	27.3	20.4	6.9	25.3	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	27.5	20.4	7.1	25.8	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	25.8	18.7	7.1	27.5	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
MILLS GROVE 2-10																	
F00	R1	L/K/D	W1	4.2	3.0	1.2	28.6	100.0	100.0	0.0	0.0	11	1	6	0	45.5	100.0
			W2	30.4	27.9	2.5	8.2					28	4	21	3	25.0	25.0
			W3	19.6	19.6	0.0	0.0					0	0	0	0	0.0	0.0
			W4	24.0	24.0	0.0	0.0					45	15	45	15	0.0	0.0
			W5	27.5	27.5	0.0	0.0					40	11	40	11	0.0	0.0
	R2	L/K/D	W6	25.3	25.3	0.0	0.0	100.0	99.8	0.2	0.2	45	15	45	15	0.0	0.0
			W7	28.1	28.1	0.0	0.0					40	10	40	10	0.0	0.0
			W8	28.1	25.5	2.6	9.3					18	1	12	0	33.3	100.0
	R3	L/K/D	W9	28.3	25.4	2.9	10.2	99.8	99.8	0.0	0.0	27	3	21	2	22.2	33.3
			W10	25.6	25.6	0.0	0.0					36	3	36	3	0.0	0.0
			W11	21.2	21.2	0.0	0.0					23	0	23	0	0.0	0.0
	R4	L/K/D	W12	27.8	25.1	2.7	9.7	63.2	63.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W13	18.4	16.9	1.5	8.2	96.8	96.8	0.0	0.0	3	0	3	0	0.0	0.0
			W14	24.0	24.0	0.0	0.0					35	6	35	6	0.0	0.0
			W15	21.6	21.6	0.0	0.0					28	1	28	1	0.0	0.0
F01	R1	BED (ASSUMED)	W1	28.3	24.3	4.0	14.1	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	25.9	21.9	4.0	15.4	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	26.5	22.2	4.3	16.2	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	26.2	21.9	4.3	16.4	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	26.2	21.9	4.3	16.4	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	26.3	22.0	4.3	16.3	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	26.1	21.7	4.4	16.9	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	25.7	21.3	4.4	17.1	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	24.7	20.5	4.2	17.0	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	19.8	17.1	2.7	13.6	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
MILLS GROVE 9-15																	
F00	R1	L/K/D	W1	55.3	53.4	1.9	3.4	100.0	99.4	0.6	0.6	29	5	25	5	13.8	0.0
			W2	23.6	21.9	1.7	7.2					11	1	11	1	0.0	0.0
			W3	57.8	55.5	2.3	4.0					32	5	26	5	18.8	0.0
			W4	21.9	21.9	0.0	0.0					32	4	32	4	0.0	0.0
	R2	UNKNOWN	W5	19.2	17.7	1.5	7.8	70.2	68.7	1.5	2.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W6	29.2	29.2	0.0	0.0	91.8	91.7	0.1	0.1	50	15	50	15	0.0	0.0
			W7	20.7	20.1	0.6	2.9					16	0	14	0	12.5	0.0
	R4	L/K/D	W8	3.3	2.4	0.9	27.3	95.9	95.4	0.5	0.5	1	1	1	1	0.0	0.0
			W9	28.6	28.6	0.0	0.0					42	8	42	8	0.0	0.0
	R5	UNKNOWN	W10	3.1	1.5	1.6	51.6	86.3	58.4	27.9	32.3	N/A	N/A	N/A	N/A	N/A	N/A
	R6	UNKNOWN	W11	27.1	21.4	5.7	21.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	L/K/D	W12	29.5	24.5	5.0	16.9	100.0	99.8	0.2	0.2	22	1	18	1	18.2	0.0
			W13	30.0	24.5	5.5	18.3					30	4	25	3	16.7	25.0
			W14	19.3	19.3	0.0	0.0					24	2	24	2	0.0	0.0
F01	R1	BED (ASSUMED)	W1	27.5	21.5	6.0	21.8	97.9	97.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	26.6	21.0	5.6	21.1	97.4	97.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	27.1	21.1	6.0	22.1	97.4	97.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	28.2	21.0	7.2	25.5	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BED (ASSUMED)	W1	89.7	89.7	0.0	0.0	100.0	100.0	0.0	0.0	86	26	85	26	1.2	0.0
			W2	89.8	89.8	0.0	0.0					86	26	85	26	1.2	0.0
			W3	35.1	28.2	6.9	19.7					31	5	19	2	38.7	60.0
			W4	35.5	28.8	6.7	18.9					32	6	21	3	34.4	50.0
ST LEONARDS ROAD 118-132																	
F00	R1	LIVING (ASSUMED)	W1	28.1	23.8	4.3	15.3	96.8	92.9	3.9	4.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	20.5	20.3	0.2	1.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	UNKNOWN	W3	24.0	18.8	5.2	21.7	94.7	93.0	1.7	1.8	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W4	30.2	30.2	0.0	0.0	100.0	99.8	0.2	0.2	49	14	49	14	0.0	0.0
			W5	28.6	24.4	4.2	14.7					18	0	14	0	22.2	0.0
			W6	30.4	25.5	4.9	16.1					27	1	22	1	18.5	0.0
	R4	L/K/D	W7	32.9	27.9	5.0	15.2	100.0	100.0	0.0	0.0	24	1	19	1	20.8	0.0
			W8	31.8	26.8	5.0	15.7					27	1	22	1	18.5	0.0
			W9	30.9	30.9	0.0	0.0					44	10	44	10	0.0	0.0
	R5	UNKNOWN	W10	32.8	26.8	6.0	18.3	93.1	92.5	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R6	UNKNOWN	W11	32.7	26.7	6.0	18.3	93.6	91.2	2.4	2.6	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W12	29.5	29.5	0.0	0.0	98.9	98.5	0.4	0.4	46	12	46	12	0.0	0.0
			W13	30.1	25.0	5.1	16.9					16	0	12	0	25.0	0.0
			W14	31.2	25.5	5.7	18.3					21	0	17	0	19.0	0.0
	R8	LIVING (ASSUMED)	W15	59.2	57.6	1.6	2.7	100.0	100.0	0.0	0.0	31	0	27	0	12.9	0.0
			W16	38.4	36.8	1.6	4.2					16	0	12	0	25.0	0.0
			W17	33.9	28.3	5.6	16.5					22	0	18	0	18.2	0.0
			W18	33.9	28.3	5.6	16.5					26	1	22	1	15.4	0.0
			W19	78.6	74.3	4.3	5.5					38	2	34	2	10.5	0.0
			W20	33.8	28.2	5.6	16.6					26	1	22	1	15.4	0.0
			W21	32.8	27.4	5.4	16.5					26	1	22	1	15.4	0.0
	R9	LIVING (ASSUMED)	W22	17.2	16.1	1.1	6.4	98.8	98.8	0.0	0.0	39	5	36	5	7.7	0.0
			W23	32.0	25.6	6.4	20.0					23	1	19	1	17.4	0.0
			W24	7.5	6.5	1.0	13.3					0	0	0	0	0.0	0.0
			W25	15.2	9.0	6.2	40.8					10	0	6	0	40.0	0.0
	R10	BED (ASSUMED)	W26	26.1	25.1	1.0	3.8	82.1	82.1	0.0	0.0	59	12	56	12	5.1	0.0
	R11	BED (ASSUMED)	W27	26.1	25.2	0.9	3.4	84.6	84.6	0.0	0.0	59	12	56	12	5.1	0.0
F01	R1	BED (ASSUMED)	W1	26.4	20.5	5.9	22.3	94.5	94.0	0.5	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	18.7	13.5	5.2	27.8	88.8	88.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	25.8	19.9	5.9	22.9	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	26.2	20.3	5.9	22.5	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	26.1	20.3	5.8	22.2	91.2	91.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	26.1	20.2	5.9	22.6	91.2	91.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	26.0	20.1	5.9	22.7	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	25.9	20.0	5.9	22.8	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	26.9	20.8	6.1	22.7	91.1	91.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	19.2	18.4	0.8	4.2	84.3	84.3	0.0	0.0	48	14	45	14	6.3	0.0
	R11	BED (ASSUMED)	W11	19.2	18.4	0.8	4.2	84.3	84.3	0.0	0.0	48	14	45	14	6.3	0.0
F02	R1	BED (ASSUMED)	W1	31.6	25.8	5.8	18.4	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.6	25.9	5.7	18.0					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
ST LEONARDS ROAD 134-146																	
F00	R1	UNKNOWN	W1	31.5	26.2	5.3	16.8	95.4	93.1	2.3	2.4	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	33.1	28.1	5.0	15.1	100.0	99.8	0.2	0.2	22	1	19	1	13.6	0.0
			W3	30.0	25.2	4.8	16.0					27	3	23	2	14.8	33.3
			W4	32.9	32.9	0.0	0.0					49	13	49	13	0.0	0.0
	R3	UNKNOWN	W5	33.9	28.2	5.7	16.8	95.4	93.7	1.7	1.8	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	33.3	28.5	4.8	14.4	100.0	99.8	0.2	0.2	26	3	22	2	15.4	33.3
			W7	31.6	26.8	4.8	15.2					28	3	25	2	10.7	33.3
			W8	33.6	33.6	0.0	0.0					52	16	52	16	0.0	0.0
	R5	L/K/D	W9	31.3	31.3	0.0	0.0	100.0	100.0	0.0	0.0	48	15	48	15	0.0	0.0
			W10	30.9	27.6	3.3	10.7					23	1	21	1	8.7	0.0
			W11	31.5	27.8	3.7	11.7					27	2	25	2	7.4	0.0
	R6	UNKNOWN	W12	32.6	27.8	4.8	14.7	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	UNKNOWN	W13	32.3	27.8	4.5	13.9	95.4	94.3	1.1	1.2	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W14	31.8	27.9	3.9	12.3	99.8	99.8	0.0	0.0	26	3	25	2	3.8	33.3
			W15	30.7	26.7	4.0	13.0					28	3	27	2	3.6	33.3
			W16	34.1	34.1	0.0	0.0					52	16	52	16	0.0	0.0
	R9	LKD (ASSUMED)	W17	27.6	25.0	2.6	9.4	100.0	100.0	0.0	0.0	21	0	21	0	0.0	0.0
			W18	25.2	22.2	3.0	11.9					27	2	27	2	0.0	0.0
			W19	34.3	34.3	0.0	0.0					52	16	52	16	0.0	0.0
	R10	UNKNOWN	W20	28.5	26.7	1.8	6.3	93.7	90.2	3.5	3.7	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	28.0	26.3	1.7	6.1	99.6	99.6	0.0	0.0	20	2	20	2	0.0	0.0
			W22	25.3	23.7	1.6	6.3					24	3	23	2	4.2	33.3
			W23	34.5	34.5	0.0	0.0					54	18	54	18	0.0	0.0
	R12	L/K/D	W24	33.8	33.8	0.0	0.0	99.8	99.6	0.2	0.2	54	18	54	18	0.0	0.0
			W25	27.3	25.3	2.0	7.3					20	2	20	2	0.0	0.0
	R13	UNKNOWN	W26	26.5	24.3	2.2	8.3					24	3	24	3	0.0	0.0
			W27	18.7	16.4	2.3	12.3	93.6	91.3	2.3	2.5	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	23.9	18.2	5.7	23.8	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	24.2	18.5	5.7	23.6	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	24.2	18.6	5.6	23.1	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	24.2	18.7	5.5	22.7	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	24.2	18.7	5.5	22.7	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	24.2	18.8	5.4	22.3	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	24.1	18.8	5.3	22.0	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	24.0	18.9	5.1	21.3	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	23.9	18.9	5.0	20.9	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	23.7	18.9	4.8	20.3	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W11	23.6	19.0	4.6	19.5	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	BED (ASSUMED)	W12	23.5	18.8	4.7	20.0	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BED (ASSUMED)	W13	23.2	18.4	4.8	20.7	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BED (ASSUMED)	W14	14.1	10.0	4.1	29.1	87.9	87.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BED (ASSUMED)	W1	35.1	29.7	5.4	15.4	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.2	29.8	5.4	15.3					N/A	N/A	N/A	N/A	N/A	N/A
ST LEONARDS ROAD 148-154																	
F00	R1	LIVING (ASSUMED)	W1	22.8	22.8	0.0	0.0	99.8	99.8	0.0	0.0	7	0	7	0	0.0	0.0
			W2	33.1	33.1	0.0	0.0					51	17	51	17	0.0	0.0
			W3	7.8	7.8	0.0	0.0					21	10	21	10	0.0	0.0
			W4	30.7	28.5	2.2	7.2					29	4	25	3	13.8	25.0
	R2	UNKNOWN	W5	25.3	23.8	1.5	5.9	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W6	27.6	25.7	1.9	6.9					N/A	N/A	N/A	N/A	N/A	N/A
	R3	LIVING (ASSUMED)	W7	30.2	27.7	2.5	8.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	29.4	27.3	2.1	7.1					N/A	N/A	N/A	N/A	N/A	N/A
	R4	LIVING (ASSUMED)	W9	28.2	25.1	3.1	11.0	94.6	94.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W10	29.9	27.2	2.7	9.0					N/A	N/A	N/A	N/A	N/A	N/A
	R5	UNKNOWN	W11	29.6	26.2	3.4	11.5	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W12	26.9	23.8	3.1	11.5					N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	6.9	6.9	0.0	0.0	99.8	99.8	0.0	0.0	8	0	8	0	0.0	0.0
			W14	35.4	35.4	0.0	0.0					56	20	56	20	0.0	0.0
			W15	22.4	22.4	0.0	0.0					51	20	51	20	0.0	0.0
			W16	32.2	28.9	3.3	10.2					29	5	24	5	17.2	0.0
F01	R1	BED (ASSUMED)	W1	19.9	16.2	3.7	18.6	95.2	95.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	20.1	16.1	4.0	19.9	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	20.3	16.1	4.2	20.7	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	20.4	16.0	4.4	21.6	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
SHERMAN HOUSE																	
F00	R1	LIVING ROOM	W1	28.2	28.2	0.0	0.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.1	27.2	3.9	12.5					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	28.7	24.2	4.5	15.7	98.3	96.3	2.0	2.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	25.3	22.3	3.0	11.9	95.0	92.0	3.0	3.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	KITCHEN	W5	30.4	24.8	5.6	18.4	98.9	98.3	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W6	29.7	23.8	5.9	19.9	99.3	90.1	9.2	9.3	8	0	0	0	100.0	0.0
			W7	30.0	14.0	16.0	53.3					46	12	13	2	71.7	83.3
	R6	BEDROOM	W8	27.5	11.3	16.2	58.9	86.6	41.1	45.5	52.5	41	10	10	1	75.6	90.0
	R7	BEDROOM	W9	28.5	10.5	18.0	63.2	89.9	41.6	48.3	53.7	41	11	10	1	75.6	90.9
	R8	BEDROOM	W10	28.1	9.2	18.9	67.3	89.4	27.4	62.0	69.4	39	10	10	1	74.4	90.0
	R9	BEDROOM	W11	27.0	8.5	18.5	68.5	88.2	23.9	64.3	72.9	30	5	7	0	76.7	100.0
	R10	LIVING ROOM	W12	28.3	8.8	19.5	68.9	98.1	16.9	81.2	82.8	41	11	12	3	70.7	72.7
	R11	KITCHEN	W13	20.2	12.2	8.0	39.6	83.7	68.4	15.3	18.3	N/A	N/A	N/A	N/A	N/A	N/A
	R12	KITCHEN	W14	16.1	5.4	10.7	66.5	91.4	69.6	21.8	23.9	36	5	14	1	61.1	80.0
			W15	19.3	8.4	10.9	56.5					44	8	20	2	54.5	75.0
	R13	LIVING ROOM	W16	21.4	12.0	9.4	43.9	100.0	100.0	0.0	0.0	43	10	23	5	46.5	50.0
			W17	31.3	31.3	0.0	0.0					29	4	29	4	0.0	0.0
F01	R1	L/K/D	W1	32.2	32.2	0.0	0.0	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	30.7	30.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	23.3	19.3	4.0	17.2					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	31.8	27.4	4.4	13.8	91.6	69.6	22.0	24.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	27.3	24.4	2.9	10.6	92.5	87.5	5.0	5.4	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	32.2	26.7	5.5	17.1	99.2	91.3	7.9	8.0	6	0	1	0	83.3	0.0
			W7	31.5	25.7	5.8	18.4					3	0	1	0	66.7	0.0
			W8	19.4	4.7	14.7	75.8					31	13	6	4	80.6	69.2
	R5	BEDROOM	W9	31.2	13.0	18.2	58.3	92.9	30.2	62.7	67.5	44	12	12	2	72.7	83.3
	R6	BEDROOM	W10	31.3	12.0	19.3	61.7	96.5	38.9	57.6	59.7	44	12	12	2	72.7	83.3
	R7	BEDROOM	W11	31.1	10.7	20.4	65.6	96.5	32.1	64.4	66.7	44	12	11	2	75.0	83.3
	R8	BEDROOM	W12	31.0	10.3	20.7	66.8	93.5	33.0	60.5	64.7	43	11	12	2	72.1	81.8
	R9	L/K/D	W13	18.7	1.5	17.2	92.0	99.4	87.6	11.8	11.9	31	15	4	4	87.1	73.3
			W14	24.6	14.4	10.2	41.5					29	3	5	0	82.8	100.0
	R10	L/K/D	W15	20.0	6.9	13.1	65.5	99.8	99.8	0.0	0.0	42	10	15	1	64.3	90.0
			W16	23.3	10.4	12.9	55.4					50	14	23	4	54.0	71.4
			W17	25.0	13.8	11.2	44.8					51	15	24	5	52.9	66.7
			W18	20.3	20.2	0.1	0.5					22	5	22	5	0.0	0.0
F02	R1	L/K/D	W1	33.3	33.2	0.1	0.3	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.9	31.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.2	31.2	4.0	11.4					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	33.3	29.0	4.3	12.9	91.6	72.0	19.6	21.4	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	28.7	25.7	3.0	10.5	92.5	88.5	4.0	4.3	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	33.5	28.2	5.3	15.8	99.2	95.4	3.8	3.8	6	0	2	0	66.7	0.0
			W7	32.7	27.1	5.6	17.1					3	0	1	0	66.7	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W8	35.1	17.8	17.3	49.3					52	17	21	4	59.6	76.5
	R5	BEDROOM	W9	33.5	14.7	18.8	56.1	92.9	32.8	60.1	64.7	48	15	17	2	64.6	86.7
	R6	BEDROOM	W10	33.4	13.9	19.5	58.4	96.8	41.5	55.3	57.1	48	15	15	2	68.8	86.7
	R7	BEDROOM	W11	33.4	12.5	20.9	62.6	96.5	35.9	60.6	62.8	47	14	14	2	70.2	85.7
	R8	BEDROOM	W12	33.3	12.1	21.2	63.7	93.5	38.2	55.3	59.1	48	15	14	2	70.8	86.7
	R9	L/K/D	W13	34.8	13.3	21.5	61.8	99.4	89.5	9.9	10.0	51	17	18	4	64.7	76.5
			W14	28.1	16.7	11.4	40.6					30	4	5	0	83.3	100.0
	R10	L/K/D	W15	22.5	8.5	14.0	62.2	100.0	99.8	0.2	0.2	48	14	19	2	60.4	85.7
			W16	26.2	12.2	14.0	53.4					59	19	30	5	49.2	73.7
			W17	27.8	15.3	12.5	45.0					58	21	29	5	50.0	76.2
			W18	35.2	35.1	0.1	0.3					33	5	33	5	0.0	0.0
F03	R1	L/K/D	W1	33.7	33.6	0.1	0.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	24.9	23.7	1.2	4.8					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	34.2	29.8	4.4	12.9	92.8	84.7	8.1	8.7	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	30.0	27.1	2.9	9.7	93.8	92.5	1.3	1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W5	34.1	29.0	5.1	15.0	98.7	95.6	3.1	3.1	6	0	2	0	66.7	0.0
			W6	24.1	12.4	11.7	48.5					33	6	16	0	51.5	100.0
	R5	BEDROOM	W7	34.4	16.6	17.8	51.7	89.6	50.7	38.9	43.4	48	15	19	2	60.4	86.7
	R6	BEDROOM	W8	34.3	15.8	18.5	53.9	96.8	44.7	52.1	53.8	48	15	16	2	66.7	86.7
	R7	BEDROOM	W9	34.4	14.6	19.8	57.6	96.5	39.1	57.4	59.5	48	15	15	2	68.8	86.7
	R8	BEDROOM	W10	34.3	14.2	20.1	58.6	90.1	56.9	33.2	36.8	48	15	16	2	66.7	86.7
	R9	L/K/D	W11	25.1	8.1	17.0	67.7	98.7	79.0	19.7	20.0	41	15	11	1	73.2	93.3
			W12	31.5	20.2	11.3	35.9					31	5	5	0	83.9	100.0
			W13	22.9	17.7	5.2	22.7					30	5	13	0	56.7	100.0
	R10	L/K/D	W14	25.2	11.4	13.8	54.8	99.0	90.9	8.1	8.2	55	15	29	2	47.3	86.7
			W15	28.7	15.3	13.4	46.7					66	21	40	5	39.4	76.2
			W16	25.6	25.5	0.1	0.4					26	4	26	4	0.0	0.0
ST.NICHOLAS CHURCH																	
F00	R1	ANCILLARY SPACE	W1	18.7	18.7	0.0	0.0	99.4	99.3	0.1	0.1	1	0	1	0	0.0	0.0
			W2	21.2	21.2	0.0	0.0					4	0	4	0	0.0	0.0
			W3	3.9	2.9	1.0	25.6					0	0	0	0	0.0	0.0
			W4	3.9	3.0	0.9	23.1					0	0	0	0	0.0	0.0
			W5	3.8	2.9	0.9	23.7					0	0	0	0	0.0	0.0
			W6	3.7	2.9	0.8	21.6					0	0	0	0	0.0	0.0
			W7	3.6	2.8	0.8	22.2					0	0	0	0	0.0	0.0
			W8	29.7	11.1	18.6	62.6					44	13	17	7	61.4	46.2
			W9	29.7	11.2	18.5	62.3					45	13	17	6	62.2	53.8
			W10	29.8	11.2	18.6	62.4					45	13	17	6	62.2	53.8
			W11	29.8	12.0	17.8	59.7					44	11	21	7	52.3	36.4
			W12	29.9	12.4	17.5	58.5					45	12	23	7	48.9	41.7
			W13	29.9	12.8	17.1	57.2					45	12	25	7	44.4	41.7
			W14	29.6	13.0	16.6	56.1					44	12	23	6	47.7	50.0
	R2	WORSHIP AREA	W15	30.4	26.0	4.4	14.5	98.9	97.2	1.7	1.7	N/A	N/A	N/A	N/A	N/A	N/A
			W16	30.3	25.5	4.8	15.8					N/A	N/A	N/A	N/A	N/A	N/A
			W17	30.2	24.9	5.3	17.5					N/A	N/A	N/A	N/A	N/A	N/A
			W18	26.4	12.6	13.8	52.3					N/A	N/A	N/A	N/A	N/A	N/A
			W19	26.5	12.1	14.4	54.3					N/A	N/A	N/A	N/A	N/A	N/A
			W20	22.8	9.5	13.3	58.3					N/A	N/A	N/A	N/A	N/A	N/A
	R3	WORSHIP AREA	W21	28.8	16.6	12.2	42.4	99.7	98.2	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
			W22	32.3	18.6	13.7	42.4					N/A	N/A	N/A	N/A	N/A	N/A
			W23	28.9	17.1	11.8	40.8					N/A	N/A	N/A	N/A	N/A	N/A
			W24	33.1	29.4	3.7	11.2					N/A	N/A	N/A	N/A	N/A	N/A
			W25	32.6	29.1	3.5	10.7					N/A	N/A	N/A	N/A	N/A	N/A
			W26	31.0	27.8	3.2	10.3					N/A	N/A	N/A	N/A	N/A	N/A
			W27	24.1	21.4	2.7	11.2					N/A	N/A	N/A	N/A	N/A	N/A
	R4	UNKNOWN	W28	20.2	17.4	2.8	13.9	94.1	83.0	11.1	11.8	38	11	34	8	10.5	27.3

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	UNKNOWN	W29	23.3	19.3	4.0	17.2	98.7	86.3	12.4	12.6	39	11	33	7	15.4	36.4
	R6	UNKNOWN	W30	25.4	20.3	5.1	20.1	99.3	88.9	10.4	10.5	40	11	33	7	17.5	36.4
	R7	UNKNOWN	W31	25.9	25.9	0.0	0.0	87.9	87.9	0.0	0.0	24	5	24	5	0.0	0.0
	R8	UNKNOWN	W32	25.5	25.5	0.0	0.0	94.0	94.0	0.0	0.0	22	3	22	3	0.0	0.0
	R9	UNKNOWN	W33	26.4	26.4	0.0	0.0	99.5	99.5	0.0	0.0	25	3	25	3	0.0	0.0
	R10	UNKNOWN	W34	25.3	25.3	0.0	0.0	97.5	97.5	0.0	0.0	28	3	28	3	0.0	0.0
	R11	UNKNOWN	W35	22.1	22.1	0.0	0.0	85.4	75.9	9.5	11.1	26	5	26	5	0.0	0.0
F01	R1	LIVING (ASSUMED)	W1	28.6	22.7	5.9	20.6	99.1	99.1	0.0	0.0	42	11	34	7	19.0	36.4
			W2	21.9	20.2	1.7	7.8					52	22	48	18	7.7	18.2
	R2	UNKNOWN	W3	26.6	21.6	5.0	18.8	99.3	89.5	9.8	9.9	40	11	34	7	15.0	36.4
	R3	UNKNOWN	W4	22.9	19.7	3.2	14.0	98.0	86.3	11.7	11.9	39	12	35	8	10.3	33.3
	R4	KITCHEN (ASSUMED)	W5	32.5	32.4	0.1	0.3	98.6	98.6	0.0	0.0	30	5	30	5	0.0	0.0
			W6	32.4	32.3	0.1	0.3					30	5	30	5	0.0	0.0
	R5	UNKNOWN	W7	32.2	32.1	0.1	0.3	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R6	UNKNOWN	W8	31.9	31.8	0.1	0.3	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R7	UNKNOWN	W9	31.1	31.1	0.0	0.0	100.0	100.0	0.0	0.0	30	5	30	5	0.0	0.0
	R8	UNKNOWN	W10	29.9	29.9	0.0	0.0	100.0	99.5	0.5	0.5	30	5	30	5	0.0	0.0
	R9	UNKNOWN	W11	28.3	28.2	0.1	0.4	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R10	UNKNOWN	W12	25.4	25.4	0.0	0.0	96.0	95.0	1.0	1.0	30	5	30	5	0.0	0.0
F02	R1	LIVING (ASSUMED)	W1	29.2	22.0	7.2	24.7	99.1	99.1	0.0	0.0	42	13	31	8	26.2	38.5
			W2	33.6	31.6	2.0	6.0					77	24	72	19	6.5	20.8
	R2	UNKNOWN	W3	28.5	21.9	6.6	23.2	99.3	95.4	3.9	3.9	40	13	30	8	25.0	38.5
	R3	UNKNOWN	W4	25.9	20.6	5.3	20.5	99.3	95.4	3.9	3.9	37	13	31	9	16.2	30.8
	R4	KITCHEN (ASSUMED)	W5	29.7	29.6	0.1	0.3	98.6	98.6	0.0	0.0	28	5	28	5	0.0	0.0
			W6	29.6	29.6	0.0	0.0					28	5	28	5	0.0	0.0
	R5	UNKNOWN	W7	29.5	29.5	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R6	UNKNOWN	W8	29.4	29.4	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R7	UNKNOWN	W9	29.4	29.3	0.1	0.3	100.0	100.0	0.0	0.0	28	5	28	5	0.0	0.0
	R8	UNKNOWN	W10	29.2	29.2	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R9	UNKNOWN	W11	29.0	29.0	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R10	UNKNOWN	W12	28.8	28.7	0.1	0.3	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
WOOSTER GARDENS 1-7																	
F00	R1	KITCHEN	W1	21.3	19.2	2.1	9.9	100.0	76.3	23.7	23.7	34	7	30	7	11.8	0.0
	R2	LIVING ROOM	W2	24.7	20.5	4.2	17.0	99.0	99.0	0.0	0.0	37	6	31	6	16.2	0.0
			W3	30.3	30.3	0.0	0.0					31	4	31	4	0.0	0.0
	R3	KITCHEN	W4	25.2	20.4	4.8	19.0	71.4	43.4	28.0	39.2	38	6	32	6	15.8	0.0
			W5	25.4	20.5	4.9	19.3					39	6	32	6	17.9	0.0
			W6	25.5	20.6	4.9	19.2					39	6	32	6	17.9	0.0
			W7	25.6	20.7	4.9	19.1					39	6	32	6	17.9	0.0
			W8	25.6	20.9	4.7	18.4					40	7	33	7	17.5	0.0
	R4	LIVING ROOM	W9	25.6	21.0	4.6	18.0	98.8	98.8	0.0	0.0	38	5	31	5	18.4	0.0
			W10	25.6	21.0	4.6	18.0					38	5	32	5	15.8	0.0
			W11	25.5	21.1	4.4	17.3					39	5	34	5	12.8	0.0
			W12	25.3	21.0	4.3	17.0					38	4	34	4	10.5	0.0
			W13	23.5	19.3	4.2	17.9					28	2	24	2	14.3	0.0
			W14	30.3	30.3	0.0	0.0					29	3	29	3	0.0	0.0
	R5	KITCHEN	W15	25.0	21.0	4.0	16.0	58.2	39.6	18.6	32.0	37	3	33	3	10.8	0.0
			W16	24.9	21.0	3.9	15.7					37	3	33	3	10.8	0.0
			W17	24.8	21.0	3.8	15.3					34	1	30	1	11.8	0.0
	R6	LIVING ROOM	W18	24.5	21.0	3.5	14.3	98.6	98.2	0.4	0.4	34	1	30	1	11.8	0.0
			W19	24.4	21.1	3.3	13.5					34	1	30	1	11.8	0.0
			W20	24.1	21.0	3.1	12.9					33	0	30	0	9.1	0.0
			W21	23.9	21.0	2.9	12.1					31	0	29	0	6.5	0.0
			W22	29.5	29.5	0.0	0.0					24	1	24	1	0.0	0.0
	R7	KITCHEN	W23	24.0	21.4	2.6	10.8	100.0	97.1	2.9	2.9	30	0	28	0	6.7	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	MAX PARAMETER	LOSS	%	BASELINE	MAX PARAMETER	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R8	LIVING ROOM	W24	24.0	21.9	2.1	8.8	99.9	99.9	0.0	0.0	25	0	24	0	4.0	0.0
			W25	27.9	27.9	0.0	0.0					19	0	19	0	0.0	0.0
F01	R1	BEDROOM	W1	29.1	23.2	5.9	20.3	96.5	90.0	6.5	6.7	42	10	33	9	21.4	10.0
	R2	BEDROOM	W2	29.4	23.5	5.9	20.1	98.6	85.4	13.2	13.4	42	9	34	8	19.0	11.1
	R3	BEDROOM	W3	28.9	23.7	5.2	18.0	96.5	93.5	3.0	3.1	40	6	33	6	17.5	0.0
	R4	BEDROOM	W4	28.6	24.0	4.6	16.1	98.3	91.7	6.6	6.7	41	7	34	7	17.1	0.0
	R5	BEDROOM	W5	27.7	24.0	3.7	13.4	96.5	96.5	0.0	0.0	38	5	33	5	13.2	0.0
	R6	BEDROOM	W6	27.3	24.1	3.2	11.7	97.9	96.2	1.7	1.7	39	5	33	5	15.4	0.0
	R7	BEDROOM	W7	26.5	23.8	2.7	10.2	96.5	96.5	0.0	0.0	35	2	30	2	14.3	0.0
	R8	BEDROOM	W8	26.2	23.9	2.3	8.8	96.9	95.5	1.4	1.4	33	1	31	1	6.1	0.0
WOOSTER GARDENS 9-15																	
F00	R1	KITCHEN	W1	23.0	21.0	2.0	8.7	99.6	88.9	10.7	10.7	31	7	28	6	9.7	14.3
	R2	LIVING ROOM	W2	31.4	31.4	0.0	0.0	99.1	98.8	0.3	0.3	29	3	29	3	0.0	0.0
			W3	27.1	22.9	4.2	15.5					38	7	35	6	7.9	14.3
	R3	KITCHEN	W4	29.2	23.7	5.5	18.8	100.0	93.0	7.0	7.0	43	12	35	7	18.6	41.7
	R4	LIVING ROOM	W5	31.9	31.9	0.0	0.0	98.7	98.7	0.0	0.0	30	3	30	3	0.0	0.0
			W6	29.9	24.5	5.4	18.1					47	13	39	7	17.0	46.2
	R5	KITCHEN	W7	30.3	24.9	5.4	17.8	99.6	94.2	5.4	5.4	48	14	41	10	14.6	28.6
	R6	LIVING ROOM	W8	32.3	32.3	0.0	0.0	99.4	98.8	0.6	0.6	32	5	32	5	0.0	0.0
			W9	30.7	25.8	4.9	16.0					50	14	39	8	22.0	42.9
	R7	KITCHEN	W10	30.6	26.0	4.6	15.0	100.0	97.5	2.5	2.5	47	14	37	9	21.3	35.7
	R8	LIVING ROOM	W11	32.5	32.5	0.0	0.0	99.9	99.3	0.6	0.6	33	5	33	5	0.0	0.0
			W12	30.7	26.6	4.1	13.4					49	14	39	9	20.4	35.7
F01	R1	BEDROOM	W1	31.1	24.9	6.2	19.9	97.1	94.1	3.0	3.1	45	12	38	8	15.6	33.3
	R2	BEDROOM	W2	32.1	25.5	6.6	20.6	99.0	92.0	7.0	7.1	47	14	40	10	14.9	28.6
	R3	BEDROOM	W3	32.3	25.7	6.6	20.4	97.1	97.1	0.0	0.0	46	13	39	9	15.2	30.8
	R4	BEDROOM	W4	32.6	26.3	6.3	19.3	99.0	95.8	3.2	3.2	51	17	42	11	17.6	35.3
	R5	BEDROOM	W5	32.5	26.7	5.8	17.8	97.1	97.1	0.0	0.0	49	14	40	9	18.4	35.7
	R6	BEDROOM	W6	32.8	27.2	5.6	17.1	99.0	96.5	2.5	2.5	51	16	43	12	15.7	25.0
	R7	BEDROOM	W7	32.4	27.2	5.2	16.0	97.1	97.1	0.0	0.0	48	14	37	9	22.9	35.7
	R8	BEDROOM	W8	32.5	27.6	4.9	15.1	99.0	97.2	1.8	1.8	49	15	40	12	18.4	20.0

Baseline v
Cumulative

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
110-126 LEVEN ROAD																	
F00	R1	LIVING ROOM	W1	24.7	17.4	7.3	29.6	99.7	93.4	6.3	6.3	7	0	7	0	0.0	0.0
			W2	27.7	17.1	10.6	38.3					62	24	39	11	37.1	54.2
	R2	KITCHEN	W3	21.5	10.9	10.6	49.3	98.9	89.7	9.2	9.3	38	12	18	3	52.6	75.0
			W4	30.5	18.7	11.8	38.7					67	24	44	12	34.3	50.0
	R3	LIVING ROOM	W5	25.5	16.8	8.7	34.1	98.2	95.7	2.5	2.5	6	0	6	0	0.0	0.0
			W6	29.4	18.8	10.6	36.1					64	23	42	12	34.4	47.8
	R4	KITCHEN	W7	22.8	12.6	10.2	44.7	98.9	93.6	5.3	5.4	41	13	20	4	51.2	69.2
			W8	31.4	20.2	11.2	35.7					70	25	46	13	34.3	48.0
	R5	LIVING ROOM	W9	26.1	16.5	9.6	36.8	98.2	95.2	3.0	3.1	7	0	7	0	0.0	0.0
			W10	29.5	19.6	9.9	33.6					64	23	45	13	29.7	43.5
	R6	KITCHEN	W11	23.1	13.7	9.4	40.7	98.9	95.3	3.6	3.6	42	13	24	5	42.9	61.5
			W12	31.7	21.3	10.4	32.8					72	25	49	16	31.9	36.0
	R7	LIVING ROOM	W13	26.9	17.3	9.6	35.7	98.5	96.4	2.1	2.1	7	0	7	0	0.0	0.0
			W14	29.6	20.6	9.0	30.4					64	23	45	14	29.7	39.1
	R8	KITCHEN	W15	23.2	14.7	8.5	36.6	98.9	92.2	6.7	6.8	42	13	24	6	42.9	53.8
			W16	31.9	22.1	9.8	30.7					73	26	49	15	32.9	42.3
	R9	KITCHEN	W17	32.0	22.5	9.5	29.7	98.3	92.0	6.3	6.4	73	25	53	15	27.4	40.0
			W18	23.6	18.3	5.3	22.5					53	23	44	15	17.0	34.8
	R10	LIVING ROOM	W19	31.6	23.0	8.6	27.2	100.0	96.4	3.6	3.6	72	24	54	16	25.0	33.3
			W20	28.2	19.3	8.9	31.6					6	0	6	0	0.0	0.0
	R11	LIVING ROOM	W21	28.2	19.6	8.6	30.5	100.0	97.2	2.8	2.8	6	0	6	0	0.0	0.0
			W22	31.6	23.5	8.1	25.6					68	23	54	17	20.6	26.1
	R12	KITCHEN	W23	23.5	15.5	8.0	34.0	98.9	88.6	10.3	10.4	43	13	27	6	37.2	53.8
			W24	32.1	23.5	8.6	26.8					73	25	54	16	26.0	36.0
	R13	LIVING ROOM	W25	27.9	20.3	7.6	27.2	99.7	95.4	4.3	4.3	6	0	6	0	0.0	0.0
			W26	29.6	22.4	7.2	24.3					63	22	51	15	19.0	31.8
	R14	KITCHEN	W27	23.5	15.7	7.8	33.2	98.9	87.8	11.1	11.2	43	13	28	4	34.9	69.2
			W28	32.2	23.9	8.3	25.8					73	25	56	15	23.3	40.0
	R15	LIVING ROOM	W29	26.8	20.0	6.8	25.4	100.0	94.4	5.6	5.6	6	0	6	0	0.0	0.0
			W30	29.5	22.7	6.8	23.1					64	23	50	14	21.9	39.1
	R16	KITCHEN	W31	23.5	16.0	7.5	31.9	98.3	85.8	12.5	12.7	43	13	28	4	34.9	69.2
			W32	27.8	19.9	7.9	28.4					56	18	40	9	28.6	50.0
	R17	LKD (ASSUMED)	W33	30.3	22.8	7.5	24.8	97.9	97.7	0.2	0.2	63	23	52	15	17.5	34.8
			W34	30.2	23.8	6.4	21.2					66	23	54	14	18.2	39.1
			W35	31.8	24.2	7.6	23.9					68	24	56	15	17.6	37.5
			W36	30.7	23.0	7.7	25.1					62	22	52	15	16.1	31.8
			W37	1.8	1.8	0.0	0.0					7	0	7	0	0.0	0.0
			W38	27.9	27.4	0.5	1.8					49	18	46	15	6.1	16.7
			W39	7.5	6.3	1.2	16.0					25	13	24	12	4.0	7.7
	R18	BED (ASSUMED)	W40	26.5	26.2	0.3	1.1	99.2	98.8	0.4	0.4	43	13	43	13	0.0	0.0
			W41	21.4	15.6	5.8	27.1					6	0	6	0	0.0	0.0
F01	R1	BEDROOM	W1	26.2	17.5	8.7	33.2	98.9	89.1	9.8	9.9	4	0	4	0	0.0	0.0
			W2	29.4	16.3	13.1	44.6					61	25	38	12	37.7	52.0
	R2	BEDROOM	W3	26.7	17.0	9.7	36.3	99.1	88.1	11.0	11.1	N/A	N/A	N/A	N/A	N/A	N/A
			W4	26.5	17.3	9.2	34.7					N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	26.8	16.6	10.2	38.1	98.9	96.6	2.3	2.3	4	0	4	0	0.0	0.0
			W6	29.8	17.5	12.3	41.3					62	25	40	14	35.5	44.0
	R4	BEDROOM	W7	27.0	16.1	10.9	40.4	99.1	87.5	11.6	11.7	4	0	4	0	0.0	0.0
			W8	26.9	16.2	10.7	39.8					4	0	4	0	0.0	0.0
			W9	23.1	12.0	11.1	48.1					44	14	23	6	47.7	57.1
	R5	BEDROOM	W10	30.9	18.7	12.2	39.5	99.2	96.8	2.4	2.4	64	24	41	12	35.9	50.0
			W11	30.0	18.5	11.5	38.3					62	25	42	14	32.3	44.0
			W12	27.2	16.0	11.2	41.2					4	0	4	0	0.0	0.0
	R6	BEDROOM	W13	27.5	16.3	11.2	40.7	99.1	83.9	15.2	15.3	5	0	5	0	0.0	0.0
			W14	27.3	16.2	11.1	40.7					4	0	4	0	0.0	0.0
			W15	23.4	13.2	10.2	43.6					44	14	26	6	40.9	57.1

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	BEDROOM	W16	31.1	19.9	11.2	36.0	100.0	97.3	2.7	2.7	64	24	44	15	31.3	37.5
			W17	30.1	19.3	10.8	35.9					63	26	44	16	30.2	38.5
			W18	27.7	16.6	11.1	40.1					5	0	5	0	0.0	0.0
	R8	BEDROOM	W19	28.0	17.4	10.6	37.9	99.1	82.1	17.0	17.2	6	0	6	0	0.0	0.0
			W20	27.9	17.0	10.9	39.1					5	0	5	0	0.0	0.0
			W21	23.6	14.1	9.5	40.3					45	14	27	7	40.0	50.0
			W22	31.2	20.7	10.5	33.7					64	24	44	14	31.3	41.7
	R9	BEDROOM	W23	31.3	21.1	10.2	32.6	99.1	82.4	16.7	16.9	64	24	47	14	26.6	41.7
			W24	23.9	17.9	6.0	25.1					50	23	41	15	18.0	34.8
			W25	28.3	18.3	10.0	35.3					4	0	4	0	0.0	0.0
			W26	28.2	17.8	10.4	36.9					5	0	5	0	0.0	0.0
	R10	BEDROOM	W27	32.3	22.1	10.2	31.6	100.0	97.6	2.4	2.4	70	27	50	17	28.6	37.0
			W28	28.4	18.6	9.8	34.5					4	0	4	0	0.0	0.0
	R11	BEDROOM	W29	28.3	18.9	9.4	33.2	100.0	97.6	2.4	2.4	3	0	3	0	0.0	0.0
			W30	32.3	22.2	10.1	31.3					70	26	51	17	27.1	34.6
	R12	BEDROOM	W31	27.8	19.4	8.4	30.2	99.1	84.2	14.9	15.0	3	0	3	0	0.0	0.0
			W32	28.1	19.2	8.9	31.7					3	0	3	0	0.0	0.0
			W33	23.9	15.1	8.8	36.8					46	15	30	7	34.8	53.3
	R13	BEDROOM	W34	31.3	22.0	9.3	29.7	100.0	97.6	2.4	2.4	65	25	48	15	26.2	40.0
			W35	30.3	21.7	8.6	28.4					63	26	48	15	23.8	42.3
			W36	27.6	19.6	8.0	29.0					3	0	3	0	0.0	0.0
	R14	BEDROOM	W37	27.0	19.6	7.4	27.4	99.1	86.9	12.2	12.3	3	0	3	0	0.0	0.0
			W38	27.3	19.7	7.6	27.8					3	0	3	0	0.0	0.0
			W39	23.9	15.3	8.6	36.0					46	15	30	5	34.8	66.7
	R15	BEDROOM	W40	31.4	22.3	9.1	29.0	100.0	96.6	3.4	3.4	65	25	50	15	23.1	40.0
			W41	30.2	22.3	7.9	26.2					62	25	48	15	22.6	40.0
			W42	26.5	19.4	7.1	26.8					3	0	3	0	0.0	0.0
	R16	BEDROOM	W43	23.6	17.1	6.5	27.5	99.1	87.2	11.9	12.0	0	0	0	0	0.0	0.0
			W44	26.0	19.2	6.8	26.2					3	0	3	0	0.0	0.0
			W45	23.9	15.4	8.5	35.6					45	14	30	5	33.3	64.3
	R17	BED (ASSUMED)	W46	21.5	21.2	0.3	1.4	99.2	97.6	1.6	1.6	37	13	37	13	0.0	0.0
			W47	23.2	17.3	5.9	25.4					6	0	6	0	0.0	0.0
	R18	LKD (ASSUMED)	W48	28.7	20.0	8.7	30.3	98.4	98.1	0.3	0.3	58	19	44	10	24.1	47.4
			W49	32.7	23.9	8.8	26.9					64	24	53	16	17.2	33.3
			W50	32.8	23.9	8.9	27.1					64	24	53	16	17.2	33.3
			W51	32.8	24.0	8.8	26.8					63	23	53	16	15.9	30.4
			W52	3.5	3.5	0.0	0.0					9	0	9	0	0.0	0.0
			W53	30.3	29.5	0.8	2.6					51	19	48	16	5.9	15.8
			W54	8.2	6.6	1.6	19.5					25	13	24	12	4.0	7.7
128-132 LEVEN ROAD																	
F00	R1	KITCHEN	W1	14.5	14.4	0.1	0.7	33.8	33.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	LIVING ROOM	W2	29.6	24.6	5.0	16.9	97.3	97.1	0.2	0.2	62	22	53	16	14.5	27.3
			W3	30.9	26.2	4.7	15.2					71	24	60	17	15.5	29.2
			W4	30.9	26.0	4.9	15.9					67	22	55	16	17.9	27.3
			W5	29.5	24.6	4.9	16.6					62	22	52	16	16.1	27.3
			W6	23.3	23.2	0.1	0.4					37	13	36	12	2.7	7.7
	R3	LIVING ROOM	W7	29.7	24.0	5.7	19.2	96.3	90.4	5.9	6.1	63	23	55	18	12.7	21.7
			W8	31.2	25.7	5.5	17.6					71	24	61	18	14.1	25.0
			W9	31.1	25.6	5.5	17.7					68	23	57	17	16.2	26.1
			W10	29.7	24.3	5.4	18.2					62	22	55	18	11.3	18.2
	R4	KITCHEN	W11	16.2	15.9	0.3	1.9	74.9	74.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W12	29.4	22.7	6.7	22.8	98.5	97.0	1.5	1.5	25	4	19	2	24.0	50.0
			W13	29.8	23.5	6.3	21.1					61	21	53	16	13.1	23.8
			W14	31.2	25.2	6.0	19.2					69	22	60	17	13.0	22.7
			W15	31.1	25.1	6.0	19.3					67	22	56	16	16.4	27.3
			W16	29.6	23.7	5.9	19.9					63	23	53	17	15.9	26.1
	R6	KITCHEN	W17	16.9	16.5	0.4	2.4	80.4	78.2	2.2	2.7	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F01	R1	BEDROOM	W1	19.4	19.0	0.4	2.1	87.0	87.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	33.9	26.5	7.4	21.8	99.1	82.8	16.3	16.4	74	25	63	19	14.9	24.0
	R3	BEDROOM	W3	33.6	26.6	7.0	20.8	98.7	79.3	19.4	19.7	73	26	62	20	15.1	23.1
	R4	BEDROOM	W4	33.7	26.9	6.8	20.2	98.2	82.2	16.0	16.3	74	27	65	21	12.2	22.2
	R5	BEDROOM	W5	18.6	18.4	0.2	1.1	82.5	82.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	33.8	27.1	6.7	19.8	98.7	72.2	26.5	26.8	73	26	65	21	11.0	19.2
	R7	BEDROOM	W7	33.7	27.4	6.3	18.7	98.4	79.0	19.4	19.7	74	27	63	20	14.9	25.9
	R8	BEDROOM	W8	33.9	27.7	6.2	18.3	99.1	85.8	13.3	13.4	76	27	63	20	17.1	25.9
	R9	BEDROOM	W9	17.0	16.7	0.3	1.8	45.9	45.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	6.6	6.2	0.4	6.1	83.4	83.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	30.6	22.6	8.0	26.1	99.1	85.8	13.3	13.4	67	26	58	21	13.4	19.2
	R3	BEDROOM	W3	30.5	22.8	7.7	25.2	98.7	82.1	16.6	16.8	67	27	57	21	14.9	22.2
	R4	BEDROOM	W4	30.6	23.1	7.5	24.5	98.2	85.5	12.7	12.9	68	28	58	21	14.7	25.0
	R5	BEDROOM	W5	6.1	5.8	0.3	4.9	78.9	78.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	30.6	23.3	7.3	23.9	98.7	75.8	22.9	23.2	68	28	58	21	14.7	25.0
	R7	BEDROOM	W7	30.7	23.6	7.1	23.1	98.4	82.8	15.6	15.9	68	28	56	20	17.6	28.6
	R8	BEDROOM	W8	30.7	24.0	6.7	21.8	99.1	89.1	10.0	10.1	68	28	55	20	19.1	28.6
	R9	BEDROOM	W9	4.4	4.1	0.3	6.8	40.5	40.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
134-144 LEVEN ROAD																	
F00	R1	LIVING ROOM	W1	13.8	13.6	0.2	1.4	98.9	82.1	16.8	17.0	6	0	6	0	0.0	0.0
			W2	29.9	26.2	3.7	12.4					59	20	53	16	10.2	20.0
	R2	KITCHEN	W3	21.1	17.4	3.7	17.5	94.4	83.2	11.2	11.9	39	10	31	6	20.5	40.0
			W4	31.4	27.8	3.6	11.5					72	23	61	18	15.3	21.7
	R3	LIVING ROOM	W5	13.7	13.6	0.1	0.7	97.8	86.4	11.4	11.7	5	0	5	0	0.0	0.0
			W6	26.3	24.5	1.8	6.8					55	21	51	18	7.3	14.3
	R4	KITCHEN	W7	21.0	18.0	3.0	14.3	99.2	91.1	8.1	8.2	40	11	33	8	17.5	27.3
			W8	31.5	28.4	3.1	9.8					73	24	63	20	13.7	16.7
	R5	LIVING ROOM	W9	14.3	14.2	0.1	0.7	99.1	90.4	8.7	8.8	6	0	6	0	0.0	0.0
			W10	27.0	25.2	1.8	6.7					58	21	55	19	5.2	9.5
	R6	KITCHEN	W11	21.2	18.3	2.9	13.7	99.5	94.4	5.1	5.1	41	12	36	9	12.2	25.0
			W12	31.9	28.9	3.0	9.4					74	25	66	21	10.8	16.0
	R7	LIVING ROOM	W13	16.1	16.0	0.1	0.6	99.1	94.7	4.4	4.4	6	0	6	0	0.0	0.0
			W14	27.1	25.4	1.7	6.3					59	22	56	20	5.1	9.1
	R8	KITCHEN	W15	21.3	18.6	2.7	12.7	99.5	96.0	3.5	3.5	40	11	36	9	10.0	18.2
			W16	31.7	28.9	2.8	8.8					73	24	66	21	9.6	12.5
	R9	LIVING ROOM	W17	18.8	18.8	0.0	0.0	99.7	97.7	2.0	2.0	5	0	5	0	0.0	0.0
			W18	28.2	26.3	1.9	6.7					60	22	58	21	3.3	4.5
	R10	KITCHEN	W19	21.1	18.7	2.4	11.4	97.7	93.9	3.8	3.9	40	11	36	9	10.0	18.2
			W20	24.2	21.6	2.6	10.7					47	14	40	12	14.9	14.3
	R11	LKD (ASSUMED)	W21	30.9	28.7	2.2	7.1	99.0	99.0	0.0	0.0	67	23	62	21	7.5	8.7
			W22	31.0	28.8	2.2	7.1					67	24	62	22	7.5	8.3
			W23	31.3	29.3	2.0	6.4					67	23	62	21	7.5	8.7
			W24	11.2	11.2	0.0	0.0					39	8	38	7	2.6	12.5
			W25	28.5	28.4	0.1	0.4					52	21	52	21	0.0	0.0
			W26	10.1	10.1	0.0	0.0					8	0	8	0	0.0	0.0
	R12	BED (ASSUMED)	W27	27.6	27.6	0.0	0.0	98.4	98.4	0.0	0.0	49	18	49	18	0.0	0.0
			W28	19.1	19.1	0.0	0.0					5	0	5	0	0.0	0.0
F01	R1	BEDROOM	W1	13.9	13.6	0.3	2.2	99.2	97.0	2.2	2.2	4	0	4	0	0.0	0.0
			W2	30.6	25.9	4.7	15.4					64	25	55	19	14.1	24.0
	R2	BEDROOM	W3	13.8	13.5	0.3	2.2	51.6	47.5	4.1	7.9	N/A	N/A	N/A	N/A	N/A	N/A
			W4	13.8	13.5	0.3	2.2					N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	13.8	13.6	0.2	1.4	98.9	95.3	3.6	3.6	3	0	3	0	0.0	0.0
			W6	27.2	23.8	3.4	12.5					57	24	52	20	8.8	16.7
	R4	BEDROOM	W7	14.0	13.9	0.1	0.7	52.8	50.8	2.0	3.8	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W8	13.9	13.7	0.2	1.4					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W9	14.3	14.2	0.1	0.7	99.5	97.3	2.2	2.2	3	0	3	0	0.0	0.0
			W10	28.0	24.6	3.4	12.1					59	26	52	20	11.9	23.1
	R6	BEDROOM	W11	15.0	15.0	0.0	0.0	79.1	79.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W12	14.7	14.6	0.1	0.7					N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W13	15.9	15.9	0.0	0.0	99.5	98.4	1.1	1.1	3	0	3	0	0.0	0.0
			W14	27.9	24.9	3.0	10.8					59	26	54	22	8.5	15.4
	R8	BEDROOM	W15	17.9	17.9	0.0	0.0	89.7	89.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	17.1	17.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W17	18.4	18.4	0.0	0.0	99.5	98.9	0.6	0.6	3	0	3	0	0.0	0.0
			W18	29.0	26.1	2.9	10.0					61	25	57	22	6.6	12.0
	R10	BEDROOM	W19	18.2	18.2	0.0	0.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	18.7	18.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R11	LKD (ASSUMED)	W21	33.0	29.9	3.1	9.4	99.0	99.0	0.0	0.0	69	25	63	22	8.7	12.0
			W22	33.0	30.0	3.0	9.1					69	25	63	22	8.7	12.0
			W23	33.2	30.3	2.9	8.7					68	24	63	22	7.4	8.3
			W24	20.4	19.9	0.5	2.5					54	23	53	22	1.9	4.3
			W25	28.2	28.1	0.1	0.4					48	20	47	19	2.1	5.0
			W26	10.3	10.3	0.0	0.0					9	0	9	0	0.0	0.0
	R12	BED (ASSUMED)	W27	26.3	26.2	0.1	0.4	98.1	98.1	0.0	0.0	44	16	44	16	0.0	0.0
			W28	20.7	20.7	0.0	0.0					5	0	5	0	0.0	0.0
177-195 ABBOTT ROAD																	
F00	R1	KITCHEN	W1	30.7	17.5	13.2	43.0	94.7	57.9	36.8	38.9	65	24	38	13	41.5	45.8
	R2	LIVING ROOM	W2	26.0	24.4	1.6	6.2	98.5	81.5	17.0	17.3	9	0	9	0	0.0	0.0
			W3	26.8	25.3	1.5	5.6					9	0	9	0	0.0	0.0
			W4	24.7	21.3	3.4	13.8					4	0	1	0	75.0	0.0
			W5	26.8	15.2	11.6	43.3					33	7	13	0	60.6	100.0
	R3	LIVING ROOM	W6	15.8	14.7	1.1	7.0	96.6	77.1	19.5	20.2	0	0	0	0	0.0	0.0
			W7	19.1	18.9	0.2	1.0					3	0	3	0	0.0	0.0
			W8	29.1	18.0	11.1	38.1					61	25	41	14	32.8	44.0
	R4	KITCHEN	W9	25.9	24.6	1.3	5.0	60.6	59.8	0.8	1.3	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W10	17.5	16.3	1.2	6.9	98.5	81.1	17.4	17.7	0	0	0	0	0.0	0.0
			W11	23.7	23.0	0.7	3.0					3	0	3	0	0.0	0.0
			W12	32.7	21.7	11.0	33.6					70	25	46	14	34.3	44.0
	R6	KITCHEN	W13	26.0	24.9	1.1	4.2	62.2	60.6	1.6	2.6	N/A	N/A	N/A	N/A	N/A	N/A
	R7	LIVING ROOM	W14	17.2	16.4	0.8	4.7	98.5	83.0	15.5	15.7	0	0	0	0	0.0	0.0
			W15	23.4	22.9	0.5	2.1					3	0	3	0	0.0	0.0
			W16	32.8	22.7	10.1	30.8					70	25	48	16	31.4	36.0
	R8	KITCHEN	W17	21.7	21.0	0.7	3.2	67.3	65.0	2.3	3.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	LIVING ROOM	W18	25.3	24.7	0.6	2.4	54.7	54.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W19	25.7	25.3	0.4	1.6					N/A	N/A	N/A	N/A	N/A	N/A
	R10	KITCHEN	W20	31.1	21.8	9.3	29.9	95.2	79.2	16.0	16.8	65	24	50	16	23.1	33.3
	R11	KITCHEN	W21	31.1	23.1	8.0	25.7	94.7	93.8	0.9	1.0	65	26	52	19	20.0	26.9
	R12	LIVING ROOM	W22	26.0	25.6	0.4	1.5	54.7	54.6	0.1	0.2	N/A	N/A	N/A	N/A	N/A	N/A
			W23	25.2	24.7	0.5	2.0					N/A	N/A	N/A	N/A	N/A	N/A
	R13	KITCHEN	W24	21.2	21.1	0.1	0.5	77.7	77.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	LIVING ROOM	W25	33.3	25.9	7.4	22.2	98.5	96.1	2.4	2.4	70	25	57	18	18.6	28.0
			W26	23.7	23.3	0.4	1.7					1	0	1	0	0.0	0.0
			W27	16.9	16.9	0.0	0.0					3	0	3	0	0.0	0.0
	R15	KITCHEN	W28	25.8	25.3	0.5	1.9	88.0	87.6	0.4	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R16	LIVING ROOM	W29	33.4	26.7	6.7	20.1	98.5	97.1	1.4	1.4	70	25	59	19	15.7	24.0
			W30	24.0	23.6	0.4	1.7					0	0	0	0	0.0	0.0
			W31	17.1	17.1	0.0	0.0					1	0	1	0	0.0	0.0
	R17	KITCHEN	W32	25.5	25.1	0.4	1.6	100.0	98.4	1.6	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R18	LIVING ROOM	W33	30.8	24.8	6.0	19.5	97.3	97.0	0.3	0.3	61	22	51	17	16.4	22.7
			W34	19.5	19.2	0.3	1.5					0	0	0	0	0.0	0.0
			W35	15.6	15.6	0.0	0.0					0	0	0	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R19	LIVING ROOM	W36	26.3	26.0	0.3	1.1	72.5	71.7	0.8	1.1	N/A	N/A	N/A	N/A	N/A	N/A
			W37	25.3	25.0	0.3	1.2					N/A	N/A	N/A	N/A	N/A	N/A
	R20	KITCHEN	W38	33.1	27.8	5.3	16.0	97.7	97.7	0.0	0.0	67	25	62	21	7.5	16.0
	R21	LIVING ROOM	W39	29.0	24.5	4.5	15.5	96.1	92.8	3.3	3.4	56	22	52	19	7.1	13.6
			W40	18.0	18.0	0.0	0.0					16	1	16	1	0.0	0.0
			W41	27.9	27.6	0.3	1.1					10	0	9	0	10.0	0.0
			W42	16.2	15.0	1.2	7.4					1	0	0	0	100.0	0.0
F01	R1	BEDROOM	W1	28.2	26.3	1.9	6.7	99.2	97.6	1.6	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.8	15.9	12.9	44.8	96.9	45.9	51.0	52.6	60	25	35	14	41.7	44.0
	R3	BEDROOM	W3	28.9	16.2	12.7	43.9	97.6	60.1	37.5	38.4	61	26	37	14	39.3	46.2
	R4	BEDROOM	W4	20.9	20.9	0.0	0.0	96.4	94.8	1.6	1.7	7	0	7	0	0.0	0.0
			W5	25.9	16.3	9.6	37.1					54	24	39	14	27.8	41.7
	R5	BEDROOM	W6	30.2	18.8	11.4	37.7	97.3	77.0	20.3	20.9	66	26	44	14	33.3	46.2
			W7	30.4	19.2	11.2	36.8					66	26	43	14	34.8	46.2
	R6	BEDROOM	W8	25.1	24.0	1.1	4.4	98.7	98.4	0.3	0.3	6	0	6	0	0.0	0.0
			W9	30.3	19.6	10.7	35.3					66	26	46	15	30.3	42.3
	R7	BEDROOM	W10	30.4	20.0	10.4	34.2	97.3	81.0	16.3	16.8	66	26	46	16	30.3	38.5
			W11	30.4	20.4	10.0	32.9					66	26	47	16	28.8	38.5
	R8	BEDROOM	W12	24.6	23.8	0.8	3.3	98.7	98.4	0.3	0.3	3	0	3	0	0.0	0.0
			W13	30.4	20.8	9.6	31.6					65	25	49	17	24.6	32.0
	R9	BEDROOM	W14	30.4	21.0	9.4	30.9	97.8	85.3	12.5	12.8	65	25	51	17	21.5	32.0
			W15	28.3	19.1	9.2	32.5					59	22	45	14	23.7	36.4
	R10	BEDROOM	W16	27.1	26.3	0.8	3.0	91.9	91.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W17	31.5	22.6	8.9	28.3	94.6	77.3	17.3	18.3	66	26	51	17	22.7	34.6
	R12	BEDROOM	W18	31.5	22.9	8.6	27.3	92.1	79.8	12.3	13.4	65	25	52	18	20.0	28.0
	R13	BEDROOM	W19	31.5	23.4	8.1	25.7	93.9	93.9	0.0	0.0	65	25	52	18	20.0	28.0
	R14	BEDROOM	W20	31.6	23.8	7.8	24.7	93.8	88.9	4.9	5.2	65	25	52	18	20.0	28.0
	R15	BEDROOM	W21	26.2	25.6	0.6	2.3	91.5	91.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W22	28.2	22.1	6.1	21.6	97.8	93.3	4.5	4.6	60	25	51	18	15.0	28.0
			W23	30.7	23.5	7.2	23.5					65	25	55	18	15.4	28.0
	R17	BEDROOM	W24	30.8	23.8	7.0	22.7	99.7	99.0	0.7	0.7	65	25	55	18	15.4	28.0
			W25	24.7	24.2	0.5	2.0					0	0	0	0	0.0	0.0
	R18	BEDROOM	W26	30.8	24.1	6.7	21.8	98.0	94.4	3.6	3.7	65	25	56	19	13.8	24.0
			W27	30.8	24.4	6.4	20.8					65	25	58	20	10.8	20.0
	R19	BEDROOM	W28	30.9	24.6	6.3	20.4	100.0	99.3	0.7	0.7	65	25	59	20	9.2	20.0
			W29	25.0	24.6	0.4	1.6					0	0	0	0	0.0	0.0
	R20	BEDROOM	W30	30.9	24.8	6.1	19.7	97.3	93.7	3.6	3.7	66	26	58	20	12.1	23.1
			W31	30.8	25.0	5.8	18.8					66	26	58	20	12.1	23.1
	R21	BEDROOM	W32	27.2	21.6	5.6	20.6	100.0	99.7	0.3	0.3	55	20	47	14	14.5	30.0
			W33	21.9	21.5	0.4	1.8					0	0	0	0	0.0	0.0
	R22	BEDROOM	W34	29.3	23.8	5.5	18.8	97.7	97.7	0.0	0.0	61	26	54	21	11.5	19.2
	R23	BEDROOM	W35	29.2	24.1	5.1	17.5	97.7	97.7	0.0	0.0	61	26	54	21	11.5	19.2
			W36	25.2	22.5	2.7	10.7					51	24	49	22	3.9	8.3
			W37	31.0	26.5	4.5	14.5					63	26	58	22	7.9	15.4
	R24	BEDROOM	W38	22.3	21.9	0.4	1.8	97.9	97.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R25	BEDROOM	W39	31.7	31.6	0.1	0.3	99.7	99.7	0.0	0.0	47	15	46	14	2.1	6.7
			W40	19.3	19.0	0.3	1.6					1	0	1	0	0.0	0.0
			W41	19.2	18.9	0.3	1.6					1	0	1	0	0.0	0.0
F02	R1	BEDROOM	W1	26.8	24.8	2.0	7.5	97.2	97.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	29.0	28.0	1.0	3.4	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
199-225 ABBOTT ROAD																	
F00	R1	BEDROOM	W1	19.1	8.3	10.8	56.5	98.9	85.9	13.0	13.1	30	8	11	0	63.3	100.0
			W2	28.7	12.5	16.2	56.4					61	21	32	5	47.5	76.2
			W3	27.3	17.8	9.5	34.8					52	20	32	5	38.5	75.0
	R2	BEDROOM	W4	14.2	10.7	3.5	24.6	87.0	58.5	28.5	32.8	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W5	18.5	0.8	17.7	95.7					N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W6	23.5	20.4	3.1	13.2	98.4	95.2	3.2	3.3	N/A	N/A	N/A	N/A	N/A	N/A
			W7	18.1	7.9	10.2	56.4					N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W8	3.5	3.5	0.0	0.0	96.2	83.0	13.2	13.7	3	0	3	0	0.0	0.0
			W9	9.3	9.1	0.2	2.2					5	0	5	0	0.0	0.0
			W10	6.2	6.2	0.0	0.0					1	0	1	0	0.0	0.0
			W11	22.3	19.3	3.0	13.5					0	0	0	0	0.0	0.0
	R5	BEDROOM	W12	11.3	9.3	2.0	17.7	77.8	64.6	13.2	17.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W13	22.5	8.9	13.6	60.4	99.6	96.3	3.3	3.3	37	11	14	1	62.2	90.9
			W14	31.4	14.0	17.4	55.4					66	23	38	8	42.4	65.2
			W15	24.8	15.9	8.9	35.9					46	20	31	7	32.6	65.0
	R7	BEDROOM	W16	22.4	8.3	14.1	62.9	99.3	95.6	3.7	3.7	38	11	17	1	55.3	90.9
			W17	32.2	15.0	17.2	53.4					67	23	39	7	41.8	69.6
			W18	27.2	18.1	9.1	33.5					52	20	37	7	28.8	65.0
	R8	BEDROOM	W19	11.4	10.3	1.1	9.6	78.1	70.8	7.3	9.3	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W20	26.5	23.3	3.2	12.1	91.4	85.7	5.7	6.2	9	0	9	0	0.0	0.0
			W21	16.4	14.7	1.7	10.4					0	0	0	0	0.0	0.0
			W22	9.8	8.8	1.0	10.2					0	0	0	0	0.0	0.0
			W23	3.5	3.1	0.4	11.4					0	0	0	0	0.0	0.0
	R10	L/K/D	W24	3.6	3.6	0.0	0.0	92.1	83.7	8.4	9.1	3	0	3	0	0.0	0.0
			W25	9.7	9.4	0.3	3.1					6	0	6	0	0.0	0.0
			W26	16.5	14.4	2.1	12.7					1	0	1	0	0.0	0.0
			W27	25.8	22.5	3.3	12.8					4	0	4	0	0.0	0.0
	R11	BEDROOM	W28	11.3	9.6	1.7	15.0	77.4	70.8	6.6	8.5	N/A	N/A	N/A	N/A	N/A	N/A
	R12	BEDROOM	W29	25.7	11.0	14.7	57.2	99.6	97.8	1.8	1.8	42	13	21	3	50.0	76.9
			W30	32.9	16.3	16.6	50.5					70	25	43	9	38.6	64.0
			W31	24.7	15.4	9.3	37.7					46	20	30	6	34.8	70.0
	R13	BEDROOM	W32	24.4	10.2	14.2	58.2	99.3	97.8	1.5	1.5	42	13	19	2	54.8	84.6
			W33	33.1	16.8	16.3	49.2					71	25	42	8	40.8	68.0
			W34	27.1	17.7	9.4	34.7					52	20	36	6	30.8	70.0
	R14	BEDROOM	W35	11.4	9.7	1.7	14.9	78.8	66.3	12.5	15.9	N/A	N/A	N/A	N/A	N/A	N/A
	R15	L/K/D	W36	21.4	18.0	3.4	15.9	93.2	83.5	9.7	10.4	0	0	0	0	0.0	0.0
			W37	16.9	14.5	2.4	14.2					0	0	0	0	0.0	0.0
			W38	9.8	8.5	1.3	13.3					0	0	0	0	0.0	0.0
			W39	3.5	3.2	0.3	8.6					0	0	0	0	0.0	0.0
	R16	L/K/D	W40	3.6	3.6	0.0	0.0	94.3	93.0	1.3	1.4	3	0	3	0	0.0	0.0
			W41	9.6	9.5	0.1	1.0					6	0	6	0	0.0	0.0
			W42	16.5	14.7	1.8	10.9					1	0	1	0	0.0	0.0
			W43	26.3	22.9	3.4	12.9					9	0	9	0	0.0	0.0
	R17	BEDROOM	W44	11.4	10.1	1.3	11.4	77.4	70.8	6.6	8.5	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W45	26.8	13.0	13.8	51.5	99.6	98.9	0.7	0.7	43	13	21	3	51.2	76.9
			W46	33.2	17.5	15.7	47.3					71	25	40	5	43.7	80.0
			W47	24.6	15.1	9.5	38.6					46	20	29	4	37.0	80.0
	R19	BEDROOM	W48	24.9	12.1	12.8	51.4	99.3	98.9	0.4	0.4	43	14	22	3	48.8	78.6
			W49	33.2	17.7	15.5	46.7					73	27	39	5	46.6	81.5
			W50	27.0	17.4	9.6	35.6					54	22	36	6	33.3	72.7
	R20	BEDROOM	W51	11.4	9.5	1.9	16.7	79.2	61.5	17.7	22.3	N/A	N/A	N/A	N/A	N/A	N/A
	R21	L/K/D	W52	25.5	22.2	3.3	12.9	94.6	85.2	9.4	9.9	8	0	8	0	0.0	0.0
			W53	12.4	10.3	2.1	16.9					4	0	1	0	75.0	0.0
			W54	16.9	13.8	3.1	18.3					0	0	0	0	0.0	0.0
			W55	9.8	8.2	1.6	16.3					0	0	0	0	0.0	0.0
			W56	3.5	3.2	0.3	8.6					0	0	0	0	0.0	0.0
	R22	L/K/D	W57	3.5	3.5	0.0	0.0	94.6	94.3	0.3	0.3	3	0	3	0	0.0	0.0
			W58	9.5	9.5	0.0	0.0					6	0	6	0	0.0	0.0
			W59	16.2	15.0	1.2	7.4					1	0	1	0	0.0	0.0
			W60	25.3	22.1	3.2	12.6					9	0	9	0	0.0	0.0
	R23	BEDROOM	W61	11.3	10.6	0.7	6.2	78.8	71.2	7.6	9.6	N/A	N/A	N/A	N/A	N/A	N/A
	R24	BEDROOM	W62	27.2	14.6	12.6	46.3	99.6	96.7	2.9	2.9	45	15	24	4	46.7	73.3
			W63	33.2	17.6	15.6	47.0					73	27	41	5	43.8	81.5

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W64	24.5	14.8	9.7	39.6					46	20	29	4	37.0	80.0
	R25	BEDROOM	W65	25.2	13.1	12.1	48.0	99.3	95.9	3.4	3.4	43	14	24	3	44.2	78.6
			W66	33.2	17.5	15.7	47.3					72	26	39	4	45.8	84.6
			W67	26.8	17.1	9.7	36.2					53	21	35	4	34.0	81.0
	R26	BEDROOM	W68	11.4	9.4	2.0	17.5	78.8	66.0	12.8	16.2	N/A	N/A	N/A	N/A	N/A	N/A
	R27	L/K/D	W69	27.6	24.3	3.3	12.0	95.0	83.5	11.5	12.1	8	0	8	0	0.0	0.0
			W70	17.0	13.3	3.7	21.8					0	0	0	0	0.0	0.0
			W71	9.8	8.4	1.4	14.3					0	0	0	0	0.0	0.0
			W72	3.5	3.3	0.2	5.7					0	0	0	0	0.0	0.0
	R28	L/K/D	W73	9.4	9.4	0.0	0.0	96.2	91.9	4.3	4.5	3	0	3	0	0.0	0.0
			W74	13.7	13.7	0.0	0.0					12	0	12	0	0.0	0.0
			W75	16.2	16.2	0.0	0.0					19	1	19	1	0.0	0.0
			W76	27.5	24.3	3.2	11.6					9	0	9	0	0.0	0.0
	R29	BEDROOM	W77	11.8	11.0	0.8	6.8	79.5	74.7	4.8	6.0	N/A	N/A	N/A	N/A	N/A	N/A
	R30	BEDROOM	W78	27.4	15.0	12.4	45.3	99.6	89.3	10.3	10.3	44	13	22	3	50.0	76.9
			W79	33.1	17.0	16.1	48.6					72	25	38	6	47.2	76.0
			W80	24.4	14.5	9.9	40.6					46	20	28	5	39.1	75.0
	R31	BEDROOM	W81	25.3	13.3	12.0	47.4	99.3	86.7	12.6	12.7	43	13	20	2	53.5	84.6
			W82	33.0	16.9	16.1	48.8					72	25	39	5	45.8	80.0
			W83	26.8	17.0	9.8	36.6					53	21	35	5	34.0	76.2
	R32	BEDROOM	W84	12.1	9.8	2.3	19.0	87.8	80.2	7.6	8.7	N/A	N/A	N/A	N/A	N/A	N/A
	R33	L/K/D	W85	27.2	24.0	3.2	11.8	97.3	91.1	6.2	6.4	N/A	N/A	N/A	N/A	N/A	N/A
			W86	15.8	13.8	2.0	12.7					N/A	N/A	N/A	N/A	N/A	N/A
			W87	11.5	10.1	1.4	12.2					N/A	N/A	N/A	N/A	N/A	N/A
	R34	L/K/D	W88	25.6	22.6	3.0	11.7	79.1	73.6	5.5	7.0	N/A	N/A	N/A	N/A	N/A	N/A
	R35	BEDROOM	W89	6.2	6.1	0.1	1.6	72.9	69.4	3.5	4.8	N/A	N/A	N/A	N/A	N/A	N/A
	R36	BEDROOM	W90	27.5	15.0	12.5	45.5	99.6	94.8	4.8	4.8	44	13	20	1	54.5	92.3
			W91	32.8	16.8	16.0	48.8					72	25	39	6	45.8	76.0
			W92	14.8	5.9	8.9	60.1					31	14	13	0	58.1	100.0
	R37	BEDROOM	W93	15.0	7.2	7.8	52.0	99.3	82.7	16.6	16.7	29	10	13	0	55.2	100.0
			W94	32.6	16.9	15.7	48.2					71	24	41	8	42.3	66.7
			W95	26.9	18.5	8.4	31.2					53	21	34	8	35.8	61.9
	R38	BEDROOM	W96	5.6	5.3	0.3	5.4	75.3	75.0	0.3	0.4	N/A	N/A	N/A	N/A	N/A	N/A
	R39	L/K/D	W97	24.8	23.0	1.8	7.3	83.5	80.1	3.4	4.1	9	0	9	0	0.0	0.0
			W98	9.3	8.5	0.8	8.6					0	0	0	0	0.0	0.0
			W99	1.3	1.2	0.1	7.7					0	0	0	0	0.0	0.0
			W100	0.9	0.9	0.0	0.0					0	0	0	0	0.0	0.0
	R40	L/K/D	W101	3.8	3.8	0.0	0.0	88.9	88.7	0.2	0.2	4	0	4	0	0.0	0.0
			W102	10.1	10.1	0.0	0.0					7	0	7	0	0.0	0.0
			W103	15.5	15.5	0.0	0.0					2	0	2	0	0.0	0.0
			W104	26.0	24.0	2.0	7.7					9	0	9	0	0.0	0.0
	R41	BEDROOM	W105	10.8	10.8	0.0	0.0	79.9	79.2	0.7	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R42	BEDROOM	W106	27.8	14.1	13.7	49.3	99.6	80.4	19.2	19.3	43	12	17	1	60.5	91.7
			W107	32.5	17.0	15.5	47.7					70	23	38	9	45.7	60.9
			W108	24.4	16.7	7.7	31.6					47	20	29	10	38.3	50.0
	R43	BEDROOM	W109	25.4	12.3	13.1	51.6	99.3	61.3	38.0	38.3	42	12	15	1	64.3	91.7
			W110	32.5	17.1	15.4	47.4					71	24	39	10	45.1	58.3
			W111	28.1	20.8	7.3	26.0					56	22	38	12	32.1	45.5
	R44	BEDROOM	W112	11.4	10.2	1.2	10.5	80.6	72.2	8.4	10.4	N/A	N/A	N/A	N/A	N/A	N/A
	R45	L/K/D	W113	21.6	19.7	1.9	8.8	94.1	91.0	3.1	3.3	0	0	0	0	0.0	0.0
			W114	17.8	15.9	1.9	10.7					6	0	6	0	0.0	0.0
			W115	16.8	14.5	2.3	13.7					0	0	0	0	0.0	0.0
			W116	10.4	9.6	0.8	7.7					0	0	0	0	0.0	0.0
			W117	3.7	3.6	0.1	2.7					0	0	0	0	0.0	0.0
F01	R1	BEDROOM	W1	27.5	23.0	4.5	16.4	97.0	90.4	6.6	6.8	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.5	23.9	4.6	16.1	98.0	91.9	6.1	6.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	29.8	25.0	4.8	16.1	97.0	89.3	7.7	7.9	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	30.0	25.1	4.9	16.3	98.0	89.8	8.2	8.4	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	BEDROOM	W5	30.4	25.3	5.1	16.8	97.0	88.3	8.7	9.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	30.5	25.3	5.2	17.0	98.0	87.8	10.2	10.4	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	30.5	25.3	5.2	17.0	97.0	88.8	8.2	8.5	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	30.4	25.3	5.1	16.8	98.0	86.8	11.2	11.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	30.3	25.4	4.9	16.2	97.0	91.4	5.6	5.8	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	30.2	25.4	4.8	15.9	98.5	90.9	7.6	7.7	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	30.0	25.5	4.5	15.0	98.7	97.8	0.9	0.9	N/A	N/A	N/A	N/A	N/A	N/A
			W12	25.9	18.6	7.3	28.2					N/A	N/A	N/A	N/A	N/A	N/A
			W13	22.7	16.8	5.9	26.0					N/A	N/A	N/A	N/A	N/A	N/A
	R12	BEDROOM	W14	29.9	25.6	4.3	14.4	97.8	82.5	15.3	15.6	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W15	20.0	18.2	1.8	9.0	94.2	91.1	3.1	3.3	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W16	19.7	18.3	1.4	7.1	95.1	86.7	8.4	8.8	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BEDROOM	W17	29.2	25.5	3.7	12.7	98.5	95.9	2.6	2.6	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W18	29.5	25.6	3.9	13.2	97.0	94.9	2.1	2.2	N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W19	28.6	25.5	3.1	10.8	96.6	95.6	1.0	1.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W20	33.0	17.7	15.3	46.4	97.7	93.8	3.9	4.0	67	24	40	11	40.3	54.2
			W21	33.0	17.8	15.2	46.1					68	25	42	12	38.2	52.0
	R19	BEDROOM	W22	25.0	22.3	2.7	10.8	95.4	88.2	7.2	7.5	N/A	N/A	N/A	N/A	N/A	N/A
	R20	BEDROOM	W23	24.4	23.3	1.1	4.5	94.7	94.5	0.2	0.2	N/A	N/A	N/A	N/A	N/A	N/A
	R21	BEDROOM	W24	33.1	17.7	15.4	46.5	97.4	93.3	4.1	4.2	67	24	41	10	38.8	58.3
			W25	33.1	17.7	15.4	46.5					67	24	41	11	38.8	54.2
	R22	BEDROOM	W26	33.8	18.1	15.7	46.4	98.0	94.8	3.2	3.3	68	24	42	8	38.2	66.7
			W27	33.8	18.1	15.7	46.4					68	24	44	9	35.3	62.5
	R23	BEDROOM	W28	33.4	17.7	15.7	47.0	97.4	93.6	3.8	3.9	68	25	39	6	42.6	76.0
			W29	33.2	17.6	15.6	47.0					68	25	40	7	41.2	72.0
	R24	BEDROOM	W30	33.4	17.9	15.5	46.4	98.0	94.8	3.2	3.3	68	25	40	7	41.2	72.0
			W31	33.4	17.7	15.7	47.0					68	25	39	6	42.6	76.0
	R25	BEDROOM	W32	26.2	22.2	4.0	15.3	95.7	85.5	10.2	10.7	N/A	N/A	N/A	N/A	N/A	N/A
	R26	BEDROOM	W33	25.3	22.9	2.4	9.5	95.3	91.4	3.9	4.1	N/A	N/A	N/A	N/A	N/A	N/A
	R27	BEDROOM	W34	33.5	18.1	15.4	46.0	97.4	92.3	5.1	5.2	68	25	39	7	42.6	72.0
			W35	33.5	17.9	15.6	46.6					68	25	39	7	42.6	72.0
	R28	BEDROOM	W36	33.4	18.3	15.1	45.2	98.0	93.4	4.6	4.7	69	26	40	6	42.0	76.9
			W37	33.5	18.1	15.4	46.0					68	25	41	8	39.7	68.0
	R29	BEDROOM	W38	26.2	21.7	4.5	17.2	95.4	82.4	13.0	13.6	N/A	N/A	N/A	N/A	N/A	N/A
	R30	BEDROOM	W39	25.5	22.5	3.0	11.8	95.0	87.8	7.2	7.6	N/A	N/A	N/A	N/A	N/A	N/A
	R31	BEDROOM	W40	33.4	18.4	15.0	44.9	97.4	91.7	5.7	5.9	70	27	41	7	41.4	74.1
			W41	33.4	18.4	15.0	44.9					70	27	41	7	41.4	74.1
	R32	BEDROOM	W42	33.3	18.2	15.1	45.3	98.0	91.8	6.2	6.3	69	27	40	8	42.0	70.4
			W43	33.4	18.3	15.1	45.2					70	27	42	10	40.0	63.0
	R33	BEDROOM	W44	26.0	21.5	4.5	17.3	95.4	81.2	14.2	14.9	N/A	N/A	N/A	N/A	N/A	N/A
	R34	BEDROOM	W45	25.8	22.2	3.6	14.0	95.0	85.6	9.4	9.9	N/A	N/A	N/A	N/A	N/A	N/A
	R35	BEDROOM	W46	33.3	17.8	15.5	46.5	97.4	91.1	6.3	6.5	69	26	41	9	40.6	65.4
			W47	33.3	18.0	15.3	45.9					69	26	40	9	42.0	65.4
	R36	BEDROOM	W48	33.2	17.1	16.1	48.5	98.0	92.1	5.9	6.0	67	25	40	9	40.3	64.0
			W49	33.2	17.4	15.8	47.6					68	26	40	9	41.2	65.4
	R37	BEDROOM	W50	26.0	21.7	4.3	16.5	95.4	83.5	11.9	12.5	N/A	N/A	N/A	N/A	N/A	N/A
	R38	BEDROOM	W51	25.8	21.7	4.1	15.9	95.4	84.7	10.7	11.2	N/A	N/A	N/A	N/A	N/A	N/A
	R39	BEDROOM	W52	33.0	16.3	16.7	50.6	97.4	92.3	5.1	5.2	67	25	40	11	40.3	56.0
			W53	33.0	16.6	16.4	49.7					67	25	39	8	41.8	68.0
	R40	BEDROOM	W54	32.6	15.1	17.5	53.7	97.7	93.1	4.6	4.7	67	25	39	10	41.8	60.0
			W55	32.8	15.6	17.2	52.4					67	25	42	12	37.3	52.0
	R41	BEDROOM	W56	25.4	21.8	3.6	14.2	95.4	87.6	7.8	8.2	N/A	N/A	N/A	N/A	N/A	N/A
	R42	BEDROOM	W57	26.0	21.7	4.3	16.5	95.7	85.8	9.9	10.3	N/A	N/A	N/A	N/A	N/A	N/A
	R43	BEDROOM	W58	32.0	13.8	18.2	56.9	98.0	93.4	4.6	4.7	65	23	34	9	47.7	60.9
			W59	32.3	14.4	17.9	55.4					66	24	36	9	45.5	62.5
	R44	BEDROOM	W60	30.9	12.5	18.4	59.5	97.1	92.0	5.1	5.3	65	23	31	6	52.3	73.9
			W61	31.5	13.1	18.4	58.4					65	23	31	7	52.3	69.6
	R45	BEDROOM	W62	25.9	19.9	6.0	23.2	81.2	69.5	11.7	14.4	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
49-67 ABBOTT ROAD																	
F00	R1	KITCHEN	W1	32.2	30.8	1.4	4.3	99.5	99.5	0.0	0.0	72	25	69	22	4.2	12.0
	R2	LIVING ROOM	W2	24.3	24.3	0.0	0.0	73.5	73.5	0.0	0.0	30	1	30	1	0.0	0.0
			W3	71.5	71.4	0.1	0.1					29	3	29	3	0.0	0.0
			W4	27.2	27.2	0.0	0.0					14	0	14	0	0.0	0.0
			W5	20.6	20.4	0.2	1.0					1	0	1	0	0.0	0.0
	R3	LIVING ROOM	W6	19.9	19.9	0.0	0.0	95.9	95.9	0.0	0.0	0	0	0	0	0.0	0.0
			W7	23.5	23.5	0.0	0.0					5	0	5	0	0.0	0.0
			W8	25.0	23.5	1.5	6.0					58	24	54	20	6.9	16.7
	R4	KITCHEN	W9	28.0	28.0	0.0	0.0	88.4	88.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W10	20.3	20.3	0.0	0.0	99.1	99.1	0.0	0.0	0	0	0	0	0.0	0.0
			W11	27.1	27.1	0.0	0.0					5	0	5	0	0.0	0.0
			W12	31.8	30.0	1.8	5.7					72	25	68	21	5.6	16.0
	R6	KITCHEN	W13	28.5	28.5	0.0	0.0	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	LIVING ROOM	W14	20.2	20.2	0.0	0.0	99.0	99.0	0.0	0.0	0	0	0	0	0.0	0.0
			W15	26.5	26.5	0.0	0.0					5	0	5	0	0.0	0.0
			W16	31.3	29.1	2.2	7.0					70	23	66	19	5.7	17.4
	R8	KITCHEN	W17	25.8	25.8	0.0	0.0	96.4	96.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	LIVING ROOM	W18	29.6	29.6	0.0	0.0	72.0	72.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	KITCHEN	W19	30.9	28.3	2.6	8.4	100.0	100.0	0.0	0.0	68	21	62	15	8.8	28.6
	R11	KITCHEN	W20	30.4	27.4	3.0	9.9	100.0	96.9	3.1	3.1	65	19	60	14	7.7	26.3
	R12	LIVING ROOM	W21	28.5	28.5	0.0	0.0	72.0	72.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	KITCHEN	W22	26.9	26.9	0.0	0.0	56.2	56.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W23	25.9	25.8	0.1	0.4	52.4	52.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	LIVING ROOM	W24	29.9	26.5	3.4	11.4	94.1	85.9	8.2	8.7	65	20	58	13	10.8	35.0
	R16	KITCHEN	W25	26.9	26.9	0.0	0.0	82.2	82.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	LIVING ROOM	W26	29.5	26.0	3.5	11.9	98.3	98.3	0.0	0.0	66	19	60	13	9.1	31.6
			W27	26.7	26.7	0.0	0.0					3	0	3	0	0.0	0.0
			W28	20.0	20.0	0.0	0.0					5	0	5	0	0.0	0.0
	R18	KITCHEN	W29	27.3	27.3	0.0	0.0	83.5	83.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R19	LIVING ROOM	W30	24.0	20.5	3.5	14.6	96.2	96.0	0.2	0.2	47	13	41	7	12.8	46.2
			W31	21.8	21.8	0.0	0.0					0	0	0	0	0.0	0.0
			W32	20.3	20.3	0.0	0.0					0	0	0	0	0.0	0.0
	R20	LIVING ROOM	W33	24.0	24.0	0.0	0.0	71.9	71.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R21	KITCHEN	W34	26.1	22.5	3.6	13.8	97.9	93.2	4.7	4.8	57	14	53	10	7.0	28.6
F01	R1	BEDROOM	W1	29.7	29.7	0.0	0.0	83.5	83.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	32.1	30.8	1.3	4.0	98.4	98.4	0.0	0.0	70	26	67	23	4.3	11.5
			W3	32.0	30.7	1.3	4.1					70	26	66	22	5.7	15.4
	R3	BEDROOM	W4	25.5	25.5	0.0	0.0	95.1	95.1	0.0	0.0	9	0	9	0	0.0	0.0
			W5	25.1	23.7	1.4	5.6					55	24	51	20	7.3	16.7
	R4	BEDROOM	W6	31.2	29.8	1.4	4.5	98.0	97.7	0.3	0.3	68	26	64	22	5.9	15.4
			W7	31.8	30.2	1.6	5.0					70	26	66	22	5.7	15.4
	R5	BEDROOM	W8	29.6	29.6	0.0	0.0	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W9	31.7	30.0	1.7	5.4					70	26	66	22	5.7	15.4
	R6	BEDROOM	W10	31.7	29.8	1.9	6.0	98.0	97.7	0.3	0.3	70	26	66	22	5.7	15.4
			W11	31.7	29.6	2.1	6.6					70	26	66	22	5.7	15.4
	R7	BEDROOM	W12	29.6	29.6	0.0	0.0	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W13	31.5	29.3	2.2	7.0					70	26	66	22	5.7	15.4
	R8	BEDROOM	W14	31.0	28.7	2.3	7.4	97.7	93.0	4.7	4.8	69	25	64	20	7.2	20.0
			W15	26.7	24.7	2.0	7.5					54	20	49	15	9.3	25.0
	R9	BEDROOM	W16	30.8	30.8	0.0	0.0	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W17	31.1	28.4	2.7	8.7	98.9	98.9	0.0	0.0	69	25	63	19	8.7	24.0
			W18	30.9	28.1	2.8	9.1					68	24	62	18	8.8	25.0
	R11	BEDROOM	W19	30.8	27.9	2.9	9.4	99.5	97.8	1.7	1.7	67	23	60	16	10.4	30.4
			W20	30.6	27.5	3.1	10.1					65	21	59	15	9.2	28.6
	R12	BEDROOM	W21	30.6	30.6	0.0	0.0	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W22	24.0	21.0	3.0	12.5	97.8	92.1	5.7	5.8	51	19	45	13	11.8	31.6

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W23	29.9	26.7	3.2	10.7					64	22	57	15	10.9	31.8
	R14	BEDROOM	W24	30.4	27.0	3.4	11.2	100.0	100.0	0.0	0.0	65	21	60	16	7.7	23.8
			W25	29.1	29.1	0.0	0.0					0	0	0	0	0.0	0.0
	R15	BEDROOM	W26	30.2	26.7	3.5	11.6	97.9	89.8	8.1	8.3	65	21	58	14	10.8	33.3
			W27	30.1	26.5	3.6	12.0					64	20	57	13	10.9	35.0
	R16	BEDROOM	W28	29.9	26.2	3.7	12.4	98.8	98.8	0.0	0.0	64	20	59	15	7.8	25.0
			W29	29.2	29.2	0.0	0.0					1	0	1	0	0.0	0.0
	R17	BEDROOM	W30	29.6	26.0	3.6	12.2	96.8	89.0	7.8	8.1	64	20	59	15	7.8	25.0
			W31	28.9	25.4	3.5	12.1					61	17	55	11	9.8	35.3
	R18	BEDROOM	W32	24.3	20.8	3.5	14.4	99.7	99.7	0.0	0.0	46	14	40	8	13.0	42.9
			W33	24.6	24.6	0.0	0.0					0	0	0	0	0.0	0.0
	R19	BEDROOM	W34	28.4	24.7	3.7	13.0	95.1	87.1	8.0	8.4	63	19	57	13	9.5	31.6
			W35	27.8	24.2	3.6	12.9					62	18	57	13	8.1	27.8
	R20	BEDROOM	W36	27.0	27.0	0.0	0.0	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
ABERFELDY ESTATE PHASE ONE BLOCK A																	
F00	R1	LIVING ROOM	W1	10.3	8.9	1.4	13.6	98.4	98.2	0.2	0.2	4	0	4	0	0.0	0.0
			W2	12.8	12.8	0.0	0.0					14	2	14	2	0.0	0.0
			W3	11.8	11.8	0.0	0.0					11	2	11	2	0.0	0.0
	R2	KITCHEN	W4	7.2	6.4	0.8	11.1	84.5	80.1	4.4	5.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	17.2	17.2	0.0	0.0	92.5	92.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W6	23.4	22.4	1.0	4.3					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W7	2.8	2.8	0.0	0.0	15.8	15.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W8	12.9	12.4	0.5	3.9	80.4	73.6	6.8	8.5	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	19.1	17.9	1.2	6.3	96.0	94.5	1.5	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	24.0	22.7	1.3	5.4	80.7	80.6	0.1	0.1	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W11	22.3	21.1	1.2	5.4	77.4	76.7	0.7	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W12	11.7	10.6	1.1	9.4	96.8	94.9	1.9	2.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W13	11.5	10.5	1.0	8.7	85.5	84.2	1.3	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W14	15.1	14.1	1.0	6.6	95.6	95.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W15	23.3	22.3	1.0	4.3	69.2	69.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W16	19.7	18.8	0.9	4.6	94.0	94.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W17	16.8	15.9	0.9	5.4	65.8	65.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BEDROOM	W18	8.6	7.8	0.8	9.3	60.9	60.6	0.3	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W19	3.2	3.2	0.0	0.0	58.3	58.3	0.0	0.0	7	0	7	0	0.0	0.0
	R17	BEDROOM	W20	16.0	15.5	0.5	3.1	81.0	81.0	0.0	0.0	9	0	9	0	0.0	0.0
	R18	BEDROOM	W21	18.4	17.9	0.5	2.7	66.4	66.4	0.0	0.0	14	0	14	0	0.0	0.0
	R19	L/K/D	W22	22.0	21.7	0.3	1.4	53.8	53.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W23	10.2	9.8	0.4	3.9					N/A	N/A	N/A	N/A	N/A	N/A
	R20	BEDROOM	W24	23.1	22.9	0.2	0.9	80.1	80.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R21	BEDROOM	W25	23.2	23.0	0.2	0.9	75.5	74.5	1.0	1.3	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	27.2	25.4	1.8	6.6	96.0	95.8	0.2	0.2	7	0	7	0	0.0	0.0
			W2	14.4	14.4	0.0	0.0					15	2	15	2	0.0	0.0
			W3	13.3	13.3	0.0	0.0					12	2	12	2	0.0	0.0
	R2	BEDROOM	W4	28.5	27.0	1.5	5.3	93.8	78.4	15.4	16.4	6	0	6	0	0.0	0.0
			W5	14.6	14.6	0.0	0.0					8	0	8	0	0.0	0.0
	R3	BEDROOM	W6	28.2	26.7	1.5	5.3	98.1	87.3	10.8	11.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W7	18.4	18.4	0.0	0.0	91.3	91.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	27.5	25.9	1.6	5.8					N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	17.0	17.0	0.0	0.0	86.2	85.0	1.2	1.4	N/A	N/A	N/A	N/A	N/A	N/A
			W10	16.5	14.9	1.6	9.7					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W11	9.4	9.4	0.0	0.0	57.6	57.6	0.0	0.0	0	0	0	0	0.0	0.0
	R7	BEDROOM	W12	17.5	16.3	1.2	6.9	91.7	81.1	10.6	11.6	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W13	22.2	20.6	1.6	7.2	93.3	92.1	1.2	1.3	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W14	19.9	18.4	1.5	7.5	97.4	97.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W15	27.3	25.8	1.5	5.5	98.7	97.4	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W16	28.0	26.6	1.4	5.0	96.7	95.4	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R12	L/K/D	W17	28.3	26.9	1.4	4.9	88.6	88.5	0.1	0.1	N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W18	28.1	26.8	1.3	4.6	89.9	84.7	5.2	5.8	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W19	27.4	26.1	1.3	4.7	97.4	92.5	4.9	5.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BEDROOM	W20	26.3	25.0	1.3	4.9	98.1	98.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	L/K/D	W21	18.1	17.0	1.1	6.1	97.4	95.8	1.6	1.6	N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W22	20.4	19.3	1.1	5.4	94.2	94.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W23	17.1	16.0	1.1	6.4	95.3	95.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R19	BEDROOM	W24	10.0	10.0	0.0	0.0	73.2	73.2	0.0	0.0	9	0	9	0	0.0	0.0
	R20	BEDROOM	W25	17.4	16.8	0.6	3.4	82.7	82.7	0.0	0.0	9	0	9	0	0.0	0.0
	R21	L/K/D	W26	26.8	26.0	0.8	3.0	93.4	93.1	0.3	0.3	7	0	7	0	0.0	0.0
			W27	20.2	19.5	0.7	3.5					17	0	17	0	0.0	0.0
	R22	BEDROOM	W28	25.8	25.2	0.6	2.3	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R23	BEDROOM	W29	25.9	25.5	0.4	1.5	87.9	87.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R24	L/K/D	W30	10.2	10.2	0.0	0.0	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W31	14.8	14.8	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W32	25.9	25.6	0.3	1.2					N/A	N/A	N/A	N/A	N/A	N/A
ABERFELDY ESTATE PHASE ONE BLOCK C																	
F00	R1	L/K/D	W1	14.9	7.6	7.3	49.0	94.1	92.1	2.0	2.1	0	0	0	0	0.0	0.0
			W2	19.4	11.9	7.5	38.7					1	0	1	0	0.0	0.0
			W3	20.1	20.1	0.0	0.0					27	5	27	5	0.0	0.0
	R2	L/K/D	W4	0.1	0.0	0.1	100.0	46.3	29.7	16.6	35.9	0	0	0	0	0.0	0.0
			W5	4.6	4.6	0.0	0.0					14	3	14	3	0.0	0.0
	R3	BEDROOM	W6	0.2	0.0	0.2	100.0	42.5	13.8	28.7	67.5	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W7	0.6	0.0	0.6	100.0	63.1	46.5	16.6	26.3	0	0	0	0	0.0	0.0
			W8	16.2	16.2	0.0	0.0					41	4	41	4	0.0	0.0
	R5	BEDROOM	W9	1.4	0.1	1.3	92.9	53.8	22.7	31.1	57.8	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W10	2.3	0.8	1.5	65.2	82.0	71.1	10.9	13.3	0	0	0	0	0.0	0.0
			W11	3.9	3.9	0.0	0.0					13	4	13	4	0.0	0.0
	R7	BEDROOM	W12	2.5	1.3	1.2	48.0	93.7	82.7	11.0	11.7	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W13	19.1	13.7	5.4	28.3	91.2	88.6	2.6	2.9	2	0	2	0	0.0	0.0
			W14	4.6	4.6	0.0	0.0					13	5	13	5	0.0	0.0
	R9	BEDROOM	W15	18.4	13.6	4.8	26.1	96.3	96.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W16	15.3	11.4	3.9	25.5	71.1	63.2	7.9	11.1	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W17	3.5	3.5	0.0	0.0	43.1	43.1	0.0	0.0	9	3	9	3	0.0	0.0
			W18	14.6	11.3	3.3	22.6					2	0	1	0	50.0	0.0
	R12	BEDROOM	W19	0.3	0.0	0.3	100.0	14.5	14.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W20	14.8	14.8	0.0	0.0	61.7	45.4	16.3	26.4	33	4	33	4	0.0	0.0
			W21	0.4	0.0	0.4	100.0					0	0	0	0	0.0	0.0
	R14	L/K/D	W22	6.7	5.7	1.0	14.9	23.5	14.9	8.6	36.6	N/A	N/A	N/A	N/A	N/A	N/A
	R15	L/K/D	W23	15.8	15.8	0.0	0.0	58.7	49.3	9.4	16.0	14	2	14	2	0.0	0.0
			W24	10.1	8.7	1.4	13.9					11	1	9	1	18.2	0.0
	R16	BEDROOM	W25	11.5	9.7	1.8	15.7	79.6	73.1	6.5	8.2	N/A	N/A	N/A	N/A	N/A	N/A
	R17	KITCHEN	W26	16.5	9.9	6.6	40.0	79.4	87.4	-8.0	-10.1	19	4	14	4	26.3	0.0
			W27	16.1	11.9	4.2	26.1					22	5	25	6	-13.6	-20.0
	R18	LIVING ROOM	W28	19.8	19.5	0.3	1.5	98.2	98.2	0.0	0.0	1	0	1	0	0.0	0.0
			W29	18.1	11.1	7.0	38.7					20	3	9	3	55.0	0.0
F01	R1	BEDROOM	W1	21.8	12.3	9.5	43.6	88.8	69.1	19.7	22.2	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	4.8	4.8	0.0	0.0	44.8	30.5	14.3	31.9	16	6	16	6	0.0	0.0
			W3	0.3	0.0	0.3	100.0					1	0	0	0	100.0	0.0
	R3	L/K/D	W4	1.8	1.8	0.0	0.0	58.0	41.1	16.9	29.1	3	3	3	3	0.0	0.0
			W5	0.7	0.0	0.7	100.0					0	0	0	0	0.0	0.0
	R4	L/K/D	W6	4.6	4.6	0.0	0.0	57.4	49.8	7.6	13.2	15	6	15	6	0.0	0.0
			W7	0.7	0.5	0.2	28.6					0	0	0	0	0.0	0.0
	R5	BEDROOM	W8	20.2	14.7	5.5	27.2	85.6	62.0	23.6	27.6	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	18.1	13.9	4.2	23.2	76.8	66.2	10.6	13.8	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	0.0	0.0	0.0	0.0	43.2	41.1	2.1	4.9	0	0	0	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W11	2.6	2.6	0.0	0.0					5	4	5	4	0.0	0.0
	R8	L/K/D	W12	3.1	1.3	1.8	58.1	70.6	58.3	12.3	17.4	4	0	1	0	75.0	0.0
			W13	5.7	5.7	0.0	0.0					4	2	4	2	0.0	0.0
	R9	BEDROOM	W14	19.7	13.5	6.2	31.5	90.3	90.0	0.3	0.3	26	6	25	7	3.8	-16.7
			W15	20.5	20.5	0.0	0.0					49	8	49	8	0.0	0.0
	R10	BEDROOM	W16	19.5	9.9	9.6	49.2	69.7	44.7	25.0	35.9	24	6	15	6	37.5	0.0
	R11	BEDROOM	W17	33.2	32.7	0.5	1.5	92.8	92.4	0.4	0.4	7	0	7	0	0.0	0.0
			W18	21.5	12.3	9.2	42.8					27	5	13	3	51.9	40.0
	R12	BEDROOM	W19	32.6	32.2	0.4	1.2	96.4	96.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	25.3	14.2	11.1	43.9	91.4	73.7	17.7	19.4	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	5.8	5.8	0.0	0.0	57.2	40.3	16.9	29.5	16	6	16	6	0.0	0.0
			W3	0.6	0.0	0.6	100.0					1	0	0	0	100.0	0.0
	R3	L/K/D	W4	2.5	2.5	0.0	0.0	67.5	53.9	13.6	20.1	5	5	5	5	0.0	0.0
			W5	1.1	0.0	1.1	100.0					0	0	0	0	0.0	0.0
	R4	L/K/D	W6	5.9	5.9	0.0	0.0	64.9	57.8	7.1	10.9	18	8	18	8	0.0	0.0
			W7	0.7	0.5	0.2	28.6					0	0	0	0	0.0	0.0
	R5	BEDROOM	W8	23.1	17.6	5.5	23.8	89.7	71.9	17.8	19.8	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	21.3	17.0	4.3	20.2	87.1	80.6	6.5	7.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	0.0	0.0	0.0	0.0	52.4	51.4	1.0	1.9	0	0	0	0	0.0	0.0
			W11	3.3	3.3	0.0	0.0					5	4	5	4	0.0	0.0
	R8	L/K/D	W12	4.1	2.2	1.9	46.3	74.6	62.4	12.2	16.4	5	0	1	0	80.0	0.0
			W13	6.1	6.1	0.0	0.0					5	2	5	2	0.0	0.0
	R9	KITCHEN	W14	6.5	5.4	1.1	16.9	100.0	99.6	0.4	0.4	8	0	8	0	37.5	0.0
			W15	24.3	11.3	13.0	53.5					31	8	15	6	51.6	25.0
			W16	24.2	24.2	0.0	0.0					56	14	56	14	0.0	0.0
	R10	LIVING ROOM	W17	33.1	32.6	0.5	1.5	96.5	96.5	0.0	0.0	5	0	5	0	0.0	0.0
			W18	4.3	3.6	0.7	16.3					5	0	5	0	0.0	0.0
F03	R1	BEDROOM	W1	28.4	16.6	11.8	41.5	91.4	82.7	8.7	9.5	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	22.0	22.0	0.0	0.0	87.3	64.6	22.7	26.0	55	8	55	8	0.0	0.0
			W3	2.3	0.0	2.3	100.0					1	0	0	0	100.0	0.0
	R3	L/K/D	W4	3.3	3.3	0.0	0.0	84.9	80.2	4.7	5.5	5	5	5	5	0.0	0.0
			W5	2.1	0.1	2.0	95.2					0	0	0	0	0.0	0.0
	R4	L/K/D	W6	23.0	23.0	0.0	0.0	87.0	84.2	2.8	3.2	58	11	58	11	0.0	0.0
			W7	1.4	0.6	0.8	57.1					0	0	0	0	0.0	0.0
	R5	BEDROOM	W8	26.3	20.7	5.6	21.3	92.0	76.4	15.6	17.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	24.8	20.6	4.2	16.9	93.2	89.0	4.2	4.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	0.0	0.0	0.0	0.0	70.0	70.0	0.0	0.0	0	0	0	0	0.0	0.0
			W11	3.9	3.9	0.0	0.0					7	6	7	6	0.0	0.0
	R8	L/K/D	W12	5.3	3.3	2.0	37.7	75.9	65.7	10.2	13.4	6	0	1	0	83.3	0.0
			W13	6.5	6.5	0.0	0.0					5	2	5	2	0.0	0.0
	R9	BEDROOM	W14	28.1	17.2	10.9	38.8	100.0	94.0	6.0	6.0	38	11	29	11	23.7	0.0
			W15	26.6	26.6	0.0	0.0					59	16	59	16	0.0	0.0
	R10	BEDROOM	W16	27.9	13.3	14.6	52.3	96.0	44.2	51.8	54.0	39	10	17	6	56.4	40.0
	R11	BEDROOM	W17	34.0	33.5	0.5	1.5	96.7	96.2	0.5	0.5	7	0	7	0	0.0	0.0
			W18	28.4	15.2	13.2	46.5					40	8	16	3	60.0	62.5
	R12	BEDROOM	W19	33.5	33.0	0.5	1.5	97.1	97.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	6.7	4.8	1.9	28.4	77.1	71.6	5.5	7.1	7	0	3	0	57.1	0.0
			W2	24.4	24.4	0.0	0.0					32	6	32	6	0.0	0.0
	R2	L/K/D	W3	1.1	1.1	0.0	0.0	93.9	93.9	0.0	0.0	0	0	0	0	0.0	0.0
			W4	4.7	4.7	0.0	0.0					8	7	8	7	0.0	0.0
	R3	BEDROOM	W5	28.7	24.7	4.0	13.9	93.2	91.6	1.6	1.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	28.2	28.2	0.0	0.0	91.7	91.7	0.0	0.0	62	18	62	18	0.0	0.0
	R5	KITCHEN	W7	13.7	13.1	0.6	4.4	99.7	99.3	0.4	0.4	7	0	7	0	0.0	0.0
			W8	32.2	16.5	15.7	48.8					44	10	22	6	50.0	40.0
	R6	BEDROOM	W9	36.0	35.5	0.5	1.4	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F05	R1	BEDROOM	W1	29.5	29.5	0.0	0.0	91.7	91.7	0.0	0.0	66	22	66	22	0.0	0.0
	R2	KITCHEN	W2	13.9	13.3	0.6	4.3	99.7	99.7	0.0	0.0	7	0	7	0	0.0	0.0
			W3	35.1	20.5	14.6	41.6					50	15	30	11	40.0	26.7
	R3	BEDROOM	W4	36.3	35.8	0.5	1.4	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
ABERFELDY ESTATE PHASE THREE BLOCK G																	
F01	R1	L/K/D	W1	27.9	25.0	2.9	10.4	97.2	97.2	0.0	0.0	2	0	0	0	100.0	0.0
			W2	31.4	27.5	3.9	12.4					8	0	5	0	37.5	0.0
			W3	2.9	2.3	0.6	20.7					5	0	5	0	0.0	0.0
	R2	BEDROOM	W4	7.8	3.4	4.4	56.4	77.5	67.9	9.6	12.4	5	0	4	0	20.0	0.0
			W5	11.9	9.9	2.0	16.8					11	1	10	1	9.1	0.0
	R3	BEDROOM	W6	0.3	0.3	0.0	0.0	13.4	13.4	0.0	0.0	0	0	0	0	0.0	0.0
	R4	L/K/D	W7	4.5	1.4	3.1	68.9	57.2	45.5	11.7	20.5	2	0	1	0	50.0	0.0
			W8	12.8	11.1	1.7	13.3					14	4	13	4	7.1	0.0
F02	R1	L/K/D	W1	35.8	33.7	2.1	5.9	99.7	99.7	0.0	0.0	11	0	6	0	45.5	0.0
			W2	5.4	3.8	1.6	29.6					6	0	2	0	66.7	0.0
			W3	5.3	5.3	0.0	0.0					11	8	11	8	0.0	0.0
	R2	BEDROOM	W4	9.8	9.1	0.7	7.1	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	34.1	31.3	2.8	8.2	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	31.5	28.2	3.3	10.5	98.0	98.0	0.0	0.0	5	0	2	0	60.0	0.0
			W7	34.5	30.4	4.1	11.9					8	0	5	0	37.5	0.0
			W8	3.1	2.5	0.6	19.4					5	0	5	0	0.0	0.0
	R5	BEDROOM	W9	8.4	4.2	4.2	50.0	82.2	73.3	8.9	10.8	5	0	3	0	40.0	0.0
			W10	14.4	12.4	2.0	13.9					15	1	14	1	6.7	0.0
	R6	BEDROOM	W11	0.4	0.4	0.0	0.0	13.5	13.5	0.0	0.0	1	0	1	0	0.0	0.0
	R7	L/K/D	W12	4.7	1.9	2.8	59.6	57.7	48.9	8.8	15.3	2	0	1	0	50.0	0.0
			W13	14.4	12.8	1.6	11.1					18	5	18	5	0.0	0.0
F03	R1	L/K/D	W1	36.5	33.9	2.6	7.1	100.0	100.0	0.0	0.0	9	0	5	0	44.4	0.0
			W2	4.6	3.3	1.3	28.3					6	0	3	0	50.0	0.0
			W3	6.1	6.1	0.0	0.0					13	10	13	10	0.0	0.0
	R2	BEDROOM	W4	11.2	10.0	1.2	10.7	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	37.0	33.7	3.3	8.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	36.3	32.6	3.7	10.2	98.0	98.0	0.0	0.0	8	0	6	0	25.0	0.0
			W7	37.1	32.9	4.2	11.3					9	0	7	0	22.2	0.0
			W8	3.1	2.5	0.6	19.4					4	0	4	0	0.0	0.0
	R5	BEDROOM	W9	8.4	4.8	3.6	42.9	81.9	80.3	1.6	2.0	5	0	4	0	20.0	0.0
			W10	16.4	14.7	1.7	10.4					18	2	17	2	5.6	0.0
	R6	BEDROOM	W11	0.3	0.3	0.0	0.0	13.5	13.5	0.0	0.0	0	0	0	0	0.0	0.0
	R7	L/K/D	W12	4.7	2.4	2.3	48.9	58.5	53.5	5.0	8.5	2	0	1	0	50.0	0.0
			W13	15.3	14.0	1.3	8.5					18	4	17	4	5.6	0.0
F04	R1	L/K/D	W1	37.0	34.7	2.3	6.2	100.0	100.0	0.0	0.0	9	0	7	0	22.2	0.0
			W2	4.7	3.8	0.9	19.1					6	0	4	0	33.3	0.0
			W3	6.7	6.7	0.0	0.0					14	11	14	11	0.0	0.0
	R2	BEDROOM	W4	11.5	10.4	1.1	9.6	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	37.6	34.7	2.9	7.7	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	36.7	33.7	3.0	8.2	98.0	98.0	0.0	0.0	9	0	6	0	25.0	0.0
			W7	37.5	34.1	3.4	9.1					9	0	7	0	22.2	0.0
			W8	3.1	2.6	0.5	16.1					4	0	4	0	0.0	0.0
	R5	BEDROOM	W9	8.9	6.1	2.8	31.5	81.9	81.9	0.0	0.0	6	0	5	0	16.7	0.0
			W10	18.4	17.1	1.3	7.1					20	2	19	2	5.0	0.0
	R6	BEDROOM	W11	0.3	0.3	0.0	0.0	13.5	13.5	0.0	0.0	0	0	0	0	0.0	0.0
	R7	L/K/D	W12	5.3	3.4	1.9	35.8	58.5	58.5	0.0	0.0	3	0	2	0	33.3	0.0
			W13	17.5	16.5	1.0	5.7					20	4	20	4	0.0	0.0
ABERFELDY ESTATE PHASE THREE BLOCK J																	

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F00	R1	L/K/D	W1	35.0	28.4	6.6	18.9	100.0	100.0	0.0	0.0	8	0	8	0	0.0	0.0
			W2	24.0	23.7	0.3	1.3					34	13	34	13	0.0	0.0
			W3	24.1	24.0	0.1	0.4					43	11	43	11	0.0	0.0
	R2	BEDROOM	W4	35.1	27.6	7.5	21.4	98.5	97.9	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	35.1	27.1	8.0	22.8	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	34.9	26.4	8.5	24.4	97.1	95.9	1.2	1.2	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	34.6	25.7	8.9	25.7	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W8	34.2	25.0	9.2	26.9	97.1	95.6	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	36.7	30.5	6.2	16.9	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W2	20.3	19.9	0.4	2.0					27	13	27	13	0.0	0.0
			W3	22.8	22.5	0.3	1.3					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	36.8	29.8	7.0	19.0	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	1.9	1.9	0.0	0.0	99.2	97.9	1.3	1.3	3	3	3	3	0.0	0.0
			W6	6.4	2.4	4.0	62.5					0	0	0	0	0.0	0.0
			W7	36.8	29.2	7.6	20.7					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.4	8.4	6.0	41.7	98.6	97.8	0.8	0.8	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	2.8	2.8	0.0	0.0	99.5	98.9	0.6	0.6	5	5	5	5	0.0	0.0
			W10	6.9	3.0	3.9	56.5					0	0	0	0	0.0	0.0
			W11	36.7	27.9	8.8	24.0					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.3	7.1	7.2	50.3	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	17.2	17.2	0.0	0.0	100.0	97.5	2.5	2.5	36	13	36	13	0.0	0.0
			W14	6.5	3.4	3.1	47.7					0	0	0	0	0.0	0.0
			W15	36.5	26.5	10.0	27.4					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.0	5.5	7.5	57.7	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.1	5.8	0.3	4.9	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	34.7	24.2	10.5	30.3					N/A	N/A	N/A	N/A	N/A	N/A
			W19	33.3	21.8	11.5	34.5					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	20.5	20.3	0.2	1.0	92.7	92.1	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	11.7	10.4	1.3	11.1					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	37.2	31.6	5.6	15.1	99.9	99.9	0.0	0.0	9	0	9	0	0.0	0.0
			W2	21.0	20.6	0.4	1.9					28	14	28	14	0.0	0.0
			W3	23.5	23.1	0.4	1.7					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.2	30.9	6.3	16.9	98.5	97.6	0.9	0.9	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	2.2	2.2	0.0	0.0	99.4	98.2	1.2	1.2	3	3	3	3	0.0	0.0
			W6	6.6	3.2	3.4	51.5					0	0	0	0	0.0	0.0
			W7	37.2	30.4	6.8	18.3					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.6	9.1	5.5	37.7	98.6	97.8	0.8	0.8	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	3.5	3.5	0.0	0.0	99.7	99.2	0.5	0.5	6	6	6	6	0.0	0.0
			W10	7.3	3.8	3.5	47.9					0	0	0	0	0.0	0.0
			W11	37.2	29.2	8.0	21.5					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.6	7.6	7.0	47.9	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	3.3	3.3	0.0	0.0	100.0	99.1	0.9	0.9	5	5	5	5	0.0	0.0
			W14	6.9	4.1	2.8	40.6					0	0	0	0	0.0	0.0
			W15	37.2	27.9	9.3	25.0					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.5	5.7	7.8	57.8	98.5	97.1	1.4	1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.4	6.1	0.3	4.7	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	36.4	26.0	10.4	28.6					N/A	N/A	N/A	N/A	N/A	N/A
			W19	34.8	23.7	11.1	31.9					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	22.5	22.2	0.3	1.3	92.7	92.1	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	13.0	11.6	1.4	10.8					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	37.5	32.6	4.9	13.1	99.9	99.9	0.0	0.0	10	0	10	0	0.0	0.0
			W2	21.3	20.9	0.4	1.9					28	14	28	14	0.0	0.0
			W3	23.8	23.5	0.3	1.3					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.5	32.1	5.4	14.4	98.5	97.9	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	2.8	2.8	0.0	0.0	99.5	99.5	0.0	0.0	4	4	4	4	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W6	6.7	3.9	2.8	41.8					0	0	0	0	0.0	0.0
			W7	37.5	31.7	5.8	15.5					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.8	9.8	5.0	33.8	98.6	98.2	0.4	0.4	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.3	4.3	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W10	7.4	4.5	2.9	39.2					0	0	0	0	0.0	0.0
			W11	37.6	30.6	7.0	18.6					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.8	8.2	6.6	44.6	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	3.9	3.9	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W14	7.1	4.8	2.3	32.4					0	0	0	0	0.0	0.0
			W15	37.5	29.4	8.1	21.6					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.7	6.0	7.7	56.2	98.5	97.4	1.1	1.1	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.5	6.3	0.2	3.1	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	36.8	27.8	9.0	24.5					N/A	N/A	N/A	N/A	N/A	N/A
			W19	35.1	25.4	9.7	27.6					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	24.4	24.2	0.2	0.8	93.0	92.4	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	13.6	12.4	1.2	8.8					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	37.7	33.7	4.0	10.6	99.9	99.9	0.0	0.0	9	0	9	0	0.0	0.0
			W2	21.6	21.2	0.4	1.9					28	14	28	14	0.0	0.0
			W3	24.1	23.7	0.4	1.7					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.7	33.2	4.5	11.9	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	5.7	5.7	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W6	6.8	4.6	2.2	32.4					0	0	0	0	0.0	0.0
			W7	37.8	32.8	5.0	13.2					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.9	10.7	4.2	28.2	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	37.8	31.9	5.9	15.6	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W10	5.4	5.4	0.0	0.0					8	8	8	8	0.0	0.0
	R6	BEDROOM	W11	15.0	9.3	5.7	38.0	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W12	37.8	30.9	6.9	18.3	100.0	100.0	0.0	0.0	10	0	10	0	0.0	0.0
			W13	4.6	4.6	0.0	0.0					7	7	7	7	0.0	0.0
	R8	BEDROOM	W14	13.8	7.3	6.5	47.1	98.5	97.8	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W15	7.5	7.4	0.1	1.3	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	37.1	29.7	7.4	19.9					N/A	N/A	N/A	N/A	N/A	N/A
			W17	35.3	27.4	7.9	22.4					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W18	26.6	26.5	0.1	0.4	94.2	93.6	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W19	14.1	13.2	0.9	6.4					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	L/K/D	W1	37.9	34.7	3.2	8.4	99.9	99.9	0.0	0.0	10	0	10	0	0.0	0.0
			W2	38.4	38.1	0.3	0.8					56	20	56	20	0.0	0.0
			W3	38.2	37.9	0.3	0.8					54	19	54	19	0.0	0.0
	R2	BEDROOM	W4	37.9	34.3	3.6	9.5	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	6.0	6.0	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W6	6.2	4.6	1.6	25.8					0	0	0	0	0.0	0.0
			W7	38.0	34.1	3.9	10.3					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.0	10.5	3.5	25.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	5.6	5.6	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W10	6.9	5.2	1.7	24.6					0	0	0	0	0.0	0.0
			W11	38.0	33.3	4.7	12.4					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.0	9.5	4.5	32.1	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	4.7	4.7	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W14	6.7	5.3	1.4	20.9					0	0	0	0	0.0	0.0
			W15	38.0	32.6	5.4	14.2					11	0	11	0	0.0	0.0
	R8	BEDROOM	W16	12.9	7.7	5.2	40.3	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	9.4	9.3	0.1	1.1	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	37.2	31.8	5.4	14.5					N/A	N/A	N/A	N/A	N/A	N/A
			W19	35.5	29.6	5.9	16.6					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	29.0	29.0	0.0	0.0	96.8	96.2	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	14.6	13.9	0.7	4.8					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
ABERFELDY ESTATE PHASE TWO BLOCK D																	
F00	R1	KITCHEN	W1	12.7	12.0	0.7	5.5	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	33.1	32.8	0.3	0.9					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	18.7	15.0	3.7	19.8	55.1	60.1	-5.0	-9.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	18.7	15.8	2.9	15.5	53.7	63.2	-9.5	-17.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W5	14.8	14.8	0.0	0.0	84.9	85.5	-0.6	-0.7	29	3	29	3	0.0	0.0
			W6	12.6	12.9	-0.3	-2.4					27	1	27	1	0.0	0.0
	R5	KITCHEN	W7	1.2	1.2	0.0	0.0	86.3	86.0	0.3	0.3	9	0	9	0	0.0	0.0
			W8	21.6	17.4	4.2	19.4					23	0	23	0	0.0	0.0
	R6	BEDROOM	W9	2.6	2.4	0.2	7.7	89.0	87.7	1.3	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W10	2.7	2.3	0.4	14.8	91.6	90.3	1.3	1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W11	22.7	18.7	4.0	17.6	90.2	90.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W12	1.9	0.7	1.2	63.2					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	11.5	10.0	1.5	13.0	97.9	97.2	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
			W2	33.7	33.3	0.4	1.2					N/A	N/A	N/A	N/A	N/A	N/A
			W3	33.7	33.3	0.4	1.2					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	15.3	12.6	2.7	17.6	93.5	90.7	2.8	3.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	21.8	17.6	4.2	19.3	63.0	61.0	2.0	3.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W6	12.1	11.5	0.6	5.0	82.8	82.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	3.5	3.0	0.5	14.3	93.9	87.9	6.0	6.4	N/A	N/A	N/A	N/A	N/A	N/A
			W8	24.8	19.7	5.1	20.6					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	3.7	3.1	0.6	16.2	96.3	93.9	2.4	2.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	25.3	20.8	4.5	17.8	93.3	93.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	2.8	0.7	2.1	75.0					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	13.9	10.6	3.3	23.7	98.6	97.4	1.2	1.2	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.4	33.7	0.7	2.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	34.3	33.7	0.6	1.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	18.4	13.7	4.7	25.5	94.7	90.7	4.0	4.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	25.6	19.8	5.8	22.7	71.0	61.0	10.0	14.1	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W6	15.2	12.6	2.6	17.1	84.6	84.0	0.6	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	5.2	4.1	1.1	21.2	98.5	92.6	5.9	6.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	28.2	22.3	5.9	20.9					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	5.7	4.5	1.2	21.1	98.3	94.6	3.7	3.8	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	28.4	23.5	4.9	17.3	96.2	96.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	3.7	0.8	2.9	78.4					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	16.2	11.0	5.2	32.1	99.5	97.4	2.1	2.1	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.8	34.0	0.8	2.3					N/A	N/A	N/A	N/A	N/A	N/A
			W3	34.9	34.1	0.8	2.3					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	20.9	14.6	6.3	30.1	97.2	90.7	6.5	6.7	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	29.9	22.9	7.0	23.4	89.7	61.3	28.4	31.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STUDIO	W6	31.5	24.7	6.8	21.6	86.7	84.2	2.5	2.9	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	6.7	4.7	2.0	29.9	98.5	92.9	5.6	5.7	N/A	N/A	N/A	N/A	N/A	N/A
			W8	31.1	24.5	6.6	21.2					N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W9	7.4	5.5	1.9	25.7	98.3	94.6	3.7	3.8	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W10	31.3	26.2	5.1	16.3	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W11	4.4	0.9	3.5	79.5					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	18.4	11.4	7.0	38.0	99.9	97.4	2.5	2.5	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.1	34.3	0.8	2.3					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.1	34.3	0.8	2.3					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	23.3	15.5	7.8	33.5	99.7	90.7	9.0	9.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	29.4	29.4	0.0	0.0	98.8	89.4	9.4	9.5	62	22	62	22	0.0	0.0
			W6	32.4	24.5	7.9	24.4					28	3	25	3	10.7	0.0
F05	R1	L/K/D	W1	36.3	28.0	8.3	22.9	99.9	97.4	2.5	2.5	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	35.4	34.6	0.8	2.3					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.4	34.6	0.8	2.3					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	35.9	27.2	8.7	24.2	99.7	94.1	5.6	5.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	30.3	30.3	0.0	0.0	98.8	92.4	6.4	6.5	64	24	64	24	0.0	0.0
			W6	34.6	26.2	8.4	24.3					30	4	26	4	13.3	0.0
AILSA WHARF BLOCK A																	
F01	R1	L/K/D	W1	4.8	0.3	4.5	93.8	98.5	38.0	60.5	61.4	12	10	1	1	91.7	90.0
			W2	33.2	9.1	24.1	72.6					72	26	26	5	63.9	80.8
	R2	BEDROOM	W3	6.0	0.0	6.0	100.0	92.4	0.0	92.4	100.0	7	7	0	0	100.0	100.0
	R3	BEDROOM	W4	33.6	8.0	25.6	76.2	98.7	41.2	57.5	58.3	73	27	23	5	68.5	81.5
	R4	L/K/D	W5	10.2	3.5	6.7	65.7	99.4	97.4	2.0	2.0	20	13	9	2	55.0	84.6
			W6	6.3	3.4	2.9	46.0					14	12	5	4	64.3	66.7
			W7	33.9	8.3	25.6	75.5					73	27	20	3	72.6	88.9
			W8	33.1	7.3	25.8	77.9					74	27	22	4	70.3	85.2
	R5	BEDROOM	W9	16.9	15.9	1.0	5.9	98.7	98.7	0.0	0.0	13	4	11	2	15.4	50.0
			W10	19.7	17.7	2.0	10.2					24	8	19	3	20.8	62.5
	R6	L/K/D	W11	0.0	0.0	0.0	0.0	82.1	82.1	0.0	0.0	0	0	0	0	0.0	0.0
			W12	19.8	18.2	1.6	8.1					23	8	19	4	17.4	50.0
			W13	17.5	16.4	1.1	6.3					13	3	11	1	15.4	66.7
	R7	BEDROOM	W14	1.0	1.0	0.0	0.0	78.0	78.0	0.0	0.0	3	0	3	0	0.0	0.0
			W15	2.9	2.9	0.0	0.0					4	0	4	0	0.0	0.0
F02	R1	L/K/D	W1	5.1	0.4	4.7	92.2	98.5	40.0	58.5	59.4	12	10	1	1	91.7	90.0
			W2	33.9	9.5	24.4	72.0					72	26	26	5	63.9	80.8
	R2	BEDROOM	W3	6.3	0.0	6.3	100.0	92.4	0.0	92.4	100.0	7	7	0	0	100.0	100.0
	R3	BEDROOM	W4	34.3	8.4	25.9	75.5	98.7	41.2	57.5	58.3	73	27	24	5	67.1	81.5
	R4	L/K/D	W5	10.6	3.9	6.7	63.2	99.4	99.1	0.3	0.3	20	13	10	3	50.0	76.9
			W6	6.4	3.8	2.6	40.6					14	12	6	5	57.1	58.3
			W7	34.7	8.8	25.9	74.6					73	27	21	4	71.2	85.2
			W8	33.8	7.7	26.1	77.2					74	27	23	5	68.9	81.5
	R5	BEDROOM	W9	18.8	18.0	0.8	4.3	99.0	99.0	0.0	0.0	15	4	14	3	6.7	25.0
			W10	21.6	19.9	1.7	7.9					25	8	21	4	16.0	50.0
	R6	L/K/D	W11	0.0	0.0	0.0	0.0	85.6	85.6	0.0	0.0	0	0	0	0	0.0	0.0
			W12	21.8	20.4	1.4	6.4					27	8	25	6	7.4	25.0
			W13	19.6	18.7	0.9	4.6					17	3	16	2	5.9	33.3
	R7	BEDROOM	W14	1.4	1.4	0.0	0.0	85.0	85.0	0.0	0.0	4	0	4	0	0.0	0.0
			W15	3.4	3.4	0.0	0.0					5	0	5	0	0.0	0.0
F03	R1	L/K/D	W1	5.2	0.4	4.8	92.3	98.5	40.4	58.1	59.0	12	10	1	1	91.7	90.0
			W2	34.2	9.9	24.3	71.1					73	27	28	6	61.6	77.8
	R2	BEDROOM	W3	6.4	0.0	6.4	100.0	92.4	0.0	92.4	100.0	7	7	0	0	100.0	100.0
	R3	BEDROOM	W4	34.6	8.9	25.7	74.3	98.7	41.6	57.1	57.9	74	28	25	5	66.2	82.1
	R4	L/K/D	W5	10.7	4.3	6.4	59.8	99.4	99.1	0.3	0.3	20	13	11	4	45.0	69.2
			W6	6.6	4.1	2.5	37.9					14	12	8	7	42.9	41.7
			W7	35.0	9.3	25.7	73.4					74	28	23	5	68.9	82.1
			W8	34.2	8.2	26.0	76.0					75	28	24	5	68.0	82.1
	R5	BEDROOM	W9	21.3	20.7	0.6	2.8	99.0	99.0	0.0	0.0	20	4	19	3	5.0	25.0
			W10	23.9	22.6	1.3	5.4					27	8	25	6	7.4	25.0
	R6	L/K/D	W11	0.0	0.0	0.0	0.0	89.0	89.0	0.0	0.0	0	0	0	0	0.0	0.0
			W12	24.3	23.2	1.1	4.5					31	8	29	6	6.5	25.0
			W13	22.1	21.4	0.7	3.2					21	3	20	2	4.8	33.3
	R7	BEDROOM	W14	2.2	2.2	0.0	0.0	98.3	98.3	0.0	0.0	5	0	5	0	0.0	0.0
			W15	3.9	3.9	0.0	0.0					6	0	6	0	0.0	0.0
AILSA WHARF BLOCK D																	
F00	R1	L/K/D	W1	15.2	14.2	1.0	6.6	99.8	99.8	0.0	0.0	25	10	22	7	12.0	30.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	18.7	17.3	1.4	7.5					34	14	30	10	11.8	28.6
			W3	19.6	18.4	1.2	6.1					31	11	29	9	6.5	18.2
			W4	14.2	8.3	5.9	41.5					23	21	16	14	30.4	33.3
			W5	12.0	7.9	4.1	34.2					20	19	16	15	20.0	21.1
	R2	BEDROOM	W6	8.1	6.8	1.3	16.0	99.4	99.4	0.0	0.0	16	9	14	7	12.5	22.2
			W7	33.7	23.5	10.2	30.3					71	27	52	16	26.8	40.7
			W8	33.7	22.9	10.8	32.0					71	27	50	14	29.6	48.1
	R3	BEDROOM	W9	24.2	11.7	12.5	51.7	96.5	81.5	15.0	15.5	48	20	24	4	50.0	80.0
	R4	BEDROOM	W10	32.9	17.3	15.6	47.4	97.7	69.5	28.2	28.9	67	26	37	7	44.8	73.1
	R5	BEDROOM	W11	32.9	16.0	16.9	51.4	98.5	64.1	34.4	34.9	68	27	36	7	47.1	74.1
	R6	BEDROOM	W12	32.7	15.9	16.8	51.4	98.1	77.5	20.6	21.0	68	27	36	8	47.1	70.4
	R7	BEDROOM	W13	32.3	15.8	16.5	51.1	98.5	84.9	13.6	13.8	67	26	31	5	53.7	80.8
	R8	L/K/D	W14	2.9	0.5	2.4	82.8	99.8	99.2	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W15	2.1	0.4	1.7	81.0					N/A	N/A	N/A	N/A	N/A	N/A
			W16	1.4	0.4	1.0	71.4					N/A	N/A	N/A	N/A	N/A	N/A
			W17	8.9	8.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W18	8.2	8.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W19	9.9	9.9	0.0	0.0	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	9.5	9.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R10	L/K/D	W21	9.7	9.7	0.0	0.0	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	10.7	10.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W23	8.7	8.7	0.0	0.0	96.7	96.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W24	9.4	9.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W25	5.3	5.3	0.0	0.0	84.0	84.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W26	4.6	4.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BEDROOM	W1	16.7	16.1	0.6	3.6	75.8	75.8	0.0	0.0	25	10	23	8	8.0	20.0
	R2	L/K/D	W2	20.1	19.2	0.9	4.5	98.1	97.8	0.3	0.3	34	14	31	11	8.8	21.4
			W3	21.0	20.3	0.7	3.3					31	11	30	10	3.2	9.1
			W4	14.6	9.6	5.0	34.2					23	21	18	16	21.7	23.8
			W5	12.3	9.2	3.1	25.2					20	19	18	17	10.0	10.5
	R3	BEDROOM	W6	8.2	7.5	0.7	8.5	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	34.2	25.7	8.5	24.9					71	27	59	20	16.9	25.9
			W8	34.2	25.0	9.2	26.9					71	27	54	16	23.9	40.7
	R4	L/K/D	W9	35.5	24.4	11.1	31.3	100.0	99.1	0.9	0.9	77	27	54	17	29.9	37.0
			W10	35.5	24.4	11.1	31.3					79	29	60	18	24.1	37.9
			W11	7.1	2.5	4.6	64.8					12	5	4	0	66.7	100.0
	R5	BEDROOM	W12	9.7	2.4	7.3	75.3	100.0	95.7	4.3	4.3	18	13	3	3	83.3	76.9
			W13	13.0	4.7	8.3	63.8					23	16	9	6	60.9	62.5
	R6	BEDROOM	W14	24.2	12.7	11.5	47.5	97.8	95.6	2.2	2.2	49	20	28	5	42.9	75.0
			W15	31.3	17.5	13.8	44.1					68	25	38	7	44.1	72.0
	R7	BEDROOM	W16	32.6	18.5	14.1	43.3	98.3	93.7	4.6	4.7	69	27	42	7	39.1	74.1
			W17	34.1	18.5	15.6	45.7					77	27	42	6	45.5	77.8
	R8	BEDROOM	W18	32.8	17.0	15.8	48.2	98.6	95.6	3.0	3.0	69	27	38	7	44.9	74.1
			W19	34.2	17.5	16.7	48.8					78	27	41	5	47.4	81.5
	R9	BEDROOM	W20	32.8	16.9	15.9	48.5	98.3	97.2	1.1	1.1	69	27	39	10	43.5	63.0
			W21	34.2	17.7	16.5	48.2					78	27	46	11	41.0	59.3
	R10	BEDROOM	W22	32.8	16.6	16.2	49.4	98.4	97.0	1.4	1.4	69	27	34	7	50.7	74.1
			W23	34.2	17.0	17.2	50.3					78	27	43	10	44.9	63.0
			W24	6.8	1.6	5.2	76.5					11	2	0	0	100.0	100.0
	R11	BEDROOM	W25	2.7	0.2	2.5	92.6	78.8	77.5	1.3	1.6	N/A	N/A	N/A	N/A	N/A	N/A
			W26	1.9	0.1	1.8	94.7					N/A	N/A	N/A	N/A	N/A	N/A
			W27	1.1	0.1	1.0	90.9					N/A	N/A	N/A	N/A	N/A	N/A
			W28	6.2	6.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R12	BEDROOM	W29	6.1	6.1	0.0	0.0	71.2	71.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W30	4.5	4.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W31	6.2	6.2	0.0	0.0	68.9	68.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BEDROOM	W32	7.0	7.0	0.0	0.0	67.4	67.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W33	5.5	5.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R15	BEDROOM	W34	6.1	6.1	0.0	0.0	72.1	72.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BEDROOM	W35	7.6	7.6	0.0	0.0	68.0	68.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W36	6.7	6.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W37	6.1	6.1	0.0	0.0	80.4	80.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W38	7.0	7.0	0.0	0.0	72.4	72.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	6.5	6.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R19	BEDROOM	W40	3.7	3.7	0.0	0.0	86.8	86.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R20	BEDROOM	W41	3.1	3.1	0.0	0.0	47.4	47.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W42	2.6	2.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	18.6	18.2	0.4	2.2	77.5	77.5	0.0	0.0	25	10	24	9	4.0	10.0
	R2	L/K/D	W2	21.8	21.1	0.7	3.2	98.1	97.8	0.3	0.3	34	14	32	12	5.9	14.3
			W3	22.7	22.2	0.5	2.2					31	11	30	10	3.2	9.1
			W4	14.9	10.5	4.4	29.5					23	21	19	17	17.4	19.0
			W5	12.7	9.9	2.8	22.0					20	19	18	17	10.0	10.5
	R3	BEDROOM	W6	8.4	7.9	0.5	6.0	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	34.6	27.3	7.3	21.1					71	27	61	21	14.1	22.2
			W8	34.6	26.6	8.0	23.1					71	27	60	20	15.5	25.9
	R4	L/K/D	W9	35.9	26.2	9.7	27.0	100.0	99.8	0.2	0.2	77	27	57	17	26.0	37.0
			W10	35.9	26.3	9.6	26.7					79	29	64	19	19.0	34.5
			W11	7.2	2.9	4.3	59.7					12	5	6	0	50.0	100.0
	R5	BEDROOM	W12	10.0	2.9	7.1	71.0	100.0	97.9	2.1	2.1	18	13	3	3	83.3	76.9
			W13	13.3	5.6	7.7	57.9					23	16	9	6	60.9	62.5
	R6	L/K/D	W14	23.6	13.4	10.2	43.2	100.0	99.7	0.3	0.3	53	18	30	6	43.4	66.7
			W15	29.2	18.2	11.0	37.7					61	24	40	10	34.4	58.3
			W16	5.5	1.3	4.2	76.4					12	5	5	0	58.3	100.0
			W17	0.7	0.7	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	8.2	1.5	6.7	81.7	99.3	73.9	25.4	25.6	11	11	3	3	72.7	72.7
			W19	8.4	2.8	5.6	66.7					12	12	5	5	58.3	58.3
	R8	L/K/D	W20	34.3	20.8	13.5	39.4	100.0	72.5	27.5	27.5	75	27	48	12	36.0	55.6
			W21	35.1	21.6	13.5	38.5					74	28	48	11	35.1	60.7
			W22	5.5	0.8	4.7	85.5					12	5	4	0	66.7	100.0
			W23	2.5	2.5	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	8.1	1.1	7.0	86.4	99.3	74.6	24.7	24.9	11	11	3	3	72.7	72.7
			W25	8.5	2.0	6.5	76.5					12	12	4	4	66.7	66.7
	R10	L/K/D	W26	34.3	19.3	15.0	43.7	100.0	96.3	3.7	3.7	75	27	43	10	42.7	63.0
			W27	35.7	20.9	14.8	41.5					78	29	49	13	37.2	55.2
			W28	5.5	0.3	5.2	94.5					12	5	1	0	91.7	100.0
			W29	1.2	1.2	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	8.2	2.1	6.1	74.4	99.3	96.4	2.9	2.9	11	11	4	4	63.6	63.6
			W31	8.5	2.8	5.7	67.1					12	12	5	5	58.3	58.3
	R12	BEDROOM	W32	34.6	19.2	15.4	44.5	100.0	100.0	0.0	0.0	75	27	45	13	40.0	51.9
			W33	35.8	20.5	15.3	42.7					78	29	47	14	39.7	51.7
			W34	7.2	0.2	7.0	97.2					12	5	1	0	91.7	100.0
	R13	L/K/D	W35	12.2	4.3	7.9	64.8	99.8	98.5	1.3	1.3	18	18	7	7	61.1	61.1
			W36	12.7	5.4	7.3	57.5					19	19	8	8	57.9	57.9
			W37	0.3	0.3	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.3	0.3	0.0	0.0	60.0	58.4	1.6	2.7	N/A	N/A	N/A	N/A	N/A	N/A
			W39	14.0	14.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	11.5	11.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	BEDROOM	W1	21.0	20.6	0.4	1.9	80.2	80.2	0.0	0.0	27	10	27	10	0.0	0.0
	R2	L/K/D	W2	23.8	23.2	0.6	2.5	98.1	97.8	0.3	0.3	35	14	34	13	2.9	7.1
			W3	24.7	24.2	0.5	2.0					31	11	31	11	0.0	0.0
			W4	15.2	11.2	4.0	26.3					23	21	20	18	13.0	14.3
			W5	12.8	10.4	2.4	18.8					20	19	19	18	5.0	5.3
	R3	BEDROOM	W6	8.5	8.1	0.4	4.7	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	34.9	28.6	6.3	18.1					71	27	64	22	9.9	18.5
			W8	34.9	28.1	6.8	19.5					71	27	62	21	12.7	22.2

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R4	L/K/D	W9	36.2	27.9	8.3	22.9	100.0	99.8	0.2	0.2	77	27	60	20	22.1	25.9
			W10	36.2	28.0	8.2	22.7					79	29	66	21	16.5	27.6
			W11	7.3	3.3	4.0	54.8					12	5	7	1	41.7	80.0
	R5	BEDROOM	W12	10.2	4.1	6.1	59.8	100.0	99.6	0.4	0.4	18	13	4	4	77.8	69.2
			W13	13.6	6.7	6.9	50.7					23	16	10	7	56.5	56.3
	R6	L/K/D	W14	23.2	14.2	9.0	38.8	100.0	99.7	0.3	0.3	53	18	33	9	37.7	50.0
			W15	28.9	19.2	9.7	33.6					61	24	43	13	29.5	45.8
			W16	4.9	1.1	3.8	77.6					9	5	2	0	77.8	100.0
			W17	0.7	0.7	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	7.7	2.2	5.5	71.4	99.3	85.1	14.2	14.3	9	9	2	2	77.8	77.8
			W19	8.0	3.4	4.6	57.5					10	10	4	4	60.0	60.0
	R8	L/K/D	W20	33.6	22.0	11.6	34.5	100.0	79.7	20.3	20.3	75	27	50	14	33.3	48.1
			W21	34.4	22.9	11.5	33.4					74	28	51	14	31.1	50.0
			W22	4.9	0.7	4.2	85.7					9	5	2	0	77.8	100.0
			W23	2.4	2.4	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	7.7	1.9	5.8	75.3	99.3	87.1	12.2	12.3	9	9	2	2	77.8	77.8
			W25	8.0	2.9	5.1	63.8					10	10	4	4	60.0	60.0
	R10	L/K/D	W26	33.7	20.5	13.2	39.2	100.0	96.5	3.5	3.5	75	27	46	13	38.7	51.9
			W27	35.0	22.0	13.0	37.1					77	29	51	16	33.8	44.8
			W28	4.9	0.2	4.7	95.9					9	5	0	0	100.0	100.0
			W29	1.3	1.3	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	7.8	2.6	5.2	66.7	99.3	98.0	1.3	1.3	9	9	3	3	66.7	66.7
			W31	8.0	3.6	4.4	55.0					10	10	4	4	60.0	60.0
	R12	BEDROOM	W32	33.9	20.1	13.8	40.7	100.0	100.0	0.0	0.0	75	27	48	16	36.0	40.7
			W33	35.0	21.3	13.7	39.1					77	29	49	17	36.4	41.4
			W34	6.3	0.1	6.2	98.4					13	5	0	0	100.0	100.0
	R13	L/K/D	W35	11.4	4.4	7.0	61.4	99.8	98.9	0.9	0.9	15	15	6	6	60.0	60.0
			W36	11.8	5.7	6.1	51.7					16	16	7	7	56.3	56.3
			W37	0.0	0.0	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.0	0.0	0.0	0.0	58.4	58.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	14.1	14.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	11.7	11.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	BEDROOM	W1	24.1	23.7	0.4	1.7	83.2	83.2	0.0	0.0	28	10	28	10	0.0	0.0
	R2	L/K/D	W2	26.5	25.9	0.6	2.3	98.0	97.7	0.3	0.3	36	14	35	13	2.8	7.1
			W3	27.3	26.8	0.5	1.8					31	11	31	11	0.0	0.0
			W4	15.4	11.8	3.6	23.4					23	21	20	18	13.0	14.3
			W5	13.1	10.8	2.3	17.6					20	19	19	18	5.0	5.3
	R3	BEDROOM	W6	8.5	8.2	0.3	3.5	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	35.1	29.5	5.6	16.0					71	27	65	22	8.5	18.5
			W8	35.1	29.1	6.0	17.1					71	27	65	22	8.5	18.5
	R4	L/K/D	W9	36.4	29.1	7.3	20.1	100.0	100.0	0.0	0.0	77	27	61	20	20.8	25.9
			W10	36.5	29.4	7.1	19.5					79	29	66	21	16.5	27.6
			W11	7.4	3.5	3.9	52.7					12	5	7	1	41.7	80.0
	R5	BEDROOM	W12	10.4	5.1	5.3	51.0	100.0	99.6	0.4	0.4	18	13	7	7	61.1	46.2
			W13	13.8	7.9	5.9	42.8					23	16	11	8	52.2	50.0
	R6	L/K/D	W14	23.4	15.7	7.7	32.9	100.0	100.0	0.0	0.0	53	18	35	11	34.0	38.9
			W15	29.2	20.8	8.4	28.8					61	24	46	16	24.6	33.3
			W16	5.0	1.2	3.8	76.0					9	5	3	1	66.7	80.0
			W17	0.9	0.9	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	7.9	3.6	4.3	54.4	99.3	99.3	0.0	0.0	9	9	4	4	55.6	55.6
			W19	8.1	4.6	3.5	43.2					10	10	5	5	50.0	50.0
	R8	L/K/D	W20	33.9	24.1	9.8	28.9	100.0	97.0	3.0	3.0	75	27	55	17	26.7	37.0
			W21	34.6	25.1	9.5	27.5					74	28	57	18	23.0	35.7
			W22	5.0	0.8	4.2	84.0					9	5	2	0	77.8	100.0
			W23	2.8	2.8	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	7.9	3.3	4.6	58.2	99.3	99.3	0.0	0.0	9	9	4	4	55.6	55.6
			W25	8.1	4.4	3.7	45.7					10	10	6	6	40.0	40.0
	R10	L/K/D	W26	33.9	22.7	11.2	33.0	100.0	99.8	0.2	0.2	75	27	52	17	30.7	37.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W27	35.2	24.2	11.0	31.3					77	29	53	18	31.2	37.9
			W28	5.0	0.3	4.7	94.0					9	5	0	0	100.0	100.0
			W29	1.6	1.6	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	7.9	3.5	4.4	55.7	99.3	99.0	0.3	0.3	9	9	5	5	44.4	44.4
			W31	8.2	4.9	3.3	40.2					10	10	7	7	30.0	30.0
	R12	BEDROOM	W32	34.1	22.1	12.0	35.2	100.0	100.0	0.0	0.0	75	27	52	17	30.7	37.0
			W33	35.2	23.1	12.1	34.4					77	29	52	19	32.5	34.5
			W34	6.4	0.2	6.2	96.9					13	5	0	0	100.0	100.0
	R13	L/K/D	W35	11.6	5.1	6.5	56.0	99.8	98.9	0.9	0.9	15	15	8	8	46.7	46.7
			W36	11.9	6.8	5.1	42.9					16	16	9	9	43.8	43.8
			W37	0.0	0.0	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.0	0.0	0.0	0.0	58.8	58.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	15.0	15.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	12.5	12.5	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	BEDROOM	W1	27.7	27.3	0.4	1.4	96.6	96.6	0.0	0.0	33	10	33	10	0.0	0.0
	R2	L/K/D	W2	29.6	29.1	0.5	1.7	98.1	97.8	0.3	0.3	40	14	39	13	2.5	7.1
			W3	30.1	29.8	0.3	1.0					35	11	35	11	0.0	0.0
			W4	15.6	12.3	3.3	21.2					23	21	20	18	13.0	14.3
			W5	13.2	11.1	2.1	15.9					20	19	19	18	5.0	5.3
	R3	BEDROOM	W6	8.6	8.3	0.3	3.5	99.3	99.3	0.0	0.0	16	9	16	9	0.0	0.0
			W7	35.3	30.3	5.0	14.2					71	27	65	22	8.5	18.5
			W8	35.3	30.0	5.3	15.0					71	27	65	22	8.5	18.5
	R4	L/K/D	W9	36.6	30.2	6.4	17.5	100.0	100.0	0.0	0.0	77	27	64	22	16.9	18.5
			W10	36.7	30.5	6.2	16.9					79	29	70	23	11.4	20.7
			W11	7.5	3.8	3.7	49.3					12	5	8	1	33.3	80.0
	R5	BEDROOM	W12	10.6	6.0	4.6	43.4	100.0	99.6	0.4	0.4	18	13	9	9	50.0	30.8
	R6	L/K/D	W13	14.0	8.9	5.1	36.4					23	16	15	11	34.8	31.3
			W14	23.4	16.9	6.5	27.8	100.0	100.0	0.0	0.0	52	18	37	14	28.8	22.2
			W15	28.8	21.9	6.9	24.0					58	24	46	19	20.7	20.8
			W16	5.1	1.4	3.7	72.5					9	5	4	2	55.6	60.0
			W17	1.0	1.0	0.0	0.0					0	0	0	0	0.0	0.0
	R7	BEDROOM	W18	8.1	4.7	3.4	42.0	99.3	99.3	0.0	0.0	9	9	6	6	33.3	33.3
			W19	8.2	5.6	2.6	31.7					10	10	7	7	30.0	30.0
	R8	L/K/D	W20	34.1	25.7	8.4	24.6	100.0	100.0	0.0	0.0	75	27	57	19	24.0	29.6
			W21	34.9	26.7	8.2	23.5					72	27	56	18	22.2	33.3
			W22	5.1	0.9	4.2	82.4					9	5	2	0	77.8	100.0
			W23	3.1	3.1	0.0	0.0					0	0	0	0	0.0	0.0
	R9	BEDROOM	W24	8.0	4.4	3.6	45.0	99.3	99.3	0.0	0.0	9	9	5	5	44.4	44.4
			W25	8.2	5.6	2.6	31.7					10	10	7	7	30.0	30.0
	R10	L/K/D	W26	34.1	24.5	9.6	28.2	100.0	100.0	0.0	0.0	75	27	54	18	28.0	33.3
			W27	35.4	25.8	9.6	27.1					77	29	58	20	24.7	31.0
			W28	5.1	0.4	4.7	92.2					9	5	0	0	100.0	100.0
			W29	1.8	1.8	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W30	8.1	4.2	3.9	48.1	99.3	99.0	0.3	0.3	9	9	5	5	44.4	44.4
			W31	8.3	5.7	2.6	31.3					10	10	7	7	30.0	30.0
	R12	BEDROOM	W32	34.3	23.3	11.0	32.1	100.0	100.0	0.0	0.0	75	27	53	18	29.3	33.3
			W33	35.5	24.2	11.3	31.8					77	29	55	20	28.6	31.0
			W34	6.5	0.2	6.3	96.9					13	5	1	0	92.3	100.0
	R13	L/K/D	W35	11.8	5.4	6.4	54.2	99.8	98.9	0.9	0.9	15	15	9	9	40.0	40.0
			W36	12.1	7.5	4.6	38.0					16	16	11	11	31.3	31.3
			W37	0.2	0.2	0.0	0.0					0	0	0	0	0.0	0.0
	R14	BEDROOM	W38	0.2	0.2	0.0	0.0	59.6	59.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W39	16.0	16.0	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W40	13.4	13.4	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
AILSA WHARF BLOCKS K L																	
F00	R1	L/K/D	W1	34.5	28.7	5.8	16.8	95.0	85.2	9.8	10.3	72	27	64	20	11.1	25.9

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	10.1	10.1	0.0	0.0					0	0	0	0	0.0	0.0
			W3	9.4	9.4	0.0	0.0					0	0	0	0	0.0	0.0
	R2	L/K/D	W4	34.4	28.6	5.8	16.9	93.6	82.3	11.3	12.1	72	27	64	20	11.1	25.9
			W5	11.3	11.3	0.0	0.0					0	0	0	0	0.0	0.0
			W6	11.0	11.0	0.0	0.0					0	0	0	0	0.0	0.0
	R3	L/K/D	W7	11.3	11.3	0.0	0.0	94.8	81.5	13.3	14.0	0	0	0	0	0.0	0.0
			W8	11.4	11.4	0.0	0.0					0	0	0	0	0.0	0.0
			W9	34.4	28.4	6.0	17.4					72	27	65	21	9.7	22.2
	R4	L/K/D	W10	10.0	10.0	0.0	0.0	95.3	79.4	15.9	16.7	0	0	0	0	0.0	0.0
			W11	10.5	10.5	0.0	0.0					0	0	0	0	0.0	0.0
			W12	34.4	27.9	6.5	18.9					72	27	64	20	11.1	25.9
	R5	L/K/D	W13	12.4	12.4	0.0	0.0	18.9	18.9	0.0	0.0	9	0	9	0	0.0	0.0
			W14	11.6	11.6	0.0	0.0					4	0	4	0	0.0	0.0
	R6	BEDROOM	W15	12.3	12.3	0.0	0.0	24.0	24.0	0.0	0.0	9	0	9	0	0.0	0.0
	R7	L/K/D	W16	12.1	12.1	0.0	0.0	14.2	14.2	0.0	0.0	11	1	11	1	0.0	0.0
			W17	13.4	13.4	0.0	0.0					15	0	15	0	0.0	0.0
			W18	13.2	13.2	0.0	0.0					13	0	13	0	0.0	0.0
	R8	BEDROOM	W19	14.4	14.0	0.4	2.8	55.0	55.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W20	6.6	6.6	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W21	3.6	3.6	0.0	0.0	40.8	40.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	12.5	12.1	0.4	3.2					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W23	15.3	12.6	2.7	17.6	67.0	49.8	17.2	25.7	N/A	N/A	N/A	N/A	N/A	N/A
			W24	14.7	12.4	2.3	15.6					N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W25	16.2	12.4	3.8	23.5	59.6	40.4	19.2	32.2	N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W26	13.5	8.3	5.2	38.5	96.7	95.5	1.2	1.2	22	18	15	11	31.8	38.9
			W27	12.2	7.7	4.5	36.9					20	18	13	11	35.0	38.9
			W28	17.5	10.4	7.1	40.6					30	24	17	13	43.3	45.8
			W29	18.3	13.0	5.3	29.0					34	9	21	2	38.2	77.8
F01	R1	L/K/D	W1	32.8	27.3	5.5	16.8	97.5	97.1	0.4	0.4	67	27	61	21	9.0	22.2
			W2	32.9	27.2	5.7	17.3					67	27	60	20	10.4	25.9
			W3	18.1	12.6	5.5	30.4					30	24	25	21	16.7	12.5
			W4	19.4	14.6	4.8	24.7					34	9	24	5	29.4	44.4
	R2	BEDROOM	W5	16.9	13.5	3.4	20.1	53.0	38.4	14.6	27.5	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W6	16.0	13.5	2.5	15.6	72.6	57.9	14.7	20.2	N/A	N/A	N/A	N/A	N/A	N/A
			W7	15.4	13.3	2.1	13.6					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	0.0	0.0	0.0	0.0	6.8	6.0	0.8	11.8	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.1	2.6	1.5	36.6	90.4	83.1	7.3	8.1	5	4	4	3	20.0	25.0
			W10	13.6	12.7	0.9	6.6					13	5	11	3	15.4	40.0
			W11	11.9	11.3	0.6	5.0					8	2	6	0	25.0	100.0
F02	R1	L/K/D	W1	33.3	28.8	4.5	13.5	97.5	97.1	0.4	0.4	68	28	62	22	8.8	21.4
			W2	33.3	28.7	4.6	13.8					68	28	62	22	8.8	21.4
			W3	18.5	14.0	4.5	24.3					30	24	25	21	16.7	12.5
			W4	20.6	16.2	4.4	21.4					34	9	24	5	29.4	44.4
	R2	BEDROOM	W5	18.6	15.5	3.1	16.7	54.2	39.8	14.4	26.6	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W6	17.9	15.6	2.3	12.8	72.6	60.3	12.3	16.9	N/A	N/A	N/A	N/A	N/A	N/A
			W7	17.3	15.4	1.9	11.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	0.1	0.1	0.0	0.0	12.2	12.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	5.8	4.4	1.4	24.1	90.4	86.0	4.4	4.9	9	5	8	4	11.1	20.0
			W10	15.5	14.7	0.8	5.2					14	5	12	3	14.3	40.0
			W11	13.6	12.9	0.7	5.1					9	2	7	0	22.2	100.0
F03	R1	L/K/D	W1	33.6	29.6	4.0	11.9	97.5	97.2	0.3	0.3	68	28	63	23	7.4	17.9
			W2	33.6	29.5	4.1	12.2					68	28	64	24	5.9	14.3
			W3	18.8	14.6	4.2	22.3					30	24	25	21	16.7	12.5
			W4	22.0	18.1	3.9	17.7					32	9	25	5	21.9	44.4
	R2	BEDROOM	W5	19.9	17.1	2.8	14.1	56.2	42.7	13.5	24.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W6	19.1	17.0	2.1	11.0	72.6	61.3	11.3	15.6	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W7	18.6	16.9	1.7	9.1					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	0.0	0.0	0.0	0.0	8.9	6.8	2.1	23.6	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.6	3.3	1.3	28.3	90.5	85.3	5.2	5.7	8	4	8	4	0.0	0.0
			W10	16.9	16.2	0.7	4.1					17	5	16	4	5.9	20.0
			W11	15.0	14.4	0.6	4.0					12	2	11	1	8.3	50.0
ATELIER COURT																	
F00	R1	LIVING ROOM	W1	17.0	3.4	13.6	80.0	98.8	54.3	44.5	45.0	27	8	0	0	100.0	100.0
			W2	21.4	5.2	16.2	75.7					32	11	2	0	93.8	100.0
	R2	BEDROOM	W3	27.3	9.9	17.4	63.7	87.8	23.7	64.1	73.0	33	9	2	0	93.9	100.0
	R3	BEDROOM	W4	26.9	10.1	16.8	62.5	99.7	36.4	63.3	63.5	31	8	3	0	90.3	100.0
			W5	27.1	10.2	16.9	62.4					32	8	3	0	90.6	100.0
	R4	BEDROOM	W6	13.9	3.2	10.7	77.0	98.6	35.4	63.2	64.1	20	3	1	0	95.0	100.0
			W7	13.3	4.4	8.9	66.9					10	0	1	0	90.0	0.0
	R5	L/K/D	W8	25.6	10.7	14.9	58.2	62.5	18.4	44.1	70.6	29	8	4	1	86.2	87.5
			W9	26.7	10.9	15.8	59.2					37	11	9	2	75.7	81.8
	R6	KITCHEN	W10	25.2	10.8	14.4	57.1	58.0	21.0	37.0	63.8	29	8	3	0	89.7	100.0
	R7	LIVING ROOM	W11	17.0	6.6	10.4	61.2	82.0	33.1	48.9	59.6	19	3	2	0	89.5	100.0
F01	R1	LIVING ROOM	W1	15.1	2.3	12.8	84.8	98.8	43.0	55.8	56.5	22	7	0	0	100.0	100.0
			W2	13.1	3.0	10.1	77.1					14	3	1	0	92.9	100.0
	R2	BEDROOM	W3	32.9	13.4	19.5	59.3	98.7	32.4	66.3	67.2	39	10	2	0	94.9	100.0
	R3	BEDROOM	W4	32.6	13.7	18.9	58.0	99.7	47.8	51.9	52.1	38	10	3	0	92.1	100.0
			W5	32.7	13.6	19.1	58.4					38	10	3	0	92.1	100.0
	R4	L/K/D	W6	31.9	14.5	17.4	54.5	97.4	43.3	54.1	55.5	36	10	8	2	77.8	80.0
			W7	11.3	1.8	9.5	84.1					16	4	1	0	93.8	100.0
	R5	BEDROOM	W8	31.7	14.7	17.0	53.6	98.8	32.2	66.6	67.4	36	10	8	2	77.8	80.0
	R6	BEDROOM	W9	31.4	15.2	16.2	51.6	98.0	45.3	52.7	53.8	35	9	6	0	82.9	100.0
	R7	LIVING ROOM	W10	11.9	3.2	8.7	73.1	100.0	54.8	45.2	45.2	17	3	4	0	76.5	100.0
	R8	LIVING ROOM	W11	31.1	15.9	15.2	48.9	99.2	53.2	46.0	46.4	36	8	10	0	72.2	100.0
			W12	7.2	1.4	5.8	80.6					13	4	3	0	76.9	100.0
	R9	BEDROOM	W13	31.3	16.2	15.1	48.2	98.7	35.8	62.9	63.7	37	8	10	0	73.0	100.0
	R10	BEDROOM	W14	31.4	16.3	15.1	48.1	98.2	38.0	60.2	61.3	36	8	10	0	72.2	100.0
	R11	BEDROOM	W15	31.5	16.6	14.9	47.3	99.1	47.0	52.1	52.6	35	8	11	0	68.6	100.0
	R12	BEDROOM	W16	31.8	16.7	15.1	47.5	98.0	46.4	51.6	52.7	37	9	12	0	67.6	100.0
	R13	BEDROOM	W17	32.0	16.7	15.3	47.8	98.1	46.7	51.4	52.4	36	8	13	0	63.9	100.0
	R14	BEDROOM	W18	32.6	16.8	15.8	48.5	98.6	46.3	52.3	53.0	38	9	14	0	63.2	100.0
	R15	LIVING ROOM	W19	16.9	4.7	12.2	72.2	100.0	31.5	68.5	68.5	24	6	7	0	70.8	100.0
	R16	LIVING ROOM	W20	14.6	4.4	10.2	69.9	100.0	29.2	70.8	70.8	22	5	7	0	68.2	100.0
	R17	BEDROOM	W21	33.1	16.8	16.3	49.2	97.2	36.2	61.0	62.8	40	12	14	0	65.0	100.0
	R18	BEDROOM	W22	33.1	16.7	16.4	49.5	97.3	36.8	60.5	62.2	40	11	15	0	62.5	100.0
	R19	BEDROOM	W23	33.2	16.8	16.4	49.4	98.4	34.9	63.5	64.5	40	11	15	0	62.5	100.0
	R20	BEDROOM	W24	33.1	16.6	16.5	49.8	98.6	41.3	57.3	58.1	40	11	15	0	62.5	100.0
	R21	LIVING ROOM	W25	18.7	5.0	13.7	73.3	99.7	43.7	56.0	56.2	26	6	7	0	73.1	100.0
	R22	LIVING ROOM	W26	18.2	4.5	13.7	75.3	100.0	37.9	62.1	62.1	26	6	7	0	73.1	100.0
	R23	BEDROOM	W27	32.8	15.1	17.7	54.0	97.9	30.4	67.5	68.9	39	10	12	0	69.2	100.0
	R24	KITCHEN	W28	33.0	16.4	16.6	50.3	97.9	65.1	32.8	33.5	39	10	11	0	71.8	100.0
	R25	LIVING ROOM	W29	16.2	13.1	3.1	19.1	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	LIVING ROOM	W1	10.2	1.0	9.2	90.2	98.6	49.2	49.4	50.1	16	8	1	1	93.8	87.5
			W2	20.2	3.8	16.4	81.2					27	8	3	1	88.9	87.5
	R2	BEDROOM	W3	35.7	14.5	21.2	59.4	98.7	37.5	61.2	62.0	42	12	3	0	92.9	100.0
	R3	BEDROOM	W4	35.5	14.9	20.6	58.0	99.7	53.3	46.4	46.5	42	12	5	0	88.1	100.0
			W5	35.6	14.8	20.8	58.4					42	12	4	0	90.5	100.0
	R4	L/K/D	W6	35.0	16.2	18.8	53.7	97.4	67.2	30.2	31.0	42	12	10	2	76.2	83.3
			W7	12.3	3.5	8.8	71.5					14	2	2	0	85.7	100.0
	R5	BEDROOM	W8	34.8	16.5	18.3	52.6	98.8	42.3	56.5	57.2	42	12	10	2	76.2	83.3
	R6	BEDROOM	W9	34.6	17.2	17.4	50.3	98.0	63.1	34.9	35.6	41	11	9	0	78.0	100.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	LIVING ROOM	W10	11.1	2.5	8.6	77.5	100.0	93.9	6.1	6.1	14	5	2	0	85.7	100.0
	R8	LIVING ROOM	W11	34.6	18.5	16.1	46.5	99.2	82.2	17.0	17.1	40	10	13	0	67.5	100.0
			W12	14.0	4.9	9.1	65.0					21	5	6	0	71.4	100.0
	R9	BEDROOM	W13	34.8	18.8	16.0	46.0	98.7	71.7	27.0	27.4	40	10	13	0	67.5	100.0
	R10	BEDROOM	W14	35.0	19.0	16.0	45.7	99.1	85.8	13.3	13.4	40	10	13	0	67.5	100.0
	R11	BEDROOM	W15	35.3	19.2	16.1	45.6	99.1	74.8	24.3	24.5	40	10	15	0	62.5	100.0
	R12	BEDROOM	W16	35.4	19.1	16.3	46.0	98.0	60.2	37.8	38.6	41	11	16	0	61.0	100.0
	R13	BEDROOM	W17	35.3	19.0	16.3	46.2	98.1	73.2	24.9	25.4	41	11	16	0	61.0	100.0
	R14	BEDROOM	W18	35.5	18.8	16.7	47.0	98.6	63.3	35.3	35.8	41	11	15	0	63.4	100.0
	R15	LIVING ROOM	W19	14.1	3.8	10.3	73.0	100.0	43.0	57.0	57.0	13	4	0	0	100.0	100.0
	R16	LIVING ROOM	W20	18.8	6.3	12.5	66.5	100.0	28.7	71.3	71.3	20	2	6	0	70.0	100.0
	R17	BEDROOM	W21	35.4	18.8	16.6	46.9	97.2	39.4	57.8	59.5	42	12	18	1	57.1	91.7
	R18	BEDROOM	W22	35.4	18.9	16.5	46.6	97.3	37.9	59.4	61.0	41	11	18	1	56.1	90.9
	R19	BEDROOM	W23	35.5	19.0	16.5	46.5	98.4	41.3	57.1	58.0	41	11	18	1	56.1	90.9
	R20	BEDROOM	W24	35.4	19.0	16.4	46.3	98.6	46.7	51.9	52.6	41	11	18	1	56.1	90.9
	R21	LIVING ROOM	W25	14.6	5.2	9.4	64.4	99.7	76.8	22.9	23.0	13	4	1	0	92.3	100.0
	R22	LIVING ROOM	W26	13.2	4.5	8.7	65.9	100.0	75.4	24.6	24.6	14	5	1	0	92.9	100.0
	R23	BEDROOM	W27	34.8	18.8	16.0	46.0	97.9	41.1	56.8	58.0	40	11	16	0	60.0	100.0
	R24	KITCHEN	W28	34.9	20.0	14.9	42.7	97.9	82.2	15.7	16.0	41	12	15	0	63.4	100.0
	R25	LIVING ROOM	W29	16.7	15.4	1.3	7.8	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	LIVING ROOM	W1	13.0	1.5	11.5	88.5	98.8	47.7	51.1	51.7	20	8	3	1	85.0	87.5
			W2	10.4	1.1	9.3	89.4					17	14	1	1	94.1	92.9
	R2	BEDROOM	W3	30.7	10.4	20.3	66.1	98.7	42.9	55.8	56.5	36	12	2	0	94.4	100.0
	R3	BEDROOM	W4	30.7	10.8	19.9	64.8	99.7	60.6	39.1	39.2	36	12	2	0	94.4	100.0
			W5	30.7	10.6	20.1	65.5					36	12	2	0	94.4	100.0
	R4	L/K/D	W6	31.5	12.7	18.8	59.7	97.4	49.9	47.5	48.8	39	12	8	2	79.5	83.3
	R5	BEDROOM	W8	31.5	13.0	18.5	58.7	98.8	45.9	52.9	53.5	39	12	8	2	79.5	83.3
	R6	BEDROOM	W9	31.5	13.8	17.7	56.2	98.0	66.6	31.4	32.0	39	12	8	0	79.5	100.0
	R7	LIVING ROOM	W10	12.2	3.3	8.9	73.0	100.0	94.1	5.9	5.9	14	2	5	0	64.3	100.0
	R8	LIVING ROOM	W11	30.6	14.8	15.8	51.6	99.2	86.2	13.0	13.1	36	12	10	0	72.2	100.0
			W12	8.0	2.5	5.5	68.8					13	4	4	0	69.2	100.0
	R9	BEDROOM	W13	30.6	15.1	15.5	50.7	98.7	73.3	25.4	25.7	36	12	9	0	75.0	100.0
	R10	BEDROOM	W14	30.6	15.3	15.3	50.0	99.1	88.0	11.1	11.2	36	12	9	0	75.0	100.0
	R11	BEDROOM	W15	30.7	15.3	15.4	50.2	99.1	73.9	25.2	25.4	36	12	15	2	58.3	83.3
	R12	BEDROOM	W16	30.7	15.0	15.7	51.1	98.0	62.2	35.8	36.5	36	12	15	3	58.3	75.0
	R13	BEDROOM	W17	30.6	14.8	15.8	51.6	98.1	76.2	21.9	22.3	36	12	15	3	58.3	75.0
	R14	BEDROOM	W18	30.7	14.5	16.2	52.8	98.6	67.1	31.5	31.9	36	12	12	1	66.7	91.7
	R15	LIVING ROOM	W19	11.7	3.7	8.0	68.4	100.0	48.3	51.7	51.7	16	8	6	1	62.5	87.5
	R16	LIVING ROOM	W20	19.0	5.1	13.9	73.2	100.0	35.1	64.9	64.9	23	7	5	1	78.3	85.7
	R17	BEDROOM	W21	31.5	15.4	16.1	51.1	97.2	44.3	52.9	54.4	39	12	16	2	59.0	83.3
	R18	BEDROOM	W22	31.4	15.6	15.8	50.3	97.3	40.2	57.1	58.7	39	12	16	2	59.0	83.3
	R19	BEDROOM	W23	31.5	15.8	15.7	49.8	98.4	45.8	52.6	53.5	39	12	16	2	59.0	83.3
	R20	BEDROOM	W24	31.4	16.1	15.3	48.7	98.6	48.9	49.7	50.4	39	12	17	2	56.4	83.3
	R21	LIVING ROOM	W25	18.6	6.4	12.2	65.6	99.7	87.2	12.5	12.5	20	4	4	1	80.0	75.0
	R22	LIVING ROOM	W26	20.0	8.3	11.7	58.5	100.0	95.0	5.0	5.0	24	5	7	1	70.8	80.0
	R23	BEDROOM	W27	35.8	22.4	13.4	37.4	97.9	68.7	29.2	29.8	41	12	17	0	58.5	100.0
	R24	KITCHEN	W28	35.8	23.4	12.4	34.6	97.9	87.0	10.9	11.1	41	12	19	0	53.7	100.0
	R25	LIVING ROOM	W29	12.8	9.8	3.0	23.4	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	KITCHEN	W1	36.1	23.7	12.4	34.3	94.9	93.1	1.8	1.9	42	12	21	3	50.0	75.0
	R2	KITCHEN	W2	31.0	23.8	7.2	23.2	97.4	90.2	7.2	7.4	67	24	54	13	19.4	45.8
	R3	LIVING ROOM	W3	21.3	9.3	12.0	56.3	100.0	98.1	1.9	1.9	32	13	12	3	62.5	76.9
			W4	34.6	26.5	8.1	23.4					73	27	60	16	17.8	40.7
	R4	BEDROOM	W5	36.1	25.0	11.1	30.7	97.9	70.2	27.7	28.3	41	12	21	1	48.8	91.7
	R5	KITCHEN	W6	36.1	26.0	10.1	28.0	97.9	91.1	6.8	6.9	41	12	23	1	43.9	91.7
	R6	LIVING ROOM	W7	17.7	16.6	1.1	6.2	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F05	R1	KITCHEN	W1	35.6	27.1	8.5	23.9	97.4	89.6	7.8	8.0	76	29	63	17	17.1	41.4
	R2	LIVING ROOM	W2	13.1	3.0	10.1	77.1	100.0	99.1	0.9	0.9	19	9	3	2	84.2	77.8
			W3	35.7	27.1	8.6	24.1					76	29	62	17	18.4	41.4
	R3	BEDROOM	W4	28.9	19.0	9.9	34.3	97.9	72.7	25.2	25.7	35	12	18	3	48.6	75.0
	R4	KITCHEN	W5	36.2	27.1	9.1	25.1	97.9	94.5	3.4	3.5	41	12	27	3	34.1	75.0
	R5	LIVING ROOM	W6	18.3	15.5	2.8	15.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	KITCHEN	W1	36.5	28.3	8.2	22.5	97.9	97.9	0.0	0.0	41	12	29	4	29.3	66.7
	R2	LIVING ROOM	W2	31.1	24.7	6.4	20.6	100.0	98.8	1.2	1.2	62	24	53	16	14.5	33.3
			W3	14.5	11.9	2.6	17.9					8	0	7	0	12.5	0.0
F07	R1	KITCHEN	W1	36.6	29.4	7.2	19.7	97.9	97.9	0.0	0.0	41	12	31	5	24.4	58.3
	R2	LIVING ROOM	W2	34.6	28.2	6.4	18.5	100.0	98.8	1.2	1.2	73	27	64	19	12.3	29.6
			W3	25.8	23.4	2.4	9.3					8	0	7	0	12.5	0.0
BALFRON TOWER																	
F00	R1	L/K/D	W1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	0.0
			W2	25.2	25.2	0.0	0.0					36	10	36	10	0.0	0.0
	R2	L/K/D	W3	26.2	26.2	0.0	0.0	0.0	0.0	0.0	0.0	36	10	36	10	0.0	0.0
			W4	0.0	0.0	0.0	0.0					0	0	0	0	0.0	0.0
	R3	L/K/D	W5	0.1	0.0	0.1	100.0	0.3	0.3	0.0	0.0	0	0	0	0	0.0	0.0
			W6	26.5	26.5	0.0	0.0					36	10	36	10	0.0	0.0
	R4	L/K/D	W7	26.7	26.7	0.0	0.0	0.1	0.1	0.0	0.0	36	10	36	10	0.0	0.0
			W8	0.1	0.0	0.1	100.0					0	0	0	0	0.0	0.0
	R5	KITCHEN	W9	0.2	0.1	0.1	50.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BEDROOM	W1	31.4	25.4	6.0	19.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	34.3	27.4	6.9	20.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	35.1	28.3	6.8	19.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	34.8	28.2	6.6	19.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	35.3	28.9	6.4	18.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	35.1	29.0	6.1	17.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	35.4	29.5	5.9	16.7	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	35.3	29.6	5.7	16.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	35.4	29.9	5.5	15.5	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	35.3	30.1	5.2	14.7	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	33.6	28.5	5.1	15.2	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BEDROOM	W1	26.1	20.4	5.7	21.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.2	21.5	6.7	23.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	28.5	22.0	6.5	22.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	28.3	22.0	6.3	22.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	28.6	22.5	6.1	21.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	28.4	22.6	5.8	20.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	28.7	23.1	5.6	19.5	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	28.5	23.2	5.3	18.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	28.7	23.6	5.1	17.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	28.6	23.6	5.0	17.5	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	27.8	23.0	4.8	17.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	12.0	12.0	0.0	0.0	100.0	99.6	0.4	0.4	18	7	18	7	0.0	0.0
			W2	0.4	0.0	0.4	100.0					0	0	0	0	0.0	0.0
	R2	L/K/D	W3	0.3	0.0	0.3	100.0	100.0	99.1	0.9	0.9	0	0	0	0	0.0	0.0
			W4	11.6	11.6	0.0	0.0					17	6	17	6	0.0	0.0
	R3	L/K/D	W5	12.2	12.2	0.0	0.0	99.9	99.6	0.3	0.3	18	7	18	7	0.0	0.0
			W6	0.4	0.0	0.4	100.0					0	0	0	0	0.0	0.0
	R4	L/K/D	W7	0.4	0.1	0.3	75.0	100.0	99.9	0.1	0.1	0	0	0	0	0.0	0.0
			W8	11.9	11.9	0.0	0.0					18	6	18	6	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	KITCHEN	W9	0.4	0.1	0.3	75.0	69.0	47.6	21.4	31.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	BEDROOM	W1	32.0	27.2	4.8	15.0	97.1	97.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	35.1	29.3	5.8	16.5	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	36.0	30.3	5.7	15.8	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	35.6	30.2	5.4	15.2	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	36.0	30.8	5.2	14.4	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	35.8	30.9	4.9	13.7	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	36.1	31.3	4.8	13.3	98.8	98.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	35.9	31.4	4.5	12.5	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	36.0	31.7	4.3	11.9	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	36.0	31.9	4.1	11.4	98.8	98.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	34.2	30.2	4.0	11.7	96.2	96.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	BEDROOM	W1	26.5	22.2	4.3	16.2	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	28.8	23.4	5.4	18.8	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	29.1	23.9	5.2	17.9	98.2	98.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W4	28.9	24.0	4.9	17.0	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	29.1	24.4	4.7	16.2	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	29.0	24.5	4.5	15.5	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W7	29.2	24.8	4.4	15.1	98.2	98.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BEDROOM	W8	29.1	25.0	4.1	14.1	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	29.2	25.2	4.0	13.7	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	29.1	25.3	3.8	13.1	98.7	98.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BEDROOM	W11	28.3	24.7	3.6	12.7	97.9	97.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
BROMLEY HALL																	
F00	R1	CLASSROOM	W1	18.7	17.9	0.8	4.3	100.0	100.0	0.0	0.0	6	0	6	0	0.0	0.0
			W2	25.2	23.0	2.2	8.7					31	6	27	3	12.9	50.0
			W3	82.7	81.0	1.7	2.1					79	24	70	16	11.4	33.3
	R2	STORAGE	W4	28.2	28.1	0.1	0.4	98.4	98.4	0.0	0.0	37	13	37	13	0.0	0.0
	R3	STORAGE	W5	29.7	29.7	0.0	0.0	98.4	98.4	0.0	0.0	36	8	36	8	0.0	0.0
	R4	OFFICE	W6	88.9	86.4	2.5	2.8	99.1	99.1	0.0	0.0	89	27	78	17	12.4	37.0
			W7	25.1	24.6	0.5	2.0					3	0	3	0	0.0	0.0
			W8	32.5	32.5	0.0	0.0					42	14	42	14	0.0	0.0
	R5	OFFICE	W9	32.6	32.6	0.0	0.0	92.5	92.5	0.0	0.0	42	14	42	14	0.0	0.0
	R6	STAFF BASE	W10	33.9	33.9	0.0	0.0	99.1	99.1	0.0	0.0	43	13	43	13	0.0	0.0
			W11	22.7	17.2	5.5	24.2					55	13	41	11	25.5	15.4
			W12	89.3	84.6	4.7	5.3					89	27	68	15	23.6	44.4
	R7	PARENT ROOM	W13	19.1	18.2	0.9	4.7	100.0	96.2	3.8	3.8	N/A	N/A	N/A	N/A	N/A	N/A
			W14	26.2	19.4	6.8	26.0					N/A	N/A	N/A	N/A	N/A	N/A
			W15	25.5	19.4	6.1	23.9					N/A	N/A	N/A	N/A	N/A	N/A
	R8	CANTEEN	W16	92.0	87.1	4.9	5.3	100.0	100.0	0.0	0.0	90	27	72	13	20.0	51.9
	R9	ASSEMBLY HALL	W17	63.5	58.2	5.3	8.3	100.0	100.0	0.0	0.0	55	18	34	2	38.2	88.9
			W18	84.6	68.0	16.6	19.6					88	25	55	6	37.5	76.0
			W19	78.2	70.0	8.2	10.5					70	18	45	1	35.7	94.4
			W20	81.2	79.8	1.4	1.7					64	5	63	4	1.6	20.0
	R10	CLASSROOM	W21	27.4	22.8	4.6	16.8	100.0	100.0	0.0	0.0	34	8	19	1	44.1	87.5
			W22	83.2	67.5	15.7	18.9					76	20	28	1	63.2	95.0
			W23	21.6	19.2	2.4	11.1					15	0	9	0	40.0	0.0
			W24	25.0	21.4	3.6	14.4					29	4	22	3	24.1	25.0
			W25	18.4	16.0	2.4	13.0					31	5	22	2	29.0	60.0
	R11	STORAGE	W26	85.0	76.1	8.9	10.5	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W27	28.7	24.2	4.5	15.7					N/A	N/A	N/A	N/A	N/A	N/A
			W28	27.5	24.3	3.2	11.6					N/A	N/A	N/A	N/A	N/A	N/A
			W29	28.8	24.6	4.2	14.6					N/A	N/A	N/A	N/A	N/A	N/A
	R12	STORAGE	W30	84.8	77.3	7.5	8.8	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W31	29.2	24.9	4.3	14.7					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W32	28.9	24.5	4.4	15.2					N/A	N/A	N/A	N/A	N/A	N/A
			W33	27.8	24.1	3.7	13.3					N/A	N/A	N/A	N/A	N/A	N/A
	R13	CLASSROOM	W34	19.5	18.0	1.5	7.7	100.0	100.0	0.0	0.0	9	0	8	0	11.1	0.0
			W35	26.0	22.4	3.6	13.8					32	6	27	4	15.6	33.3
			W36	19.5	17.5	2.0	10.3					34	6	32	5	5.9	16.7
			W37	81.7	75.5	6.2	7.6					77	21	62	10	19.5	52.4
			W38	27.8	26.7	1.1	4.0					37	7	33	5	10.8	28.6
	R14	CLASSROOM	W39	19.0	16.7	2.3	12.1	100.0	100.0	0.0	0.0	7	0	5	0	28.6	0.0
			W40	26.1	20.6	5.5	21.1					35	6	28	5	20.0	16.7
			W41	20.5	17.2	3.3	16.1					36	6	31	6	13.9	0.0
			W42	78.0	70.8	7.2	9.2					74	19	60	12	18.9	36.8
			W43	28.9	26.6	2.3	8.0					39	9	34	5	12.8	44.4
	R15	CLASSROOM	W44	22.7	19.7	3.0	13.2	100.0	100.0	0.0	0.0	38	10	26	1	31.6	90.0
			W45	30.0	26.4	3.6	12.0					46	14	32	3	30.4	78.6
			W46	86.8	81.6	5.2	6.0					85	25	72	15	15.3	40.0
	R16	CLASSROOM	W47	87.0	80.1	6.9	7.9	100.0	100.0	0.0	0.0	85	25	67	12	21.2	52.0
			W48	29.5	25.6	3.9	13.2					40	10	26	1	35.0	90.0
			W49	19.6	19.6	0.0	0.0					6	0	6	0	0.0	0.0
	R17	CLASSROOM	W50	29.5	22.4	7.1	24.1	100.0	100.0	0.0	0.0	38	9	15	1	60.5	88.9
			W51	78.3	68.6	9.7	12.4					73	19	43	10	41.1	47.4
			W52	21.7	18.0	3.7	17.1					12	0	8	0	33.3	0.0
			W53	25.4	20.1	5.3	20.9					33	7	24	2	27.3	71.4
			W54	18.0	14.8	3.2	17.8					33	7	25	4	24.2	42.9
	R18	CLASSROOM	W55	28.2	21.2	7.0	24.8	100.0	100.0	0.0	0.0	37	10	16	1	56.8	90.0
			W56	76.6	66.5	10.1	13.2					70	16	44	5	37.1	68.8
			W57	23.8	15.1	8.7	36.6					16	0	7	0	56.3	0.0
			W58	26.3	15.9	10.4	39.5					25	3	14	2	44.0	33.3
			W59	21.1	13.9	7.2	34.1					29	3	17	2	41.4	33.3
	R19	CLASSROOM	W60	24.0	14.9	9.1	37.9	99.8	99.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W61	22.7	20.3	2.4	10.6					N/A	N/A	N/A	N/A	N/A	N/A
			W62	84.3	73.1	11.2	13.3					N/A	N/A	N/A	N/A	N/A	N/A
	R20	STAFF WORK	W63	88.2	78.1	10.1	11.5	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W64	27.1	17.1	10.0	36.9					N/A	N/A	N/A	N/A	N/A	N/A
	R21	CLASSROOM	W65	28.7	26.3	2.4	8.4	100.0	100.0	0.0	0.0	38	8	34	5	10.5	37.5
			W66	78.8	69.6	9.2	11.7					75	18	61	13	18.7	27.8
			W67	20.0	14.0	6.0	30.0					8	0	5	0	37.5	0.0
			W68	28.8	18.4	10.4	36.1					37	4	24	1	35.1	75.0
			W69	24.5	16.9	7.6	31.0					40	7	27	4	32.5	42.9
	R22	CLASSROOM	W70	85.1	74.3	10.8	12.7	99.7	99.3	0.4	0.4	78	18	58	9	25.6	50.0
			W71	22.8	19.2	3.6	15.8					53	8	43	5	18.9	37.5
			W72	23.2	15.0	8.2	35.3					28	5	15	2	46.4	60.0
	R23	CLASSROOM	W73	21.5	9.3	12.2	56.7	98.1	73.0	25.1	25.6	N/A	N/A	N/A	N/A	N/A	N/A
			W74	21.9	9.8	12.1	55.3					N/A	N/A	N/A	N/A	N/A	N/A
			W75	22.0	11.0	11.0	50.0					N/A	N/A	N/A	N/A	N/A	N/A
			W76	69.5	59.3	10.2	14.7					N/A	N/A	N/A	N/A	N/A	N/A
	R24	CLASSROOM	W77	68.9	53.2	15.7	22.8	99.5	70.4	29.1	29.2	N/A	N/A	N/A	N/A	N/A	N/A
			W78	21.3	9.2	12.1	56.8					N/A	N/A	N/A	N/A	N/A	N/A
			W79	21.7	8.4	13.3	61.3					N/A	N/A	N/A	N/A	N/A	N/A
			W80	21.1	7.9	13.2	62.6					N/A	N/A	N/A	N/A	N/A	N/A
	R25	CLASSROOM	W81	0.9	1.5	-0.6	-66.7	92.5	90.5	2.0	2.2	N/A	N/A	N/A	N/A	N/A	N/A
			W82	1.8	1.9	-0.1	-5.6					N/A	N/A	N/A	N/A	N/A	N/A
			W83	69.3	55.8	13.5	19.5					N/A	N/A	N/A	N/A	N/A	N/A
	R26	CLASSROOM	W84	71.9	57.8	14.1	19.6	50.6	60.2	-9.6	-19.0	N/A	N/A	N/A	N/A	N/A	N/A
			W85	1.7	1.5	0.2	11.8					N/A	N/A	N/A	N/A	N/A	N/A
			W86	1.0	1.3	-0.3	-30.0					N/A	N/A	N/A	N/A	N/A	N/A
	R27	STORAGE	W87	1.8	1.4	0.4	22.2	27.3	10.2	17.1	62.6	N/A	N/A	N/A	N/A	N/A	N/A
	R28	CLASSROOM	W88	3.7	2.8	0.9	24.3	99.9	97.7	2.2	2.2	6	3	5	2	16.7	33.3
			W89	2.3	2.5	-0.2	-8.7					5	0	4	1	20.0	0.0
			W90	72.4	55.6	16.8	23.2					50	9	40	6	33.3	66.7

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R29	CLASSROOM	W91	73.1	63.4	9.7	13.3	100.0	100.0	0.0	0.0	61	0	43	0	29.5	0.0
			W92	6.9	4.2	2.7	39.1					13	4	7	1	46.2	75.0
			W93	4.0	2.5	1.5	37.5					10	6	5	2	50.0	66.7
			W94	3.8	2.7	1.1	28.9					7	4	5	2	28.6	50.0
	R30	KITCHEN	W95	30.0	26.0	4.0	13.3	97.0	97.0	0.0	0.0	36	7	31	3	13.9	57.1
	R31	OFFICE	W96	70.3	59.5	10.8	15.4	100.0	100.0	0.0	0.0	61	0	47	0	23.0	0.0
			W97	29.7	26.4	3.3	11.1					44	13	36	6	18.2	53.8
			W98	31.3	28.0	3.3	10.5					40	11	32	4	20.0	63.6
			W99	31.4	28.0	3.4	10.8					42	12	34	5	19.0	58.3
			W100	72.0	62.0	10.0	13.9					62	0	44	0	29.0	0.0
CARRADALE HOUSE																	
F00	R1	KITCHEN	W1	28.6	26.7	1.9	6.6	100.0	100.0	0.0	0.0	63	19	58	17	7.9	10.5
			W2	8.0	4.5	3.5	43.8					23	4	17	2	26.1	50.0
	R2	LIVING ROOM	W3	9.7	8.8	0.9	9.3	100.0	99.5	0.5	0.5	13	13	11	11	15.4	15.4
	R3	BEDROOM	W4	35.0	20.2	14.8	42.3	100.0	88.6	11.4	11.4	N/A	N/A	N/A	N/A	N/A	N/A
			W5	35.4	20.4	15.0	42.4					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	34.2	19.4	14.8	43.3	99.4	81.6	17.8	17.9	N/A	N/A	N/A	N/A	N/A	N/A
			W7	29.2	17.1	12.1	41.4					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	KITCHEN	W1	29.0	27.1	1.9	6.6	100.0	100.0	0.0	0.0	65	21	61	19	6.2	9.5
			W2	8.2	4.7	3.5	42.7					24	5	19	3	20.8	40.0
	R2	LIVING ROOM	W3	9.8	9.0	0.8	8.2	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	36.6	22.1	14.5	39.6	100.0	88.9	11.1	11.1	N/A	N/A	N/A	N/A	N/A	N/A
			W5	36.7	22.1	14.6	39.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	35.5	20.9	14.6	41.1	100.0	82.9	17.1	17.1	N/A	N/A	N/A	N/A	N/A	N/A
			W7	30.8	18.6	12.2	39.6					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	KITCHEN	W1	29.3	27.6	1.7	5.8	100.0	100.0	0.0	0.0	65	21	61	19	6.2	9.5
			W2	8.4	5.0	3.4	40.5					24	5	20	3	16.7	40.0
	R2	LIVING ROOM	W3	10.0	9.2	0.8	8.0	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	36.9	23.0	13.9	37.7	100.0	90.0	10.0	10.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.0	23.0	14.0	37.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	35.9	21.8	14.1	39.3	100.0	84.1	15.9	15.9	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.0	19.3	11.7	37.7					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	KITCHEN	W1	29.6	28.0	1.6	5.4	100.0	100.0	0.0	0.0	65	21	61	19	6.2	9.5
			W2	8.5	5.4	3.1	36.5					24	5	20	3	16.7	40.0
	R2	LIVING ROOM	W3	10.1	9.4	0.7	6.9	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	37.1	24.0	13.1	35.3	100.0	90.8	9.2	9.2	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.2	23.9	13.3	35.8					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.1	22.8	13.3	36.8	100.0	84.8	15.2	15.2	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.3	20.2	11.1	35.5					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	KITCHEN	W1	29.8	28.4	1.4	4.7	100.0	100.0	0.0	0.0	65	21	62	19	4.6	9.5
			W2	8.6	5.7	2.9	33.7					24	5	21	3	12.5	40.0
	R2	LIVING ROOM	W3	10.2	9.6	0.6	5.9	100.0	99.5	0.5	0.5	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	37.3	24.8	12.5	33.5	100.0	91.9	8.1	8.1	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.4	24.8	12.6	33.7					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.2	23.6	12.6	34.8	100.0	85.7	14.3	14.3	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.4	21.0	10.4	33.1					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	KITCHEN	W1	30.0	28.8	1.2	4.0	100.0	100.0	0.0	0.0	65	21	64	20	1.5	4.8
			W2	8.6	6.1	2.5	29.1					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.3	9.8	0.5	4.9	100.0	99.8	0.2	0.2	14	14	12	12	14.3	14.3
	R3	BEDROOM	W4	37.4	25.7	11.7	31.3	100.0	93.4	6.6	6.6	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.5	25.7	11.8	31.5					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.3	24.5	11.8	32.5	100.0	87.0	13.0	13.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W7	31.5	21.8	9.7	30.8					N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	KITCHEN	W1	30.2	29.1	1.1	3.6	100.0	100.0	0.0	0.0	65	21	64	20	1.5	4.8
			W2	8.7	6.5	2.2	25.3					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.4	9.9	0.5	4.8	100.0	99.8	0.2	0.2	14	14	13	13	7.1	7.1
	R3	BEDROOM	W4	37.6	26.7	10.9	29.0	100.0	94.8	5.2	5.2	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.6	26.7	10.9	29.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.5	25.5	11.0	30.1	100.0	89.2	10.8	10.8	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.6	22.7	8.9	28.2					N/A	N/A	N/A	N/A	N/A	N/A
F07	R1	KITCHEN	W1	30.4	29.5	0.9	3.0	100.0	100.0	0.0	0.0	65	21	64	20	1.5	4.8
			W2	8.7	6.8	1.9	21.8					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.5	10.1	0.4	3.8	100.0	100.0	0.0	0.0	14	14	13	13	7.1	7.1
	R3	BEDROOM	W4	37.7	27.7	10.0	26.5	100.0	97.0	3.0	3.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.8	27.6	10.2	27.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.6	26.4	10.2	27.9	100.0	91.4	8.6	8.6	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.7	23.6	8.1	25.6					N/A	N/A	N/A	N/A	N/A	N/A
F08	R1	KITCHEN	W1	30.6	29.8	0.8	2.6	100.0	100.0	0.0	0.0	65	21	65	21	0.0	0.0
			W2	8.7	7.2	1.5	17.2					24	5	23	4	4.2	20.0
	R2	LIVING ROOM	W3	10.5	10.1	0.4	3.8	100.0	100.0	0.0	0.0	14	14	13	13	7.1	7.1
	R3	BEDROOM	W4	37.8	28.6	9.2	24.3	100.0	98.5	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.8	28.6	9.2	24.3					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.7	27.4	9.3	25.3	100.0	94.6	5.4	5.4	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.8	24.4	7.4	23.3					N/A	N/A	N/A	N/A	N/A	N/A
F09	R1	KITCHEN	W1	30.7	30.1	0.6	2.0	100.0	100.0	0.0	0.0	66	22	66	22	0.0	0.0
			W2	8.8	7.6	1.2	13.6					24	5	24	5	0.0	0.0
	R2	LIVING ROOM	W3	10.5	10.3	0.2	1.9	100.0	100.0	0.0	0.0	14	14	14	14	0.0	0.0
	R3	BEDROOM	W4	37.9	29.6	8.3	21.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	38.0	29.6	8.4	22.1					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.8	28.3	8.5	23.1	100.0	99.0	1.0	1.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	31.9	25.3	6.6	20.7					N/A	N/A	N/A	N/A	N/A	N/A
F10	R1	KITCHEN	W1	30.9	30.5	0.4	1.3	100.0	100.0	0.0	0.0	67	22	67	22	0.0	0.0
			W2	8.8	7.9	0.9	10.2					24	5	24	5	0.0	0.0
	R2	LIVING ROOM	W3	10.6	10.4	0.2	1.9	100.0	100.0	0.0	0.0	14	14	14	14	0.0	0.0
	R3	BEDROOM	W4	38.0	30.5	7.5	19.7	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	38.1	30.5	7.6	19.9					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	36.9	29.2	7.7	20.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	32.0	26.1	5.9	18.4					N/A	N/A	N/A	N/A	N/A	N/A
CULLODEN PRIMARY SCHOOL																	
F00	R1	TEACHER ROOM	W1	7.0	6.2	0.8	11.4	0.0	0.0	0.0	0.0	2	2	2	2	0.0	0.0
			W2	7.3	6.2	1.1	15.1					2	2	2	2	0.0	0.0
			W3	0.6	0.6	0.0	0.0					0	0	0	0	0.0	0.0
	R2	OFFICE	W4	9.5	7.7	1.8	18.9	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	OFFICE	W5	9.4	7.2	2.2	23.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STAFF ROOM	W6	28.0	22.8	5.2	18.6	0.2	0.1	0.1	50.0	21	1	18	1	14.3	0.0
			W7	31.5	24.9	6.6	21.0					29	3	26	3	10.3	0.0
			W8	23.0	8.3	14.7	63.9					0	0	1	0	0.0	0.0
			W9	26.0	10.9	15.1	58.1					0	0	1	0	0.0	0.0
			W10	26.0	11.5	14.5	55.8					0	0	1	0	0.0	0.0
			W11	25.8	12.7	13.1	50.8					1	0	2	0	-100.0	0.0
			W12	30.3	30.3	0.0	0.0					56	24	56	24	0.0	0.0
			W13	30.5	30.5	0.0	0.0					56	24	56	24	0.0	0.0
			W14	20.4	20.4	0.0	0.0					30	7	30	7	0.0	0.0
			W15	7.9	6.1	1.8	22.8					2	2	2	2	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	OFFICE	W16	17.9	3.4	14.5	81.0	0.3	0.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	OFFICE	W17	18.4	3.1	15.3	83.2	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	OFFICE	W18	18.2	3.2	15.0	82.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W19	18.3	3.1	15.2	83.1					N/A	N/A	N/A	N/A	N/A	N/A
	R8	OFFICE	W20	18.2	3.5	14.7	80.8	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	OFFICE	W21	17.6	4.3	13.3	75.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	17.9	3.9	14.0	78.2					N/A	N/A	N/A	N/A	N/A	N/A
	R10	OFFICE	W23	16.1	4.8	11.3	70.2	0.2	0.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	OFFICE	W24	12.5	8.3	4.2	33.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	KITCHEN	W25	22.1	12.9	9.2	41.6	16.0	13.5	2.5	15.6	N/A	N/A	N/A	N/A	N/A	N/A
			W26	24.2	15.1	9.1	37.6					N/A	N/A	N/A	N/A	N/A	N/A
			W27	26.9	9.8	17.1	63.6					N/A	N/A	N/A	N/A	N/A	N/A
	R13	MAIN HALL	W28	28.3	11.3	17.0	60.1	50.1	28.3	21.8	43.5	31	4	12	1	61.3	75.0
			W29	24.5	12.0	12.5	51.0					3	0	0	0	100.0	0.0
			W30	25.3	12.9	12.4	49.0					4	0	0	0	100.0	0.0
			W31	26.1	13.8	12.3	47.1					4	0	0	0	100.0	0.0
			W32	26.9	14.7	12.2	45.4					4	0	0	0	100.0	0.0
			W33	27.4	15.3	12.1	44.2					3	0	0	0	100.0	0.0
			W34	27.9	15.9	12.0	43.0					3	0	0	0	100.0	0.0
			W35	28.4	16.5	11.9	41.9					5	0	1	0	80.0	0.0
			W36	28.9	16.9	12.0	41.5					5	0	2	0	60.0	0.0
			W37	29.2	17.3	11.9	40.8					5	0	2	0	60.0	0.0
			W38	15.4	10.3	5.1	33.1					0	0	0	0	0.0	0.0
			W39	29.8	17.8	12.0	40.3					5	0	3	0	40.0	0.0
			W40	22.0	15.5	6.5	29.5					27	10	25	10	7.4	0.0
			W41	10.5	9.5	1.0	9.5					4	0	4	0	0.0	0.0
			W42	10.6	6.5	4.1	38.7					15	7	13	7	13.3	0.0
			W43	10.5	6.5	4.0	38.1					15	7	13	7	13.3	0.0
			W44	10.5	6.5	4.0	38.1					15	7	13	7	13.3	0.0
			W45	10.5	6.6	3.9	37.1					16	7	13	7	18.8	0.0
			W46	10.5	6.6	3.9	37.1					16	7	13	7	18.8	0.0
			W47	10.5	6.7	3.8	36.2					15	7	12	7	20.0	0.0
			W48	10.6	6.8	3.8	35.8					14	7	12	7	14.3	0.0
			W49	10.6	6.9	3.7	34.9					14	7	12	7	14.3	0.0
			W50	10.6	7.0	3.6	34.0					15	7	14	7	6.7	0.0
			W51	10.6	7.1	3.5	33.0					14	7	13	7	7.1	0.0
			W52	10.7	7.2	3.5	32.7					14	7	13	7	7.1	0.0
			W53	21.8	17.2	4.6	21.1					31	15	30	15	3.2	0.0
			W54	24.5	23.6	0.9	3.7					52	29	49	27	5.8	6.9
			W55	23.5	22.7	0.8	3.4					45	29	42	27	6.7	6.9
			W56	22.6	21.8	0.8	3.5					44	29	41	27	6.8	6.9
			W57	21.7	20.9	0.8	3.7					41	29	38	27	7.3	6.9
			W58	20.8	20.0	0.8	3.8					38	29	36	27	5.3	6.9
			W59	19.9	19.0	0.9	4.5					36	29	34	27	5.6	6.9
			W60	19.0	18.0	1.0	5.3					35	29	33	27	5.7	6.9
			W61	17.8	16.9	0.9	5.1					30	29	28	27	6.7	6.9
			W62	16.7	15.8	0.9	5.4					29	29	27	27	6.9	6.9
			W63	15.3	14.7	0.6	3.9					27	27	27	27	0.0	0.0
	R14	OFFICE	W64	22.8	13.7	9.1	39.9	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	OFFICE	W65	23.7	2.1	21.6	91.1	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	OFFICE	W66	23.8	2.3	21.5	90.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NURSERY	W67	0.9	0.9	0.0	0.0	46.3	45.7	0.6	1.3	0	0	0	0	0.0	0.0
			W68	1.7	1.7	0.0	0.0					2	2	2	2	0.0	0.0
			W69	1.3	1.3	0.0	0.0					0	0	0	0	0.0	0.0
			W70	1.6	1.6	0.0	0.0					0	0	0	0	0.0	0.0
			W71	1.0	1.0	0.0	0.0					0	0	0	0	0.0	0.0
			W72	2.2	1.4	0.8	36.4					2	0	0	0	100.0	0.0
			W73	2.3	0.7	1.6	69.6					3	1	1	1	66.7	0.0
			W74	21.7	0.9	20.8	95.9					13	2	1	0	84.7	100.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W75	17.1	0.0	17.1	100.0					16	3	0	0	100.0	100.0
			W76	29.6	15.3	14.3	48.3					0	0	0	0	0.0	0.0
	R18	NURSERY	W77	2.2	2.2	0.0	0.0	40.3	3.1	37.2	92.3	4	4	4	4	0.0	0.0
			W78	1.5	1.4	0.1	6.7					1	1	1	1	0.0	0.0
	R19	RECEPTION	W79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	0.0
			W80	0.0	0.0	0.0	0.0					1	1	1	1	0.0	0.0
			W81	0.2	0.2	0.0	0.0					0	0	0	0	0.0	0.0
	R20	RECEPTION	W82	29.6	18.2	11.4	38.5	19.8	17.1	2.7	13.6	N/A	N/A	N/A	N/A	N/A	N/A
			W83	29.4	17.7	11.7	39.8					N/A	N/A	N/A	N/A	N/A	N/A
			W84	27.6	17.5	10.1	36.6					N/A	N/A	N/A	N/A	N/A	N/A
			W85	10.5	10.1	0.4	3.8					N/A	N/A	N/A	N/A	N/A	N/A
	R21	RECEPTION	W86	0.3	0.3	0.0	0.0	0.8	0.8	0.0	0.0	0	0	0	0	0.0	0.0
			W87	1.8	1.7	0.1	5.6					3	2	3	2	0.0	0.0
			W88	3.1	3.0	0.1	3.2					7	4	7	4	0.0	0.0
			W89	28.7	19.4	9.3	32.4					32	5	23	5	28.1	0.0
			W90	26.2	18.1	8.1	30.9					35	7	25	7	28.6	0.0
DEWBERRY STREET 16-46																	
F00	R1	BED (ASSUMED)	W1	22.6	22.6	0.0	0.0	86.3	86.3	0.0	0.0	40	11	40	11	0.0	0.0
	R2	BED (ASSUMED)	W2	25.3	25.3	0.0	0.0	88.6	88.6	0.0	0.0	46	14	46	14	0.0	0.0
	R3	UNKNOWN	W3	27.8	23.4	4.4	15.8	95.3	95.3	0.0	0.0	61	23	52	19	14.8	17.4
	R4	LIVING (ASSUMED)	W4	14.5	14.5	0.0	0.0	100.0	100.0	0.0	0.0	32	12	32	12	0.0	0.0
			W5	32.6	25.7	6.9	21.2					67	23	53	19	20.9	17.4
			W6	32.9	25.7	7.2	21.9					67	23	50	18	25.4	21.7
			W7	12.5	8.1	4.4	35.2					12	0	3	0	75.0	0.0
	R5	BED (ASSUMED)	W8	27.4	20.2	7.2	26.3	97.8	97.8	0.0	0.0	49	15	31	10	36.7	33.3
	R6	BED (ASSUMED)	W9	27.2	22.6	4.6	16.9	98.2	98.2	0.0	0.0	55	23	46	18	16.4	21.7
	R7	LIVING (ASSUMED)	W10	11.5	11.5	0.0	0.0	100.0	100.0	0.0	0.0	23	11	23	11	0.0	0.0
			W11	34.1	26.2	7.9	23.2					67	23	49	18	26.9	21.7
			W12	34.3	26.2	8.1	23.6					67	23	50	18	25.4	21.7
			W13	17.8	11.3	6.5	36.5					13	0	3	0	76.9	0.0
	R8	UNKNOWN	W14	29.6	21.4	8.2	27.7	96.1	93.7	2.4	2.5	50	15	32	10	36.0	33.3
	R9	BED (ASSUMED)	W15	32.9	25.3	7.6	23.1	98.3	90.3	8.0	8.1	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	30.1	23.1	7.0	23.3	95.4	80.6	14.8	15.5	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	30.4	23.8	6.6	21.7	94.1	94.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	28.9	28.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	28.0	28.0	0.0	0.0	94.3	94.3	0.0	0.0	47	15	47	15	0.0	0.0
	R2	BED (ASSUMED)	W2	30.4	30.4	0.0	0.0	97.7	97.7	0.0	0.0	54	19	54	19	0.0	0.0
	R3	UNKNOWN	W3	29.4	24.8	4.6	15.6	95.3	95.3	0.0	0.0	61	23	53	20	13.1	13.0
	R4	LIVING (ASSUMED)	W4	16.4	16.4	0.0	0.0	100.0	100.0	0.0	0.0	34	14	34	14	0.0	0.0
			W5	34.0	27.0	7.0	20.6					67	23	54	19	19.4	17.4
			W6	34.1	26.9	7.2	21.1					67	23	51	18	23.9	21.7
			W7	12.9	8.6	4.3	33.3					12	0	4	0	66.7	0.0
	R5	BED (ASSUMED)	W8	28.1	20.8	7.3	26.0	97.8	97.8	0.0	0.0	49	15	32	10	34.7	33.3
	R6	BED (ASSUMED)	W9	28.0	23.5	4.5	16.1	98.2	98.2	0.0	0.0	55	23	46	18	16.4	21.7
	R7	LIVING (ASSUMED)	W10	12.4	12.4	0.0	0.0	100.0	100.0	0.0	0.0	24	12	24	12	0.0	0.0
			W11	34.4	26.6	7.8	22.7					67	23	49	18	26.9	21.7
			W12	34.5	26.5	8.0	23.2					67	23	50	18	25.4	21.7
			W13	17.9	11.6	6.3	35.2					13	0	3	0	76.9	0.0
	R8	UNKNOWN	W14	30.0	21.8	8.2	27.3	96.1	93.7	2.4	2.5	50	15	33	11	34.0	26.7
	R9	BED (ASSUMED)	W15	33.4	26.0	7.4	22.2	98.3	91.4	6.9	7.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	30.5	23.6	6.9	22.6	95.4	82.3	13.1	13.7	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	30.7	24.4	6.3	20.5	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	32.1	32.1	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BED (ASSUMED)	W1	31.3	31.3	0.0	0.0	94.3	94.3	0.0	0.0	53	18	53	18	0.0	0.0
	R2	BED (ASSUMED)	W2	33.9	33.9	0.0	0.0	97.7	97.7	0.0	0.0	59	21	59	21	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R3	UNKNOWN	W3	30.1	25.6	4.5	15.0	95.3	95.3	0.0	0.0	61	23	53	20	13.1	13.0
	R4	LIVING (ASSUMED)	W4	17.8	17.8	0.0	0.0	100.0	100.0	0.0	0.0	36	16	36	16	0.0	0.0
			W5	34.8	27.9	6.9	19.8					67	23	55	20	17.9	13.0
			W6	34.8	27.7	7.1	20.4					67	23	52	19	22.4	17.4
			W7	13.8	9.7	4.1	29.7					12	0	4	0	66.7	0.0
	R5	BED (ASSUMED)	W8	28.5	21.4	7.1	24.9	97.8	97.8	0.0	0.0	49	15	33	11	32.7	26.7
	R6	BED (ASSUMED)	W9	28.5	24.1	4.4	15.4	98.2	98.2	0.0	0.0	55	23	47	19	14.5	17.4
	R7	LIVING (ASSUMED)	W10	13.8	13.8	0.0	0.0	100.0	100.0	0.0	0.0	27	12	27	12	0.0	0.0
			W11	34.9	27.4	7.5	21.5					67	23	51	19	23.9	17.4
			W12	34.9	27.1	7.8	22.3					67	23	52	19	22.4	17.4
			W13	17.9	11.8	6.1	34.1					13	0	5	0	61.5	0.0
	R8	UNKNOWN	W14	30.2	22.3	7.9	26.2	96.1	93.7	2.4	2.5	50	15	35	11	30.0	26.7
	R9	BED (ASSUMED)	W15	33.7	26.6	7.1	21.1	98.3	93.7	4.6	4.7	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	30.8	24.2	6.6	21.4	95.4	85.1	10.3	10.8	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	31.0	24.9	6.1	19.7	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	33.7	33.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	BED (ASSUMED)	W1	32.1	32.1	0.0	0.0	94.3	94.3	0.0	0.0	53	18	53	18	0.0	0.0
	R2	BED (ASSUMED)	W2	34.9	34.9	0.0	0.0	97.7	97.7	0.0	0.0	59	21	59	21	0.0	0.0
	R3	UNKNOWN	W3	26.5	22.0	4.5	17.0	96.1	96.1	0.0	0.0	52	23	44	20	15.4	13.0
	R4	LIVING (ASSUMED)	W4	16.2	16.2	0.0	0.0	100.0	100.0	0.0	0.0	32	16	32	16	0.0	0.0
			W5	35.0	28.3	6.7	19.1					67	23	55	20	17.9	13.0
			W6	35.0	28.1	6.9	19.7					67	23	53	20	20.9	13.0
			W7	14.0	10.1	3.9	27.9					12	0	4	0	66.7	0.0
	R5	BED (ASSUMED)	W8	25.2	18.3	6.9	27.4	98.7	98.7	0.0	0.0	49	14	34	11	30.6	21.4
	R6	BED (ASSUMED)	W9	25.2	20.9	4.3	17.1	98.2	98.2	0.0	0.0	49	23	40	19	18.4	17.4
	R7	LIVING (ASSUMED)	W10	14.1	14.1	0.0	0.0	100.0	100.0	0.0	0.0	28	12	28	12	0.0	0.0
			W11	35.1	27.7	7.4	21.1					67	23	51	19	23.9	17.4
			W12	35.1	27.5	7.6	21.7					67	23	52	19	22.4	17.4
			W13	15.9	10.1	5.8	36.5					13	0	5	0	61.5	0.0
	R8	UNKNOWN	W14	26.5	18.7	7.8	29.4	96.9	93.7	3.2	3.3	50	15	35	11	30.0	26.7
	R9	BED (ASSUMED)	W15	34.0	27.1	6.9	20.3	98.3	96.6	1.7	1.7	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W16	31.1	24.7	6.4	20.6	95.4	89.1	6.3	6.6	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W17	29.1	23.2	5.9	20.3	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	34.9	34.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
DEWBERRY STREET 2-14																	
F00	R1	BED (ASSUMED)	W1	16.1	15.6	0.5	3.1	33.1	33.1	0.0	0.0	44	10	44	10	0.0	0.0
	R2	UNKNOWN	W2	1.5	1.4	0.1	6.7	22.1	22.1	0.0	0.0	6	6	5	5	16.7	16.7
	R3	L/K/D	W3	28.4	28.2	0.2	0.7	87.7	87.7	0.0	0.0	7	0	7	0	0.0	0.0
			W4	2.4	1.4	1.0	41.7					10	5	7	5	30.0	0.0
			W5	3.4	2.1	1.3	38.2					11	4	9	4	18.2	0.0
	R4	UNKNOWN	W6	23.1	21.1	2.0	8.7	84.6	84.6	0.0	0.0	54	6	50	6	7.4	0.0
	R5	L/K/D	W7	25.9	25.9	0.0	0.0	99.6	99.6	0.0	0.0	8	0	8	0	0.0	0.0
			W8	25.2	23.6	1.6	6.3					52	8	51	8	1.9	0.0
			W9	24.5	23.9	0.6	2.4					57	12	57	12	0.0	0.0
	R6	UNKNOWN	W10	23.2	21.4	1.8	7.8	93.3	93.3	0.0	0.0	49	14	47	14	4.1	0.0
	R7	L/K/D	W11	27.6	27.4	0.2	0.7	99.6	99.6	0.0	0.0	7	0	7	0	0.0	0.0
			W12	27.1	25.8	1.3	4.8					56	15	55	15	1.8	0.0
			W13	27.1	26.3	0.8	3.0					62	18	61	18	1.6	0.0
	R8	L/K/D	W14	27.4	27.2	0.2	0.7	99.4	99.4	0.0	0.0	7	0	7	0	0.0	0.0
			W15	22.2	21.6	0.6	2.7					47	10	46	10	2.1	0.0
			W16	25.6	25.3	0.3	1.2					61	16	61	16	0.0	0.0
	R9	UNKNOWN	W17	20.1	20.1	0.0	0.0	90.9	90.9	0.0	0.0	48	18	48	18	0.0	0.0
	R10	LIVING (ASSUMED)	W18	49.7	47.7	2.0	4.0	100.0	100.0	0.0	0.0	51	9	50	9	2.0	0.0
			W19	62.5	62.5	0.0	0.0					71	21	71	21	0.0	0.0
			W20	22.6	22.6	0.0	0.0					45	15	45	15	0.0	0.0
			W21	71.8	71.0	0.8	1.1					69	19	67	19	2.9	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W22	19.9	19.8	0.1	0.5					46	13	44	13	4.3	0.0
	R11	UNKNOWN	W23	14.2	13.8	0.4	2.8	60.4	56.3	4.1	6.8	34	15	32	15	5.9	0.0
	R12	UNKNOWN	W24	16.8	14.9	1.9	11.3	46.2	46.2	0.0	0.0	38	6	31	4	18.4	33.3
	R13	L/K/D	W25	26.9	26.7	0.2	0.7	78.4	76.9	1.5	1.9	8	0	8	0	0.0	0.0
			W26	19.1	17.9	1.2	6.3					39	6	35	6	10.3	0.0
			W27	15.8	15.4	0.4	2.5					35	8	35	8	0.0	0.0
	R14	UNKNOWN	W28	23.0	20.2	2.8	12.2	80.0	80.0	0.0	0.0	52	12	46	10	11.5	16.7
	R15	L/K/D	W29	26.9	26.7	0.2	0.7	98.7	98.5	0.2	0.2	5	0	5	0	0.0	0.0
			W30	13.2	11.3	1.9	14.4					31	10	28	10	9.7	0.0
			W31	11.7	11.1	0.6	5.1					27	11	24	11	11.1	0.0
F01	R1	BED (ASSUMED)	W1	21.1	19.4	1.7	8.1	45.5	45.5	0.0	0.0	56	15	51	14	8.9	6.7
	R2	BED (ASSUMED)	W2	24.3	21.7	2.6	10.7	84.3	84.3	0.0	0.0	59	17	54	16	8.5	5.9
	R3	BED (ASSUMED)	W3	27.1	24.5	2.6	9.6	98.0	98.0	0.0	0.0	63	21	59	20	6.3	4.8
	R4	BED (ASSUMED)	W4	28.1	25.8	2.3	8.2	98.0	98.0	0.0	0.0	62	21	58	20	6.5	4.8
	R5	BED (ASSUMED)	W5	27.5	25.9	1.6	5.8	98.0	98.0	0.0	0.0	64	24	61	23	4.7	4.2
	R6	BED (ASSUMED)	W6	27.0	25.1	1.9	7.0	98.8	98.8	0.0	0.0	62	22	59	22	4.8	0.0
	R7	BED (ASSUMED)	W7	21.7	20.7	1.0	4.6	90.2	89.4	0.8	0.9	46	18	45	17	2.2	5.6
	R8	BED (ASSUMED)	W8	26.4	23.6	2.8	10.6	95.7	94.9	0.8	0.8	57	24	51	21	10.5	12.5
F02	R1	BED (ASSUMED)	W1	33.7	30.9	2.8	8.3	97.9	97.9	0.0	0.0	72	25	67	24	6.9	4.0
			W2	33.9	31.4	2.5	7.4					77	28	74	27	3.9	3.6
			W3	34.4	31.4	3.0	8.7					76	28	71	27	6.6	3.6
	R2	BED (ASSUMED)	W4	33.6	30.2	3.4	10.1	96.8	96.8	0.0	0.0	75	27	68	25	9.3	7.4
			W5	33.7	30.1	3.6	10.7					75	28	68	25	9.3	10.7
DEVONS WHARF																	
F00	R1	L/K/D	W1	24.3	9.0	15.3	63.0	78.5	74.7	3.8	4.8	21	4	12	2	42.9	50.0
			W2	20.8	15.7	5.1	24.5					38	8	29	6	23.7	25.0
	R2	L/K/D	W3	25.1	14.1	11.0	43.8	96.5	91.8	4.7	4.9	29	5	22	3	24.1	40.0
			W4	27.0	14.9	12.1	44.8					28	4	21	2	25.0	50.0
			W5	27.5	14.6	12.9	46.9					29	5	22	3	24.1	40.0
	R3	L/K/D	W6	29.3	14.8	14.5	49.5	99.6	85.8	13.8	13.9	N/A	N/A	N/A	N/A	N/A	N/A
			W7	28.6	14.3	14.3	50.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W8	26.8	13.9	12.9	48.1	99.3	70.8	28.5	28.7	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	23.1	11.2	11.9	51.5	84.6	49.0	35.6	42.1	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W10	13.9	5.1	8.8	63.3	83.7	64.4	19.3	23.1	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W11	14.2	5.8	8.4	59.2	99.3	90.4	8.9	9.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W12	15.8	7.3	8.5	53.8	99.4	97.4	2.0	2.0	23	3	11	0	52.2	100.0
			W13	30.8	25.2	5.6	18.2					70	22	56	17	20.0	22.7
	R9	BEDROOM	W14	30.5	24.7	5.8	19.0	98.9	87.6	11.3	11.4	68	21	55	17	19.1	19.0
M00	R1	BEDROOM	W1	0.2	0.1	0.1	50.0	74.7	32.1	42.6	57.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	0.2	0.1	0.1	50.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	0.5	0.1	0.4	80.0	99.0	96.4	2.6	2.6	2	2	0	0	100.0	100.0
			W4	13.5	8.1	5.4	40.0					19	18	10	10	47.4	44.4
			W5	20.4	14.5	5.9	28.9					35	23	24	16	31.4	30.4
	R3	BEDROOM	W6	13.4	8.0	5.4	40.3	95.5	93.1	2.4	2.5	19	17	11	11	42.1	35.3
	R4	L/K/D	W7	19.9	14.1	5.8	29.1	99.7	72.4	27.3	27.4	38	25	28	19	26.3	24.0
	R5	L/K/D	W8	12.9	8.0	4.9	38.0	98.5	98.5	0.0	0.0	18	16	12	12	33.3	25.0
			W9	20.7	15.8	4.9	23.7					44	26	36	21	18.2	19.2
			W10	22.6	22.6	0.0	0.0					34	14	34	14	0.0	0.0
	R6	BEDROOM	W11	6.7	6.7	0.0	0.0	33.7	33.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W12	11.7	11.7	0.0	0.0	45.5	45.5	0.0	0.0	9	0	9	0	0.0	0.0
	R8	BEDROOM	W13	10.3	10.3	0.0	0.0	21.6	21.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W14	13.9	5.0	8.9	64.0	99.6	37.9	61.7	61.9	N/A	N/A	N/A	N/A	N/A	N/A
	R10	L/K/D	W15	19.6	8.1	11.5	58.7	98.9	75.2	23.7	24.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	11.5	2.2	9.3	80.9					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R11	BEDROOM	W17	29.1	14.8	14.3	49.1	97.3	58.0	39.3	40.4	N/A	N/A	N/A	N/A	N/A	N/A
	R12	L/K/D	W18	12.0	2.6	9.4	78.3	96.1	39.8	56.3	58.6	N/A	N/A	N/A	N/A	N/A	N/A
			W19	21.5	7.6	13.9	64.7					N/A	N/A	N/A	N/A	N/A	N/A
	R13	BEDROOM	W20	10.0	1.4	8.6	86.0	85.7	49.7	36.0	42.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	L/K/D	W21	33.9	16.8	17.1	50.4	99.0	92.0	7.0	7.1	29	6	20	4	31.0	33.3
			W22	33.9	16.9	17.0	50.1					28	6	21	4	27.6	33.3
			W23	8.8	5.1	3.7	42.0					20	6	14	4	30.0	33.3
	R15	L/K/D	W24	34.4	31.0	3.4	9.9	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W25	34.5	30.9	3.6	10.4					N/A	N/A	N/A	N/A	N/A	N/A
			W26	14.2	4.3	9.9	69.7					N/A	N/A	N/A	N/A	N/A	N/A
			W27	9.2	5.9	3.3	35.9					N/A	N/A	N/A	N/A	N/A	N/A
			W28	33.9	16.4	17.5	51.6					N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	34.8	31.4	3.4	9.8	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.9	31.3	3.6	10.3					N/A	N/A	N/A	N/A	N/A	N/A
			W3	15.5	4.7	10.8	69.7					N/A	N/A	N/A	N/A	N/A	N/A
			W4	9.4	6.1	3.3	35.1					N/A	N/A	N/A	N/A	N/A	N/A
			W5	35.5	17.5	18.0	50.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W6	35.5	17.9	17.6	49.6	99.0	92.5	6.5	6.6	31	6	22	4	29.0	33.3
			W7	35.5	18.0	17.5	49.3					31	6	22	4	29.0	33.3
			W8	9.2	5.5	3.7	40.2					21	6	14	4	33.3	33.3
	R3	BEDROOM	W9	11.4	1.8	9.6	84.2	85.7	50.3	35.4	41.3	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W10	13.3	3.6	9.7	72.9	96.1	44.4	51.7	53.8	N/A	N/A	N/A	N/A	N/A	N/A
			W11	22.9	8.5	14.4	62.9					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W12	30.7	16.3	14.4	46.9	97.6	66.9	30.7	31.5	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	20.9	9.1	11.8	56.5	98.9	73.3	25.6	25.9	N/A	N/A	N/A	N/A	N/A	N/A
			W14	12.7	3.1	9.6	75.6					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W15	14.8	5.7	9.1	61.5	99.6	43.2	56.4	56.6	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W16	10.2	6.3	3.9	38.2	98.4	78.1	20.3	20.6	N/A	N/A	N/A	N/A	N/A	N/A
			W17	16.5	6.8	9.7	58.8					N/A	N/A	N/A	N/A	N/A	N/A
			W18	15.8	6.1	9.7	61.4					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W19	21.3	10.7	10.6	49.8	93.5	83.1	10.4	11.1	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	21.4	11.1	10.3	48.1	96.9	90.7	6.2	6.4	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	22.5	12.2	10.3	45.8	100.0	88.1	11.9	11.9	20	6	5	0	75.0	100.0
			W22	22.4	11.4	11.0	49.1					15	2	4	0	73.3	100.0
			W23	22.5	16.7	5.8	25.8					41	25	31	17	24.4	32.0
			W24	22.6	15.9	6.7	29.6					42	22	29	14	31.0	36.4
			W25	10.1	9.8	0.3	3.0					21	14	21	14	0.0	0.0
	R12	BEDROOM	W26	17.3	12.8	4.5	26.0	99.0	97.0	2.0	2.0	29	22	23	16	20.7	27.3
	R13	BEDROOM	W27	21.3	15.2	6.1	28.6	96.8	94.9	1.9	2.0	35	24	24	16	31.4	33.3
	R14	BEDROOM	W28	20.8	14.7	6.1	29.3	98.0	95.9	2.1	2.1	35	22	24	15	31.4	31.8
	R15	L/K/D	W29	10.5	6.1	4.4	41.9	98.1	54.9	43.2	44.0	27	6	15	1	44.4	83.3
			W30	20.8	15.9	4.9	23.6					38	22	31	16	18.4	27.3
	R16	L/K/D	W31	20.2	15.5	4.7	23.3	99.7	99.7	0.0	0.0	34	24	28	19	17.6	20.8
			W32	21.3	16.0	5.3	24.9					35	24	28	19	20.0	20.8
			W33	21.9	16.8	5.1	23.3					38	25	32	20	15.8	20.0
			W34	23.4	18.2	5.2	22.2					46	25	40	21	13.0	16.0
			W35	25.5	25.4	0.1	0.4					38	14	38	14	0.0	0.0
	R17	BEDROOM	W36	7.6	7.6	0.0	0.0	41.5	41.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W37	14.3	14.3	0.0	0.0	56.4	56.4	0.0	0.0	14	0	14	0	0.0	0.0
	R19	BEDROOM	W38	12.1	12.1	0.0	0.0	28.3	28.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	35.2	31.8	3.4	9.7	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.2	31.7	3.5	9.9					N/A	N/A	N/A	N/A	N/A	N/A
			W3	16.4	5.2	11.2	68.3					N/A	N/A	N/A	N/A	N/A	N/A
			W4	9.5	6.2	3.3	34.7					N/A	N/A	N/A	N/A	N/A	N/A
			W5	36.6	18.4	18.2	49.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W6	36.7	19.0	17.7	48.2	99.0	93.1	5.9	6.0	31	6	22	4	29.0	33.3
			W7	36.7	19.3	17.4	47.4					31	6	23	4	25.8	33.3

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W8	9.5	5.8	3.7	38.9					21	6	15	4	28.6	33.3
	R3	BEDROOM	W9	12.2	2.6	9.6	78.7	85.7	53.2	32.5	37.9	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W10	14.1	4.6	9.5	67.4	96.4	52.3	44.1	45.7	N/A	N/A	N/A	N/A	N/A	N/A
			W11	24.2	9.9	14.3	59.1					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W12	31.6	17.6	14.0	44.3	97.6	76.5	21.1	21.6	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	22.0	10.3	11.7	53.2	98.9	78.7	20.2	20.4	N/A	N/A	N/A	N/A	N/A	N/A
			W14	13.5	4.2	9.3	68.9					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W15	15.6	6.8	8.8	56.4	99.6	51.6	48.0	48.2	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W16	10.8	6.7	4.1	38.0	98.4	81.1	17.3	17.6	N/A	N/A	N/A	N/A	N/A	N/A
			W17	17.5	7.9	9.6	54.9					N/A	N/A	N/A	N/A	N/A	N/A
			W18	16.7	7.3	9.4	56.3					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W19	23.0	12.7	10.3	44.8	93.5	84.3	9.2	9.8	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	23.0	13.1	9.9	43.0	96.9	95.2	1.7	1.8	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	24.2	14.3	9.9	40.9	100.0	88.5	11.5	11.5	21	6	7	0	66.7	100.0
			W22	24.1	13.4	10.7	44.4					15	2	5	0	66.7	100.0
			W23	22.8	17.2	5.6	24.6					41	25	31	17	24.4	32.0
			W24	22.9	16.5	6.4	27.9					42	22	29	14	31.0	36.4
			W25	10.2	9.9	0.3	2.9					21	14	21	14	0.0	0.0
	R12	BEDROOM	W26	17.5	13.3	4.2	24.0	99.0	98.7	0.3	0.3	29	22	23	16	20.7	27.3
	R13	BEDROOM	W27	21.6	15.8	5.8	26.9	96.8	96.2	0.6	0.6	35	24	24	16	31.4	33.3
	R14	BEDROOM	W28	21.2	15.3	5.9	27.8	98.0	95.9	2.1	2.1	35	22	24	15	31.4	31.8
	R15	L/K/D	W29	10.7	6.3	4.4	41.1	98.1	61.2	36.9	37.6	27	6	16	1	40.7	83.3
			W30	22.1	17.4	4.7	21.3					41	22	37	19	9.8	13.6
	R16	L/K/D	W31	20.8	16.3	4.5	21.6	99.7	99.7	0.0	0.0	34	24	31	22	8.8	8.3
			W32	22.0	16.7	5.3	24.1					35	24	31	22	11.4	8.3
			W33	22.8	17.4	5.4	23.7					38	25	35	23	7.9	8.0
			W34	24.2	18.8	5.4	22.3					46	25	43	24	6.5	4.0
			W35	28.1	27.9	0.2	0.7					43	15	43	15	0.0	0.0
	R17	BEDROOM	W36	8.6	8.6	0.0	0.0	52.5	52.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W37	17.2	17.2	0.0	0.0	75.7	75.7	0.0	0.0	21	1	21	1	0.0	0.0
	R19	BEDROOM	W38	14.0	14.0	0.0	0.0	34.9	34.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	35.5	32.2	3.3	9.3	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.6	32.0	3.6	10.1					N/A	N/A	N/A	N/A	N/A	N/A
			W3	16.8	5.8	11.0	65.5					N/A	N/A	N/A	N/A	N/A	N/A
			W4	9.7	6.4	3.3	34.0					N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.1	19.4	17.7	47.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W6	37.1	20.0	17.1	46.1	99.0	93.1	5.9	6.0	31	5	24	5	22.6	16.7
			W7	37.1	20.3	16.8	45.3					31	6	23	4	25.8	33.3
			W8	9.7	6.0	3.7	38.1					21	6	15	4	28.6	33.3
	R3	BEDROOM	W9	12.5	3.5	9.0	72.0	85.7	62.0	23.7	27.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W10	14.5	5.7	8.8	60.7	96.4	63.9	32.5	33.7	N/A	N/A	N/A	N/A	N/A	N/A
			W11	24.9	11.1	13.8	55.4					N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W12	32.5	19.2	13.3	40.9	97.6	88.4	9.2	9.4	N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	24.1	12.4	11.7	48.5	99.1	86.3	12.8	12.9	N/A	N/A	N/A	N/A	N/A	N/A
			W14	15.8	6.7	9.1	57.6					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W15	17.7	9.4	8.3	46.9	99.6	62.5	37.1	37.2	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W16	11.4	7.2	4.2	36.8	98.4	85.5	12.9	13.1	N/A	N/A	N/A	N/A	N/A	N/A
			W17	18.5	9.7	8.8	47.6					N/A	N/A	N/A	N/A	N/A	N/A
			W18	17.7	9.0	8.7	49.2					N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W19	24.1	14.6	9.5	39.4	93.5	88.4	5.1	5.5	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	24.1	15.0	9.1	37.8	96.9	96.2	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	25.5	16.3	9.2	36.1	100.0	92.2	7.8	7.8	23	6	9	0	60.9	100.0
			W22	25.4	15.3	10.1	39.8					16	2	6	0	62.5	100.0
			W23	24.9	19.8	5.1	20.5					47	25	38	18	19.1	28.0
			W24	25.0	19.0	6.0	24.0					47	22	35	15	25.5	31.8
			W25	10.2	10.0	0.2	2.0					21	14	21	14	0.0	0.0
	R12	BEDROOM	W26	17.9	14.1	3.8	21.2	99.0	99.0	0.0	0.0	30	23	25	18	16.7	21.7
	R13	BEDROOM	W27	22.2	16.7	5.5	24.8	96.8	96.2	0.6	0.6	36	25	28	20	22.2	20.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R14	BEDROOM	W28	21.8	16.2	5.6	25.7	98.0	95.9	2.1	2.1	36	23	28	19	22.2	17.4
	R15	L/K/D	W29	10.9	6.5	4.4	40.4	98.2	68.4	29.8	30.3	27	6	17	2	37.0	66.7
			W30	23.0	18.7	4.3	18.7					43	22	39	19	9.3	13.6
	R16	L/K/D	W31	21.5	17.3	4.2	19.5	99.7	99.7	0.0	0.0	37	26	33	23	10.8	11.5
			W32	22.7	17.7	5.0	22.0					39	27	34	24	12.8	11.1
			W33	23.5	18.6	4.9	20.9					41	27	37	24	9.8	11.1
			W34	24.8	19.8	5.0	20.2					47	26	43	24	8.5	7.7
			W35	30.2	30.1	0.1	0.3					46	16	46	16	0.0	0.0
	R17	BEDROOM	W36	9.9	9.9	0.0	0.0	66.7	66.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W37	20.4	20.4	0.0	0.0	97.0	97.0	0.0	0.0	23	3	23	3	0.0	0.0
	R19	BEDROOM	W38	15.9	15.9	0.0	0.0	45.1	45.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	30.2	28.1	2.1	7.0	100.0	98.6	1.4	1.4	70	19	62	18	11.4	5.3
	R2	BEDROOM	W2	36.2	31.0	5.2	14.4	98.3	98.3	0.0	0.0	73	26	63	22	13.7	15.4
	R3	BEDROOM	W3	29.7	27.9	1.8	6.1	100.0	100.0	0.0	0.0	69	18	61	17	11.6	5.6
	R4	L/K/D	W4	36.2	31.4	4.8	13.3	100.0	100.0	0.0	0.0	73	26	64	23	12.3	11.5
			W5	29.7	28.0	1.7	5.7					69	18	62	17	10.1	5.6
			W6	31.8	31.7	0.1	0.3					47	15	47	15	0.0	0.0
	R5	BEDROOM	W7	13.7	13.7	0.0	0.0	81.8	81.8	0.0	0.0	0	0	0	0	0.0	0.0
	R6	BEDROOM	W8	23.8	23.8	0.0	0.0	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W9	18.6	18.6	0.0	0.0	67.5	67.5	0.0	0.0	24	3	24	3	0.0	0.0
	R8	L/K/D	W10	37.0	25.9	11.1	30.0	99.3	87.9	11.4	11.5	29	4	21	1	27.6	75.0
	R9	L/K/D	W11	37.4	25.0	12.4	33.2	99.7	92.5	7.2	7.2	31	6	21	1	32.3	83.3
			W12	36.1	24.2	11.9	33.0					29	6	19	1	34.5	83.3
	R10	BEDROOM	W13	32.4	20.9	11.5	35.5	97.6	93.5	4.1	4.2	29	6	20	2	31.0	66.7
JOSHUA STREET 1-15																	
F00	R1	L/K/D	W1	28.6	28.4	0.2	0.7	100.0	100.0	0.0	0.0	3	0	3	0	0.0	0.0
			W2	28.6	28.2	0.4	1.4					1	0	1	0	0.0	0.0
			W3	14.3	14.3	0.0	0.0					33	10	33	10	0.0	0.0
			W4	31.5	28.0	3.5	11.1					73	22	66	19	9.6	13.6
			W5	9.5	6.5	3.0	31.6					21	5	17	2	19.0	60.0
	R2	UNKNOWN	W6	27.7	27.7	0.0	0.0	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W7	27.8	27.7	0.1	0.4					N/A	N/A	N/A	N/A	N/A	N/A
	R3	LIVING (ASSUMED)	W8	2.0	2.0	0.0	0.0	100.0	100.0	0.0	0.0	0	0	0	0	0.0	0.0
			W9	3.2	3.2	0.0	0.0					0	0	0	0	0.0	0.0
			W10	4.8	4.8	0.0	0.0					0	0	0	0	0.0	0.0
			W11	8.8	8.8	0.0	0.0					0	0	0	0	0.0	0.0
			W12	25.5	24.4	1.1	4.3					0	0	0	0	0.0	0.0
			W13	27.8	25.3	2.5	9.0					2	0	2	0	0.0	0.0
			W14	26.9	26.6	0.3	1.1					1	0	1	0	0.0	0.0
			W15	27.1	26.9	0.2	0.7					5	0	5	0	0.0	0.0
			W16	27.6	27.1	0.5	1.8					1	0	1	0	0.0	0.0
			W17	26.8	26.5	0.3	1.1					1	0	1	0	0.0	0.0
			W18	25.4	25.4	0.0	0.0					10	0	10	0	0.0	0.0
			W19	25.4	25.4	0.0	0.0					9	0	9	0	0.0	0.0
			W20	18.3	18.3	0.0	0.0					19	1	19	1	0.0	0.0
			W21	16.3	16.3	0.0	0.0					11	0	11	0	0.0	0.0
			W22	14.2	14.2	0.0	0.0					8	0	8	0	0.0	0.0
			W23	11.9	11.9	0.0	0.0					8	0	8	0	0.0	0.0
	R4	LIVING (ASSUMED)	W24	27.8	27.7	0.1	0.4	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W25	28.2	28.2	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W26	28.6	28.4	0.2	0.7					N/A	N/A	N/A	N/A	N/A	N/A
			W27	28.7	28.1	0.6	2.1					N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W28	7.9	7.9	0.0	0.0	100.0	100.0	0.0	0.0	21	12	21	12	0.0	0.0
			W29	32.4	27.7	4.7	14.5					76	26	65	23	14.5	11.5
			W30	15.9	9.6	6.3	39.6					28	5	18	2	35.7	60.0
			W31	29.3	28.6	0.7	2.4					2	0	2	0	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W32	26.8	25.7	1.1	4.1					0	0	0	0	0.0	0.0
	R6	UNKNOWN	W33	30.2	29.5	0.7	2.3	96.1	96.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W34	29.1	28.3	0.8	2.7					N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W35	5.8	5.8	0.0	0.0	99.1	98.9	0.2	0.2	18	12	18	12	0.0	0.0
			W36	30.1	26.0	4.1	13.6					68	26	59	23	13.2	11.5
			W37	1.7	1.3	0.4	23.5					8	2	8	2	0.0	0.0
			W38	18.5	18.5	0.0	0.0					9	0	9	0	0.0	0.0
			W39	23.4	23.4	0.0	0.0					6	0	6	0	0.0	0.0
	R8	LIVING (ASSUMED)	W40	22.8	15.8	7.0	30.7	81.0	80.3	0.7	0.9	4	0	4	0	0.0	0.0
			W41	22.0	20.5	1.5	6.8					6	0	6	0	0.0	0.0
			W42	4.6	4.6	0.0	0.0					7	1	7	1	0.0	0.0
			W43	6.7	6.7	0.0	0.0					4	0	4	0	0.0	0.0
	R9	UNKNOWN	W44	32.8	19.4	13.4	40.9	96.6	88.9	7.7	8.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	UNKNOWN	W45	32.9	19.3	13.6	41.3	95.7	90.6	5.1	5.3	N/A	N/A	N/A	N/A	N/A	N/A
	R11	LIVING (ASSUMED)	W46	27.1	22.0	5.1	18.8	98.8	98.0	0.8	0.8	61	24	49	21	19.7	12.5
			W47	27.6	22.1	5.5	19.9					66	25	54	22	18.2	12.0
			W48	16.3	6.0	10.3	63.2					28	5	14	2	46.2	60.0
	R12	UNKNOWN	W49	28.7	28.3	0.4	1.4	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W50	29.2	28.8	0.4	1.4					N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W51	30.4	29.8	0.6	2.0	99.8	99.6	0.2	0.2	8	0	8	0	0.0	0.0
			W52	30.2	29.2	1.0	3.3					4	0	4	0	0.0	0.0
			W53	14.1	14.1	0.0	0.0					34	15	34	15	0.0	0.0
			W54	32.2	27.4	4.8	14.9					76	27	64	24	15.8	11.1
			W55	7.4	3.9	3.5	47.3					17	5	11	2	35.3	60.0
	R14	BED (ASSUMED)	W56	13.7	13.7	0.0	0.0	100.0	100.0	0.0	0.0	34	15	34	15	0.0	0.0
			W57	32.1	28.0	4.1	12.8					75	26	67	23	10.7	11.5
			W58	9.0	5.7	3.3	36.7					20	5	14	2	30.0	60.0
	R15	BED (ASSUMED)	W59	5.5	5.5	0.0	0.0	99.6	99.6	0.0	0.0	16	8	16	8	0.0	0.0
			W60	32.6	28.6	4.0	12.3					76	24	68	21	10.5	12.5
			W61	15.8	10.2	5.6	35.4					27	5	20	2	25.9	60.0
F01	R1	BED (ASSUMED)	W1	24.8	23.9	0.9	3.6	79.2	79.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	23.6	10.8	12.8	54.2	72.8	71.7	1.1	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	23.6	10.7	12.9	54.7	72.8	71.7	1.1	1.5	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	11.3	7.9	3.4	30.1	71.6	69.2	2.4	3.4	17	15	14	12	17.6	20.0
	R5	BED (ASSUMED)	W5	14.9	12.3	2.6	17.4	84.7	84.7	0.0	0.0	25	21	21	19	16.0	9.5
	R6	BED (ASSUMED)	W6	13.2	13.2	0.0	0.0	84.7	84.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	16.5	15.7	0.8	4.8	84.7	84.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	16.7	16.0	0.7	4.2	83.7	83.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	16.7	13.0	3.7	22.2	84.7	84.7	0.0	0.0	29	23	24	20	17.2	13.0
	R10	BED (ASSUMED)	W10	15.0	11.7	3.3	22.0	79.4	78.5	0.9	1.1	29	23	24	20	17.2	13.0
	R11	BED (ASSUMED)	W11	14.8	11.9	2.9	19.6	78.0	78.0	0.0	0.0	26	22	23	19	11.5	13.6
	R12	BED (ASSUMED)	W12	14.7	11.9	2.8	19.0	79.4	79.4	0.0	0.0	24	20	20	17	16.7	15.0
	R13	BED (ASSUMED)	W13	16.4	15.8	0.6	3.7	82.3	82.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BED (ASSUMED)	W14	16.4	15.9	0.5	3.0	83.7	83.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	BED (ASSUMED)	W15	15.8	15.3	0.5	3.2	84.2	84.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BED (ASSUMED)	W16	14.3	11.8	2.5	17.5	79.4	79.4	0.0	0.0	26	22	22	19	15.4	13.6
JOSHUA STREET 17-33																	
F00	R1	L/K/D	W1	27.6	27.6	0.0	0.0	99.6	99.6	0.0	0.0	1	0	1	0	0.0	0.0
			W2	28.5	26.5	2.0	7.0					62	17	55	16	11.3	5.9
			W3	28.4	26.8	1.6	5.6					66	19	60	18	9.1	5.3
	R2	UNKNOWN	W4	25.7	25.4	0.3	1.2	94.0	94.0	0.0	0.0	59	19	58	19	1.7	0.0
	R3	UNKNOWN	W5	29.8	27.4	2.4	8.1	100.0	100.0	0.0	0.0	68	20	61	19	10.3	5.0
			W6	29.1	26.6	2.5	8.6					64	18	55	17	14.1	5.6
			W7	28.8	26.5	2.3	8.0					68	20	62	19	8.8	5.0
			W8	30.0	27.4	2.6	8.7					69	21	62	20	10.1	4.8
	R4	UNKNOWN	W9	22.7	22.2	0.5	2.2	68.8	68.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	L/K/D	W10	20.1	19.9	0.2	1.0	88.0	88.0	0.0	0.0	8	0	8	0	0.0	0.0
			W11	25.9	23.0	2.9	11.2					55	12	45	11	18.2	8.3
			W12	27.6	24.9	2.7	9.8					60	14	53	14	11.7	0.0
	R6	UNKNOWN	W13	29.7	26.6	3.1	10.4	94.8	94.8	0.0	0.0	68	22	60	22	11.8	0.0
	R7	UNKNOWN	W14	29.9	26.7	3.2	10.7	94.8	94.8	0.0	0.0	70	24	62	23	11.4	4.2
	R8	L/K/D	W15	30.5	27.3	3.2	10.5	99.3	99.3	0.0	0.0	67	20	58	20	13.4	0.0
			W16	29.9	27.3	2.6	8.7					72	22	64	22	11.1	0.0
			W17	26.4	25.9	0.5	1.9					3	0	3	0	0.0	0.0
	R9	L/K/D	W18	25.9	25.4	0.5	1.9	85.7	85.7	0.0	0.0	4	0	4	0	0.0	0.0
			W19	11.5	10.0	1.5	13.0					31	17	28	17	9.7	0.0
	R10	UNKNOWN	W20	1.7	1.6	0.1	5.9	52.6	52.6	0.0	0.0	4	4	4	4	0.0	0.0
	R11	UNKNOWN	W21	28.1	24.4	3.7	13.2	99.5	99.5	0.0	0.0	66	17	57	16	13.6	5.9
			W22	27.9	25.0	2.9	10.4					61	16	52	15	14.8	6.3
			W23	28.0	25.3	2.7	9.6					66	21	58	20	12.1	4.8
	R12	UNKNOWN	W24	28.9	28.3	0.6	2.1	89.3	89.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	L/K/D	W25	23.7	19.4	4.3	18.1	99.5	99.5	0.0	0.0	48	12	36	9	25.0	25.0
			W26	26.4	22.8	3.6	13.6					56	17	49	15	12.5	11.8
			W27	25.1	24.9	0.2	0.8					6	0	6	0	0.0	0.0
	R14	UNKNOWN	W28	20.4	20.1	0.3	1.5	93.1	93.1	0.0	0.0	51	23	51	23	0.0	0.0
	R15	LIVING (ASSUMED)	W29	30.5	24.9	5.6	18.4	99.7	97.0	2.7	2.7	73	23	59	20	19.2	13.0
			W30	23.7	18.0	5.7	24.1					55	24	37	20	32.7	16.7
			W31	22.0	11.1	10.9	49.5					36	9	18	5	50.0	44.4
	R16	UNKNOWN	W32	33.8	21.5	12.3	36.4	100.0	85.5	14.5	14.5	N/A	N/A	N/A	N/A	N/A	N/A
	R17	UNKNOWN	W33	33.8	21.6	12.2	36.1	100.0	82.9	17.1	17.1	N/A	N/A	N/A	N/A	N/A	N/A
	R18	LIVING (ASSUMED)	W34	22.9	16.1	6.8	29.7	96.3	96.1	0.2	0.2	5	0	0	0	100.0	0.0
			W35	20.5	19.5	1.0	4.9					7	0	6	0	14.3	0.0
			W36	3.5	3.5	0.0	0.0					7	1	7	1	0.0	0.0
			W37	5.6	5.6	0.0	0.0					2	0	2	0	0.0	0.0
F01	R1	BED (ASSUMED)	W1	29.9	29.0	0.9	3.0	95.7	95.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	31.6	19.6	12.0	38.0	97.8	96.7	1.1	1.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	31.6	19.4	12.2	38.6	96.7	96.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	29.8	24.4	5.4	18.1	89.7	88.5	1.2	1.3	66	26	51	22	22.7	15.4
	R5	BED (ASSUMED)	W5	28.8	24.2	4.6	16.0	96.7	96.7	0.0	0.0	67	27	55	24	17.9	11.1
	R6	BED (ASSUMED)	W6	29.4	24.8	4.6	15.6	95.2	95.2	0.0	0.0	67	27	55	24	17.9	11.1
	R7	BED (ASSUMED)	W7	29.3	28.7	0.6	2.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	29.7	29.0	0.7	2.4	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	29.3	28.7	0.6	2.0	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	29.2	28.6	0.6	2.1	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W11	29.1	25.0	4.1	14.1	94.4	94.4	0.0	0.0	66	26	57	25	13.6	3.8
	R12	BED (ASSUMED)	W12	29.2	25.2	4.0	13.7	96.7	96.7	0.0	0.0	65	25	57	24	12.3	4.0
	R13	BED (ASSUMED)	W13	28.9	25.4	3.5	12.1	96.7	96.7	0.0	0.0	65	25	57	24	12.3	4.0
	R14	BED (ASSUMED)	W14	28.4	25.0	3.4	12.0	96.1	95.8	0.3	0.3	66	26	57	23	13.6	11.5
	R15	BED (ASSUMED)	W15	26.9	26.4	0.5	1.9	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	BED (ASSUMED)	W16	28.0	27.5	0.5	1.8	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	BED (ASSUMED)	W17	29.4	29.1	0.3	1.0	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R18	BED (ASSUMED)	W18	27.7	24.6	3.1	11.2	95.8	95.8	0.0	0.0	63	23	55	21	12.7	8.7
JOSHUA STREET 35-41																	
F00	R1	L/K/D	W1	27.5	27.5	0.0	0.0	97.8	97.0	0.8	0.8	44	12	44	12	0.0	0.0
			W2	27.1	27.1	0.0	0.0					38	8	38	8	0.0	0.0
			W3	12.9	9.1	3.8	29.5					27	4	18	2	33.3	50.0
			W4	23.9	18.0	5.9	24.7					31	5	22	3	29.0	40.0
			W5	10.8	10.8	0.0	0.0					0	0	0	0	0.0	0.0
	R2	UNKNOWN	W6	28.1	28.1	0.0	0.0	95.2	95.2	0.0	0.0	43	12	43	12	0.0	0.0
	R3	UNKNOWN	W7	28.2	28.2	0.0	0.0	96.3	96.3	0.0	0.0	44	12	44	12	0.0	0.0
	R4	L/K/D	W8	27.1	27.1	0.0	0.0	99.1	99.1	0.0	0.0	43	9	43	9	0.0	0.0
			W9	24.6	24.6	0.0	0.0					35	3	35	3	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W10	28.8	21.5	7.3	25.3					30	4	20	3	33.3	25.0
	R5	L/K/D	W11	26.6	26.6	0.0	0.0	98.9	98.9	0.0	0.0	46	13	46	13	0.0	0.0
			W12	27.3	27.3	0.0	0.0					43	10	43	10	0.0	0.0
			W13	29.6	22.2	7.4	25.0					25	1	15	0	40.0	100.0
	R6	UNKNOWN	W14	27.4	27.4	0.0	0.0	95.2	95.2	0.0	0.0	44	11	44	11	0.0	0.0
	R7	UNKNOWN	W15	27.0	27.0	0.0	0.0	96.3	96.3	0.0	0.0	40	9	40	9	0.0	0.0
	R8	L/K/D	W16	25.8	25.8	0.0	0.0	99.6	99.6	0.0	0.0	41	7	41	7	0.0	0.0
			W17	25.8	25.8	0.0	0.0					35	4	35	4	0.0	0.0
			W18	30.0	22.9	7.1	23.7					27	1	17	1	37.0	0.0
F01	R1	BED (ASSUMED)	W1	12.8	6.7	6.1	47.7	89.8	89.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	21.4	21.4	0.0	0.0	94.8	94.8	0.0	0.0	36	13	36	13	0.0	0.0
	R3	BED (ASSUMED)	W3	21.6	21.6	0.0	0.0	95.5	95.5	0.0	0.0	36	12	36	12	0.0	0.0
	R4	BED (ASSUMED)	W4	21.3	21.3	0.0	0.0	96.3	96.3	0.0	0.0	36	12	36	12	0.0	0.0
	R5	BED (ASSUMED)	W5	20.8	13.3	7.5	36.1	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	21.8	14.0	7.8	35.8	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	22.5	14.7	7.8	34.7	96.3	96.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	20.8	20.8	0.0	0.0	95.5	95.5	0.0	0.0	34	11	34	11	0.0	0.0
F02	R1	BED (ASSUMED)	W1	88.1	82.1	6.0	6.8	100.0	100.0	0.0	0.0	74	17	65	15	12.2	11.8
			W2	87.1	81.5	5.6	6.4					67	14	56	11	16.4	21.4
			W3	36.9	36.9	0.0	0.0					57	20	57	20	0.0	0.0
			W4	36.9	36.9	0.0	0.0					57	20	57	20	0.0	0.0
JOSHUA STREET 4																	
F00	R1	LIVING (ASSUMED)	W1	4.8	4.5	0.3	6.3	95.5	95.2	0.3	0.3	14	1	12	1	14.3	0.0
			W2	24.4	20.8	3.6	14.8					17	2	14	2	17.6	0.0
			W3	17.5	17.2	0.3	1.7					0	0	0	0	0.0	0.0
F01	R1	BED (ASSUMED)	W1	20.3	15.6	4.7	23.2	92.4	92.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
JOSHUA STREET 6-14																	
F00	R1	LIVING (ASSUMED)	W1	72.8	72.1	0.7	1.0	99.3	99.3	0.0	0.0	76	20	74	19	2.6	5.0
			W2	73.2	72.6	0.6	0.8					75	18	74	18	1.3	0.0
			W3	28.4	26.8	1.6	5.6					66	19	64	18	3.0	5.3
			W4	25.5	25.5	0.0	0.0					57	17	57	17	0.0	0.0
	R2	L/K/D	W5	19.7	18.4	1.3	6.6	99.4	99.4	0.0	0.0	40	8	36	6	10.0	25.0
			W6	23.2	22.2	1.0	4.3					48	11	45	10	6.3	9.1
			W7	32.9	32.2	0.7	2.1					9	0	9	0	0.0	0.0
	R3	UNKNOWN	W8	28.5	27.1	1.4	4.9	94.7	94.7	0.0	0.0	65	19	61	17	6.2	10.5
	R4	L/K/D	W9	26.9	26.0	0.9	3.3	99.6	99.6	0.0	0.0	61	18	59	17	3.3	5.6
			W10	27.2	26.8	0.4	1.5					61	18	61	18	0.0	0.0
			W11	31.4	31.3	0.1	0.3					10	0	10	0	0.0	0.0
	R5	UNKNOWN	W12	19.4	19.4	0.0	0.0	94.1	94.1	0.0	0.0	46	17	46	17	0.0	0.0
	R6	LIVING (ASSUMED)	W13	14.4	13.9	0.5	3.5	100.0	100.0	0.0	0.0	30	20	29	19	3.3	5.0
			W14	8.4	8.4	0.0	0.0					20	13	20	13	0.0	0.0
			W15	29.3	27.1	2.2	7.5					69	20	65	19	5.8	5.0
			W16	24.3	17.7	6.6	27.2					31	5	25	3	19.4	40.0
	R7	BED (ASSUMED)	W17	35.0	27.4	7.6	21.7	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W18	34.9	27.4	7.5	21.5	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	13.2	11.8	1.4	10.6	93.3	93.3	0.0	0.0	22	16	21	15	4.5	6.3
	R2	BED (ASSUMED)	W2	13.4	12.0	1.4	10.4	90.4	90.4	0.0	0.0	23	17	20	15	13.0	11.8
	R3	BED (ASSUMED)	W3	13.5	12.1	1.4	10.4	92.9	92.9	0.0	0.0	24	18	21	16	12.5	11.1
	R4	BED (ASSUMED)	W4	13.6	12.1	1.5	11.0	90.4	90.4	0.0	0.0	25	19	22	17	12.0	10.5
	R5	BED (ASSUMED)	W5	13.3	12.2	1.1	8.3	92.9	92.9	0.0	0.0	26	20	24	19	7.7	5.0
	R6	BED (ASSUMED)	W6	8.3	8.3	0.0	0.0	88.8	88.8	0.0	0.0	16	14	16	14	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	BED (ASSUMED)	W7	13.5	11.9	1.6	11.9	91.6	89.5	2.1	2.3	25	18	22	16	12.0	11.1
	R8	BED (ASSUMED)	W8	19.7	12.2	7.5	38.1	89.1	89.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	19.6	12.2	7.4	37.8	89.1	89.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
LANSBURY GARDENS 2-12																	
F00	R1	LIVING ROOM	W1	25.5	14.5	11.0	43.1	98.9	98.7	0.2	0.2	36	8	10	1	72.2	87.5
			W2	29.6	29.6	0.0	0.0					33	6	33	6	0.0	0.0
	R2	LIVING ROOM	W3	18.6	18.6	0.0	0.0	98.9	87.5	11.4	11.5	40	7	40	7	0.0	0.0
			W4	30.7	30.7	0.0	0.0					48	10	48	10	0.0	0.0
			W5	31.9	31.9	0.0	0.0					36	7	36	7	0.0	0.0
			W6	29.8	29.7	0.1	0.3					16	1	16	1	0.0	0.0
			W7	17.8	17.7	0.1	0.6					0	0	0	0	0.0	0.0
			W8	26.0	12.6	13.4	51.5					35	7	11	2	68.6	71.4
	R3	LIVING ROOM	W9	26.2	11.3	14.9	56.9	98.4	98.3	0.1	0.1	36	7	11	2	69.4	71.4
			W10	31.0	31.0	0.0	0.0					28	1	28	1	0.0	0.0
	R4	LIVING ROOM	W11	26.2	11.0	15.2	58.0	99.1	99.0	0.1	0.1	36	7	15	3	58.3	57.1
			W12	16.7	16.7	0.0	0.0					36	5	36	5	0.0	0.0
			W13	19.7	19.7	0.0	0.0					42	7	42	7	0.0	0.0
			W14	70.1	70.1	0.0	0.0					44	8	44	8	0.0	0.0
			W15	31.9	31.9	0.0	0.0					34	5	34	5	0.0	0.0
			W16	70.2	70.2	0.0	0.0					44	8	44	8	0.0	0.0
			W17	31.9	31.9	0.0	0.0					34	5	34	5	0.0	0.0
			W18	32.0	32.0	0.0	0.0					35	6	35	6	0.0	0.0
			W19	70.2	70.2	0.0	0.0					44	8	44	8	0.0	0.0
			W20	31.9	31.9	0.0	0.0					35	6	35	6	0.0	0.0
			W21	70.2	70.2	0.0	0.0					45	9	45	9	0.0	0.0
			W22	31.9	31.9	0.0	0.0					35	6	35	6	0.0	0.0
			W23	70.3	70.2	0.1	0.1					45	9	45	9	0.0	0.0
			W24	32.0	32.0	0.0	0.0					35	6	35	6	0.0	0.0
			W25	70.3	70.3	0.0	0.0					45	9	45	9	0.0	0.0
			W26	21.4	21.4	0.0	0.0					0	0	0	0	0.0	0.0
			W27	18.2	18.2	0.0	0.0					0	0	0	0	0.0	0.0
	R5	LIVING ROOM	W28	25.7	11.4	14.3	55.6	98.9	98.7	0.2	0.2	34	5	15	3	55.9	40.0
			W29	31.3	31.3	0.0	0.0					28	1	28	1	0.0	0.0
	R6	LIVING ROOM	W30	24.6	12.4	12.2	49.6	98.7	97.0	1.7	1.7	35	6	22	6	37.1	0.0
			W31	24.3	24.3	0.0	0.0					12	1	12	1	0.0	0.0
F01	R1	BEDROOM	W1	29.4	18.5	10.9	37.1	97.8	82.3	15.5	15.8	43	14	21	3	51.2	78.6
	R2	BEDROOM	W2	29.7	17.4	12.3	41.4	99.7	58.0	41.7	41.8	45	15	21	7	53.3	53.3
	R3	BEDROOM	W3	29.6	15.9	13.7	46.3	97.8	69.6	28.2	28.8	42	12	15	4	64.3	66.7
	R4	BEDROOM	W4	30.0	15.2	14.8	49.3	99.7	49.0	50.7	50.9	46	15	19	8	58.7	46.7
	R5	BEDROOM	W5	29.9	14.0	15.9	53.2	97.8	58.0	39.8	40.7	43	11	17	6	60.5	45.5
	R6	BEDROOM	W6	30.3	13.8	16.5	54.5	99.7	37.8	61.9	62.1	47	14	20	9	57.4	35.7
	R7	BEDROOM	W7	30.0	13.2	16.8	56.0	97.8	50.3	47.5	48.6	44	11	18	6	59.1	45.5
	R8	BEDROOM	W8	30.2	13.4	16.8	55.6	99.7	33.7	66.0	66.2	44	12	20	8	54.5	33.3
	R9	BEDROOM	W9	29.8	13.4	16.4	55.0	97.8	50.3	47.5	48.6	41	9	18	5	56.1	44.4
	R10	BEDROOM	W10	29.8	14.0	15.8	53.0	99.7	36.5	63.2	63.4	42	10	23	8	45.2	20.0
	R11	BEDROOM	W11	29.0	14.4	14.6	50.3	97.8	55.8	42.0	42.9	40	8	21	6	47.5	25.0
	R12	BEDROOM	W12	28.6	15.3	13.3	46.5	99.4	41.3	58.1	58.5	42	9	26	8	38.1	11.1
LEVEN ROAD PHASE THREE																	
F00	R1	KITCHEN	W1	15.6	11.5	4.1	26.3	66.7	66.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	LIVING ROOM	W2	20.4	10.4	10.0	49.0	77.3	48.4	28.9	37.4	39	16	24	4	38.5	75.0
	R3	LIVING ROOM	W3	9.0	1.7	7.3	81.1	87.6	44.0	43.6	49.8	16	13	4	4	75.0	69.2
	R4	KITCHEN	W4	9.6	4.0	5.6	58.3	90.0	52.6	37.4	41.6	N/A	N/A	N/A	N/A	N/A	N/A
	R5	KITCHEN	W5	16.4	9.8	6.6	40.2	96.6	68.2	28.4	29.4	N/A	N/A	N/A	N/A	N/A	N/A
	R6	LIVING ROOM	W6	11.6	0.8	10.8	93.1	99.2	28.3	70.9	71.5	13	2	0	0	100.0	100.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W7	1.6	1.2	0.4	25.0					7	3	4	2	42.9	33.3
	R7	LIVING ROOM	W8	11.9	0.7	11.2	94.1	94.4	10.5	83.9	88.9	13	3	0	0	100.0	100.0
	R8	LIVING ROOM	W9	11.6	0.6	11.0	94.8	89.9	11.6	78.3	87.1	15	4	0	0	100.0	100.0
	R9	KITCHEN	W10	12.4	5.2	7.2	58.1	90.3	55.7	34.6	38.3	N/A	N/A	N/A	N/A	N/A	N/A
	R10	KITCHEN	W11	15.0	7.3	7.7	51.3	92.6	72.2	20.4	22.0	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BEDROOM	W1	21.6	11.6	10.0	46.3	96.2	75.0	21.2	22.0	42	17	26	8	38.1	52.9
	R2	BEDROOM	W2	13.7	5.0	8.7	63.5	86.5	38.5	48.0	55.5	23	18	11	7	52.2	61.1
	R3	BEDROOM	W3	13.7	4.2	9.5	69.3	98.8	33.7	65.1	65.9	25	20	8	7	68.0	65.0
	R4	BEDROOM	W4	22.5	14.9	7.6	33.8	100.0	47.8	52.2	52.2	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BEDROOM	W5	25.0	17.4	7.6	30.4	97.5	78.7	18.8	19.3	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W6	18.2	8.3	9.9	54.4	98.3	42.1	56.2	57.2	39	21	23	9	41.0	57.1
	R7	L/K/D	W7	13.8	4.5	9.3	67.4	72.3	30.9	41.4	57.3	27	19	11	6	59.3	68.4
	R8	BEDROOM	W8	0.8	0.0	0.8	100.0	52.4	0.3	52.1	99.4	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BEDROOM	W9	18.2	13.4	4.8	26.4	81.5	69.7	11.8	14.5	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W10	17.3	2.4	14.9	86.1	97.5	45.3	52.2	53.5	20	5	3	2	85.0	60.0
			W11	0.1	0.1	0.0	0.0					0	0	0	0	0.0	0.0
	R11	BEDROOM	W12	17.6	2.5	15.1	85.8	98.9	27.6	71.3	72.1	20	5	3	2	85.0	60.0
	R12	BEDROOM	W13	17.7	2.4	15.3	86.4	98.2	23.4	74.8	76.2	22	7	2	2	90.9	71.4
	R13	BEDROOM	W14	17.4	2.2	15.2	87.4	97.5	19.8	77.7	79.7	22	7	1	1	95.5	85.7
	R14	BEDROOM	W15	15.8	1.7	14.1	89.2	98.2	20.4	77.8	79.2	21	7	1	0	95.2	100.0
	R15	BEDROOM	W16	15.2	1.7	13.5	88.8	97.5	18.3	79.2	81.2	20	7	1	1	95.0	85.7
	R16	BEDROOM	W17	29.8	17.9	11.9	39.9	98.7	74.1	24.6	24.9	N/A	N/A	N/A	N/A	N/A	N/A
			W18	29.7	17.5	12.2	41.1					N/A	N/A	N/A	N/A	N/A	N/A
	R17	BEDROOM	W19	24.0	13.6	10.4	43.3	98.7	79.8	18.9	19.1	N/A	N/A	N/A	N/A	N/A	N/A
			W20	24.5	13.5	11.0	44.9					N/A	N/A	N/A	N/A	N/A	N/A
	R18	BEDROOM	W21	24.5	15.5	9.0	36.7	98.4	84.6	13.8	14.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	24.1	14.6	9.5	39.4					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	LIVING ROOM	W1	27.8	19.8	8.0	28.8	99.6	92.3	7.3	7.3	N/A	N/A	N/A	N/A	N/A	N/A
			W2	24.9	16.9	8.0	32.1					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	20.7	9.4	11.3	54.6	99.5	61.5	38.0	38.2	44	26	27	14	38.6	46.2
	R3	BEDROOM	W4	14.3	4.5	9.8	68.5	99.4	35.4	64.0	64.4	24	20	10	8	58.3	60.0
	R4	LIVING ROOM	W5	15.1	6.0	9.1	60.3	99.5	91.0	8.5	8.5	27	21	13	10	51.9	52.4
			W6	16.7	6.1	10.6	63.5					27	21	13	10	51.9	52.4
	R5	BEDROOM	W7	24.1	12.6	11.5	47.7	96.2	91.4	4.8	5.0	50	22	27	13	46.0	40.9
	R6	BEDROOM	W8	20.8	15.7	5.1	24.5	82.5	80.3	2.2	2.7	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W9	23.0	6.5	16.5	71.7	94.0	34.8	59.2	63.0	15	2	0	0	100.0	100.0
	R8	LIVING ROOM	W10	20.3	4.0	16.3	80.3	97.6	69.9	27.7	28.4	25	7	4	2	84.0	71.4
	R9	BEDROOM	W11	35.7	12.5	23.2	65.0	98.1	36.2	61.9	63.1	42	12	9	3	78.6	75.0
	R10	BEDROOM	W12	35.9	12.8	23.1	64.3	97.7	37.3	60.4	61.8	42	12	9	3	78.6	75.0
	R11	BEDROOM	W13	35.7	13.0	22.7	63.6	98.7	36.0	62.7	63.5	42	12	8	2	81.0	83.3
	R12	LIVING ROOM	W14	20.7	4.3	16.4	79.2	98.2	37.5	60.7	61.8	26	9	3	2	88.5	77.8
F03	R1	LIVING ROOM	W1	31.2	23.0	8.2	26.3	99.6	93.3	6.3	6.3	N/A	N/A	N/A	N/A	N/A	N/A
			W2	28.4	20.4	8.0	28.2					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	36.7	19.8	16.9	46.0	99.5	65.1	34.4	34.6	78	28	47	16	39.7	42.9
	R3	BEDROOM	W4	35.8	18.9	16.9	47.2	99.4	38.4	61.0	61.4	74	27	42	14	43.2	48.1
	R4	LIVING ROOM	W5	34.8	21.5	13.3	38.2	99.5	94.1	5.4	5.4	75	30	50	16	33.3	46.7
			W6	36.1	19.2	16.9	46.8					74	28	45	14	39.2	50.0
	R5	BEDROOM	W7	35.6	22.1	13.5	37.9	98.1	96.5	1.6	1.6	77	30	50	16	35.1	46.7
	R6	BEDROOM	W8	25.7	20.8	4.9	19.1	88.5	86.3	2.2	2.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BEDROOM	W9	26.1	9.0	17.1	65.5	95.0	45.7	49.3	51.9	15	2	0	0	100.0	100.0
	R8	LIVING ROOM	W10	34.9	12.6	22.3	63.9	98.8	82.4	16.4	16.6	44	11	12	3	72.7	72.7
	R9	BEDROOM	W11	37.0	13.6	23.4	63.2	98.1	41.1	57.0	58.1	42	12	10	4	76.2	66.7
	R10	BEDROOM	W12	37.0	13.9	23.1	62.4	97.7	43.8	53.9	55.2	42	12	9	3	78.6	75.0
	R11	BEDROOM	W13	37.0	14.1	22.9	61.9	98.7	39.7	59.0	59.8	42	12	8	2	81.0	83.3
	R12	LIVING ROOM	W14	34.3	13.9	20.4	59.5	98.4	47.6	50.8	51.6	36	9	6	2	83.3	77.8

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
F04	R1	BEDROOM	W1	33.1	28.8	4.3	13.0	98.7	98.0	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W2	35.8	27.6	8.2	22.9	98.7	83.2	15.5	15.7	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W3	35.8	26.4	9.4	26.3	97.3	62.6	34.7	35.7	N/A	N/A	N/A	N/A	N/A	N/A
	R4	LIVING ROOM	W4	35.8	25.8	10.0	27.9	99.7	99.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W5	37.1	29.1	8.0	21.6					N/A	N/A	N/A	N/A	N/A	N/A
	R5	KITCHEN	W6	36.3	28.8	7.5	20.7	98.6	98.3	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R6	KITCHEN	W7	36.3	28.8	7.5	20.7	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	LIVING ROOM	W8	37.2	29.3	7.9	21.2	100.0	99.1	0.9	0.9	9	0	0	0	100.0	0.0
			W9	37.4	15.1	22.3	59.6					42	12	8	2	81.0	83.3
	R8	BEDROOM	W10	37.4	14.8	22.6	60.4	96.9	51.7	45.2	46.6	42	12	9	3	78.6	75.0
	R9	BEDROOM	W11	37.4	14.4	23.0	61.5	99.0	46.1	52.9	53.4	42	12	10	4	76.2	66.7
	R10	BEDROOM	W12	34.7	13.5	21.2	61.1	99.0	93.5	5.5	5.6	48	15	13	3	72.9	80.0
LOREN APPARTMENTS																	
F00	R1	L/K/D	W1	21.0	7.1	13.9	66.2	68.0	12.4	55.6	81.8	23	2	3	0	87.0	100.0
	R2	L/K/D	W2	24.2	8.8	15.4	63.6	56.1	15.4	40.7	72.5	30	2	12	0	60.0	100.0
	R3	BEDROOM	W3	23.4	10.3	13.1	56.0	99.6	64.4	35.2	35.3	29	2	17	3	41.4	-50.0
	R4	BEDROOM	W4	23.4	11.8	11.6	49.6	97.2	76.9	20.3	20.9	26	1	17	1	34.6	0.0
	R5	BEDROOM	W5	16.5	11.5	5.0	30.3	98.6	97.4	1.2	1.2	24	1	20	2	16.7	-100.0
			W6	13.9	13.9	0.0	0.0					31	4	31	4	0.0	0.0
F01	R1	BEDROOM	W1	29.1	10.8	18.3	62.9	97.0	28.8	68.2	70.3	39	6	14	2	64.1	66.7
	R2	BEDROOM	W2	27.3	10.3	17.0	62.3	94.4	25.4	69.0	73.1	34	4	9	0	73.5	100.0
	R3	BEDROOM	W3	28.5	12.0	16.5	57.9	99.7	35.9	63.8	64.0	36	3	17	1	52.8	66.7
	R4	L/K/D	W4	27.8	13.1	14.7	52.9	81.3	40.6	40.7	50.1	36	4	20	3	44.4	25.0
	R5	L/K/D	W5	25.6	13.0	12.6	49.2	97.0	88.8	8.2	8.5	31	3	17	2	45.2	33.3
			W6	26.5	15.3	11.2	42.3					31	2	21	2	32.3	0.0
			W7	15.8	15.8	0.0	0.0					40	5	40	5	0.0	0.0
F02	R1	BEDROOM	W1	32.0	13.1	18.9	59.1	97.5	31.8	65.7	67.4	41	8	16	2	61.0	75.0
	R2	BEDROOM	W2	29.9	12.2	17.7	59.2	94.8	26.6	68.2	71.9	37	7	14	2	62.2	71.4
	R3	L/K/D	W3	31.1	13.9	17.2	55.3	99.5	54.2	45.3	45.5	39	6	18	2	53.8	66.7
			W4	30.4	15.0	15.4	50.7					39	6	23	4	41.0	33.3
	R4	L/K/D	W5	28.0	14.9	13.1	46.8	92.6	79.6	13.0	14.0	33	4	18	2	45.5	50.0
			W6	28.7	17.3	11.4	39.7					35	4	24	4	31.4	0.0
			W7	17.9	17.9	0.0	0.0					46	7	46	7	0.0	0.0
F03	R1	L/K/D	W1	30.8	15.8	15.0	48.7	98.8	56.0	42.8	43.3	43	10	23	4	46.5	60.0
			W2	30.2	15.4	14.8	49.0					35	7	16	2	54.3	71.4
	R2	BEDROOM	W3	32.1	17.7	14.4	44.9	100.0	48.0	52.0	52.0	41	8	23	4	43.9	50.0
	R3	BEDROOM	W4	31.1	18.3	12.8	41.2	97.9	73.9	24.0	24.5	39	6	25	4	35.9	33.3
	R4	BEDROOM	W5	30.1	19.7	10.4	34.6	90.2	90.2	0.0	0.0	37	5	25	3	32.4	40.0
			W6	20.0	20.0	0.0	0.0					54	8	54	8	0.0	0.0
MILLS GROVE 1-9																	
F00	R1	L/K/D	W1	22.5	22.5	0.0	0.0	97.0	97.0	0.0	0.0	13	1	13	1	0.0	0.0
			W2	31.1	31.1	0.0	0.0					51	19	51	19	0.0	0.0
			W3	7.2	7.2	0.0	0.0					27	14	27	14	0.0	0.0
	R2	UNKNOWN	W4	0.0	0.0	0.0	0.0	11.4	3.4	8.0	70.2	N/A	N/A	N/A	N/A	N/A	N/A
	R3	UNKNOWN	W5	1.1	1.1	0.0	0.0	24.2	20.5	3.7	15.3	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	4.8	3.1	1.7	35.4	99.5	99.5	0.0	0.0	17	3	14	3	17.6	0.0
			W7	27.5	27.5	0.0	0.0					50	16	50	16	0.0	0.0
	R5	L/K/D	W8	25.9	22.7	3.2	12.4	99.5	99.5	0.0	0.0	27	2	15	1	33.3	50.0
			W9	29.5	29.5	0.0	0.0					42	9	42	9	0.0	0.0
	R6	UNKNOWN	W10	28.5	25.4	3.1	10.9	95.7	92.7	3.0	3.1	N/A	N/A	N/A	N/A	N/A	N/A
	R7	UNKNOWN	W11	4.6	4.6	0.0	0.0	74.1	59.1	15.0	20.2	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W12	0.1	0.1	0.0	0.0	95.7	91.9	3.8	4.0	9	9	9	6	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W13	27.7	27.7	0.0	0.0					49	14	49	14	0.0	0.0
F01	R1	BED (ASSUMED)	W1	31.8	31.8	0.0	0.0	98.2	98.2	0.0	0.0	50	18	50	18	0.0	0.0
	R2	BED (ASSUMED)	W2	28.6	24.4	4.2	14.7	96.6	96.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	31.0	31.0	0.0	0.0	98.5	98.5	0.0	0.0	52	19	52	19	0.0	0.0
	R4	BED (ASSUMED)	W4	31.5	31.5	0.0	0.0	98.5	98.5	0.0	0.0	50	17	50	17	0.0	0.0
	R5	BED (ASSUMED)	W5	31.3	26.2	5.1	16.3	98.2	98.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	31.3	26.0	5.3	16.9	98.9	98.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	27.1	22.8	4.3	15.9	95.8	95.1	0.7	0.7	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	30.8	30.8	0.0	0.0	98.6	98.6	0.0	0.0	48	15	48	15	0.0	0.0
F02	R1	BED (ASSUMED)	W1	36.8	30.8	6.0	16.3	100.0	100.0	0.0	0.0	34	6	25	4	26.5	33.3
			W2	36.7	30.9	5.8	15.8					34	6	26	5	23.5	16.7
			W3	90.2	90.2	0.0	0.0					86	27	86	27	0.0	0.0
			W4	90.9	90.8	0.1	0.1					87	27	87	27	0.0	0.0
MILLS GROVE 12-20																	
F00	R1	L/K/D	W1	27.5	25.0	2.5	9.1	97.4	97.2	0.2	0.2	27	5	23	3	14.8	40.0
			W2	22.1	22.1	0.0	0.0					36	4	36	4	0.0	0.0
			W3	18.4	18.4	0.0	0.0					21	0	21	0	0.0	0.0
	R2	L/K/D	W4	27.6	24.9	2.7	9.8	98.8	98.6	0.2	0.2	21	2	17	0	19.0	100.0
			W5	15.4	15.4	0.0	0.0					20	8	20	8	0.0	0.0
	R3	L/K/D	W6	26.8	23.6	3.2	11.9	92.4	92.4	0.0	0.0	28	6	24	4	14.3	33.3
			W7	23.1	23.1	0.0	0.0					32	2	32	2	0.0	0.0
			W8	21.3	21.3	0.0	0.0					23	0	23	0	0.0	0.0
	R4	L/K/D	W9	3.6	2.0	1.6	44.4	49.6	48.9	0.7	1.4	5	2	2	1	60.0	50.0
			W10	29.4	25.9	3.5	11.9					22	3	17	1	22.7	66.7
			W11	8.0	8.0	0.0	0.0					0	0	0	0	0.0	0.0
	R5	L/K/D	W12	27.4	27.4	0.0	0.0	98.3	97.9	0.4	0.4	42	9	42	9	0.0	0.0
			W13	19.7	17.6	2.1	10.7					41	10	34	8	17.1	20.0
			W14	31.1	26.2	4.9	15.8					33	7	24	5	27.3	28.6
			W15	2.7	2.7	0.0	0.0					0	0	0	0	0.0	0.0
F01	R1	BED (ASSUMED)	W1	25.5	21.1	4.4	17.3	99.1	99.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	25.3	20.9	4.4	17.4	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	25.3	20.7	4.6	18.2	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	25.2	20.6	4.6	18.3	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	25.2	20.6	4.6	18.3	96.5	96.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	25.4	20.6	4.8	18.9	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	22.8	17.7	5.1	22.4	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	23.9	18.5	5.4	22.6	97.0	97.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	24.1	18.5	5.6	23.2	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	24.3	18.6	5.7	23.5	97.6	97.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
MILLS GROVE 17-25																	
F00	R1	L/K/D	W1	30.9	24.8	6.1	19.7	100.0	100.0	0.0	0.0	31	4	24	3	22.6	25.0
			W2	7.7	7.7	0.0	0.0					4	0	4	0	0.0	0.0
			W3	30.7	30.7	0.0	0.0					51	19	51	19	0.0	0.0
			W4	22.4	22.3	0.1	0.4					51	22	51	22	0.0	0.0
	R2	UNKNOWN	W5	29.5	23.0	6.5	22.0	100.0	93.3	6.7	6.7	N/A	N/A	N/A	N/A	N/A	N/A
			W6	29.5	23.8	5.7	19.3					N/A	N/A	N/A	N/A	N/A	N/A
	R3	UNKNOWN	W7	22.5	19.0	3.5	15.6	86.7	85.8	0.9	1.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	21.9	17.1	4.8	21.9					N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W9	20.4	18.1	2.3	11.3	100.0	100.0	0.0	0.0	36	9	32	6	11.1	33.3
			W10	17.1	16.1	1.0	5.8					21	8	18	5	14.3	37.5
	R5	L/K/D	W11	23.6	21.5	2.1	8.9	99.6	99.6	0.0	0.0	3	0	2	0	33.3	0.0
			W12	26.2	26.2	0.0	0.0					45	14	45	14	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W13	9.5	9.5	0.0	0.0					4	0	4	0	0.0	0.0
			W14	28.8	28.8	0.0	0.0					44	13	44	13	0.0	0.0
			W15	8.1	8.1	0.0	0.0					23	6	23	6	0.0	0.0
	R6	UNKNOWN	W16	28.6	23.9	4.7	16.4	100.0	89.5	10.5	10.5	N/A	N/A	N/A	N/A	N/A	N/A
	R7	UNKNOWN	W17	30.2	25.1	5.1	16.9	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W18	25.6	21.1	4.5	17.6	100.0	99.8	0.2	0.2	28	3	25	3	10.7	0.0
			W19	27.0	27.0	0.0	0.0					39	8	39	8	0.0	0.0
	R9	L/K/D	W20	25.3	25.3	0.0	0.0	100.0	100.0	0.0	0.0	45	14	45	14	0.0	0.0
			W21	27.8	22.2	5.6	20.1					29	3	25	3	13.8	0.0
	R10	UNKNOWN	W22	20.5	14.9	5.6	27.3	98.4	95.3	3.1	3.2	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	28.2	20.3	7.9	28.0	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	27.1	20.3	6.8	25.1	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	27.3	20.3	7.0	25.6	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	27.5	20.3	7.2	26.2	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	25.8	18.7	7.1	27.5	97.3	97.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
MILLS GROVE 2-10																	
F00	R1	L/K/D	W1	4.2	3.0	1.2	28.6	100.0	100.0	0.0	0.0	11	1	6	0	45.5	100.0
			W2	30.4	27.9	2.5	8.2					28	4	21	3	25.0	25.0
			W3	19.6	19.6	0.0	0.0					0	0	0	0	0.0	0.0
			W4	24.0	24.0	0.0	0.0					45	15	45	15	0.0	0.0
			W5	27.5	27.5	0.0	0.0					40	11	40	11	0.0	0.0
	R2	L/K/D	W6	25.3	25.3	0.0	0.0	100.0	99.8	0.2	0.2	45	15	45	15	0.0	0.0
			W7	28.1	28.1	0.0	0.0					40	10	40	10	0.0	0.0
			W8	28.1	25.4	2.7	9.6					18	1	12	0	33.3	100.0
	R3	L/K/D	W9	28.3	25.4	2.9	10.2	99.8	99.8	0.0	0.0	27	3	21	2	22.2	33.3
			W10	25.6	25.6	0.0	0.0					36	3	36	3	0.0	0.0
			W11	21.2	21.2	0.0	0.0					23	0	23	0	0.0	0.0
	R4	L/K/D	W12	27.8	25.1	2.7	9.7	63.2	63.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W13	18.4	16.9	1.5	8.2	96.8	96.8	0.0	0.0	3	0	3	0	0.0	0.0
			W14	24.0	24.0	0.0	0.0					35	6	35	6	0.0	0.0
			W15	21.6	21.6	0.0	0.0					28	1	28	1	0.0	0.0
F01	R1	BED (ASSUMED)	W1	28.3	24.2	4.1	14.5	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	25.9	21.8	4.1	15.8	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	26.5	22.1	4.4	16.6	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	26.2	21.8	4.4	16.8	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	26.2	21.8	4.4	16.8	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	26.3	21.9	4.4	16.7	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	26.1	21.6	4.5	17.2	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	25.7	21.2	4.5	17.5	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	24.7	20.5	4.2	17.0	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	19.8	17.0	2.8	14.1	97.7	97.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
MILLS GROVE 9-15																	
F00	R1	L/K/D	W1	55.3	53.4	1.9	3.4	100.0	99.4	0.6	0.6	29	5	25	5	13.8	0.0
			W2	23.6	21.9	1.7	7.2					11	1	11	1	0.0	0.0
			W3	57.8	55.5	2.3	4.0					32	5	26	5	18.8	0.0
			W4	21.9	21.9	0.0	0.0					32	4	32	4	0.0	0.0
	R2	UNKNOWN	W5	19.2	17.7	1.5	7.8	70.2	68.7	1.5	2.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W6	29.2	29.2	0.0	0.0	91.8	91.7	0.1	0.1	50	15	50	15	0.0	0.0
			W7	20.7	20.1	0.6	2.9					16	0	14	0	12.5	0.0
	R4	L/K/D	W8	3.3	2.4	0.9	27.3	95.9	95.4	0.5	0.5	1	1	1	1	0.0	0.0
			W9	28.6	28.6	0.0	0.0					42	8	42	8	0.0	0.0
	R5	UNKNOWN	W10	3.1	1.5	1.6	51.6	86.3	58.4	27.9	32.3	N/A	N/A	N/A	N/A	N/A	N/A
	R6	UNKNOWN	W11	27.1	21.4	5.7	21.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R7	L/K/D	W12	29.5	24.5	5.0	16.9	100.0	99.8	0.2	0.2	22	1	18	1	18.2	0.0
			W13	30.0	24.5	5.5	18.3					30	4	25	3	16.7	25.0
			W14	19.3	19.3	0.0	0.0					24	2	24	2	0.0	0.0
F01	R1	BED (ASSUMED)	W1	27.5	21.4	6.1	22.2	97.9	97.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	26.6	21.0	5.6	21.1	97.4	97.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	27.1	21.0	6.1	22.5	97.4	97.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	28.2	20.9	7.3	25.9	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BED (ASSUMED)	W1	89.7	89.7	0.0	0.0	100.0	100.0	0.0	0.0	86	26	85	26	1.2	0.0
			W2	89.8	89.8	0.0	0.0					86	26	85	26	1.2	0.0
			W3	35.1	28.1	7.0	19.9					31	5	19	2	38.7	60.0
			W4	35.5	28.6	6.9	19.4					32	6	21	3	34.4	50.0
ST LEONARDS ROAD 118-132																	
F00	R1	LIVING (ASSUMED)	W1	28.1	23.8	4.3	15.3	96.8	92.9	3.9	4.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	20.5	20.3	0.2	1.0					N/A	N/A	N/A	N/A	N/A	N/A
	R2	UNKNOWN	W3	24.0	18.7	5.3	22.1	94.7	93.0	1.7	1.8	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W4	30.2	30.2	0.0	0.0	100.0	99.8	0.2	0.2	49	14	49	14	0.0	0.0
			W5	28.6	24.3	4.3	15.0					18	0	14	0	22.2	0.0
			W6	30.4	25.3	5.1	16.8					27	1	22	1	18.5	0.0
	R4	L/K/D	W7	32.9	27.8	5.1	15.5	100.0	100.0	0.0	0.0	24	1	19	1	20.8	0.0
			W8	31.8	26.8	5.0	15.7					27	1	22	1	18.5	0.0
			W9	30.9	30.9	0.0	0.0					44	10	44	10	0.0	0.0
	R5	UNKNOWN	W10	32.8	26.7	6.1	18.6	93.1	92.5	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R6	UNKNOWN	W11	32.7	26.6	6.1	18.7	93.6	91.2	2.4	2.6	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W12	29.5	29.5	0.0	0.0	98.9	98.5	0.4	0.4	46	12	46	12	0.0	0.0
			W13	30.1	24.9	5.2	17.3					16	0	12	0	25.0	0.0
			W14	31.2	25.4	5.8	18.6					21	0	17	0	19.0	0.0
	R8	LIVING (ASSUMED)	W15	59.2	57.6	1.6	2.7	100.0	100.0	0.0	0.0	31	0	27	0	12.9	0.0
			W16	38.4	36.8	1.6	4.2					16	0	12	0	25.0	0.0
			W17	33.9	28.2	5.7	16.8					22	0	18	0	18.2	0.0
			W18	33.9	28.3	5.6	16.5					26	1	22	1	15.4	0.0
			W19	78.6	74.2	4.4	5.6					38	2	34	2	10.5	0.0
			W20	33.8	28.1	5.7	16.9					26	1	22	1	15.4	0.0
			W21	32.8	27.4	5.4	16.5					26	1	22	1	15.4	0.0
	R9	LIVING (ASSUMED)	W22	17.2	16.1	1.1	6.4	98.8	98.8	0.0	0.0	39	5	36	5	7.7	0.0
			W23	32.0	25.5	6.5	20.3					23	1	19	1	17.4	0.0
			W24	7.5	6.5	1.0	13.3					0	0	0	0	0.0	0.0
			W25	15.2	8.9	6.3	41.4					10	0	6	0	40.0	0.0
	R10	BED (ASSUMED)	W26	26.1	25.1	1.0	3.8	82.1	82.1	0.0	0.0	59	12	56	12	5.1	0.0
	R11	BED (ASSUMED)	W27	26.1	25.2	0.9	3.4	84.6	84.6	0.0	0.0	59	12	56	12	5.1	0.0
F01	R1	BED (ASSUMED)	W1	26.4	20.4	6.0	22.7	94.5	94.0	0.5	0.5	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	18.7	13.4	5.3	28.3	88.8	88.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	25.8	19.8	6.0	23.3	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	26.2	20.2	6.0	22.9	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	26.1	20.2	5.9	22.6	91.2	91.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	26.1	20.1	6.0	23.0	91.2	91.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	26.0	20.0	6.0	23.1	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	25.9	19.9	6.0	23.2	94.8	94.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	26.9	20.7	6.2	23.0	91.1	91.1	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	19.2	18.4	0.8	4.2	84.3	84.3	0.0	0.0	48	14	45	14	6.3	0.0
	R11	BED (ASSUMED)	W11	19.2	18.4	0.8	4.2	84.3	84.3	0.0	0.0	48	14	45	14	6.3	0.0
F02	R1	BED (ASSUMED)	W1	31.6	25.7	5.9	18.7	96.9	96.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.6	25.8	5.8	18.4					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
ST LEONARDS ROAD 134-146																	
F00	R1	UNKNOWN	W1	31.5	26.0	5.5	17.5	95.4	93.1	2.3	2.4	N/A	N/A	N/A	N/A	N/A	N/A
	R2	L/K/D	W2	33.1	27.9	5.2	15.7	100.0	99.8	0.2	0.2	22	1	19	1	13.6	0.0
			W3	30.0	25.1	4.9	16.3					27	3	23	2	14.8	33.3
			W4	32.9	32.9	0.0	0.0					49	13	49	13	0.0	0.0
	R3	UNKNOWN	W5	33.9	28.0	5.9	17.4	95.4	93.7	1.7	1.8	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	33.3	28.4	4.9	14.7	100.0	99.6	0.4	0.4	26	3	22	2	15.4	33.3
			W7	31.6	26.7	4.9	15.5					28	3	25	2	10.7	33.3
			W8	33.6	33.6	0.0	0.0					52	16	52	16	0.0	0.0
	R5	L/K/D	W9	31.3	31.3	0.0	0.0	100.0	100.0	0.0	0.0	48	15	48	15	0.0	0.0
			W10	30.9	27.6	3.3	10.7					23	1	21	1	8.7	0.0
			W11	31.5	27.8	3.7	11.7					27	2	25	2	7.4	0.0
	R6	UNKNOWN	W12	32.6	27.6	5.0	15.3	95.9	95.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	UNKNOWN	W13	32.3	27.6	4.7	14.6	95.4	94.3	1.1	1.2	N/A	N/A	N/A	N/A	N/A	N/A
	R8	L/K/D	W14	31.8	27.8	4.0	12.6	99.8	99.6	0.2	0.2	26	3	24	2	7.7	33.3
			W15	30.7	26.6	4.1	13.4					28	3	27	2	3.6	33.3
			W16	34.1	34.1	0.0	0.0					52	16	52	16	0.0	0.0
	R9	LKD (ASSUMED)	W17	27.6	25.0	2.6	9.4	100.0	100.0	0.0	0.0	21	0	21	0	0.0	0.0
			W18	25.2	22.2	3.0	11.9					27	2	27	2	0.0	0.0
			W19	34.3	34.3	0.0	0.0					52	16	52	16	0.0	0.0
	R10	UNKNOWN	W20	28.5	26.7	1.8	6.3	93.7	90.2	3.5	3.7	N/A	N/A	N/A	N/A	N/A	N/A
	R11	L/K/D	W21	28.0	26.3	1.7	6.1	99.6	99.6	0.0	0.0	20	2	20	2	0.0	0.0
			W22	25.3	23.7	1.6	6.3					24	3	23	2	4.2	33.3
			W23	34.5	34.5	0.0	0.0					54	18	54	18	0.0	0.0
	R12	L/K/D	W24	33.8	33.8	0.0	0.0	99.8	99.6	0.2	0.2	54	18	54	18	0.0	0.0
			W25	27.3	25.3	2.0	7.3					20	2	20	2	0.0	0.0
	R13	UNKNOWN	W26	26.5	24.2	2.3	8.7					24	3	23	3	4.2	0.0
			W27	18.7	16.3	2.4	12.8	93.6	91.3	2.3	2.5	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	BED (ASSUMED)	W1	23.9	18.0	5.9	24.7	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	24.2	18.3	5.9	24.4	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	24.2	18.4	5.8	24.0	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	24.2	18.4	5.8	24.0	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	BED (ASSUMED)	W5	24.2	18.5	5.7	23.6	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BED (ASSUMED)	W6	24.2	18.5	5.7	23.6	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	BED (ASSUMED)	W7	24.1	18.6	5.5	22.8	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R8	BED (ASSUMED)	W8	24.0	18.7	5.3	22.1	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	BED (ASSUMED)	W9	23.9	18.8	5.1	21.3	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R10	BED (ASSUMED)	W10	23.7	18.8	4.9	20.7	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	BED (ASSUMED)	W11	23.6	18.9	4.7	19.9	89.5	89.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	BED (ASSUMED)	W12	23.5	18.8	4.7	20.0	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R13	BED (ASSUMED)	W13	23.2	18.3	4.9	21.1	92.7	92.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R14	BED (ASSUMED)	W14	14.1	9.9	4.2	29.8	87.9	87.9	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	BED (ASSUMED)	W1	35.1	29.5	5.6	16.0	98.0	98.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.2	29.5	5.7	16.2					N/A	N/A	N/A	N/A	N/A	N/A
ST LEONARDS ROAD 148-154																	
F00	R1	LIVING (ASSUMED)	W1	22.8	22.8	0.0	0.0	99.8	99.8	0.0	0.0	7	0	7	0	0.0	0.0
			W2	33.1	33.1	0.0	0.0					51	17	51	17	0.0	0.0
			W3	7.8	7.8	0.0	0.0					21	10	21	10	0.0	0.0
			W4	30.7	28.5	2.2	7.2					29	4	25	3	13.8	25.0
	R2	UNKNOWN	W5	25.3	23.8	1.5	5.9	99.6	99.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W6	27.6	25.7	1.9	6.9					N/A	N/A	N/A	N/A	N/A	N/A
	R3	LIVING (ASSUMED)	W7	30.2	27.7	2.5	8.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W8	29.4	27.3	2.1	7.1					N/A	N/A	N/A	N/A	N/A	N/A
	R4	LIVING (ASSUMED)	W9	28.2	25.1	3.1	11.0	94.6	94.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W10	29.9	27.2	2.7	9.0					N/A	N/A	N/A	N/A	N/A	N/A
	R5	UNKNOWN	W11	29.6	26.2	3.4	11.5	98.3	98.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W12	26.9	23.8	3.1	11.5					N/A	N/A	N/A	N/A	N/A	N/A
	R6	L/K/D	W13	6.9	6.9	0.0	0.0	99.8	99.8	0.0	0.0	8	0	8	0	0.0	0.0
			W14	35.4	35.4	0.0	0.0					56	20	56	20	0.0	0.0
			W15	22.4	22.4	0.0	0.0					51	20	51	20	0.0	0.0
			W16	32.2	28.9	3.3	10.2					29	3	24	3	17.2	0.0
F01	R1	BED (ASSUMED)	W1	19.9	16.1	3.8	19.1	95.2	95.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R2	BED (ASSUMED)	W2	20.1	16.0	4.1	20.4	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BED (ASSUMED)	W3	20.3	16.0	4.3	21.2	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BED (ASSUMED)	W4	20.4	15.9	4.5	22.1	94.7	94.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
SHERMAN HOUSE																	
F00	R1	LIVING ROOM	W1	28.2	28.2	0.0	0.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.1	27.2	3.9	12.5					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	28.7	24.2	4.5	15.7	98.3	96.3	2.0	2.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	25.3	22.3	3.0	11.9	95.0	92.0	3.0	3.2	N/A	N/A	N/A	N/A	N/A	N/A
	R4	KITCHEN	W5	30.4	24.8	5.6	18.4	98.9	98.3	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W6	29.7	23.8	5.9	19.9	99.3	90.1	9.2	9.3	3	0	0	0	100.0	0.0
			W7	30.0	14.0	16.0	53.3					46	12	13	2	71.7	83.3
	R6	BEDROOM	W8	27.5	11.3	16.2	58.9	86.6	41.1	45.5	52.5	41	10	10	1	75.6	90.0
	R7	BEDROOM	W9	28.5	10.5	18.0	63.2	89.9	41.6	48.3	53.7	41	11	10	1	75.6	90.9
	R8	BEDROOM	W10	28.1	9.2	18.9	67.3	89.4	27.4	62.0	69.4	39	10	10	1	74.4	90.0
	R9	BEDROOM	W11	27.0	8.5	18.5	68.5	88.2	23.9	64.3	72.9	30	5	7	0	76.7	100.0
	R10	LIVING ROOM	W12	28.3	8.8	19.5	68.9	98.1	16.9	81.2	82.8	41	11	12	3	70.7	72.7
	R11	KITCHEN	W13	20.2	12.2	8.0	39.6	83.7	68.4	15.3	18.3	N/A	N/A	N/A	N/A	N/A	N/A
	R12	KITCHEN	W14	16.1	5.4	10.7	66.5	91.4	69.6	21.8	23.9	36	5	14	1	61.1	80.0
			W15	19.3	8.4	10.9	56.5					44	8	20	2	54.5	75.0
	R13	LIVING ROOM	W16	21.4	12.0	9.4	43.9	100.0	100.0	0.0	0.0	43	10	23	5	46.5	50.0
			W17	31.3	31.3	0.0	0.0					29	4	29	4	0.0	0.0
F01	R1	L/K/D	W1	32.2	32.2	0.0	0.0	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	30.7	30.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	23.3	19.3	4.0	17.2					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	31.8	27.3	4.5	14.2	91.6	69.6	22.0	24.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	27.3	24.3	3.0	11.0	92.5	87.5	5.0	5.4	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	32.2	26.6	5.6	17.4	99.2	91.3	7.9	8.0	6	0	1	0	83.3	0.0
			W7	31.5	25.6	5.9	18.7					3	0	1	0	66.7	0.0
			W8	19.4	4.7	14.7	75.8					31	13	6	4	80.6	69.2
	R5	BEDROOM	W9	31.2	13.0	18.2	58.3	92.9	30.2	62.7	67.5	44	12	12	2	72.7	83.3
	R6	BEDROOM	W10	31.3	12.0	19.3	61.7	96.5	38.9	57.6	59.7	44	12	12	2	72.7	83.3
	R7	BEDROOM	W11	31.1	10.7	20.4	65.6	96.5	32.1	64.4	66.7	44	12	11	2	75.0	83.3
	R8	BEDROOM	W12	31.0	10.3	20.7	66.8	93.5	33.0	60.5	64.7	43	11	12	2	72.1	81.8
	R9	L/K/D	W13	18.7	1.5	17.2	92.0	99.4	87.6	11.8	11.9	31	15	4	4	87.1	73.3
			W14	24.6	14.4	10.2	41.5					29	3	5	0	82.8	100.0
	R10	L/K/D	W15	20.0	6.9	13.1	65.5	99.8	99.8	0.0	0.0	42	10	15	1	64.3	90.0
			W16	23.3	10.4	12.9	55.4					50	14	23	4	54.0	71.4
			W17	25.0	13.8	11.2	44.8					51	15	24	5	52.9	66.7
			W18	20.3	20.2	0.1	0.5					22	5	22	5	0.0	0.0
F02	R1	L/K/D	W1	33.3	33.2	0.1	0.3	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.9	31.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.2	31.1	4.1	11.6					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	33.3	28.7	4.6	13.8	91.6	72.0	19.6	21.4	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	28.7	25.5	3.2	11.1	92.5	88.5	4.0	4.3	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	33.5	27.9	5.6	16.7	99.2	95.4	3.8	3.8	6	0	2	0	66.7	0.0
			W7	32.7	26.9	5.8	17.7					3	0	1	0	66.7	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W8	35.1	17.8	17.3	49.3					52	17	21	4	59.6	76.5
	R5	BEDROOM	W9	33.5	14.7	18.8	56.1	92.9	32.8	60.1	64.7	48	15	17	2	64.6	86.7
	R6	BEDROOM	W10	33.4	13.9	19.5	58.4	96.8	41.5	55.3	57.1	48	15	15	2	68.8	86.7
	R7	BEDROOM	W11	33.4	12.5	20.9	62.6	96.5	35.9	60.6	62.8	47	14	14	2	70.2	85.7
	R8	BEDROOM	W12	33.3	12.1	21.2	63.7	93.5	38.2	55.3	59.1	48	15	14	2	70.8	86.7
	R9	L/K/D	W13	34.8	13.3	21.5	61.8	99.4	89.5	9.9	10.0	51	17	18	4	64.7	76.5
			W14	28.1	16.7	11.4	40.6					30	4	5	0	83.3	100.0
	R10	L/K/D	W15	22.5	8.5	14.0	62.2	100.0	99.8	0.2	0.2	48	14	19	2	60.4	85.7
			W16	26.2	12.2	14.0	53.4					59	19	30	5	49.2	73.7
			W17	27.8	15.3	12.5	45.0					58	21	29	5	50.0	76.2
			W18	35.2	35.1	0.1	0.3					33	5	33	5	0.0	0.0
F03	R1	L/K/D	W1	33.7	33.6	0.1	0.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	24.9	23.5	1.4	5.6					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	34.2	29.6	4.6	13.5	92.8	84.7	8.1	8.7	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	30.0	26.8	3.2	10.7	93.8	92.5	1.3	1.4	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W5	34.1	28.8	5.3	15.5	98.7	95.6	3.1	3.1	6	0	2	0	66.7	0.0
			W6	24.1	12.4	11.7	48.5					33	6	16	0	51.5	100.0
	R5	BEDROOM	W7	34.4	16.6	17.8	51.7	89.6	50.7	38.9	43.4	48	15	19	2	60.4	86.7
	R6	BEDROOM	W8	34.3	15.8	18.5	53.9	96.8	44.7	52.1	53.8	48	15	16	2	66.7	86.7
	R7	BEDROOM	W9	34.4	14.6	19.8	57.6	96.5	39.1	57.4	59.5	48	15	15	2	68.8	86.7
	R8	BEDROOM	W10	34.3	14.2	20.1	58.6	90.1	56.9	33.2	36.8	48	15	16	2	66.7	86.7
	R9	L/K/D	W11	25.1	8.1	17.0	67.7	98.7	79.0	19.7	20.0	41	15	11	1	73.2	93.3
			W12	31.5	20.2	11.3	35.9					31	5	5	0	83.9	100.0
			W13	22.9	17.7	5.2	22.7					36	5	15	0	58.7	100.0
	R10	L/K/D	W14	25.2	11.4	13.8	54.8	99.0	90.9	8.1	8.2	55	15	29	2	47.3	86.7
			W15	28.7	15.3	13.4	46.7					66	21	40	5	39.4	76.2
			W16	25.6	25.5	0.1	0.4					26	4	26	4	0.0	0.0
ST.NICHOLAS CHURCH																	
F00	R1	ANCILLARY SPACE	W1	18.7	18.7	0.0	0.0	99.4	96.1	3.3	3.3	1	0	1	0	0.0	0.0
			W2	21.2	21.2	0.0	0.0					4	0	4	0	0.0	0.0
			W3	3.9	2.4	1.5	38.5					0	0	0	0	0.0	0.0
			W4	3.9	2.4	1.5	38.5					0	0	0	0	0.0	0.0
			W5	3.8	2.4	1.4	36.8					0	0	0	0	0.0	0.0
			W6	3.7	2.4	1.3	35.1					0	0	0	0	0.0	0.0
			W7	3.6	2.3	1.3	36.1					0	0	0	0	0.0	0.0
			W8	29.7	11.1	18.6	62.6					44	13	17	7	61.4	46.2
			W9	29.7	11.2	18.5	62.3					45	13	17	6	62.2	53.8
			W10	29.8	11.2	18.6	62.4					45	13	17	6	62.2	53.8
			W11	29.8	12.0	17.8	59.7					44	11	21	7	52.3	36.4
			W12	29.9	12.4	17.5	58.5					45	12	23	7	48.9	41.7
			W13	29.9	12.8	17.1	57.2					45	12	25	7	44.4	41.7
			W14	29.6	13.0	16.6	56.1					44	12	23	6	47.7	50.0
	R2	WORSHIP AREA	W15	30.4	25.5	4.9	16.1	98.9	97.2	1.7	1.7	N/A	N/A	N/A	N/A	N/A	N/A
			W16	30.3	25.0	5.3	17.5					N/A	N/A	N/A	N/A	N/A	N/A
			W17	30.2	24.4	5.8	19.2					N/A	N/A	N/A	N/A	N/A	N/A
			W18	26.4	12.6	13.8	52.3					N/A	N/A	N/A	N/A	N/A	N/A
			W19	26.5	12.1	14.4	54.3					N/A	N/A	N/A	N/A	N/A	N/A
			W20	22.8	9.5	13.3	58.3					N/A	N/A	N/A	N/A	N/A	N/A
	R3	WORSHIP AREA	W21	28.8	16.6	12.2	42.4	99.7	98.2	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
			W22	32.3	18.6	13.7	42.4					N/A	N/A	N/A	N/A	N/A	N/A
			W23	28.9	17.1	11.8	40.8					N/A	N/A	N/A	N/A	N/A	N/A
			W24	33.1	29.4	3.7	11.2					N/A	N/A	N/A	N/A	N/A	N/A
			W25	32.6	29.1	3.5	10.7					N/A	N/A	N/A	N/A	N/A	N/A
			W26	31.0	27.8	3.2	10.3					N/A	N/A	N/A	N/A	N/A	N/A
			W27	24.1	21.4	2.7	11.2					N/A	N/A	N/A	N/A	N/A	N/A
	R4	UNKNOWN	W28	20.2	17.4	2.8	13.9	94.1	83.0	11.1	11.8	38	11	34	8	10.5	27.3

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R5	UNKNOWN	W29	23.3	19.3	4.0	17.2	98.7	86.3	12.4	12.6	39	11	33	7	15.4	36.4
	R6	UNKNOWN	W30	25.4	20.3	5.1	20.1	99.3	88.9	10.4	10.5	40	11	33	7	17.5	36.4
	R7	UNKNOWN	W31	25.9	25.9	0.0	0.0	87.9	87.9	0.0	0.0	24	5	24	5	0.0	0.0
	R8	UNKNOWN	W32	25.5	25.5	0.0	0.0	94.0	94.0	0.0	0.0	22	3	22	3	0.0	0.0
	R9	UNKNOWN	W33	26.4	26.4	0.0	0.0	99.5	99.5	0.0	0.0	25	3	25	3	0.0	0.0
	R10	UNKNOWN	W34	25.3	25.3	0.0	0.0	97.5	97.5	0.0	0.0	28	3	28	3	0.0	0.0
	R11	UNKNOWN	W35	22.1	22.1	0.0	0.0	85.4	75.9	9.5	11.1	26	5	26	5	0.0	0.0
F01	R1	LIVING (ASSUMED)	W1	28.6	22.7	5.9	20.6	99.1	99.1	0.0	0.0	42	11	34	7	19.0	36.4
			W2	21.9	20.2	1.7	7.8					52	22	48	18	7.7	18.2
	R2	UNKNOWN	W3	26.6	21.6	5.0	18.8	99.3	89.5	9.8	9.9	40	11	34	7	15.0	36.4
	R3	UNKNOWN	W4	22.9	19.7	3.2	14.0	98.0	86.3	11.7	11.9	39	12	35	8	10.3	33.3
	R4	KITCHEN (ASSUMED)	W5	32.5	32.4	0.1	0.3	98.6	98.6	0.0	0.0	30	5	30	5	0.0	0.0
			W6	32.4	32.3	0.1	0.3					30	5	30	5	0.0	0.0
	R5	UNKNOWN	W7	32.2	32.1	0.1	0.3	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R6	UNKNOWN	W8	31.9	31.8	0.1	0.3	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R7	UNKNOWN	W9	31.1	31.1	0.0	0.0	100.0	100.0	0.0	0.0	30	5	30	5	0.0	0.0
	R8	UNKNOWN	W10	29.9	29.9	0.0	0.0	100.0	99.5	0.5	0.5	30	5	30	5	0.0	0.0
	R9	UNKNOWN	W11	28.3	28.2	0.1	0.4	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R10	UNKNOWN	W12	25.4	25.4	0.0	0.0	96.0	95.0	1.0	1.0	30	5	30	5	0.0	0.0
F02	R1	LIVING (ASSUMED)	W1	29.2	22.0	7.2	24.7	99.1	99.1	0.0	0.0	42	13	31	8	26.2	38.5
			W2	33.6	31.6	2.0	6.0					77	24	72	19	6.5	20.8
	R2	UNKNOWN	W3	28.5	21.9	6.6	23.2	99.3	95.4	3.9	3.9	40	13	30	8	25.0	38.5
	R3	UNKNOWN	W4	25.9	20.6	5.3	20.5	99.3	95.4	3.9	3.9	37	13	31	9	16.2	30.8
	R4	KITCHEN (ASSUMED)	W5	29.7	29.6	0.1	0.3	98.6	98.6	0.0	0.0	28	5	28	5	0.0	0.0
			W6	29.6	29.6	0.0	0.0					28	5	28	5	0.0	0.0
	R5	UNKNOWN	W7	29.5	29.5	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R6	UNKNOWN	W8	29.4	29.4	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R7	UNKNOWN	W9	29.4	29.3	0.1	0.3	100.0	100.0	0.0	0.0	28	5	28	5	0.0	0.0
	R8	UNKNOWN	W10	29.2	29.2	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R9	UNKNOWN	W11	29.0	29.0	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R10	UNKNOWN	W12	28.8	28.7	0.1	0.3	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
WOOSTER GARDENS 1-7																	
F00	R1	KITCHEN	W1	21.3	19.2	2.1	9.9	100.0	76.3	23.7	23.7	34	7	30	7	11.8	0.0
	R2	LIVING ROOM	W2	24.7	20.5	4.2	17.0	99.0	99.0	0.0	0.0	37	6	31	6	16.2	0.0
			W3	30.3	30.3	0.0	0.0					31	4	31	4	0.0	0.0
	R3	KITCHEN	W4	25.2	20.4	4.8	19.0	71.4	43.4	28.0	39.2	38	6	32	6	15.8	0.0
			W5	25.4	20.5	4.9	19.3					39	6	32	6	17.9	0.0
			W6	25.5	20.6	4.9	19.2					39	6	32	6	17.9	0.0
			W7	25.6	20.7	4.9	19.1					39	6	32	6	17.9	0.0
			W8	25.6	20.9	4.7	18.4					40	7	33	7	17.5	0.0
	R4	LIVING ROOM	W9	25.6	21.0	4.6	18.0	98.8	98.8	0.0	0.0	38	5	31	5	18.4	0.0
			W10	25.6	21.0	4.6	18.0					38	5	32	5	15.8	0.0
			W11	25.5	21.1	4.4	17.3					39	5	34	5	12.8	0.0
			W12	25.3	21.0	4.3	17.0					38	4	34	4	10.5	0.0
			W13	23.5	19.3	4.2	17.9					28	2	24	2	14.3	0.0
			W14	30.3	30.3	0.0	0.0					29	3	29	3	0.0	0.0
	R5	KITCHEN	W15	25.0	21.0	4.0	16.0	58.2	39.6	18.6	32.0	37	3	33	3	10.8	0.0
			W16	24.9	21.0	3.9	15.7					37	3	33	3	10.8	0.0
			W17	24.8	21.0	3.8	15.3					34	1	30	1	11.8	0.0
	R6	LIVING ROOM	W18	24.5	21.0	3.5	14.3	98.6	98.2	0.4	0.4	34	1	30	1	11.8	0.0
			W19	24.4	21.1	3.3	13.5					34	1	30	1	11.8	0.0
			W20	24.1	21.0	3.1	12.9					33	0	30	0	9.1	0.0
			W21	23.9	21.0	2.9	12.1					31	0	29	0	6.5	0.0
			W22	29.5	29.5	0.0	0.0					24	1	24	1	0.0	0.0
	R7	KITCHEN	W23	24.0	21.4	2.6	10.8	100.0	97.1	2.9	2.9	30	0	28	0	6.7	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CUMULATIVE		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CUMULATIVE	LOSS	%	BASELINE	CUMULATIVE	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
	R8	LIVING ROOM	W24	24.0	21.9	2.1	8.8	99.9	99.9	0.0	0.0	25	0	24	0	4.0	0.0
			W25	27.9	27.9	0.0	0.0					19	0	19	0	0.0	0.0
F01	R1	BEDROOM	W1	29.1	23.2	5.9	20.3	96.5	90.0	6.5	6.7	42	10	33	9	21.4	10.0
	R2	BEDROOM	W2	29.4	23.5	5.9	20.1	98.6	85.4	13.2	13.4	42	9	34	8	19.0	11.1
	R3	BEDROOM	W3	28.9	23.7	5.2	18.0	96.5	93.5	3.0	3.1	40	6	33	6	17.5	0.0
	R4	BEDROOM	W4	28.6	24.0	4.6	16.1	98.3	91.7	6.6	6.7	41	7	34	7	17.1	0.0
	R5	BEDROOM	W5	27.7	24.0	3.7	13.4	96.5	96.5	0.0	0.0	38	5	33	5	13.2	0.0
	R6	BEDROOM	W6	27.3	24.1	3.2	11.7	97.9	96.2	1.7	1.7	39	5	33	5	15.4	0.0
	R7	BEDROOM	W7	26.5	23.8	2.7	10.2	96.5	96.5	0.0	0.0	35	2	30	2	14.3	0.0
	R8	BEDROOM	W8	26.2	23.9	2.3	8.8	96.9	95.5	1.4	1.4	33	1	31	1	6.1	0.0
WOOSTER GARDENS 9-15																	
F00	R1	KITCHEN	W1	23.0	21.0	2.0	8.7	99.6	88.9	10.7	10.7	31	7	28	6	9.7	14.3
	R2	LIVING ROOM	W2	31.4	31.4	0.0	0.0	99.1	98.8	0.3	0.3	29	3	29	3	0.0	0.0
			W3	27.1	22.9	4.2	15.5					38	7	35	6	7.9	14.3
	R3	KITCHEN	W4	29.2	23.7	5.5	18.8	100.0	93.0	7.0	7.0	43	12	35	7	18.6	41.7
	R4	LIVING ROOM	W5	31.9	31.9	0.0	0.0	98.7	98.7	0.0	0.0	30	3	30	3	0.0	0.0
			W6	29.9	24.5	5.4	18.1					47	13	39	7	17.0	46.2
	R5	KITCHEN	W7	30.3	24.9	5.4	17.8	99.6	94.2	5.4	5.4	48	14	41	10	14.6	28.6
	R6	LIVING ROOM	W8	32.3	32.3	0.0	0.0	99.4	98.8	0.6	0.6	32	5	32	5	0.0	0.0
			W9	30.7	25.8	4.9	16.0					50	14	39	8	22.0	42.9
	R7	KITCHEN	W10	30.6	26.0	4.6	15.0	100.0	97.5	2.5	2.5	47	14	37	9	21.3	35.7
	R8	LIVING ROOM	W11	32.5	32.5	0.0	0.0	99.9	99.3	0.6	0.6	33	5	33	5	0.0	0.0
			W12	30.7	26.6	4.1	13.4					49	14	39	9	20.4	35.7
F01	R1	BEDROOM	W1	31.1	24.9	6.2	19.9	97.1	94.1	3.0	3.1	45	12	38	8	15.6	33.3
	R2	BEDROOM	W2	32.1	25.5	6.6	20.6	99.0	92.0	7.0	7.1	47	14	40	10	14.9	28.6
	R3	BEDROOM	W3	32.3	25.7	6.6	20.4	97.1	97.1	0.0	0.0	46	13	39	9	15.2	30.8
	R4	BEDROOM	W4	32.6	26.3	6.3	19.3	99.0	95.8	3.2	3.2	51	17	42	11	17.6	35.3
	R5	BEDROOM	W5	32.5	26.6	5.9	18.2	97.1	97.1	0.0	0.0	49	14	40	9	18.4	35.7
	R6	BEDROOM	W6	32.8	27.1	5.7	17.4	99.0	96.5	2.5	2.5	51	16	43	12	15.7	25.0
	R7	BEDROOM	W7	32.4	27.2	5.2	16.0	97.1	97.1	0.0	0.0	48	14	37	9	22.9	35.7
	R8	BEDROOM	W8	32.5	27.5	5.0	15.4	99.0	97.2	1.8	1.8	49	15	40	12	18.4	20.0

1 METHODOLOGY

In order to undertake the daylight and sunlight assessments set out in the previous pages, we have prepared a three dimensional computer model and used specialist lighting simulation software.

The three dimensional representation of the proposed development has been modelled using the scheme drawings provided to us by levitt Bernstein. This has been placed in the context of its surrounding buildings which have been modelled from survey information, photogrammetry, OS and site photographs. This allows for a precise model, which in turn ensures that analysis accurately represents the amount of daylight and sunlight available to the building facades, internal and external spaces, considering all of the surrounding obstructions and orientation.

1.1 SIMULATION ASSUMPTIONS

Where no values for reflectance, transmittance and maintenance factor were specified by the designer the following values from *BS 8206-2:2008, Annex A, tables A.1-A.6* were used for the calculation of Average Daylight Factor values. These values are shown in Table 1.

Table 01: Typical reflectance, transmittance and maintenance factors

REFLECTANCE VALUES:	
Surrounding	0.2
Pavement	0.2
Grass	0.1
Water	0.1
Yellow brick	0.3
Red brick	0.2
Portland Stone	0.6
Concrete	0.4
Internal walls (light grey)	0.68
Internal ceiling (white paint)	0.85
Internal floor (medium veneer)	0.3
Internal floor (light veneer)	0.4

TRANSMITTANCE VALUES	TV
Triple glazing (Low-E): Pilkington K Glass 4/12/4/12/4 Argon filled 90%	0.63
Double glazing (Low-E): Pilkington K Glass 4/16/4 Argon filled 90%	0.75
Single glazing: Pilkington Optifloat Clear 4mm Annealed	0.90
Translucent glazing (Low-E): Pilkington Optifloat Opal - 4mm K /16/4mm Opal	0.74

MAINTENANCE FACTORS: GLAZING TYPE	TV (Normal)	A.3	A.4	A.5	A.6	TV (Total)
Triple Low-E (frames modelled)	0.63	8	1	1	1	0.58
Triple Low-E (frames not modelled)	0.63	8	1	1	0.8	0.46
Triple Low-E (inclined, frames modelled)	0.63	8	2	1	1	0.53
Triple Low-E (inclined, frames not modelled)	0.63	8	2	1	0.8	0.42
Triple Low-E (horizontal, frames modelled)	0.63	8	3	1	1	0.48
Triple Low-E (horizontal, frames not modelled)	0.63	8	3	1	0.8	0.38
Double Low-E (frames modelled)	0.75	8	1	1	1	0.69
Double Low-E (frames not modelled)	0.75	8	1	1	0.8	0.55
Double Low-E (inclined, frames modelled)	0.75	8	2	1	1	0.63
Double Low-E (inclined, frames not modelled)	0.75	8	2	1	0.8	0.50
Double Low-E (horizontal, frames modelled)	0.75	8	3	1	1	0.57
Double Low-E (horizontal, frames not modelled)	0.75	8	3	1	0.8	0.46
Single (frames modelled)	0.9	8	1	1	1	0.83
Single (frames not modelled)	0.9	8	1	1	0.8	0.66
Single (inclined, frames modelled)	0.9	8	2	1	1	0.76
Single (inclined, frames not modelled)	0.9	8	2	1	0.8	0.60
Single (horizontal, frames modelled)	0.9	8	3	1	1	0.68
Single (horizontal, frames not modelled)	0.9	8	3	1	0.8	0.55
Double Translucent Low-E (frames modelled)	0.74	8	1	1	1	0.68
Double Translucent Low-E (frames not modelled)	0.74	8	1	1	0.8	0.54
Double Translucent Low-E (inclined, frames modelled)	0.74	8	2	1	1	0.62
Double Translucent Low-E (inclined, frames not modelled)	0.74	8	2	1	0.8	0.50
Double Translucent Low-E (horizontal, frames modelled)	0.74	8	3	1	1	0.56
Double Translucent Low-E (horizontal, frames not modelled)	0.74	8	3	1	0.8	0.45

DAYLIGHT IMPACTS ON 45-47 ABBOTT RD CONSENTED V MAX PARAMETER

Vertical Sky Component (VSC) - No Sky Line (NSL)

				VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
45-47 ABBOTT RD											
GROUND FLOOR	1	L/K/D	1E1	19.1	19.1	0.0	0.0	66.3	66.3	0.0	0.0
			1S1	3.0	3.0	0.0	0.0				
			1W1	6.1	6.1	0.0	0.0				
	2	L/K/D	2E1	18.8	18.8	0.0	0.0	73.4	73.4	0.0	0.0
			2N1	4.3	4.3	0.0	0.0				
			2W1	6.4	6.4	0.0	0.0				
	3	L/K/D	3E1	18.7	18.7	0.0	0.0	63.2	63.2	0.0	0.0
			3S1	2.3	2.3	0.0	0.0				
			3W1	6.4	6.4	0.0	0.0				
	4	BEDROOM	4E1	18.6	18.6	0.0	0.0	92.7	92.7	0.0	0.0
			4N1	4.5	4.5	0.0	0.0				
	5	L/K/D	5S1	26.4	23.1	3.3	12.5	81.4	68.3	13.1	16.1
FIRST FLOOR	6	LIVING ROOM	6W1	31.6	31.5	0.1	0.3	96.8	96.8	0.0	0.0
			6W2	29.7	29.7	0.0	0.0				
	7	BEDROOM	7E1	28.9	28.9	0.0	0.0	100.0	100.0	0.0	0.0
	8	BEDROOM	8E1	28.7	28.7	0.0	0.0	100.0	100.0	0.0	0.0
	9	BEDROOM	9E1	28.6	28.6	0.0	0.0	96.2	96.2	0.0	0.0
	10	BEDROOM	10E1	26.2	26.2	0.0	0.0	99.4	99.4	0.0	0.0
			10E2	28.3	28.3	0.0	0.0				
	11	LIVING ROOM	11S1	28.0	24.6	3.4	12.1	99.6	99.6	0.0	0.0
			11W1	17.6	17.2	0.4	2.3				
	12	BEDROOM	12N1	16.3	16.3	0.0	0.0	98.5	98.5	0.0	0.0
			12S1	17.1	14.0	3.1	18.1				
	13	LIVING ROOM	13W1	29.3	29.3	0.0	0.0	97.5	97.5	0.0	0.0
			13W2	30.2	30.2	0.0	0.0				
SECOND FLOOR	14	BEDROOM	14W1	35.1	35.0	0.1	0.3	96.8	96.8	0.0	0.0
			14W2	32.6	32.6	0.0	0.0				
	15	BEDROOM	15E1	31.5	31.5	0.0	0.0	100.0	100.0	0.0	0.0
	16	BEDROOM	16E1	31.3	31.3	0.0	0.0	100.0	100.0	0.0	0.0
	17	BEDROOM	17E1	30.8	30.8	0.0	0.0	91.4	91.4	0.0	0.0
	18	L/K/D	18N1	23.5	23.5	0.0	0.0	100.0	100.0	0.0	0.0
			18S1	21.9	18.8	3.1	14.2				
			18S2	29.8	26.5	3.3	11.1				
			18W1	28.3	28.0	0.3	1.1				
	19	BEDROOM	19W1	25.1	25.1	0.0	0.0	93.1	93.1	0.0	0.0
	20	BEDROOM	20W1	32.4	32.4	0.0	0.0	97.5	97.5	0.0	0.0
			20W2	34.7	34.7	0.0	0.0				
THIRD FLOOR	21	BEDROOM	21E1	26.6	26.6	0.0	0.0	99.7	99.7	0.0	0.0
			21W1	34.2	34.2	0.0	0.0				
	22	BEDROOM	22E1	33.1	33.1	0.0	0.0	96.6	96.6	0.0	0.0
			22E2	30.7	30.7	0.0	0.0				
	23	L/K/D	23S1	31.6	28.4	3.2	10.1	100.0	99.8	0.2	0.2
			23W1	37.6	37.3	0.3	0.8				
			23W2	37.6	37.2	0.4	1.1				

DAYLIGHT IMPACTS ON 45-47 ABBOTT RD CONSENTED V MAX PARAMETER

Average Daylight Factor (ADF) - Annual Probable Sunligh Hours (APSH)

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
45-47 ABBOTT RD						
GROUND FLOOR	1	L/K/D	1.2	1.2	0.0	0.0
	2	L/K/D	1.2	1.2	0.0	0.0
	3	L/K/D	0.9	0.9	0.0	0.0
	4	BEDROOM	0.9	0.9	0.0	0.0
	5	L/K/D	1.2	1.0	0.2	16.7

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
45-47 ABBOTT RD								
GROUND FLOOR	1	L/K/D	38	7	38	7	0.0	0.0
	2	L/K/D	32	6	32	6	0.0	0.0
	3	L/K/D	30	5	30	5	0.0	0.0
	4	BEDROOM	28	5	28	5	0.0	0.0
	5	L/K/D	59	12	54	8	8.5	33.3

Table 02: Assessment Data

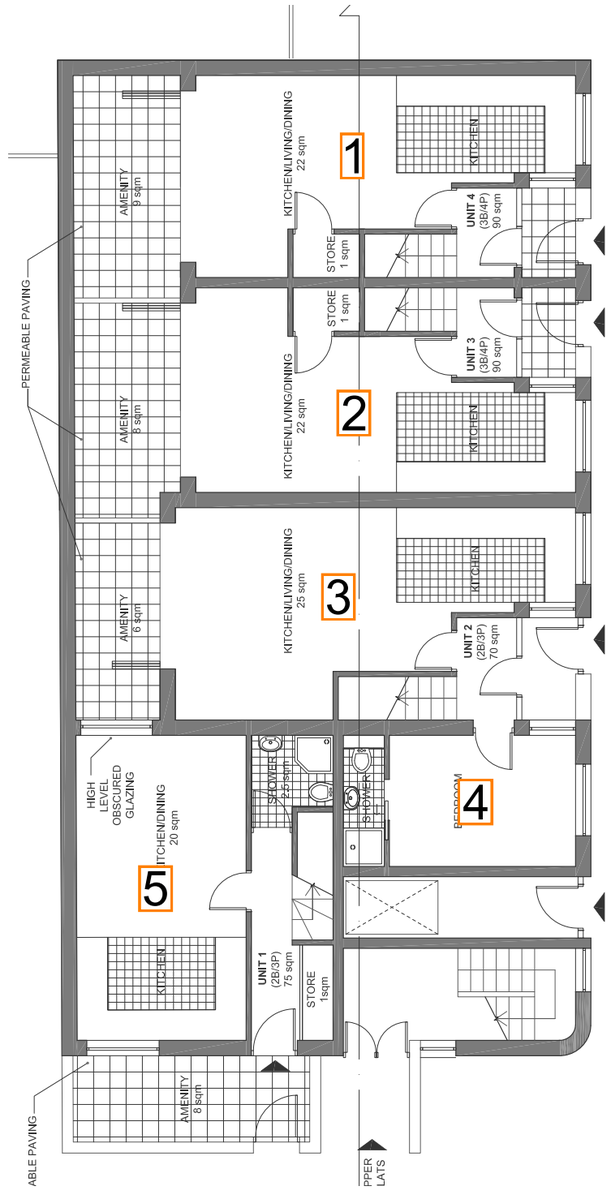
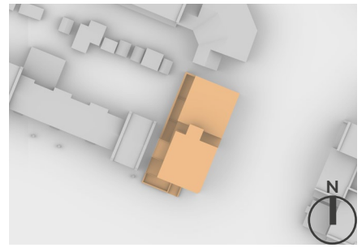


Fig. 01: Floor Plan



			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
FIRST FLOOR	6	LIVING ROOM	2.9	2.9	0.0	0.0
	7	BEDROOM	3.0	3.0	0.0	0.0
	8	BEDROOM	3.0	3.0	0.0	0.0
	9	BEDROOM	1.9	1.8	0.1	5.3
	10	BEDROOM	2.9	2.9	0.0	0.0
	11	LIVING ROOM	5.1	4.7	0.4	7.8
	12	BEDROOM	3.0	2.7	0.3	10.0
	13	LIVING ROOM	2.8	2.7	0.1	3.6

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
FIRST FLOOR	6	LIVING ROOM	N/A	N/A	N/A	N/A	N/A	N/A
	7	BEDROOM	47	10	47	10	0.0	0.0
	8	BEDROOM	45	9	45	9	0.0	0.0
	9	BEDROOM	45	9	45	9	0.0	0.0
	10	BEDROOM	43	8	43	8	0.0	0.0
	11	LIVING ROOM	64	14	61	11	4.7	21.4
	12	BEDROOM	31	9	26	4	16.1	55.6
	13	LIVING ROOM	N/A	N/A	N/A	N/A	N/A	N/A

Table 03: Assessment Data

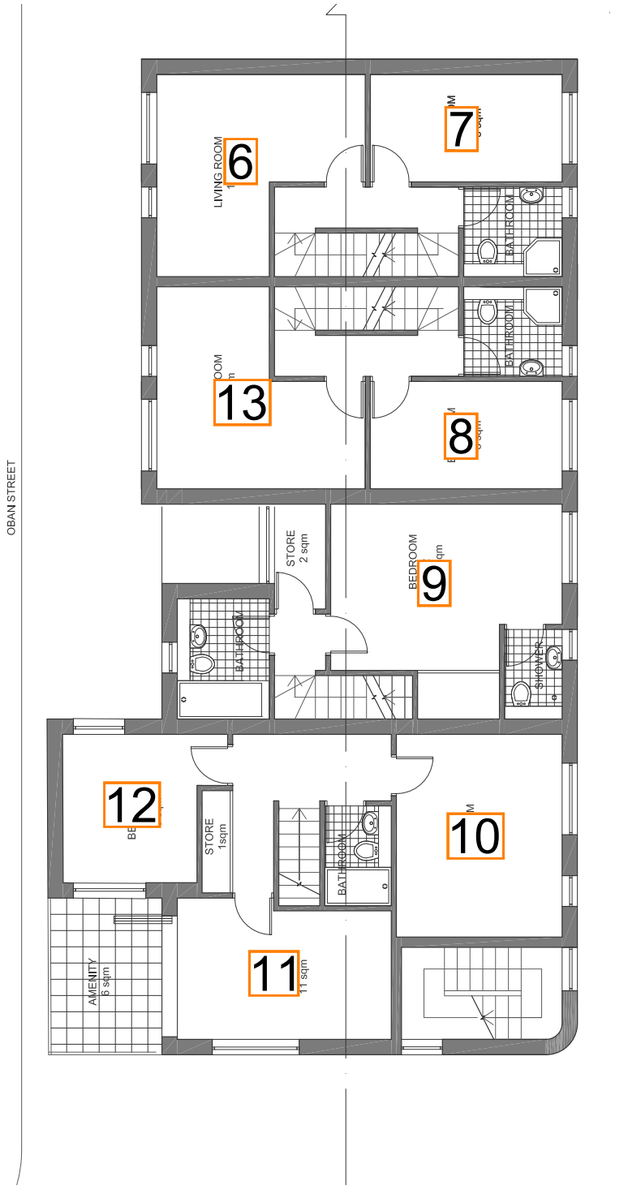


Fig. 02: Floor Plan



			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
SECOND FLOOR	14	BEDROOM	3.2	3.2	0.0	0.0
	15	BEDROOM	3.2	3.2	0.0	0.0
	16	BEDROOM	3.2	3.2	0.0	0.0
	17	BEDROOM	3.1	3.1	0.0	0.0
	18	L/K/D	4.1	3.9	0.2	4.9
	19	BEDROOM	0.8	0.8	0.0	0.0
	20	BEDROOM	3.2	3.2	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
SECOND FLOOR	14	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	15	BEDROOM	50	12	50	12	0.0	0.0
	16	BEDROOM	51	13	51	13	0.0	0.0
	17	BEDROOM	48	11	48	11	0.0	0.0
	18	L/K/D	71	19	66	14	7.0	26.3
	19	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	20	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A

Table 04: Assessment Data

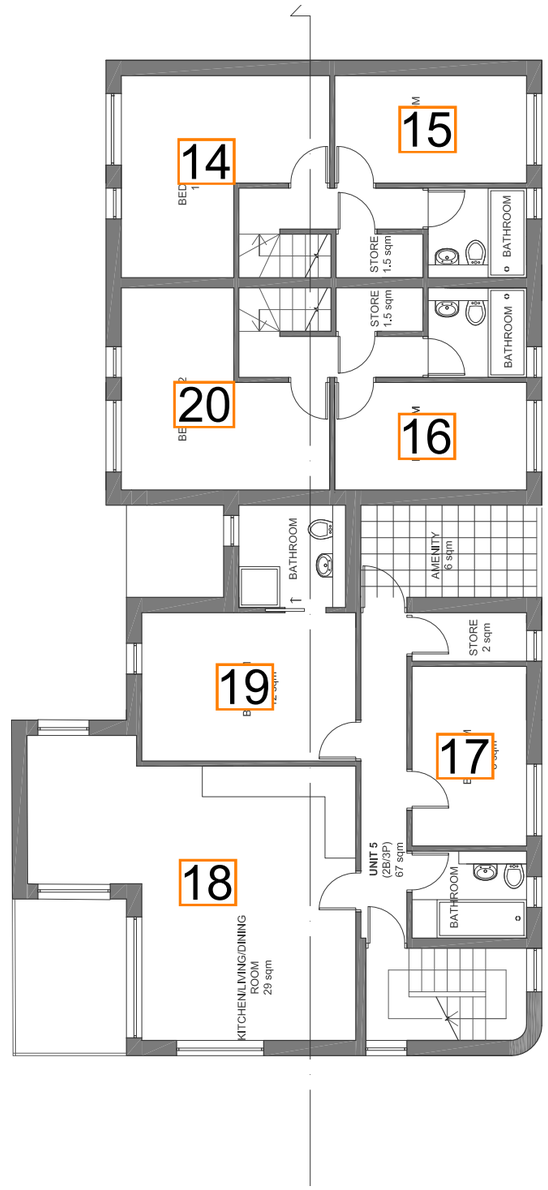


Fig. 03: Floor Plan



			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
THIRD FLOOR	21	BEDROOM	2.6	2.6	0.0	0.0
	22	BEDROOM	3.7	3.8	-0.1	-2.7
	23	L/K/D	6.3	6.1	0.2	3.2

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
THIRD FLOOR	21	BEDROOM	54	5	54	5	0.0	0.0
	22	BEDROOM	52	13	52	13	0.0	0.0
	23	L/K/D	72	20	68	16	5.6	20.0

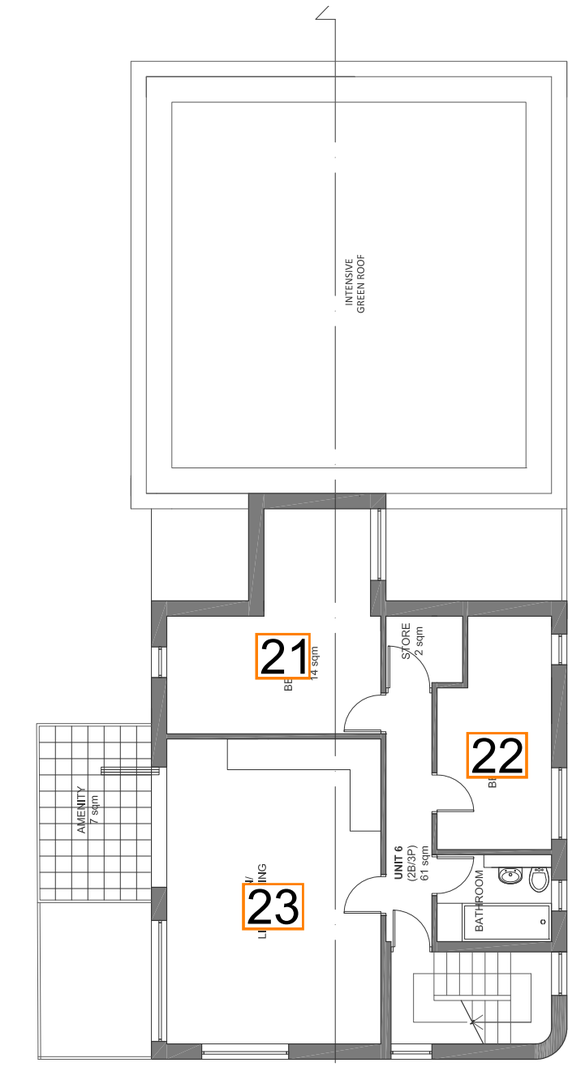
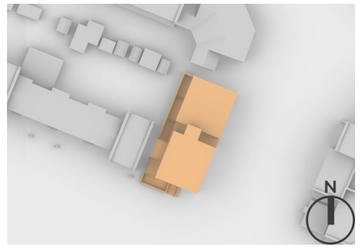


Fig. 04: Floor Plan



DAYLIGHT IMPACTS ON ISLAY WHARF
CONSENTED V MAX PARAMETER

Vertical Sky Component (VSC) - No Sky Line (NSL)

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
ISLAY WHARF												
LEVEL 1		500	BEDROOM	500S1	18.2	17.2	1.0	5.5	95.5	95.5	0.0	0.0
				500S2	17.4	16.5	0.9	5.2				
		501	BEDROOM	501S1	16.7	15.5	1.2	7.2	72.0	72.0	0.0	0.0
		502	L/K/D	502S1	13.5	11.7	1.8	13.3	99.1	99.1	0.0	0.0
				502W1	25.0	18.7	6.3	25.2				
				502W2	31.0	25.0	6.0	19.4				
				502W3	33.0	27.3	5.7	17.3				
		503	L/K/D	503N1	13.5	13.5	0.0	0.0	98.9	98.9	0.0	0.0
				503W1	23.5	17.4	6.1	26.0				
				503W2	23.8	17.6	6.2	26.1				
				503W3	27.9	21.3	6.6	23.7				
		504	BEDROOM	504N1	9.5	9.5	0.0	0.0	42.7	42.7	0.0	0.0
		505	BEDROOM	505N1	14.8	14.8	0.0	0.0	88.3	88.3	0.0	0.0
				505N2	13.2	13.2	0.0	0.0				
LEVEL 2		506	BEDROOM	506S1	18.1	17.1	1.0	5.5	95.8	95.8	0.0	0.0
				506S2	18.5	17.7	0.8	4.3				
		507	BEDROOM	507S1	12.7	11.5	1.2	9.4	69.2	69.2	0.0	0.0
		508	L/K/D	508S1	19.9	18.1	1.8	9.0	99.8	99.6	0.2	0.2
				508W1	29.5	24.4	5.1	17.3				
				508W2	25.8	21.0	4.8	18.6				
				508W3	26.6	22.1	4.5	16.9				
		509	L/K/D	509N1	11.8	11.8	0.0	0.0	98.9	98.9	0.0	0.0
				509W1	32.5	27.6	4.9	15.1				
				509W2	30.9	25.9	5.0	16.2				
				509W3	25.5	20.1	5.4	21.2				
		510	BEDROOM	510N1	14.2	14.2	0.0	0.0	53.8	53.8	0.0	0.0
		511	BEDROOM	511N1	16.2	16.2	0.0	0.0	89.2	89.2	0.0	0.0
				511N2	16.0	16.0	0.0	0.0				
LEVEL 3		512	BEDROOM	512S1	21.1	20.2	0.9	4.3	95.7	95.7	0.0	0.0
				512S2	20.2	19.5	0.7	3.5				
		513	BEDROOM	513S1	19.7	18.6	1.1	5.6	72.9	72.9	0.0	0.0
		514	L/K/D	514S1	16.1	14.3	1.8	11.2	99.9	99.9	0.0	0.0
				514W1	27.1	23.4	3.7	13.7				
				514W2	33.1	29.7	3.4	10.3				
				514W3	34.9	31.6	3.3	9.5				
		515	L/K/D	515N1	16.8	16.8	0.0	0.0	99.1	99.1	0.0	0.0
				515W1	26.2	22.5	3.7	14.1				
				515W2	26.2	22.5	3.7	14.1				
				515W3	30.3	26.4	3.9	12.9				
		516	BEDROOM	516N1	12.1	12.1	0.0	0.0	45.6	45.6	0.0	0.0
		517	BEDROOM	517N1	17.2	17.2	0.0	0.0	85.9	85.9	0.0	0.0
				517N2	16.1	16.1	0.0	0.0				

DAYLIGHT IMPACTS ON ISLAY WHARF CONSENTED V MAX PARAMETER

Average Daylight Factor (ADF) - Annual Probable Sunligh Hours (APSH)

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
ISLAY WHARF						
LEVEL 1	500	BEDROOM	2.4	2.3	0.1	4.2
	501	BEDROOM	1.8	1.7	0.1	5.6
	502	L/K/D	4.7	3.8	0.9	19.1
	503	L/K/D	4.1	3.2	0.9	22.0
	504	BEDROOM	1.0	1.0	0.0	0.0
	505	BEDROOM	1.8	1.8	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
ISLAY WHARF								
LEVEL 1	500	BEDROOM	50	13	49	12	2.0	7.7
	501	BEDROOM	42	13	41	12	2.4	7.7
	502	L/K/D	54	14	46	11	14.8	21.4
	503	L/K/D	44	14	35	8	20.5	42.9
	504	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	505	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A

Table 01: Assessment Data

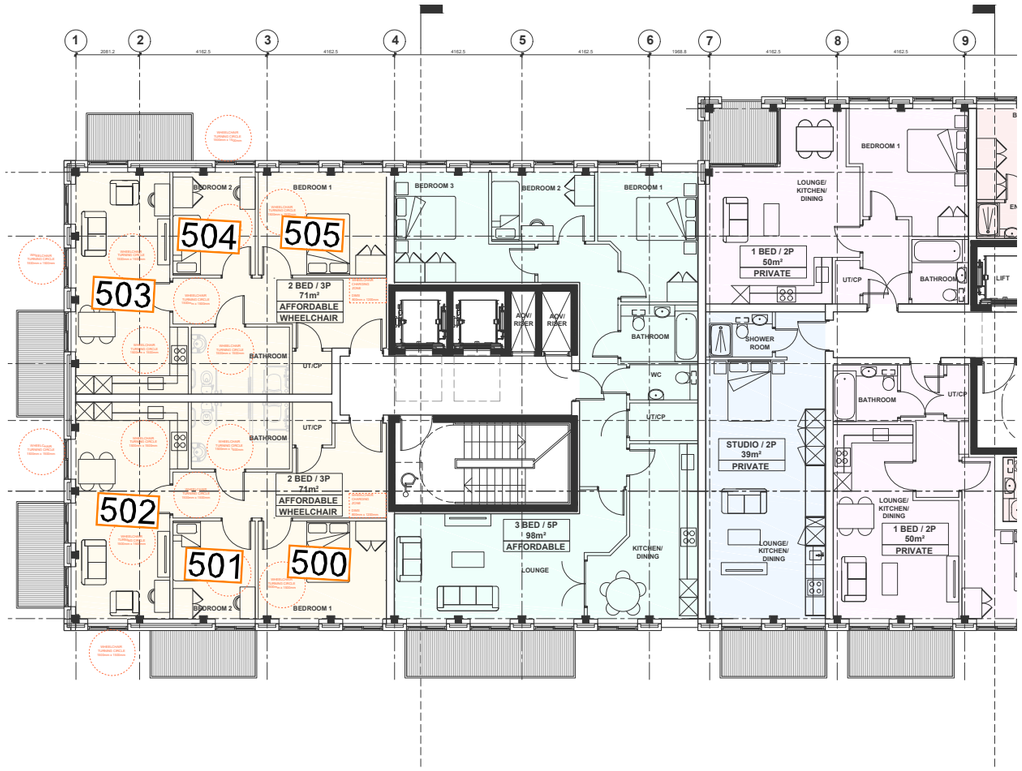
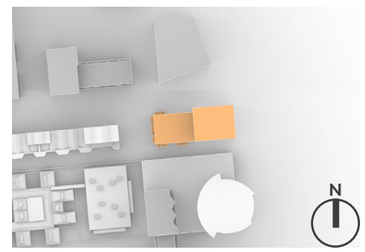


Fig. 01: Floor Plan



			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 2	506	BEDROOM	2.6	2.5	0.1	3.8
	507	BEDROOM	1.4	1.4	0.0	0.0
	508	L/K/D	4.7	4.0	0.7	14.9
	509	L/K/D	4.4	3.7	0.7	15.9
	510	BEDROOM	1.3	1.2	0.1	7.7
	511	BEDROOM	2.0	1.9	0.1	5.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 2	506	BEDROOM	48	13	47	12	2.1	7.7
	507	BEDROOM	34	14	33	13	2.9	7.1
	508	L/K/D	58	14	50	11	13.8	21.4
	509	L/K/D	46	14	38	8	17.4	42.9
	510	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	511	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A

Table 02: Assessment Data

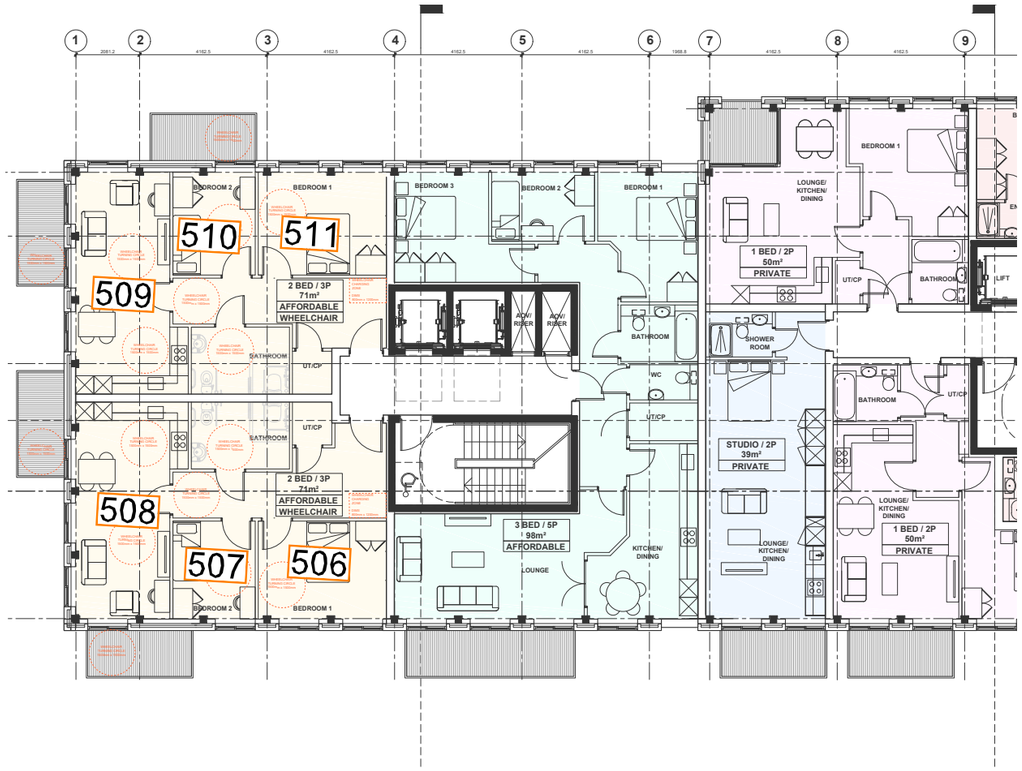
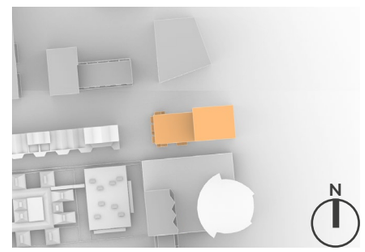


Fig. 02: Floor Plan



			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 3	512	BEDROOM	2.6	2.5	0.1	3.8
	513	BEDROOM	1.9	1.8	0.1	5.3
	514	L/K/D	4.1	3.6	0.5	12.2
	515	L/K/D	3.7	3.2	0.5	13.5
	516	BEDROOM	1.0	1.0	0.0	0.0
	517	BEDROOM	1.9	1.8	0.1	5.3

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 3	512	BEDROOM	55	15	54	14	1.8	6.7
	513	BEDROOM	47	16	46	15	2.1	6.3
	514	L/K/D	58	17	52	14	10.3	17.6
	515	L/K/D	46	14	40	8	13.0	42.9
	516	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	517	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A

Table 03: Assessment Data

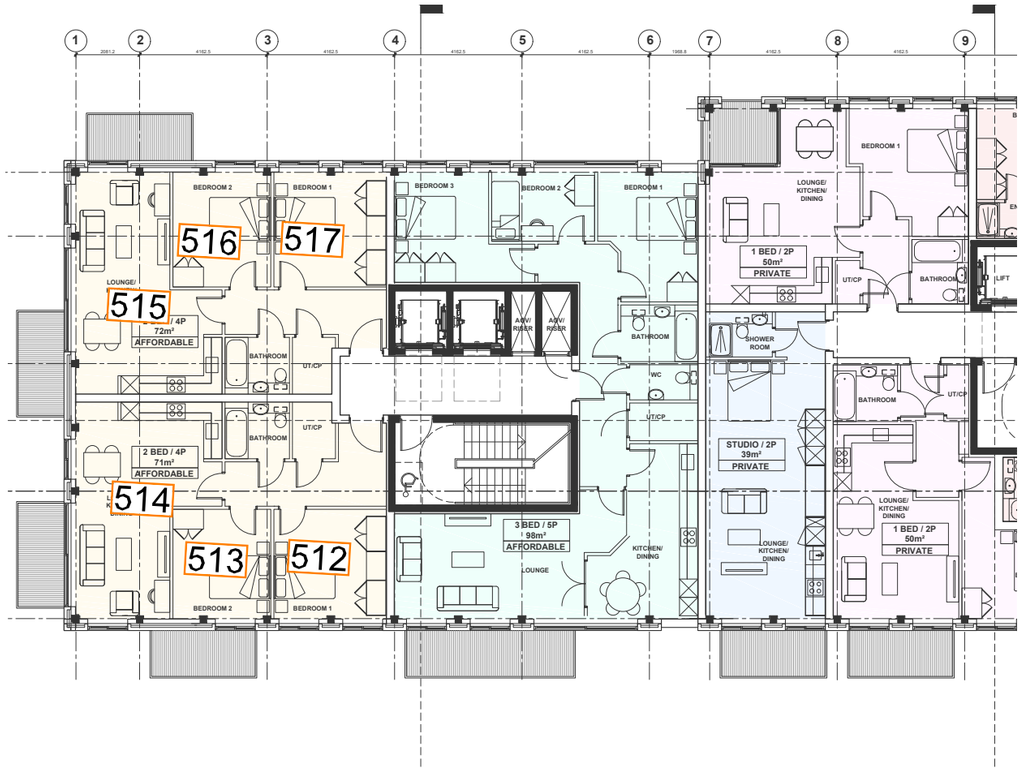
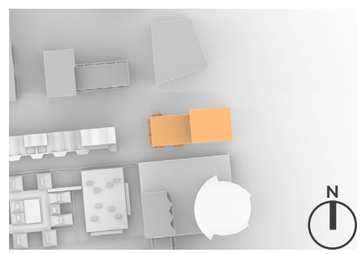


Fig. 03: Floor Plan



DAYLIGHT IMPACTS ON FORMER POPLAR BUS DEPOT - CONSENTED V MAX PARAMETER

Vertical Sky Component (VSC) - No Sky Line (NSL)

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
FORMER BUS DEPOT - MAIN BLOCK - 1/3												
LEVEL 0		1	L/K/D	1W1	14.5	13.1	1.4	9.7	54.3	54.0	0.3	0.6
		2	L/K/D	2W1	14.6	13.0	1.6	11.0	58.0	58.0	0.0	0.0
		3	L/K/D	3W1	14.7	12.7	2.0	13.6	57.0	56.8	0.2	0.4
		4	L/K/D	4W1	14.8	12.6	2.2	14.9	56.4	56.2	0.2	0.4
		5	L/K/D	5W1	14.9	12.5	2.4	16.1	56.9	56.7	0.2	0.4
		6	L/K/D	6W1	15.0	12.4	2.6	17.3	58.4	58.1	0.3	0.5
		7	L/K/D	7W1	14.7	12.0	2.7	18.4	57.9	57.6	0.3	0.5
		8	L/K/D	8W1	14.2	11.6	2.6	18.3	55.7	55.5	0.2	0.4
LEVEL 1		9	BEDROOM	9W1	16.6	13.9	2.7	16.3	70.4	63.1	7.3	10.4
		10	BEDROOM	10W1	14.2	13.3	0.9	6.3	96.7	85.3	11.4	11.8
		11	BEDROOM	11W1	14.0	10.6	3.4	24.3	98.3	91.0	7.3	7.4
		12	BEDROOM	12W1	11.6	10.7	0.9	7.8	67.6	66.4	1.2	1.8
		13	BEDROOM	13W1	17.3	13.7	3.6	20.8	100.0	100.0	0.0	0.0
		14	BEDROOM	14W1	16.9	16.1	0.8	4.7	99.0	98.3	0.7	0.7
		15	BEDROOM	15W1	17.8	13.8	4.0	22.5	83.8	82.2	1.6	1.9
		16	BEDROOM	16W1	16.7	15.9	0.8	4.8	99.0	98.0	1.0	1.0
		17	BEDROOM	17W1	13.9	9.6	4.3	30.9	97.9	97.9	0.0	0.0
		18	BEDROOM	18W1	13.2	12.2	1.0	7.6	84.8	81.6	3.2	3.8
		19	BEDROOM	19W1	17.7	13.0	4.7	26.6	85.2	79.4	5.8	6.8
		20	BEDROOM	20W1	16.9	15.5	1.4	8.3	99.0	95.6	3.4	3.4
		21	BEDROOM	21W1	17.3	12.4	4.9	28.3	99.0	99.0	0.0	0.0
		22	BEDROOM	22W1	16.8	14.9	1.9	11.3	85.9	79.5	6.4	7.5
		23	BEDROOM	23W1	13.4	8.3	5.1	38.1	98.5	97.4	1.1	1.1
		24	BEDROOM	24W1	12.9	10.6	2.3	17.8	99.7	99.0	0.7	0.7
		25	BEDROOM	25W1	15.0	9.3	5.7	38.0	73.8	62.3	11.5	15.6
		26	BEDROOM	26W1	16.8	14.0	2.8	16.7	99.0	81.3	17.7	17.9
		27	BEDROOM	27W1	14.5	8.8	5.7	39.3	96.1	77.9	18.2	18.9
		28	BEDROOM	28W1	16.1	13.3	2.8	17.4	73.4	56.9	16.5	22.5
LEVEL 2		29	L/K/D	29S1	14.7	8.8	5.9	40.1	96.9	89.4	7.5	7.7
				29W1	30.3	23.2	7.1	23.4				
				29W2	32.4	24.6	7.8	24.1				
		30	BEDROOM	30W1	24.5	17.4	7.1	29.0	99.1	96.2	2.9	2.9
		31	BEDROOM	31W1	23.5	20.0	3.5	14.9	98.2	94.2	4.0	4.1
		32	L/K/D	32N1	16.0	15.4	0.6	3.8	97.2	91.9	5.3	5.5
				32W1	33.0	24.3	8.7	26.4				
				32W2	33.1	24.2	8.9	26.9				
		33	BEDROOM	33W1	33.2	24.1	9.1	27.4	99.7	98.1	1.6	1.6
		34	BEDROOM	34W1	33.0	23.7	9.3	28.2	99.3	98.7	0.6	0.6
		35	LIVING ROOM	35W1	10.7	4.9	5.8	54.2	98.8	98.0	0.8	0.8
				35W2	10.9	6.3	4.6	42.2				
		36	BEDROOM	36W1	33.0	23.1	9.9	30.0	100.0	100.0	0.0	0.0
		37	BEDROOM	37W1	33.2	23.1	10.1	30.4	100.0	95.5	4.5	4.5
		38	BEDROOM	38W1	33.2	22.8	10.4	31.3	100.0	92.5	7.5	7.5
		39	BEDROOM	39W1	32.9	22.4	10.5	31.9	99.6	99.6	0.0	0.0
		40	LIVING ROOM	40W1	10.2	4.1	6.1	59.8	99.0	99.0	0.0	0.0
				40W2	10.7	5.2	5.5	51.4				
		41	BEDROOM	41W1	32.5	21.5	11.0	33.8	99.7	94.1	5.6	5.6
		42	BEDROOM	42W1	32.5	21.5	11.0	33.8	100.0	94.8	5.2	5.2
		43	BEDROOM	43W1	32.2	21.3	10.9	33.9	99.7	95.8	3.9	3.9
		44	BEDROOM	44W1	31.9	21.0	10.9	34.2	99.4	97.3	2.1	2.1
		45	L/K/D	45S1	35.9	27.4	8.5	23.7	100.0	99.7	0.3	0.3
				45S2	34.5	26.4	8.1	23.5				
				45W1	11.1	4.3	6.8	61.3				
				45W2	15.4	6.5	8.9	57.8				
		46	BEDROOM	46S1	30.9	23.0	7.9	25.6	98.4	97.4	1.0	1.0
		47	BEDROOM	47S1	23.7	16.2	7.5	31.6	90.9	76.1	14.8	16.3
		48	LIVING ROOM	48S1	31.0	23.4	7.6	24.5	98.9	98.9	0.0	0.0
				48S2	22.7	15.4	7.3	32.2				
				48W1	19.7	9.8	9.9	50.3				
LEVEL 3		49	BEDROOM	49E1	3.5	3.5	0.0	0.0	84.1	84.1	0.0	0.0
				49N1	17.8	17.7	0.1	0.6				
		50	L/K/D	50N1	17.5	17.4	0.1	0.6	93.5	90.4	3.1	3.3
				50N2	16.7	16.7	0.0	0.0				
				50W1	34.4	26.6	7.8	22.7				
		51	BEDROOM	51W1	26.7	22.7	4.0	15.0	98.0	97.4	0.6	0.6
		52	BEDROOM	52W1	35.5	27.0	8.5	23.9	99.4	99.4	0.0	0.0
		53	LIVING ROOM	53W1	29.0	24.5	4.5	15.5	97.8	97.8	0.0	0.0
		54	KITCHEN	54W1	37.0	26.0	11.0	29.7	99.6	99.6	0.0	0.0

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
		55	BEDROOM	55W1	37.1	25.8	11.3	30.5	99.7	99.7	0.0	0.0
		56	BEDROOM	56W1	37.2	25.6	11.6	31.2	99.7	99.0	0.7	0.7
		57	BEDROOM	57W1	37.2	25.4	11.8	31.7	99.3	99.3	0.0	0.0
		58	LIVING ROOM	58W1	26.3	16.6	9.7	36.9	99.2	99.2	0.0	0.0
				58W2	26.7	19.6	7.1	26.6				
		59	BEDROOM	59W1	37.1	24.6	12.5	33.7	100.0	100.0	0.0	0.0
		60	BEDROOM	60W1	37.1	24.4	12.7	34.2	100.0	100.0	0.0	0.0
		61	BEDROOM	61W1	37.1	24.1	13.0	35.0	100.0	100.0	0.0	0.0
		62	BEDROOM	62W1	36.8	23.7	13.1	35.6	99.6	99.6	0.0	0.0
		63	LIVING ROOM	63W1	13.3	5.0	8.3	62.4	99.0	99.0	0.0	0.0
				63W2	13.6	5.9	7.7	56.6				
		64	BEDROOM	64W1	36.4	22.9	13.5	37.1	99.7	94.1	5.6	5.6
		65	BEDROOM	65W1	36.5	22.9	13.6	37.3	100.0	94.8	5.2	5.2
		66	BEDROOM	66W1	36.3	22.6	13.7	37.7	99.7	96.5	3.2	3.2
		67	BEDROOM	67W1	36.1	22.3	13.8	38.2	99.4	97.3	2.1	2.1
		68	L/K/D	68S1	36.6	28.2	8.4	23.0	99.9	99.6	0.3	0.3
				68S2	35.1	27.1	8.0	22.8				
				68W1	14.5	5.1	9.4	64.8				
				68W2	19.3	7.4	11.9	61.7				
		69	BEDROOM	69S1	31.4	23.7	7.7	24.5	98.4	97.4	1.0	1.0
		70	BEDROOM	70S1	24.1	16.7	7.4	30.7	90.9	77.2	13.7	15.1
		71	LIVING ROOM	71S1	30.9	23.6	7.3	23.6	98.9	98.9	0.0	0.0
				71S2	23.1	16.1	7.0	30.3				
				71W1	21.1	10.7	10.4	49.3				
LEVEL 4		72	L/K/D	72E1	13.3	13.3	0.0	0.0	100.0	100.0	0.0	0.0
				72E2	11.6	11.6	0.0	0.0				
				72N1	19.0	18.8	0.2	1.1				
		73	BEDROOM	73N1	19.6	19.5	0.1	0.5	73.4	73.4	0.0	0.0
		74	BEDROOM	74N1	20.5	20.4	0.1	0.5	72.9	72.9	0.0	0.0
		75	KITCHEN	75N1	22.7	22.3	0.4	1.8	100.0	100.0	0.0	0.0
				75W1	32.8	27.7	5.1	15.5				
		76	BEDROOM	76W1	37.6	25.7	11.9	31.6	100.0	100.0	0.0	0.0
		77	BEDROOM	77W1	37.6	25.5	12.1	32.2	100.0	100.0	0.0	0.0
		78	BEDROOM	78W1	37.6	25.3	12.3	32.7	100.0	100.0	0.0	0.0
		79	BEDROOM	79W1	37.6	25.0	12.6	33.5	99.6	99.6	0.0	0.0
		80	LIVING ROOM	80W1	27.5	16.7	10.8	39.3	99.6	99.6	0.0	0.0
				80W2	26.7	18.5	8.2	30.7				
		81	BEDROOM	81W1	37.7	24.3	13.4	35.5	99.7	94.1	5.6	5.6
		82	BEDROOM	82W1	37.7	24.1	13.6	36.1	100.0	94.8	5.2	5.2
		83	BEDROOM	83W1	37.7	23.9	13.8	36.6	99.7	96.5	3.2	3.2
		84	BEDROOM	84W1	37.6	23.6	14.0	37.2	99.4	97.3	2.1	2.1
		85	L/K/D	85S1	37.0	28.9	8.1	21.9	99.7	99.7	0.0	0.0
				85S2	35.4	27.8	7.6	21.5				
				85W1	16.4	5.8	10.6	64.6				
				85W2	21.4	8.3	13.1	61.2				
		86	BEDROOM	86S1	31.6	24.4	7.2	22.8	98.4	97.7	0.7	0.7
		87	BEDROOM	87S1	24.2	17.2	7.0	28.9	90.9	78.7	12.2	13.4
		88	LIVING ROOM	88S1	31.5	24.7	6.8	21.6	98.9	98.9	0.0	0.0
				88S2	23.4	16.7	6.7	28.6				
				88W1	22.3	11.7	10.6	47.5				
LEVEL 5		89	LIVING ROOM	89W1	37.1	27.3	9.8	26.4	88.0	87.2	0.8	0.9
		90	BEDROOM	90W1	36.6	26.9	9.7	26.5	99.6	99.6	0.0	0.0
		91	BEDROOM	91W1	35.0	26.0	9.0	25.7	98.9	98.3	0.6	0.6
		92	L/K/D	92N1	24.4	23.2	1.2	4.9	99.3	99.3	0.0	0.0
		93	LIVING ROOM	93N1	28.1	26.9	1.2	4.3	100.0	100.0	0.0	0.0
				93W1	37.8	25.3	12.5	33.1				
				93W2	37.8	25.0	12.8	33.9				
		94	BEDROOM	94W1	37.8	24.8	13.0	34.4	99.7	98.0	1.7	1.7
		95	BEDROOM	95W1	37.8	24.6	13.2	34.9	98.2	98.2	0.0	0.0
		96	BEDROOM	96S1	37.3	29.6	7.7	20.6	100.0	100.0	0.0	0.0
				96W1	30.5	17.9	12.6	41.3				
				96W2	37.4	23.7	13.7	36.6				
		97	BEDROOM	97S1	35.8	28.7	7.1	19.8	98.9	98.9	0.0	0.0
		98	BEDROOM	98S1	32.1	25.3	6.8	21.2	98.4	97.7	0.7	0.7
		99	BEDROOM	99S1	24.5	18.0	6.5	26.5	91.4	80.7	10.7	11.7
		100	LIVING ROOM	100S1	32.2	25.8	6.4	19.9	98.9	98.9	0.0	0.0
				100S2	25.0	18.7	6.3	25.2				
				100W1	23.5	13.2	10.3	43.8				
LEVEL 6		101	L/K/D	101N1	27.0	26.0	1.0	3.7	99.8	99.2	0.6	0.6
				101N2	29.8	28.8	1.0	3.4				

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
				101W1	37.8	26.2	11.6	30.7				
				101W2	37.8	26.0	11.8	31.2				
		102	BEDROOM	102W1	37.8	25.7	12.1	32.0	98.3	97.7	0.6	0.6
		103	BEDROOM	103S1	37.7	30.6	7.1	18.8	100.0	100.0	0.0	0.0
				103W1	38.3	25.7	12.6	32.9				
				103W2	38.3	25.4	12.9	33.7				
		104	BEDROOM	104S1	36.6	30.0	6.6	18.0	99.5	99.5	0.0	0.0
		105	BEDROOM	105S1	34.0	27.6	6.4	18.8	98.4	98.0	0.4	0.4
		106	BEDROOM	106S1	26.3	20.2	6.1	23.2	91.9	82.8	9.1	9.9
		107	LIVING ROOM	107S1	36.1	30.1	6.0	16.6	99.6	99.6	0.0	0.0
				107S2	38.3	32.5	5.8	15.1				
				107W1	27.4	17.5	9.9	36.1				
LEVEL 7		108	LIVING ROOM	108N1	31.0	30.2	0.8	2.6	100.0	100.0	0.0	0.0
				108W1	38.7	27.8	10.9	28.2				
		109	BEDROOM	109S1	38.1	31.5	6.6	17.3	100.0	100.0	0.0	0.0
				109W1	38.7	27.4	11.3	29.2				
		110	KITCHEN	110S1	36.3	30.2	6.1	16.8	96.0	94.7	1.3	1.4
				110S2	29.8	23.9	5.9	19.8				
FORMER BUS DEPOT - MAIN BLOCK - 2/3												
LEVEL 1		111	BEDROOM	111W1	1.0	0.9	0.1	10.0	50.1	39.2	10.9	21.8
		112	LIVING ROOM	112S1	1.9	1.7	0.2	10.5	74.1	72.2	1.9	2.6
				112W1	12.2	12.2	0.0	0.0				
		113	L/K/D	113N1	19.7	19.6	0.1	0.5	96.1	96.1	0.0	0.0
				113N2	7.7	7.6	0.1	1.3				
				113W1	8.0	8.0	0.0	0.0				
				113W2	11.2	9.9	1.3	11.6				
				113W3	18.0	17.3	0.7	3.9				
LEVEL 2		114	BEDROOM	114W1	4.9	2.9	2.0	40.8	98.7	68.4	30.3	30.7
		115	L/K/D	115S1	4.2	2.1	2.1	50.0	59.4	47.0	12.4	20.9
				115W1	24.9	22.3	2.6	10.4				
		116	L/K/D	116N1	20.9	20.8	0.1	0.5	99.4	98.1	1.3	1.3
				116N2	7.1	7.1	0.0	0.0				
				116W1	7.4	7.4	0.0	0.0				
				116W2	25.5	23.5	2.0	7.8				
				116W3	25.1	22.8	2.3	9.2				
LEVEL 3		117	BEDROOM	117W1	8.7	4.2	4.5	51.7	98.7	75.3	23.4	23.7
		118	L/K/D	118S1	8.0	4.0	4.0	50.0	60.8	48.1	12.7	20.9
				118W1	29.2	25.3	3.9	13.4				
		119	L/K/D	119N1	22.5	22.5	0.0	0.0	99.4	98.1	1.3	1.3
				119N2	7.6	7.5	0.1	1.3				
				119W1	8.0	8.0	0.0	0.0				
				119W2	28.9	26.3	2.6	9.0				
				119W3	28.9	25.8	3.1	10.7				
		120	BEDROOM	120W1	7.2	7.2	0.0	0.0	96.7	96.7	0.0	0.0
		121	L/K/D	121E1	12.3	12.0	0.3	2.4	100.0	99.7	0.3	0.3
				121W1	7.4	7.4	0.0	0.0				
		122	L/K/D	122E1	13.2	12.5	0.7	5.3	100.0	100.0	0.0	0.0
				122W1	6.3	6.3	0.0	0.0				
		123	BEDROOM	123W1	4.9	4.9	0.0	0.0	73.4	73.4	0.0	0.0
LEVEL 4		124	BEDROOM	124W1	28.3	23.0	5.3	18.7	100.0	100.0	0.0	0.0
		125	L/K/D	125S1	25.1	19.8	5.3	21.1	68.8	57.7	11.1	16.1
				125W1	32.6	28.7	3.9	12.0				
		126	L/K/D	126N1	24.2	24.2	0.0	0.0	99.5	98.7	0.8	0.8
				126N2	22.3	22.3	0.0	0.0				
				126W1	26.2	26.2	0.0	0.0				
				126W2	32.4	29.8	2.6	8.0				
				126W3	32.3	29.2	3.1	9.6				
		127	BEDROOM	127W1	7.2	7.2	0.0	0.0	96.7	96.7	0.0	0.0
		128	L/K/D	128E1	14.1	13.4	0.7	5.0	100.0	99.7	0.3	0.3
				128W1	7.4	7.4	0.0	0.0				
		129	L/K/D	129E1	14.9	13.5	1.4	9.4	100.0	100.0	0.0	0.0
				129W1	6.3	6.3	0.0	0.0				
		130	BEDROOM	130W1	4.9	4.9	0.0	0.0	73.4	73.4	0.0	0.0
LEVEL 5		131	KITCHEN	131S1	20.5	19.2	1.3	6.3	97.5	97.5	0.0	0.0
		132	LIVING ROOM	132E1	4.2	4.2	0.0	0.0	99.8	99.8	0.0	0.0
				132S1	30.2	25.9	4.3	14.2				

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
		133	BEDROOM	133S1	30.2	25.7	4.5	14.9	100.0	100.0	0.0	0.0
				133S2	29.7	25.4	4.3	14.5				
				133W1	36.4	31.5	4.9	13.5				
		134	BEDROOM	134W1	34.6	30.7	3.9	11.3	98.8	98.8	0.0	0.0
				134W2	36.4	31.9	4.5	12.4				
		135	BEDROOM	135W1	36.4	32.8	3.6	9.9	99.5	99.5	0.0	0.0
				135W2	36.3	32.5	3.8	10.5				
		136	BEDROOM	136W1	14.5	14.5	0.0	0.0	98.2	98.2	0.0	0.0
		137	L/K/D	137E1	16.7	15.1	1.6	9.6	100.0	100.0	0.0	0.0
				137W1	15.0	15.0	0.0	0.0				
		138	L/K/D	138E1	16.9	14.3	2.6	15.4	100.0	100.0	0.0	0.0
				138W1	13.3	13.3	0.0	0.0				
		139	BEDROOM	139W1	10.3	10.3	0.0	0.0	76.4	76.4	0.0	0.0
FORMER BUS DEPOT - MAIN BLOCK - 3/3												
LEVEL 1		140	L/K/D	140S1	16.1	15.3	0.8	5.0	83.6	83.6	0.0	0.0
				140SW1	3.4	3.4	0.0	0.0				
		141	BEDROOM	141S1	16.5	15.5	1.0	6.1	54.5	54.5	0.0	0.0
		142	BEDROOM	142S1	17.2	16.1	1.1	6.4	72.8	72.8	0.0	0.0
		143	BEDROOM	143S1	18.0	16.7	1.3	7.2	90.3	90.3	0.0	0.0
LEVEL 2		144	L/K/D	144S1	16.9	16.3	0.6	3.6	86.6	86.6	0.0	0.0
				144SW1	3.4	3.4	0.0	0.0				
		145	BEDROOM	145S1	17.4	16.7	0.7	4.0	58.0	58.0	0.0	0.0
		146	BEDROOM	146S1	18.2	17.4	0.8	4.4	76.4	76.4	0.0	0.0
		147	BEDROOM	147S1	18.9	18.0	0.9	4.8	91.7	91.7	0.0	0.0
LEVEL 3		148	L/K/D	148S1	17.9	17.6	0.3	1.7	88.3	88.3	0.0	0.0
				148SW1	3.4	3.4	0.0	0.0				
		149	BEDROOM	149S1	18.4	18.0	0.4	2.2	62.8	62.8	0.0	0.0
		150	BEDROOM	150S1	19.2	18.7	0.5	2.6	79.9	79.9	0.0	0.0
		151	BEDROOM	151S1	19.9	19.3	0.6	3.0	92.0	92.0	0.0	0.0
LEVEL 4		152	L/K/D	152S1	18.8	18.7	0.1	0.5	89.1	89.1	0.0	0.0
				152SW1	3.4	3.4	0.0	0.0				
		153	BEDROOM	153S1	19.4	19.3	0.1	0.5	67.6	67.6	0.0	0.0
		154	BEDROOM	154S1	20.2	20.1	0.1	0.5	83.9	83.9	0.0	0.0
		155	BEDROOM	155S1	21.0	20.7	0.3	1.4	92.3	92.3	0.0	0.0
LEVEL 5		156	L/K/D	156S1	19.9	19.9	0.0	0.0	89.1	89.1	0.0	0.0
				156SW1	3.4	3.4	0.0	0.0				
		157	BEDROOM	157S1	20.4	20.4	0.0	0.0	72.3	72.3	0.0	0.0
		158	BEDROOM	158S1	21.3	21.3	0.0	0.0	86.2	86.2	0.0	0.0
		159	BEDROOM	159S1	22.1	22.1	0.0	0.0	93.4	93.4	0.0	0.0
LEVEL 6		160	L/K/D	160S1	21.0	21.0	0.0	0.0	89.2	89.2	0.0	0.0
				160SW1	3.4	3.4	0.0	0.0				
		161	BEDROOM	161S1	21.6	21.6	0.0	0.0	76.2	76.2	0.0	0.0
		162	BEDROOM	162S1	22.4	22.4	0.0	0.0	87.4	87.4	0.0	0.0
		163	BEDROOM	163S1	23.3	23.3	0.0	0.0	95.6	95.6	0.0	0.0
LEVEL 7		164	L/K/D	164S1	22.1	22.1	0.0	0.0	89.7	89.7	0.0	0.0
				164SW1	3.4	3.4	0.0	0.0				
		165	BEDROOM	165S1	22.8	22.8	0.0	0.0	78.3	78.3	0.0	0.0
		166	BEDROOM	166S1	23.7	23.7	0.0	0.0	87.8	87.8	0.0	0.0
		167	BEDROOM	167S1	24.5	24.5	0.0	0.0	98.9	98.9	0.0	0.0
LEVEL 8		168	L/K/D	168S1	23.4	23.4	0.0	0.0	91.1	91.1	0.0	0.0
				168SW1	11.8	11.8	0.0	0.0				
		169	BEDROOM	169S1	24.0	24.0	0.0	0.0	81.3	81.3	0.0	0.0
		170	BEDROOM	170S1	24.9	24.9	0.0	0.0	89.4	89.4	0.0	0.0
		171	BEDROOM	171S1	25.7	25.7	0.0	0.0	98.9	98.9	0.0	0.0
FORMER BUS DEPOT - SOUTHERN TOWER												
LEVEL 1		172	BEDROOM	172NW1	1.2	1.2	0.0	0.0	54.6	54.6	0.0	0.0
		173	L/K/D	173NE1	5.8	5.8	0.0	0.0	93.1	93.1	0.0	0.0
				173W1	20.3	19.7	0.6	3.0				
				173W2	21.5	20.9	0.6	2.8				
		174	BEDROOM	174W1	20.9	20.4	0.5	2.4	98.7	96.0	2.7	2.7
		175	BEDROOM	175W1	19.6	19.3	0.3	1.5	74.7	71.9	2.8	3.7
		176	L/K/D	176SW1	17.8	17.7	0.1	0.6	35.4	34.2	1.2	3.4

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
		177	L/K/D	177SW1	15.4	15.3	0.1	0.6	36.2	35.4	0.8	2.2
		178	BEDROOM	178SW1	11.6	11.5	0.1	0.9	55.9	54.8	1.1	2.0
		179	L/K/D	179E1	5.7	5.7	0.0	0.0	50.3	48.4	1.9	3.8
				179S1	3.9	3.8	0.1	2.6				
				179SW1	8.0	7.8	0.2	2.5				
				179SW2	6.1	6.0	0.1	1.6				
		180	BEDROOM	180S1	1.6	1.6	0.0	0.0	82.9	82.9	0.0	0.0
		181	BEDROOM	181SE1	16.8	16.8	0.0	0.0	79.9	79.9	0.0	0.0
LEVEL 2		182	BEDROOM	182NW1	12.9	12.9	0.0	0.0	66.4	66.4	0.0	0.0
		183	BEDROOM	183NW1	2.1	2.1	0.0	0.0	75.0	75.0	0.0	0.0
		184	L/K/D	184NE1	5.8	5.8	0.0	0.0	97.7	97.3	0.4	0.4
				184W1	23.5	22.5	1.0	4.3				
				184W2	25.1	24.0	1.1	4.4				
				184W3	23.9	22.7	1.2	5.0				
		185	BEDROOM	185W1	23.3	22.3	1.0	4.3	94.0	87.2	6.8	7.2
		186	L/K/D	186SW1	21.1	20.5	0.6	2.8	46.8	44.0	2.8	6.0
		187	L/K/D	187SW1	18.2	17.7	0.5	2.7	46.3	44.4	1.9	4.1
		188	BEDROOM	188SW1	14.4	14.0	0.4	2.8	73.0	66.9	6.1	8.4
		189	L/K/D	189E1	6.1	6.1	0.0	0.0	58.3	55.5	2.8	4.8
				189S1	5.3	5.2	0.1	1.9				
				189SW1	10.1	9.8	0.3	3.0				
				189SW2	7.9	7.7	0.2	2.5				
		190	BEDROOM	190S1	2.1	2.1	0.0	0.0	85.0	85.0	0.0	0.0
		191	BEDROOM	191SE1	18.5	18.5	0.0	0.0	81.6	81.6	0.0	0.0
LEVEL 3		192	BEDROOM	192NW1	14.7	14.5	0.2	1.4	65.2	65.2	0.0	0.0
		193	BEDROOM	193NW1	2.9	2.8	0.1	3.4	63.2	63.2	0.0	0.0
		194	L/K/D	194NE1	6.2	6.2	0.0	0.0	97.4	97.3	0.1	0.1
				194NE2	6.0	6.0	0.0	0.0				
				194W1	26.7	25.3	1.4	5.2				
				194W2	27.0	25.4	1.6	5.9				
				194W3	28.2	26.3	1.9	6.7				
				194W4	27.5	25.3	2.2	8.0				
		195	BEDROOM	195W1	27.1	25.2	1.9	7.0	100.0	99.6	0.4	0.4
		196	L/K/D	196SW1	24.7	23.0	1.7	6.9	65.9	59.5	6.4	9.7
		197	L/K/D	197SW1	21.6	20.3	1.3	6.0	63.6	58.6	5.0	7.9
		198	BEDROOM	198SW1	18.0	17.0	1.0	5.6	91.1	81.1	10.0	11.0
		199	L/K/D	199E1	7.9	7.9	0.0	0.0	73.7	73.6	0.1	0.1
				199E2	6.2	6.2	0.0	0.0				
				199S1	7.9	7.7	0.2	2.5				
				199S2	8.4	8.2	0.2	2.4				
				199SW1	13.1	12.5	0.6	4.6				
				199SW2	10.2	9.8	0.4	3.9				
		200	BEDROOM	200S1	2.0	2.0	0.0	0.0	72.0	72.0	0.0	0.0
		201	BEDROOM	201SE1	20.8	20.7	0.1	0.5	82.2	82.2	0.0	0.0
LEVEL 4		202	BEDROOM	202NW1	16.0	15.3	0.7	4.4	65.2	65.2	0.0	0.0
		203	BEDROOM	203NW1	4.1	3.6	0.5	12.2	63.2	63.2	0.0	0.0
		204	L/K/D	204NE1	6.4	6.4	0.0	0.0	97.4	97.3	0.1	0.1
				204NE2	6.1	6.1	0.0	0.0				
				204W1	29.6	26.9	2.7	9.1				
				204W2	30.2	27.2	3.0	9.9				
				204W3	31.6	28.3	3.3	10.4				
				204W4	30.9	27.4	3.5	11.3				
		205	BEDROOM	205W1	30.9	27.5	3.4	11.0	100.0	100.0	0.0	0.0
		206	L/K/D	206SW1	28.6	25.6	3.0	10.5	90.2	78.9	11.3	12.5
		207	L/K/D	207SW1	25.6	23.1	2.5	9.8	82.9	71.0	11.9	14.4
		208	BEDROOM	208SW1	22.3	20.7	1.6	7.2	98.6	98.6	0.0	0.0
		209	L/K/D	209E1	9.2	9.2	0.0	0.0	83.4	83.4	0.0	0.0
				209E2	6.7	6.7	0.0	0.0				
				209S1	11.9	11.5	0.4	3.4				
				209S2	12.2	11.9	0.3	2.5				
				209SW1	17.3	16.4	0.9	5.2				
				209SW2	14.6	14.0	0.6	4.1				
		210	BEDROOM	210S1	2.5	2.5	0.0	0.0	74.8	74.8	0.0	0.0
		211	BEDROOM	211SE1	23.1	22.9	0.2	0.9	85.5	85.5	0.0	0.0
LEVEL 5		212	BEDROOM	212NW1	16.2	15.3	0.9	5.6	65.2	65.2	0.0	0.0
		213	BEDROOM	213NW1	4.7	4.1	0.6	12.8	63.2	63.2	0.0	0.0
		214	L/K/D	214NE1	6.4	6.4	0.0	0.0	97.4	97.4	0.0	0.0
				214NE2	6.1	6.1	0.0	0.0				
				214W1	30.5	27.1	3.4	11.1				

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
				214W2	31.3	27.7	3.6	11.5				
				214W3	33.8	29.5	4.3	12.7				
				214W4	33.1	28.4	4.7	14.2				
		215	BEDROOM	215W1	33.1	28.6	4.5	13.6	100.0	100.0	0.0	0.0
		216	L/K/D	216SW1	31.5	27.3	4.2	13.3	99.8	99.2	0.6	0.6
		217	L/K/D	217SW1	28.9	25.3	3.6	12.5	94.5	91.7	2.8	3.0
		218	BEDROOM	218SW1	26.6	23.8	2.8	10.5	100.0	100.0	0.0	0.0
		219	L/K/D	219E1	11.1	11.1	0.0	0.0	94.3	92.6	1.7	1.8
				219E2	7.8	7.8	0.0	0.0				
				219S1	19.0	18.4	0.6	3.2				
				219S2	19.1	18.6	0.5	2.6				
				219SW1	23.1	21.5	1.6	6.9				
				219SW2	21.0	20.0	1.0	4.8				
		220	BEDROOM	220S1	3.1	3.1	0.0	0.0	83.3	83.3	0.0	0.0
		221	BEDROOM	221SE1	25.2	25.1	0.1	0.4	92.5	92.5	0.0	0.0
LEVEL 6		222	BEDROOM	222NW1	16.5	15.8	0.7	4.2	78.6	78.6	0.0	0.0
		223	BEDROOM	223NW1	5.0	4.5	0.5	10.0	65.3	65.3	0.0	0.0
		224	L/K/D	224NE1	6.4	6.4	0.0	0.0	99.7	99.7	0.0	0.0
				224NE2	6.2	6.2	0.0	0.0				
				224W1	31.0	27.9	3.1	10.0				
				224W2	34.8	30.5	4.3	12.4				
				224W3	34.1	29.2	4.9	14.4				
		225	L/K/D	225SE1	4.7	4.1	0.6	12.8	100.0	100.0	0.0	0.0
				225W1	35.4	30.2	5.2	14.7				
				225W2	36.0	30.8	5.2	14.4				
		226	BEDROOM	226SW1	8.0	3.9	4.1	51.3	99.1	99.1	0.0	0.0
		227	BEDROOM	227SW1	8.1	4.3	3.8	46.9	99.2	99.2	0.0	0.0
		228	L/K/D	228NW1	5.9	4.9	1.0	16.9	100.0	100.0	0.0	0.0
				228NW2	12.0	11.0	1.0	8.3				
				228SW1	33.4	29.2	4.2	12.6				
				228SW2	32.4	28.6	3.8	11.7				
		229	L/K/D	229E1	13.0	13.0	0.0	0.0	100.0	100.0	0.0	0.0
				229E2	9.4	9.4	0.0	0.0				
				229S1	30.4	28.6	1.8	5.9				
				229S2	29.9	28.3	1.6	5.4				
				229SW1	30.0	27.2	2.8	9.3				
		230	BEDROOM	230S1	5.5	5.5	0.0	0.0	95.2	95.2	0.0	0.0
		231	BEDROOM	231SE1	27.8	27.6	0.2	0.7	99.6	99.6	0.0	0.0
LEVEL 7		232	BEDROOM	232NW1	16.3	15.7	0.6	3.7	78.6	78.6	0.0	0.0
		233	BEDROOM	233NW1	5.1	4.7	0.4	7.8	65.3	65.3	0.0	0.0
		234	L/K/D	234NE1	6.5	6.5	0.0	0.0	99.7	99.7	0.0	0.0
				234NE2	6.3	6.3	0.0	0.0				
				234W1	31.3	28.4	2.9	9.3				
				234W2	35.3	31.2	4.1	11.6				
				234W3	34.8	29.9	4.9	14.1				
		235	L/K/D	235SE1	11.6	10.6	1.0	8.6	100.0	100.0	0.0	0.0
				235SE2	5.2	4.2	1.0	19.2				
				235W1	36.7	31.3	5.4	14.7				
				235W2	37.7	32.0	5.7	15.1				
		236	BEDROOM	236SW1	9.2	4.5	4.7	51.1	99.1	99.1	0.0	0.0
		237	BEDROOM	237SW1	9.3	4.9	4.4	47.3	99.2	99.2	0.0	0.0
		238	L/K/D	238NW1	5.9	5.1	0.8	13.6	100.0	100.0	0.0	0.0
				238NW2	12.1	11.2	0.9	7.4				
				238SW1	37.1	31.7	5.4	14.6				
				238SW2	36.5	31.3	5.2	14.2				
		239	L/K/D	239E1	14.5	14.5	0.0	0.0	100.0	100.0	0.0	0.0
				239E2	10.8	10.8	0.0	0.0				
				239S1	36.1	32.2	3.9	10.8				
				239S2	36.0	32.6	3.4	9.4				
				239SW1	35.1	30.5	4.6	13.1				
				239SW2	35.9	32.0	3.9	10.9				
		240	BEDROOM	240S1	8.1	7.6	0.5	6.2	95.2	95.2	0.0	0.0
		241	BEDROOM	241SE1	30.2	29.3	0.9	3.0	99.6	99.6	0.0	0.0
LEVEL 8		242	BEDROOM	242NW1	16.4	16.0	0.4	2.4	78.6	78.6	0.0	0.0
		243	BEDROOM	243NW1	5.2	4.9	0.3	5.8	65.3	65.3	0.0	0.0
		244	L/K/D	244NE1	6.5	6.5	0.0	0.0	99.7	99.7	0.0	0.0
				244NE2	6.3	6.3	0.0	0.0				
				244W1	31.5	28.9	2.6	8.3				
				244W2	35.6	31.7	3.9	11.0				
				244W3	35.1	30.4	4.7	13.4				

					VERTICAL SKY COMPONENT				NO SKY LINE			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	CONSENTED	MAX PARAMETER	LOSS	%	CONSENTED	MAX PARAMETER	LOSS	%
		245	L/K/D	245SE1	12.2	10.9	1.3	10.7	100.0	100.0	0.0	0.0
				245SE2	5.8	4.6	1.2	20.7				
				245W1	37.2	31.9	5.3	14.2				
				245W2	38.3	32.8	5.5	14.4				
		246	BEDROOM	246SW1	9.7	5.0	4.7	48.5	99.1	99.1	0.0	0.0
		247	BEDROOM	247SW1	9.9	5.3	4.6	46.5	99.2	99.2	0.0	0.0
		248	L/K/D	248NW1	5.9	5.2	0.7	11.9	100.0	100.0	0.0	0.0
				248NW2	12.1	11.4	0.7	5.8				
				248SW1	38.4	32.6	5.8	15.1				
				248SW2	38.0	32.3	5.7	15.0				
		249	L/K/D	249E1	15.5	15.5	0.0	0.0	100.0	100.0	0.0	0.0
				249E2	11.8	11.8	0.0	0.0				
				249S1	37.5	33.0	4.5	12.0				
				249S2	37.3	33.6	3.7	9.9				
				249SW1	36.6	31.4	5.2	14.2				
				249SW2	37.4	32.8	4.6	12.3				
		250	BEDROOM	250S1	8.9	8.6	0.3	3.4	95.2	95.2	0.0	0.0
		251	BEDROOM	251SE1	31.4	30.5	0.9	2.9	99.6	99.6	0.0	0.0
LEVEL 9		252	BEDROOM	252NW1	16.5	16.2	0.3	1.8	78.6	78.6	0.0	0.0
		253	BEDROOM	253NW1	5.2	5.0	0.2	3.8	65.3	65.3	0.0	0.0
		254	L/K/D	254NE1	6.5	6.5	0.0	0.0	99.7	99.7	0.0	0.0
				254NE2	6.4	6.4	0.0	0.0				
				254W1	31.6	29.3	2.3	7.3				
				254W2	35.7	32.2	3.5	9.8				
				254W3	35.1	30.8	4.3	12.3				
		255	L/K/D	255SE1	12.2	11.0	1.2	9.8	100.0	100.0	0.0	0.0
				255SE2	5.8	4.7	1.1	19.0				
				255W1	37.2	32.4	4.8	12.9				
				255W2	38.4	33.3	5.1	13.3				
		256	BEDROOM	256SW1	9.7	5.3	4.4	45.4	99.1	99.1	0.0	0.0
		257	BEDROOM	257SW1	9.9	5.7	4.2	42.4	99.2	99.2	0.0	0.0
		258	L/K/D	258NW1	5.9	5.4	0.5	8.5	100.0	100.0	0.0	0.0
				258NW2	12.2	11.6	0.6	4.9				
				258SW1	38.4	33.1	5.3	13.8				
				258SW2	38.0	32.8	5.2	13.7				
		259	L/K/D	259E1	16.2	16.2	0.0	0.0	100.0	100.0	0.0	0.0
				259E2	12.6	12.6	0.0	0.0				
				259S1	37.5	33.4	4.1	10.9				
				259S2	37.7	34.2	3.5	9.3				
				259SW1	36.6	31.8	4.8	13.1				
				259SW2	37.6	33.3	4.3	11.4				
		260	BEDROOM	260S1	9.6	9.4	0.2	2.1	95.2	95.2	0.0	0.0
		261	BEDROOM	261SE1	32.1	31.4	0.7	2.2	99.6	99.6	0.0	0.0
LEVEL 10		262	BEDROOM	262NW1	15.8	15.5	0.3	1.9	78.6	78.6	0.0	0.0
		263	BEDROOM	263NW1	4.1	3.9	0.2	4.9	65.3	65.3	0.0	0.0
		264	L/K/D	264NE1	5.5	5.5	0.0	0.0	99.7	99.7	0.0	0.0
				264NE2	5.3	5.3	0.0	0.0				
				264W1	31.7	29.7	2.0	6.3				
				264W2	35.7	32.6	3.1	8.7				
				264W3	35.1	31.2	3.9	11.1				
		265	L/K/D	265SE1	12.2	11.2	1.0	8.2	100.0	100.0	0.0	0.0
				265SE2	5.8	4.8	1.0	17.2				
				265W1	37.2	32.9	4.3	11.6				
				265W2	38.4	33.7	4.7	12.2				
		266	BEDROOM	266SW1	9.7	5.5	4.2	43.3	99.1	99.1	0.0	0.0
		267	BEDROOM	267SW1	9.9	5.9	4.0	40.4	99.2	99.2	0.0	0.0
		268	L/K/D	268NW1	5.9	5.5	0.4	6.8	100.0	100.0	0.0	0.0
				268NW2	12.2	11.7	0.5	4.1				
				268SW1	38.4	33.5	4.9	12.8				
				268SW2	38.0	33.2	4.8	12.6				
		269	L/K/D	269E1	16.4	16.4	0.0	0.0	100.0	100.0	0.0	0.0
				269E2	12.8	12.8	0.0	0.0				
				269S1	37.5	33.8	3.7	9.9				
				269S2	37.7	34.5	3.2	8.5				
				269SW1	36.6	32.2	4.4	12.0				
				269SW2	37.6	33.7	3.9	10.4				
		270	BEDROOM	270S1	9.6	9.5	0.1	1.0	95.2	95.2	0.0	0.0
		271	BEDROOM	271SE1	31.5	30.9	0.6	1.9	99.6	99.6	0.0	0.0

DAYLIGHT/SUNLIGHT IMPACTS ON FORMER POPLAR BUS DEPOT - CONSENTED V MAX PARAMETER

Average Daylight Factor (ADF) - Annual Probable Sunlight Hours (APSH)

Main Block 1/3

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
FORMER BUS DEPOT - MAIN BLOCK - 1/3						
LEVEL 0	1	L/K/D	1.8	1.6	0.2	11.1
	2	L/K/D	1.9	1.8	0.1	5.3
	3	L/K/D	1.9	1.7	0.2	10.5
	4	L/K/D	1.9	1.6	0.3	15.8
	5	L/K/D	1.9	1.6	0.3	15.8
	6	L/K/D	1.8	1.6	0.2	11.1
	7	L/K/D	1.9	1.6	0.3	15.8
	8	L/K/D	1.8	1.4	0.4	22.2

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
FORMER BUS DEPOT - MAIN BLOCK - 1/3								
LEVEL 0	1	L/K/D	11	0	7	0	36.4	0.0
	2	L/K/D	11	0	7	0	36.4	0.0
	3	L/K/D	12	0	7	0	41.7	0.0
	4	L/K/D	13	1	7	0	46.2	100.0
	5	L/K/D	13	1	6	0	53.8	100.0
	6	L/K/D	14	1	7	1	50.0	0.0
	7	L/K/D	12	0	6	0	50.0	0.0
	8	L/K/D	11	0	5	0	54.5	0.0

Table 01: Assessment Data



Fig. 01: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 1	9	BEDROOM	1.8	1.6	0.2	11.1
	10	BEDROOM	1.4	1.4	0.0	0.0
	11	BEDROOM	2.0	1.7	0.3	15.0
	12	BEDROOM	0.8	0.7	0.1	12.5
	13	BEDROOM	2.4	1.9	0.5	20.8
	14	BEDROOM	2.2	2.1	0.1	4.5
	15	BEDROOM	2.2	1.8	0.4	18.2
	16	BEDROOM	2.2	2.0	0.2	9.1
	17	BEDROOM	2.0	1.5	0.5	25.0
	18	BEDROOM	1.7	1.5	0.2	11.8
	19	BEDROOM	2.1	1.6	0.5	23.8
	20	BEDROOM	2.3	2.1	0.2	8.7
	21	BEDROOM	2.3	1.7	0.6	26.1
	22	BEDROOM	2.1	1.8	0.3	14.3
	23	BEDROOM	2.1	1.5	0.6	28.6
	24	BEDROOM	1.9	1.6	0.3	15.8
	25	BEDROOM	1.0	0.7	0.3	30.0
	26	BEDROOM	2.2	1.9	0.3	13.6
	27	BEDROOM	1.2	0.8	0.4	33.3
	28	BEDROOM	1.6	1.4	0.2	12.5

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 1	9	BEDROOM	25	3	18	0	28.0	100.0
	10	BEDROOM	5	0	4	0	20.0	0.0
	11	BEDROOM	21	3	12	0	42.9	100.0
	12	BEDROOM	5	0	4	0	20.0	0.0
	13	BEDROOM	26	3	17	0	34.6	100.0
	14	BEDROOM	7	0	6	0	14.3	0.0
	15	BEDROOM	26	3	16	0	38.5	100.0
	16	BEDROOM	7	0	6	0	14.3	0.0
	17	BEDROOM	21	3	11	1	47.6	66.7
	18	BEDROOM	7	0	6	0	14.3	0.0
	19	BEDROOM	26	3	15	1	42.3	66.7
	20	BEDROOM	7	0	5	0	28.6	0.0
	21	BEDROOM	25	2	13	1	48.0	50.0
	22	BEDROOM	7	0	5	0	28.6	0.0
	23	BEDROOM	19	1	9	1	52.6	0.0
	24	BEDROOM	8	0	4	0	50.0	0.0
	25	BEDROOM	25	2	13	1	48.0	50.0
	26	BEDROOM	7	0	3	0	57.1	0.0
	27	BEDROOM	23	2	12	1	47.8	50.0
	28	BEDROOM	6	0	3	0	50.0	0.0

Table 02: Assessment Data



Fig. 02: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 2	29	L/K/D	2.4	1.8	0.6	25.0
	30	BEDROOM	2.9	2.3	0.6	20.7
	31	BEDROOM	2.5	2.1	0.4	16.0
	32	L/K/D	3.1	2.5	0.6	19.4
	33	BEDROOM	3.0	2.3	0.7	23.3
	34	BEDROOM	2.9	2.2	0.7	24.1
	35	LIVING ROOM	1.9	1.3	0.6	31.6
	36	BEDROOM	3.2	2.4	0.8	25.0
	37	BEDROOM	2.7	2.0	0.7	25.9
	38	BEDROOM	2.7	2.0	0.7	25.9
	39	BEDROOM	3.1	2.3	0.8	25.8
	40	LIVING ROOM	1.8	1.2	0.6	33.3
	41	BEDROOM	2.9	2.0	0.9	31.0
	42	BEDROOM	2.9	2.0	0.9	31.0
	43	BEDROOM	2.8	2.0	0.8	28.6
	44	BEDROOM	2.6	1.8	0.8	30.8
	45	L/K/D	4.2	3.1	1.1	26.2
	46	BEDROOM	2.2	1.8	0.4	18.2
	47	BEDROOM	1.6	1.2	0.4	25.0
	48	LIVING ROOM	3.8	2.9	0.9	23.7

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 2	29	L/K/D	46	12	30	3	34.8	75.0
	30	BEDROOM	35	8	20	1	42.9	87.5
	31	BEDROOM	16	1	9	0	43.8	100.0
	32	L/K/D	43	12	25	4	41.9	66.7
	33	BEDROOM	43	12	26	4	39.5	66.7
	34	BEDROOM	39	10	18	1	53.8	90.0
	35	LIVING ROOM	19	6	6	1	68.4	83.3
	36	BEDROOM	42	11	22	3	47.6	72.7
	37	BEDROOM	42	11	23	4	45.2	63.6
	38	BEDROOM	42	11	21	4	50.0	63.6
	39	BEDROOM	38	9	18	2	52.6	77.8
	40	LIVING ROOM	17	5	7	2	58.8	60.0
	41	BEDROOM	42	11	21	4	50.0	63.6
	42	BEDROOM	41	10	20	4	51.2	60.0
	43	BEDROOM	42	11	19	3	54.8	72.7
	44	BEDROOM	41	10	19	2	53.7	80.0
	45	L/K/D	84	28	64	21	23.8	25.0
	46	BEDROOM	58	24	46	17	20.7	29.2
	47	BEDROOM	44	18	33	12	25.0	33.3
	48	LIVING ROOM	69	29	50	21	27.5	27.6

Table 03: Assessment Data



Fig. 03: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 3	49	BEDROOM	2.4	2.3	0.1	4.2
	50	L/K/D	4.0	3.5	0.5	12.5
	51	BEDROOM	3.8	3.4	0.4	10.5
	52	BEDROOM	4.8	4.0	0.8	16.7
	53	LIVING ROOM	3.8	3.4	0.4	10.5
	54	KITCHEN	3.4	2.6	0.8	23.5
	55	BEDROOM	2.7	2.0	0.7	25.9
	56	BEDROOM	3.1	2.4	0.7	22.6
	57	BEDROOM	3.0	2.3	0.7	23.3
	58	LIVING ROOM	3.8	2.9	0.9	23.7
	59	BEDROOM	3.3	2.4	0.9	27.3
	60	BEDROOM	2.8	2.0	0.8	28.6
	61	BEDROOM	2.9	2.0	0.9	31.0
	62	BEDROOM	3.3	2.3	1.0	30.3
	63	LIVING ROOM	2.0	1.2	0.8	40.0
	64	BEDROOM	3.1	2.1	1.0	32.3
	65	BEDROOM	3.0	2.1	0.9	30.0
	66	BEDROOM	2.9	2.0	0.9	31.0
	67	BEDROOM	2.8	1.8	1.0	35.7
	68	L/K/D	4.2	3.0	1.2	28.6
	69	BEDROOM	2.2	1.8	0.4	18.2
	70	BEDROOM	1.6	1.2	0.4	25.0
	71	LIVING ROOM	3.7	2.8	0.9	24.3

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 3	49	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	50	L/K/D	43	11	29	3	32.6	72.7
	51	BEDROOM	18	2	11	0	38.9	100.0
	52	BEDROOM	43	11	28	3	34.9	72.7
	53	LIVING ROOM	24	2	16	0	33.3	100.0
	54	KITCHEN	46	14	27	4	41.3	71.4
	55	BEDROOM	46	14	27	4	41.3	71.4
	56	BEDROOM	46	14	28	4	39.1	71.4
	57	BEDROOM	46	14	26	4	43.5	71.4
	58	LIVING ROOM	39	10	21	1	46.2	90.0
	59	BEDROOM	46	14	26	3	43.5	78.6
	60	BEDROOM	46	14	25	4	45.7	71.4
	61	BEDROOM	46	14	22	4	52.2	71.4
	62	BEDROOM	42	12	19	2	54.8	83.3
	63	LIVING ROOM	20	7	7	2	65.0	71.4
	64	BEDROOM	45	13	21	4	53.3	69.2
	65	BEDROOM	45	13	21	4	53.3	69.2
	66	BEDROOM	44	12	20	3	54.5	75.0
	67	BEDROOM	43	11	20	2	53.5	81.8
	68	L/K/D	86	29	66	21	23.3	27.6
	69	BEDROOM	59	25	48	18	18.6	28.0
	70	BEDROOM	45	19	35	13	22.2	31.6
	71	LIVING ROOM	70	30	53	23	24.3	23.3

Table 04: Assessment Data



Fig. 04: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 4	72	L/K/D	3.7	3.6	0.1	2.7
	73	BEDROOM	1.6	1.5	0.1	6.3
	74	BEDROOM	1.6	1.5	0.1	6.3
	75	KITCHEN	6.1	5.6	0.5	8.2
	76	BEDROOM	3.4	2.5	0.9	26.5
	77	BEDROOM	2.9	2.1	0.8	27.6
	78	BEDROOM	2.9	2.1	0.8	27.6
	79	BEDROOM	3.4	2.5	0.9	26.5
	80	LIVING ROOM	4.0	3.0	1.0	25.0
	81	BEDROOM	3.2	2.2	1.0	31.3
	82	BEDROOM	3.1	2.2	0.9	29.0
	83	BEDROOM	3.1	2.1	1.0	32.3
	84	BEDROOM	2.9	2.0	0.9	31.0
	85	L/K/D	4.4	3.1	1.3	29.5
	86	BEDROOM	2.2	1.8	0.4	18.2
	87	BEDROOM	1.6	1.3	0.3	18.8
	88	LIVING ROOM	3.8	2.9	0.9	23.7

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 4	72	L/K/D	N/A	N/A	N/A	N/A	N/A	N/A
	73	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	74	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	75	KITCHEN	33	4	26	1	21.2	75.0
	76	BEDROOM	46	14	27	4	41.3	71.4
	77	BEDROOM	46	14	26	5	43.5	64.3
	78	BEDROOM	46	14	25	5	45.7	64.3
	79	BEDROOM	46	14	26	5	43.5	64.3
	80	LIVING ROOM	39	10	20	3	48.7	70.0
	81	BEDROOM	46	14	25	5	45.7	64.3
	82	BEDROOM	46	14	25	5	45.7	64.3
	83	BEDROOM	46	14	25	4	45.7	71.4
	84	BEDROOM	45	13	23	3	48.9	76.9
	85	L/K/D	87	30	70	23	19.5	23.3
	86	BEDROOM	59	25	48	18	18.6	28.0
	87	BEDROOM	45	19	35	13	22.2	31.6
	88	LIVING ROOM	71	30	56	23	21.1	23.3

Table 05: Assessment Data



Fig. 05: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 5	89	LIVING ROOM	2.7	2.2	0.5	18.5
	90	BEDROOM	4.8	3.9	0.9	18.8
	91	BEDROOM	4.3	3.5	0.8	18.6
	92	L/K/D	3.4	3.2	0.2	5.9
	93	LIVING ROOM	6.3	5.0	1.3	20.6
	94	BEDROOM	3.4	2.4	1.0	29.4
	95	BEDROOM	3.5	2.5	1.0	28.6
	96	BEDROOM	8.1	5.9	2.2	27.2
	97	BEDROOM	3.6	3.0	0.6	16.7
	98	BEDROOM	2.2	1.8	0.4	18.2
	99	BEDROOM	1.7	1.3	0.4	23.5
	100	LIVING ROOM	3.9	3.1	0.8	20.5

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 5	89	LIVING ROOM	41	11	26	2	36.6	81.8
	90	BEDROOM	39	9	24	2	38.5	77.8
	91	BEDROOM	37	7	25	3	32.4	57.1
	92	L/K/D	N/A	N/A	N/A	N/A	N/A	N/A
	93	LIVING ROOM	46	14	28	6	39.1	57.1
	94	BEDROOM	46	14	27	5	41.3	64.3
	95	BEDROOM	46	14	27	5	41.3	64.3
	96	BEDROOM	89	30	70	22	21.3	26.7
	97	BEDROOM	68	27	57	20	16.2	25.9
	98	BEDROOM	60	25	49	18	18.3	28.0
	99	BEDROOM	45	19	35	13	22.2	31.6
	100	LIVING ROOM	73	30	58	23	20.5	23.3

Table 06: Assessment Data



Fig. 06: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 6	101	L/K/D	4.9	4.1	0.8	16.3
	102	BEDROOM	3.4	2.5	0.9	26.5
	103	BEDROOM	8.6	6.4	2.2	25.6
	104	BEDROOM	3.8	3.3	0.5	13.2
	105	BEDROOM	2.3	1.9	0.4	17.4
	106	BEDROOM	1.8	1.4	0.4	22.2
	107	LIVING ROOM	5.0	4.2	0.8	16.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 6	101	L/K/D	46	14	28	5	39.1	64.3
	102	BEDROOM	46	14	28	4	39.1	71.4
	103	BEDROOM	93	30	75	22	19.4	26.7
	104	BEDROOM	72	27	61	20	15.3	25.9
	105	BEDROOM	65	24	56	18	13.8	25.0
	106	BEDROOM	46	19	37	13	19.6	31.6
	107	LIVING ROOM	89	30	75	23	15.7	23.3

Table 07: Assessment Data



Fig. 07: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 7	108	LIVING ROOM	6.3	5.6	0.7	11.1
	109	BEDROOM	7.9	6.6	1.3	16.5
	110	KITCHEN	4.1	3.5	0.6	14.6

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER		
LEVEL 7	108	LIVING ROOM	48	15	33	6	31.3	60.0
	109	BEDROOM	92	30	77	22	16.3	26.7
	110	KITCHEN	75	28	63	20	16.0	28.6

Table 08: Assessment Data

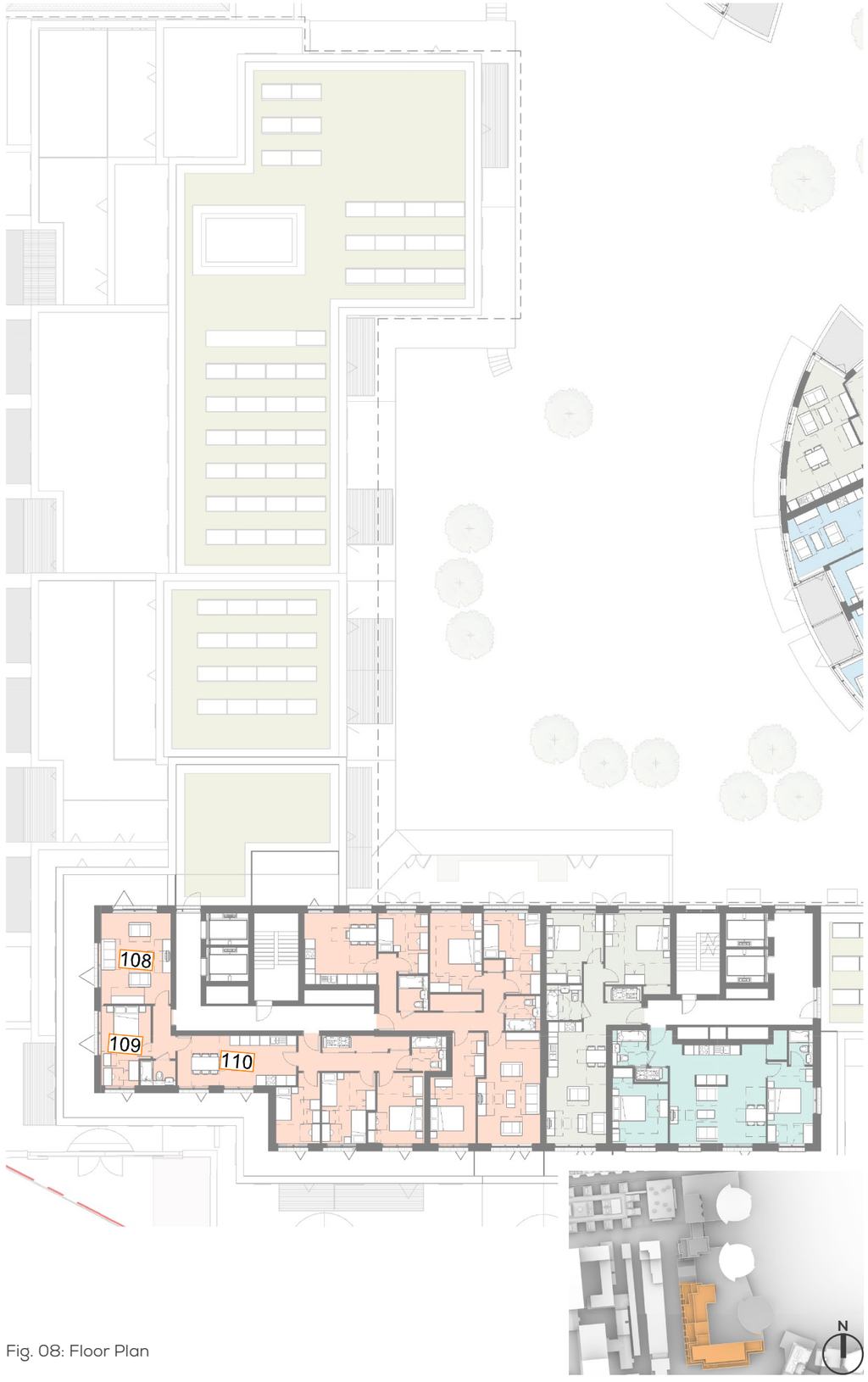


Fig. 08: Floor Plan

DAYLIGHT/SUNLIGHT IMPACTS ON FORMER POPLAR BUS DEPOT - EXISTING V PROPOSED

Average Daylight Factor (ADF) - Annual Probable Sunlight Hours (APSH)

Main Block 2/3

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
FORMER BUS DEPOT - MAIN BLOCK - 2/3						
LEVEL 1	111	BEDROOM	0.4	0.4	0.0	0.0
	112	LIVING ROOM	1.2	1.1	0.1	8.3
	113	L/K/D	2.9	2.9	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
FORMER BUS DEPOT - MAIN BLOCK - 2/3								
LEVEL 1	111	BEDROOM	3	0	3	0	0.0	0.0
	112	LIVING ROOM	10	2	10	2	0.0	0.0
	113	L/K/D	25	5	22	2	12.0	60.0

Table 09: Assessment Data

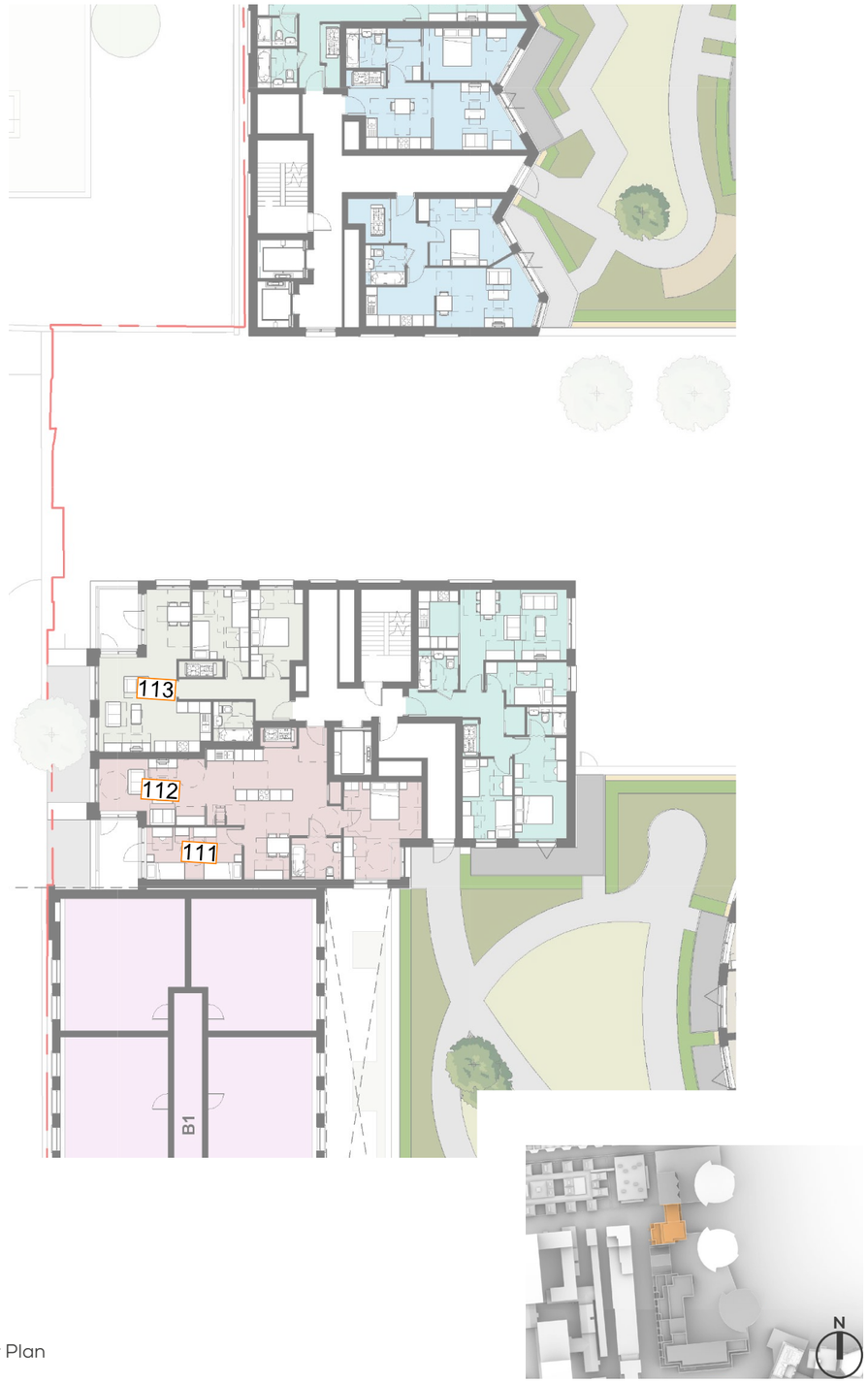


Fig. 09: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 2	114	BEDROOM	1.2	1.0	0.2	16.7
	115	L/K/D	1.0	0.9	0.1	10.0
	116	L/K/D	3.5	3.4	0.1	2.9

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 2	114	BEDROOM	10	6	8	5	20.0	16.7
	115	L/K/D	29	9	23	4	20.7	55.6
	116	L/K/D	36	11	32	7	11.1	36.4

Table 10: Assessment Data



Fig. 10: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 3	117	BEDROOM	1.7	1.3	0.4	23.5
	118	L/K/D	1.4	1.1	0.3	21.4
	119	L/K/D	3.9	3.7	0.2	5.1
	120	BEDROOM	1.6	1.6	0.0	0.0
	121	L/K/D	2.3	2.2	0.1	4.3
	122	L/K/D	2.2	2.2	0.0	0.0
	123	BEDROOM	1.2	1.3	-0.1	-8.3

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 3	117	BEDROOM	17	13	9	6	47.1	53.8
	118	L/K/D	37	16	28	8	24.3	50.0
	119	L/K/D	39	12	34	7	12.8	41.7
	120	BEDROOM	10	0	10	0	0.0	0.0
	121	L/K/D	24	0	24	0	0.0	0.0
	122	L/K/D	24	1	24	1	0.0	0.0
	123	BEDROOM	10	2	10	2	0.0	0.0

Table 11: Assessment Data

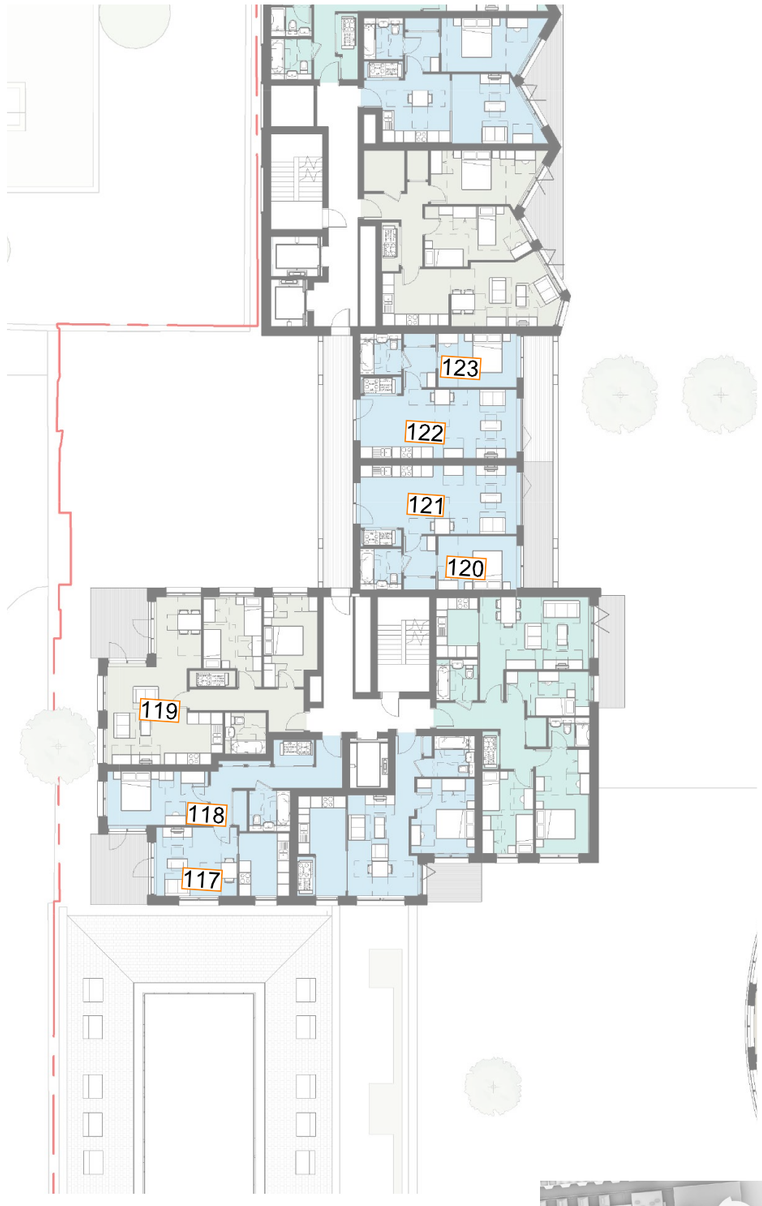


Fig. 11: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 4	124	BEDROOM	4.2	3.7	0.5	11.9
	125	L/K/D	2.2	1.9	0.3	13.6
	126	L/K/D	5.7	5.5	0.2	3.5
	127	BEDROOM	1.7	1.7	0.0	0.0
	128	L/K/D	2.4	2.3	0.1	4.2
	129	L/K/D	2.4	2.3	0.1	4.2
	130	BEDROOM	1.3	1.3	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 4	124	BEDROOM	44	15	36	7	18.2	53.3
	125	L/K/D	57	21	49	13	14.0	38.1
	126	L/K/D	44	12	39	7	11.4	41.7
	127	BEDROOM	10	0	10	0	0.0	0.0
	128	L/K/D	26	1	25	0	3.8	100.0
	129	L/K/D	27	4	26	3	3.7	25.0
	130	BEDROOM	10	2	10	2	0.0	0.0

Table 12: Assessment Data

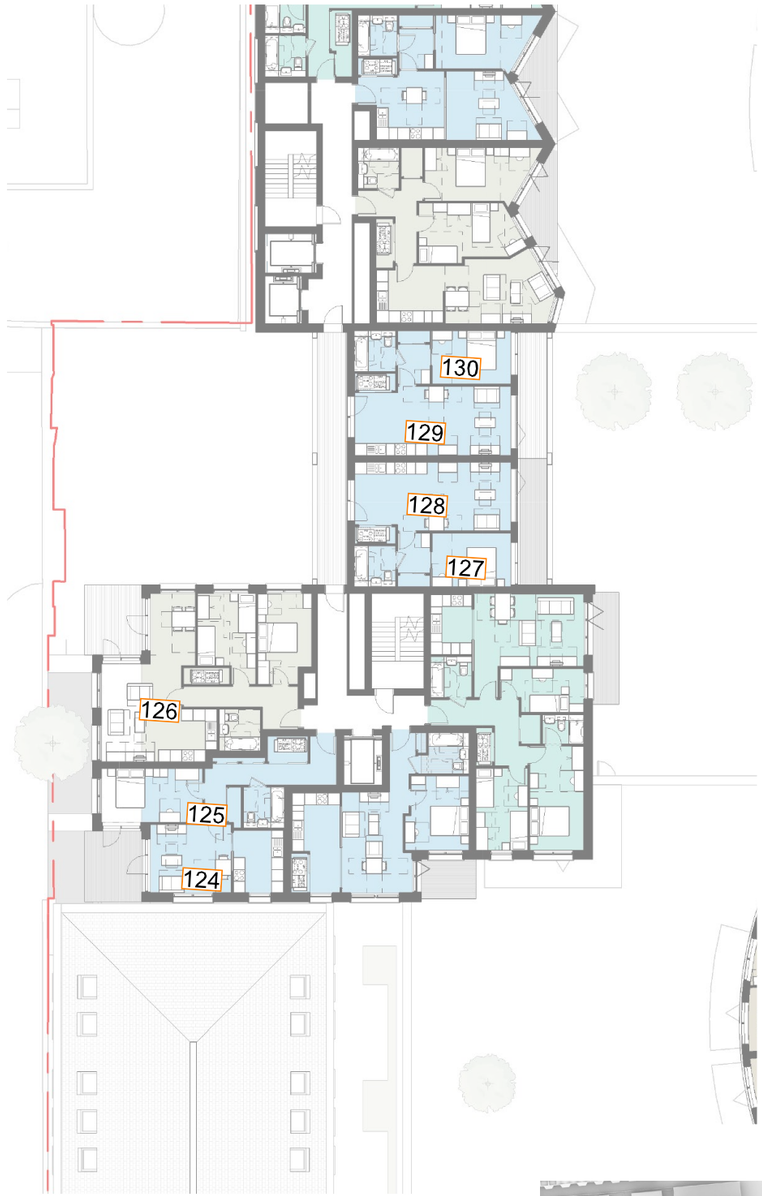




Fig. 12: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 5	131	KITCHEN	2.0	1.9	0.1	5.0
	132	LIVING ROOM	3.8	3.5	0.3	7.9
	133	BEDROOM	6.9	6.3	0.6	8.7
	134	BEDROOM	5.6	5.2	0.4	7.1
	135	BEDROOM	5.9	5.6	0.3	5.1
	136	BEDROOM	3.1	3.1	0.0	0.0
	137	L/K/D	3.3	3.2	0.1	3.0
	138	L/K/D	3.2	3.0	0.2	6.3
	139	BEDROOM	2.4	2.4	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 5	131	KITCHEN	38	15	36	13	5.3	13.3
	132	LIVING ROOM	63	24	55	16	12.7	33.3
	133	BEDROOM	77	25	68	17	11.7	32.0
	134	BEDROOM	42	12	35	5	16.7	58.3
	135	BEDROOM	41	11	35	5	14.6	54.5
	136	BEDROOM	10	0	10	0	0.0	0.0
	137	L/K/D	36	6	34	4	5.6	33.3
	138	L/K/D	36	8	32	4	11.1	50.0
	139	BEDROOM	17	3	17	3	0.0	0.0

Table 13: Assessment Data



Fig. 13: Floor Plan

DAYLIGHT/SUNLIGHT IMPACTS ON FORMER POPLAR BUS DEPOT - EXISTING V PROPOSED

Average Daylight Factor (ADF) - Annual Probable Sunlight Hours (APSH)

Main Block 3/3

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
FORMER BUS DEPOT - MAIN BLOCK - 3/3						
LEVEL 1	140	L/K/D	1.5	1.4	0.1	6.7
	141	BEDROOM	1.2	1.2	0.0	0.0
	142	BEDROOM	1.5	1.4	0.1	6.7
	143	BEDROOM	1.3	1.2	0.1	7.7

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER		
FORMER BUS DEPOT - MAIN BLOCK - 3/3								
LEVEL 1	140	L/K/D	6	0	6	0	0.0	0.0
	141	BEDROOM	3	0	3	0	0.0	0.0
	142	BEDROOM	3	0	3	0	0.0	0.0
	143	BEDROOM	3	0	3	0	0.0	0.0

Table 14: Assessment Data

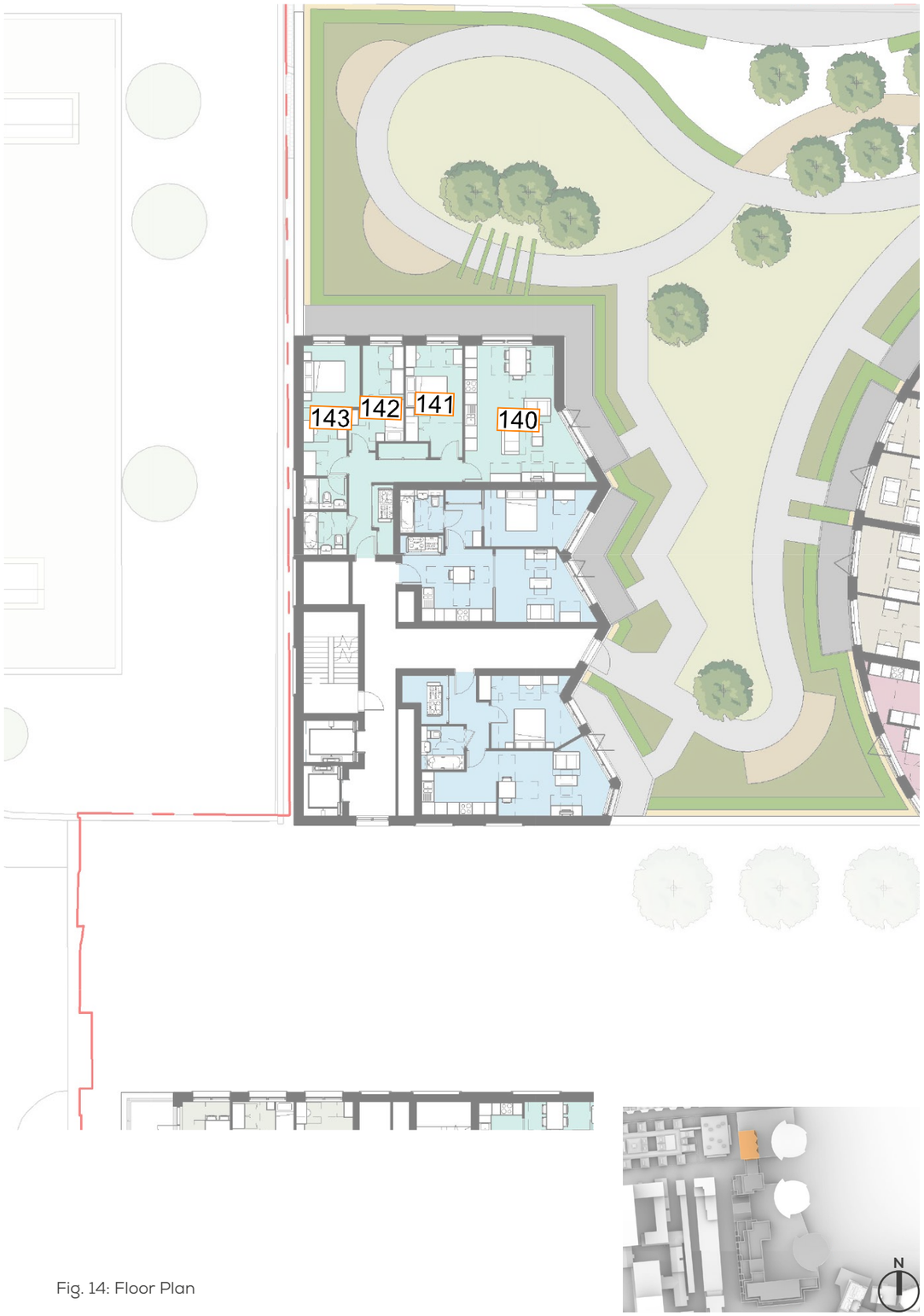


Fig. 14: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 2	144	L/K/D	1.5	1.4	0.1	6.7
	145	BEDROOM	1.3	1.2	0.1	7.7
	146	BEDROOM	1.6	1.5	0.1	6.3
	147	BEDROOM	1.4	1.3	0.1	7.1

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 2	144	L/K/D	6	0	6	0	0.0	0.0
	145	BEDROOM	3	0	3	0	0.0	0.0
	146	BEDROOM	3	0	3	0	0.0	0.0
	147	BEDROOM	3	0	3	0	0.0	0.0

Table 15: Assessment Data



Fig. 15: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 3	148	L/K/D	1.6	1.5	0.1	6.3
	149	BEDROOM	1.3	1.3	0.0	0.0
	150	BEDROOM	1.6	1.5	0.1	6.3
	151	BEDROOM	1.4	1.4	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 3	148	L/K/D	6	0	6	0	0.0	0.0
	149	BEDROOM	3	0	3	0	0.0	0.0
	150	BEDROOM	3	0	3	0	0.0	0.0
	151	BEDROOM	3	0	3	0	0.0	0.0

Table 16: Assessment Data



Fig. 16: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 4	152	L/K/D	1.6	1.6	0.0	0.0
	153	BEDROOM	1.4	1.3	0.1	7.1
	154	BEDROOM	1.7	1.6	0.1	5.9
	155	BEDROOM	1.5	1.4	0.1	6.7

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 4	152	L/K/D	6	0	6	0	0.0	0.0
	153	BEDROOM	3	0	3	0	0.0	0.0
	154	BEDROOM	3	0	3	0	0.0	0.0
	155	BEDROOM	3	0	3	0	0.0	0.0

Table 17: Assessment Data



Fig. 17: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 5	156	L/K/D	1.7	1.6	0.1	5.9
	157	BEDROOM	1.5	1.4	0.1	6.7
	158	BEDROOM	1.8	1.7	0.1	5.6
	159	BEDROOM	1.5	1.5	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 5	156	L/K/D	6	0	6	0	0.0	0.0
	157	BEDROOM	3	0	3	0	0.0	0.0
	158	BEDROOM	3	0	3	0	0.0	0.0
	159	BEDROOM	3	0	3	0	0.0	0.0

Table 18: Assessment Data



Fig. 18: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 6	160	L/K/D	1.7	1.7	0.0	0.0
	161	BEDROOM	1.5	1.5	0.0	0.0
	162	BEDROOM	1.9	1.8	0.1	5.3
	163	BEDROOM	1.6	1.5	0.1	6.3

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 6	160	L/K/D	6	0	6	0	0.0	0.0
	161	BEDROOM	3	0	3	0	0.0	0.0
	162	BEDROOM	3	0	3	0	0.0	0.0
	163	BEDROOM	3	0	3	0	0.0	0.0

Table 19: Assessment Data

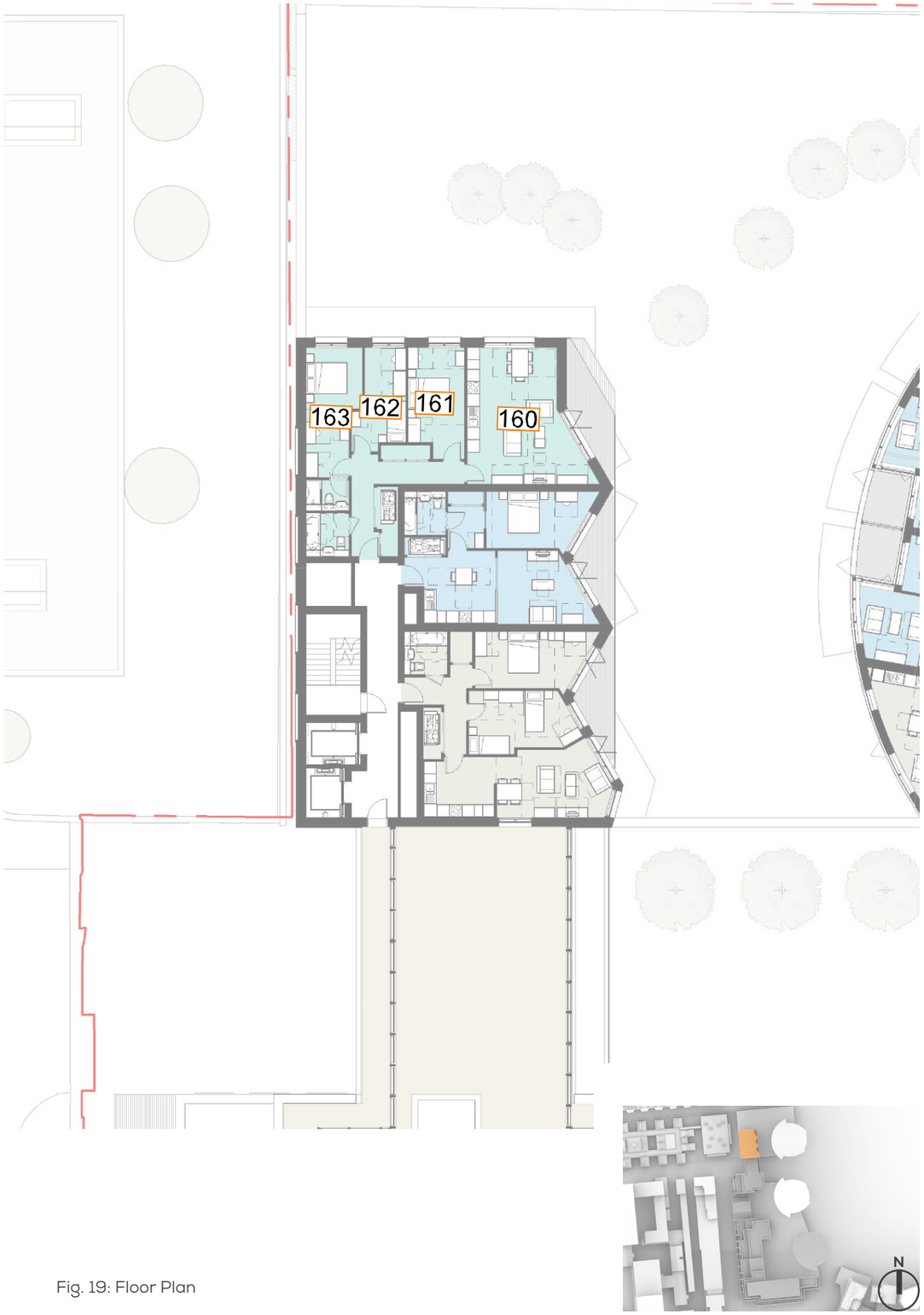


Fig. 19: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 7	164	L/K/D	1.8	1.8	0.0	0.0
	165	BEDROOM	1.6	1.6	0.0	0.0
	166	BEDROOM	1.9	1.9	0.0	0.0
	167	BEDROOM	1.7	1.6	0.1	5.9

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 7	164	L/K/D	6	0	6	0	0.0	0.0
	165	BEDROOM	3	0	3	0	0.0	0.0
	166	BEDROOM	3	0	3	0	0.0	0.0
	167	BEDROOM	3	0	3	0	0.0	0.0

Table 20: Assessment Data



Fig. 20: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 8	168	L/K/D	2.3	2.3	0.0	0.0
	169	BEDROOM	1.7	1.6	0.1	5.9
	170	BEDROOM	2.0	2.0	0.0	0.0
	171	BEDROOM	1.7	1.7	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 8	168	L/K/D	6	0	6	0	0.0	0.0
	169	BEDROOM	3	0	3	0	0.0	0.0
	170	BEDROOM	3	0	3	0	0.0	0.0
	171	BEDROOM	3	0	3	0	0.0	0.0

Table 21: Assessment Data



Fig. 21: Floor Plan

DAYLIGHT/SUNLIGHT IMPACTS ON FORMER POPLAR BUS DEPOT - EXISTING V PROPOSED

Average Daylight Factor (ADF) - Annual Probable Sunlight Hours (APSH)

Southern Tower

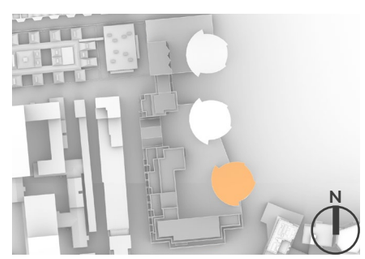
			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
FORMER BUS DEPOT - SOUTHERN TOWER						
LEVEL 1	172	BEDROOM	0.5	0.5	0.0	0.0
	173	L/K/D	3.4	3.4	0.0	0.0
	174	BEDROOM	4.0	3.8	0.2	5.0
	175	BEDROOM	3.0	3.0	0.0	0.0
	176	L/K/D	1.6	1.6	0.0	0.0
	177	L/K/D	1.5	1.5	0.0	0.0
	178	BEDROOM	2.2	2.2	0.0	0.0
	179	L/K/D	1.7	1.7	0.0	0.0
	180	BEDROOM	0.8	0.8	0.0	0.0
	181	BEDROOM	1.4	1.4	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER		
FORMER BUS DEPOT - SOUTHERN TOWER								
LEVEL 1	172	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	173	L/K/D	N/A	N/A	N/A	N/A	N/A	N/A
	174	BEDROOM	21	0	21	0	0.0	0.0
	175	BEDROOM	21	0	21	0	0.0	0.0
	176	L/K/D	21	0	21	0	0.0	0.0
	177	L/K/D	17	0	17	0	0.0	0.0
	178	BEDROOM	13	0	13	0	0.0	0.0
	179	L/K/D	21	2	20	2	4.8	0.0
	180	BEDROOM	8	2	8	2	0.0	0.0
	181	BEDROOM	35	9	35	9	0.0	0.0

Table 22: Assessment Data



Fig. 22: Floor Plan



			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 2	182	BEDROOM	1.2	1.2	0.0	0.0
	183	BEDROOM	0.7	0.7	0.0	0.0
	184	L/K/D	3.2	3.1	0.1	3.1
	185	BEDROOM	3.4	3.3	0.1	2.9
	186	L/K/D	1.7	1.6	0.1	5.9
	187	L/K/D	1.6	1.5	0.1	6.3
	188	BEDROOM	2.6	2.5	0.1	3.8
	189	L/K/D	1.9	1.9	0.0	0.0
	190	BEDROOM	0.8	0.8	0.0	0.0
	191	BEDROOM	1.5	1.5	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 2	182	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	183	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	184	L/K/D	27	2	25	2	7.4	0.0
	185	BEDROOM	30	0	29	0	3.3	0.0
	186	L/K/D	26	0	26	0	0.0	0.0
	187	L/K/D	25	0	24	0	4.0	0.0
	188	BEDROOM	23	0	21	0	8.7	0.0
	189	L/K/D	29	2	28	2	3.4	0.0
	190	BEDROOM	7	2	7	2	0.0	0.0
	191	BEDROOM	38	9	38	9	0.0	0.0

Table 23: Assessment Data



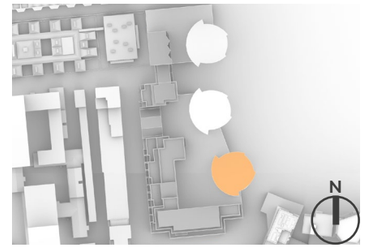


Fig. 23: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 3	192	BEDROOM	1.3	1.3	0.0	0.0
	193	BEDROOM	0.5	0.5	0.0	0.0
	194	L/K/D	2.8	2.7	0.1	3.6
	195	BEDROOM	3.6	3.3	0.3	8.3
	196	L/K/D	1.8	1.7	0.1	5.6
	197	L/K/D	1.7	1.6	0.1	5.9
	198	BEDROOM	2.9	2.8	0.1	3.4
	199	L/K/D	1.9	1.9	0.0	0.0
	200	BEDROOM	0.5	0.5	0.0	0.0
	201	BEDROOM	2.0	2.0	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
FLOOR	ROOM	ROOM USE	ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 3	192	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	193	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	194	L/K/D	32	5	28	3	12.5	40.0
	195	BEDROOM	36	3	33	2	8.3	33.3
	196	L/K/D	36	1	34	1	5.6	0.0
	197	L/K/D	34	0	33	0	2.9	0.0
	198	BEDROOM	31	0	29	0	6.5	0.0
	199	L/K/D	52	3	50	3	3.8	0.0
	200	BEDROOM	6	2	6	2	0.0	0.0
	201	BEDROOM	42	9	42	9	0.0	0.0

Table 24: Assessment Data



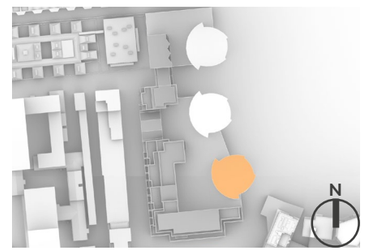
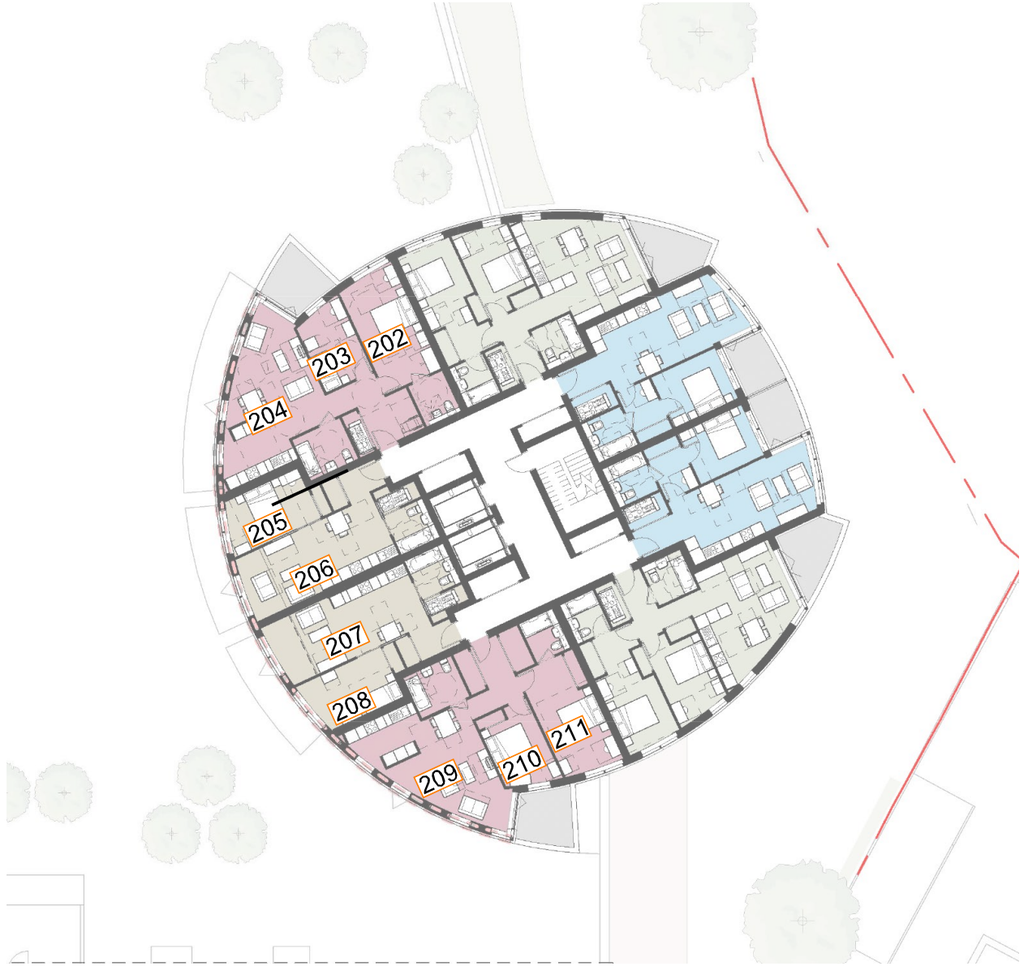


Fig. 24: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 4	202	BEDROOM	1.4	1.4	0.0	0.0
	203	BEDROOM	0.6	0.6	0.0	0.0
	204	L/K/D	2.9	2.8	0.1	3.4
	205	BEDROOM	3.9	3.5	0.4	10.3
	206	L/K/D	2.0	1.8	0.2	10.0
	207	L/K/D	1.9	1.7	0.2	10.5
	208	BEDROOM	3.4	3.1	0.3	8.8
	209	L/K/D	2.3	2.2	0.1	4.3
	210	BEDROOM	0.6	0.6	0.0	0.0
	211	BEDROOM	2.2	2.2	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 4	202	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	203	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	204	L/K/D	36	7	29	3	19.4	57.1
	205	BEDROOM	42	7	36	4	14.3	42.9
	206	L/K/D	42	6	39	5	7.1	16.7
	207	L/K/D	40	3	37	2	7.5	33.3
	208	BEDROOM	43	2	40	2	7.0	0.0
	209	L/K/D	63	3	61	3	3.2	0.0
	210	BEDROOM	6	2	6	2	0.0	0.0
	211	BEDROOM	47	9	47	9	0.0	0.0

Table 25: Assessment Data



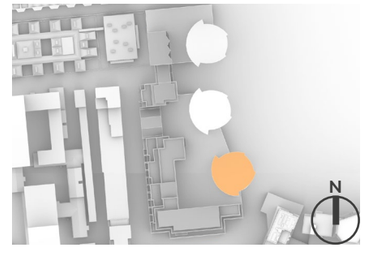
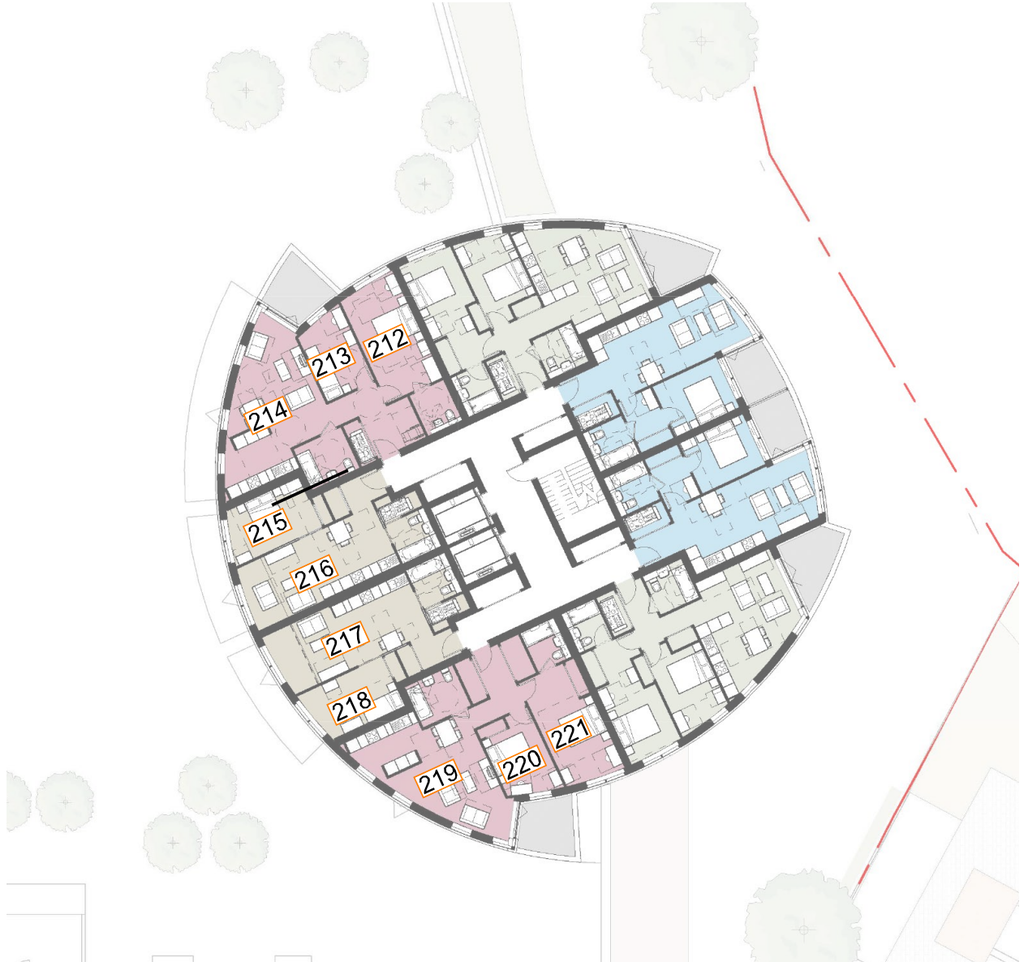


Fig. 25: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 5	212	BEDROOM	1.3	1.3	0.0	0.0
	213	BEDROOM	0.6	0.6	0.0	0.0
	214	L/K/D	3.0	2.8	0.2	6.7
	215	BEDROOM	4.1	3.7	0.4	9.8
	216	L/K/D	2.2	1.9	0.3	13.6
	217	L/K/D	2.0	1.9	0.1	5.0
	218	BEDROOM	3.8	3.5	0.3	7.9
	219	L/K/D	2.8	2.7	0.1	3.6
	220	BEDROOM	0.6	0.6	0.0	0.0
	221	BEDROOM	2.4	2.4	0.0	0.0

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 5	212	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	213	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	214	L/K/D	37	8	31	5	16.2	37.5
	215	BEDROOM	44	11	36	6	18.2	45.5
	216	L/K/D	47	11	42	8	10.6	27.3
	217	L/K/D	46	10	41	7	10.9	30.0
	218	BEDROOM	51	9	48	7	5.9	22.2
	219	L/K/D	73	10	72	10	1.4	0.0
	220	BEDROOM	6	2	6	2	0.0	0.0
	221	BEDROOM	51	13	51	13	0.0	0.0

Table 26: Assessment Data



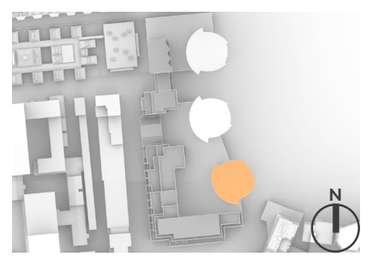
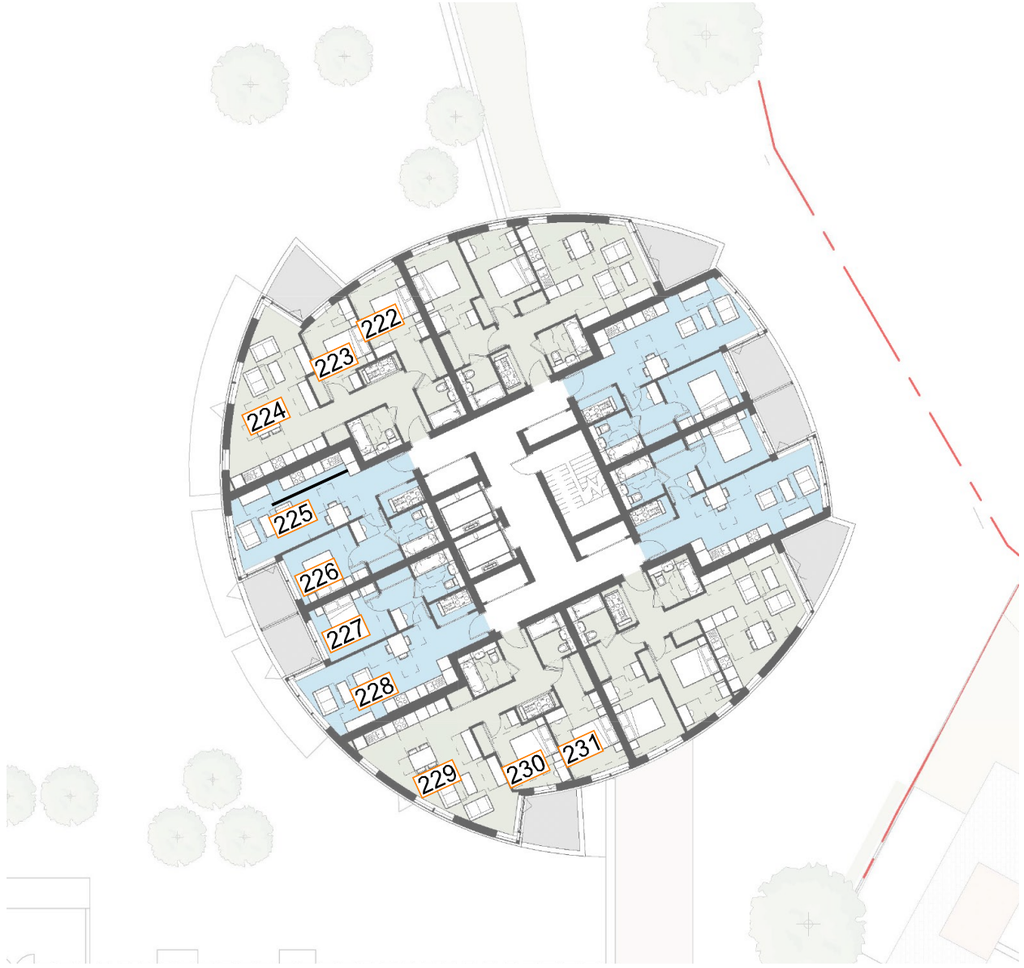


Fig. 26: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 6	222	BEDROOM	2.2	2.1	0.1	4.5
	223	BEDROOM	0.6	0.5	0.1	16.7
	224	L/K/D	3.7	3.4	0.3	8.1
	225	L/K/D	3.4	2.9	0.5	14.7
	226	BEDROOM	2.0	1.6	0.4	20.0
	227	BEDROOM	2.0	1.6	0.4	20.0
	228	L/K/D	3.5	3.1	0.4	11.4
	229	L/K/D	4.1	3.9	0.2	4.9
	230	BEDROOM	0.8	0.8	0.0	0.0
	231	BEDROOM	3.6	3.5	0.1	2.8

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 6	222	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	223	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	224	L/K/D	39	10	33	6	15.4	40.0
	225	L/K/D	55	20	47	14	14.5	30.0
	226	BEDROOM	10	5	4	0	60.0	100.0
	227	BEDROOM	10	5	4	0	60.0	100.0
	228	L/K/D	63	21	57	16	9.5	23.8
	229	L/K/D	87	23	83	20	4.6	13.0
	230	BEDROOM	8	5	8	5	0.0	0.0
	231	BEDROOM	54	16	54	16	0.0	0.0

Table 27: Assessment Data



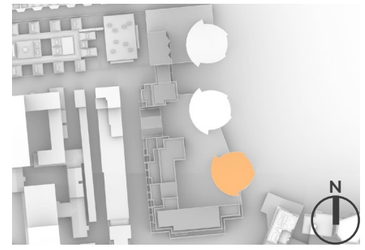
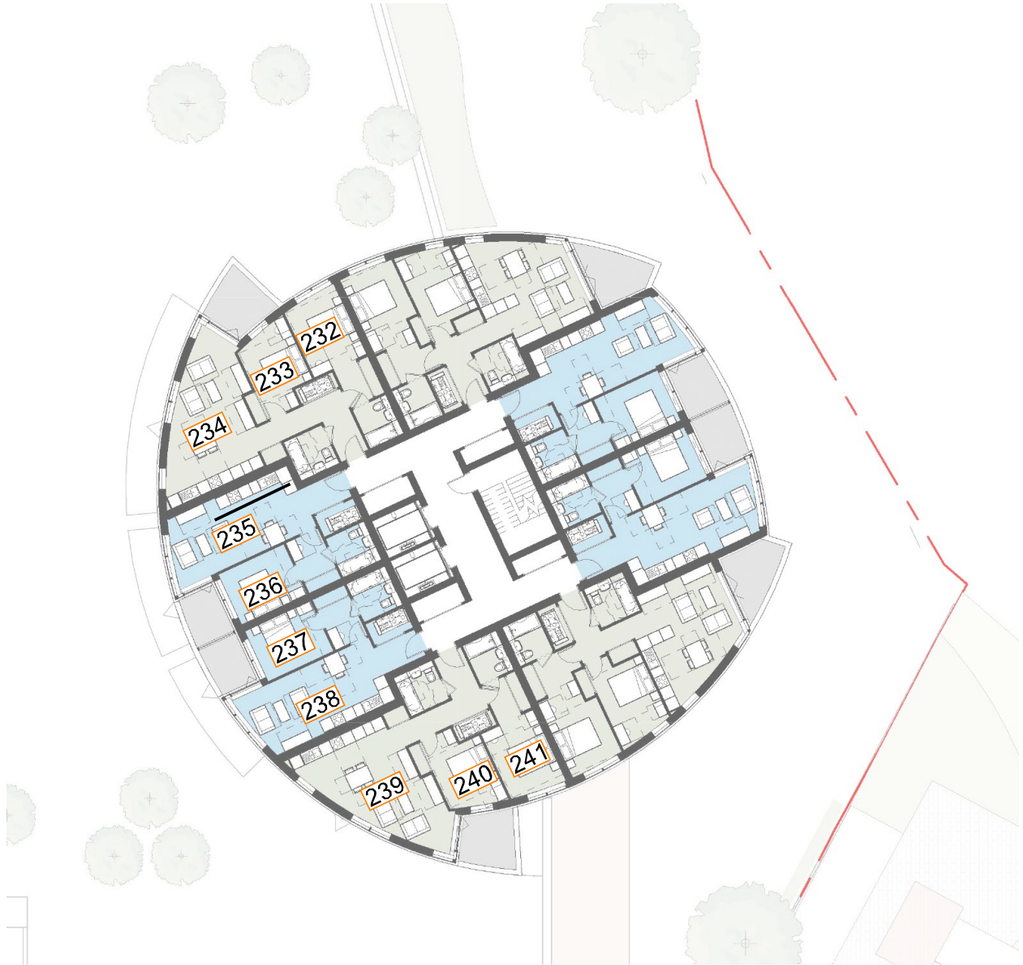


Fig. 27: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 7	232	BEDROOM	2.2	2.1	0.1	4.5
	233	BEDROOM	0.6	0.6	0.0	0.0
	234	L/K/D	3.8	3.4	0.4	10.5
	235	L/K/D	3.5	3.0	0.5	14.3
	236	BEDROOM	2.1	1.7	0.4	19.0
	237	BEDROOM	2.1	1.6	0.5	23.8
	238	L/K/D	3.6	3.2	0.4	11.1
	239	L/K/D	4.5	4.2	0.3	6.7
	240	BEDROOM	1.0	0.9	0.1	10.0
	241	BEDROOM	3.8	3.7	0.1	2.6

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER		
LEVEL 7	232	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	233	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	234	L/K/D	39	10	34	6	12.8	40.0
	235	L/K/D	56	21	49	15	12.5	28.6
	236	BEDROOM	12	7	5	1	58.3	85.7
	237	BEDROOM	12	7	5	1	58.3	85.7
	238	L/K/D	67	25	60	19	10.4	24.0
	239	L/K/D	92	28	85	22	7.6	21.4
	240	BEDROOM	9	6	9	6	0.0	0.0
	241	BEDROOM	55	17	54	16	1.8	5.9

Table 28: Assessment Data



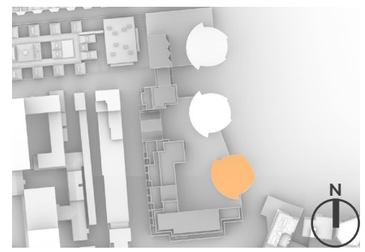


Fig. 28: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 8	242	BEDROOM	2.2	2.1	0.1	4.5
	243	BEDROOM	0.6	0.6	0.0	0.0
	244	L/K/D	3.8	3.5	0.3	7.9
	245	L/K/D	3.6	3.1	0.5	13.9
	246	BEDROOM	2.2	1.7	0.5	22.7
	247	BEDROOM	2.2	1.7	0.5	22.7
	248	L/K/D	3.7	3.2	0.5	13.5
	249	L/K/D	4.6	4.3	0.3	6.5
	250	BEDROOM	1.0	0.9	0.1	10.0
	251	BEDROOM	3.9	3.8	0.1	2.6

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 8	242	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	243	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	244	L/K/D	39	10	34	6	12.8	40.0
	245	L/K/D	56	21	50	16	10.7	23.8
	246	BEDROOM	12	7	5	1	58.3	85.7
	247	BEDROOM	12	7	5	1	58.3	85.7
	248	L/K/D	67	25	60	19	10.4	24.0
	249	L/K/D	94	30	87	24	7.4	20.0
	250	BEDROOM	11	8	11	8	0.0	0.0
	251	BEDROOM	57	19	56	18	1.8	5.3

Table 29: Assessment Data

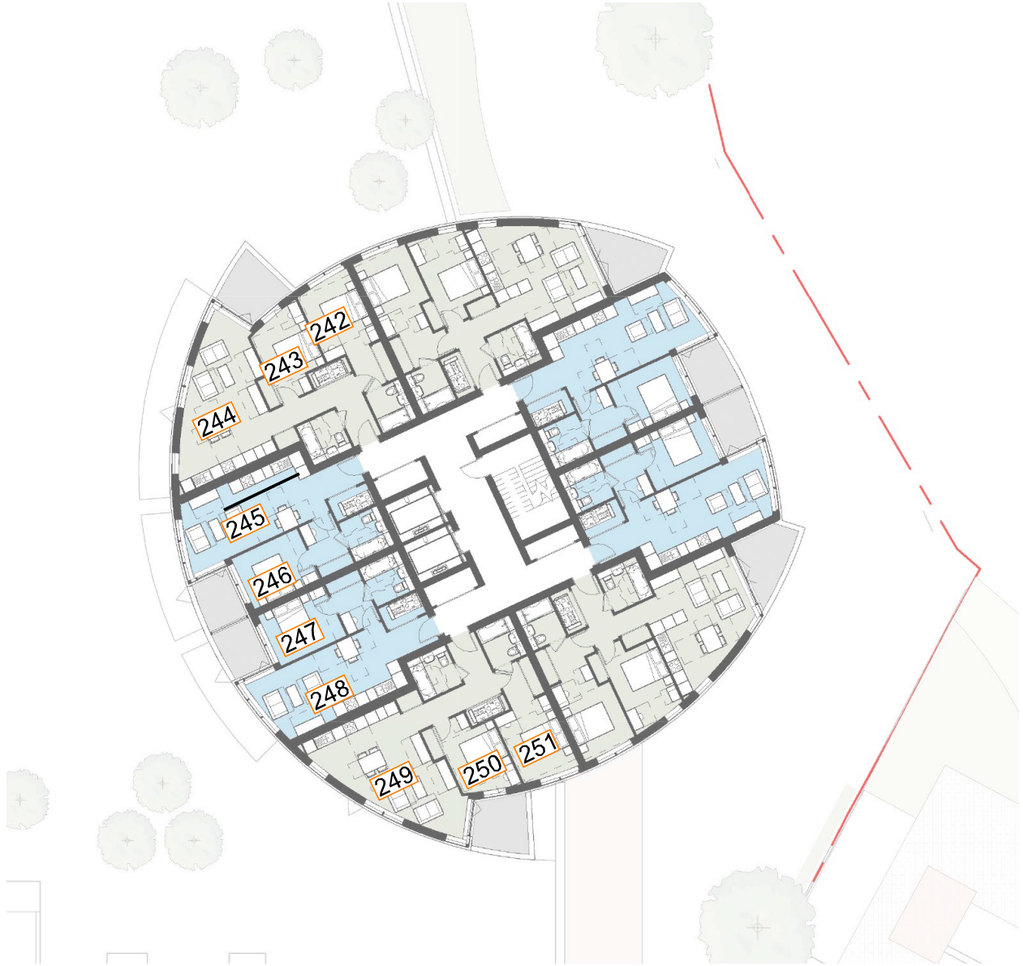
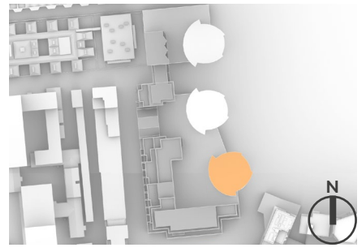


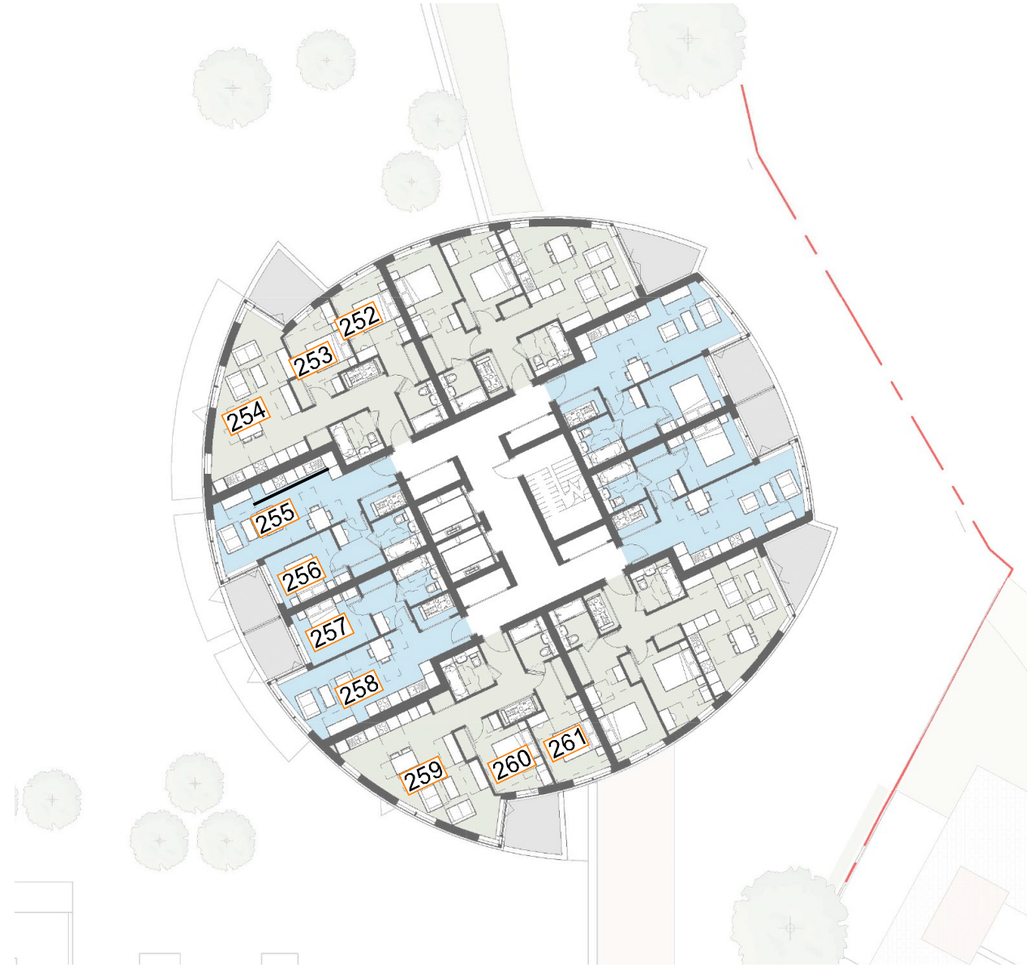
Fig. 29: Floor Plan



FLOOR	ROOM	ROOM USE	AVERAGE DAYLIGHT FACTOR			
			CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 9	252	BEDROOM	2.2	2.2	0.0	0.0
	253	BEDROOM	0.6	0.6	0.0	0.0
	254	L/K/D	3.8	3.5	0.3	7.9
	255	L/K/D	3.7	3.2	0.5	13.5
	256	BEDROOM	2.2	1.8	0.4	18.2
	257	BEDROOM	2.3	1.7	0.6	26.1
	258	L/K/D	3.8	3.3	0.5	13.2
	259	L/K/D	4.8	4.4	0.4	8.3
	260	BEDROOM	1.0	1.0	0.0	0.0
	261	BEDROOM	3.9	3.8	0.1	2.6

FLOOR	ROOM	ROOM USE	ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL % LOSS	WINTER % LOSS
			TOTAL	WINTER	TOTAL	WINTER		
LEVEL 9	252	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	253	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	254	L/K/D	39	10	35	6	10.3	40.0
	255	L/K/D	56	21	50	16	10.7	23.8
	256	BEDROOM	12	7	6	2	50.0	71.4
	257	BEDROOM	12	7	5	1	58.3	85.7
	258	L/K/D	67	25	60	19	10.4	24.0
	259	L/K/D	94	30	87	24	7.4	20.0
	260	BEDROOM	11	8	11	8	0.0	0.0
	261	BEDROOM	57	19	56	18	1.8	5.3

Table 30: Assessment Data



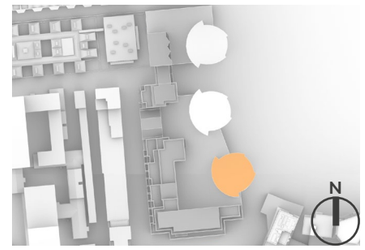
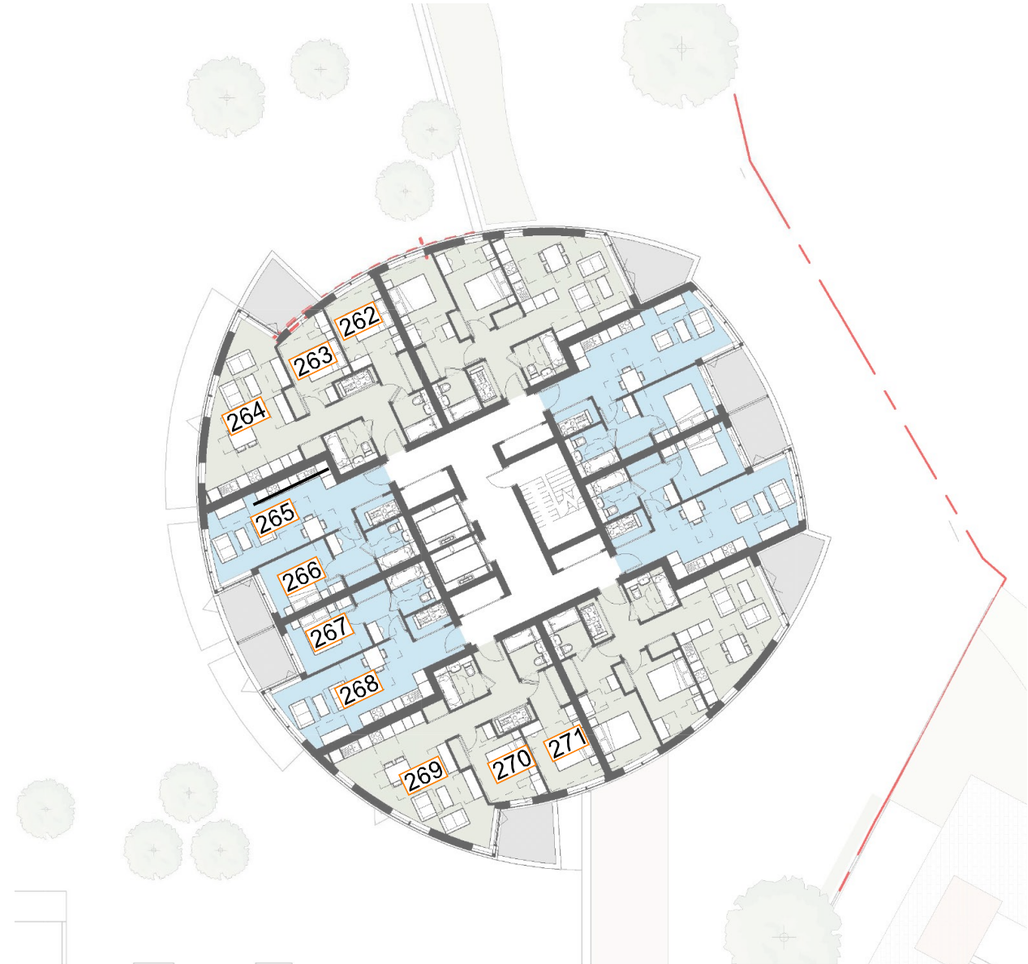


Fig. 30: Floor Plan

			AVERAGE DAYLIGHT FACTOR			
FLOOR	ROOM	ROOM USE	CONSENTED	MAX PARAMETER	LOSS	%
LEVEL 10	262	BEDROOM	2.2	2.1	0.1	4.5
	263	BEDROOM	0.5	0.5	0.0	0.0
	264	L/K/D	3.7	3.5	0.2	5.4
	265	L/K/D	3.7	3.2	0.5	13.5
	266	BEDROOM	2.3	1.9	0.4	17.4
	267	BEDROOM	2.3	1.9	0.4	17.4
	268	L/K/D	3.9	3.4	0.5	12.8
	269	L/K/D	4.8	4.5	0.3	6.3
	270	BEDROOM	1.0	1.0	0.0	0.0
	271	BEDROOM	3.8	3.7	0.1	2.6

			ANNUAL PROBABLE SUNLIGHT HOURS (ROOM)					
			ROOM CONSENTED		ROOM MAX PARAMETER		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
LEVEL 10	262	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	263	BEDROOM	N/A	N/A	N/A	N/A	N/A	N/A
	264	L/K/D	39	10	35	6	10.3	40.0
	265	L/K/D	56	21	50	16	10.7	23.8
	266	BEDROOM	12	7	6	2	50.0	71.4
	267	BEDROOM	12	7	6	2	50.0	71.4
	268	L/K/D	67	25	61	20	9.0	20.0
	269	L/K/D	94	30	89	25	5.3	16.7
	270	BEDROOM	11	8	11	8	0.0	0.0
	271	BEDROOM	57	19	56	18	1.8	5.3

Table 31: Assessment Data



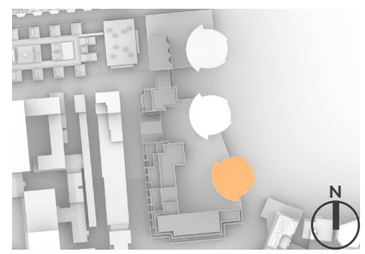


Fig. 31: Floor Plan

Baseline v
Consented

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
ABERFELDY ESTATE PHASE THREE BLOCK G																	
F01	R1	L/K/D	W1	27.9	25.7	2.2	7.9	97.2	97.2	0.0	0.0	2	0	0	0	100.0	0.0
			W2	31.4	28.3	3.1	9.9					8	0	5	0	37.5	0.0
			W3	2.9	2.5	0.4	13.8					5	0	5	0	0.0	0.0
	R2	BEDROOM	W4	7.8	4.3	3.5	44.9	77.5	72.7	4.8	6.2	5	0	3	0	40.0	0.0
			W5	11.9	10.3	1.6	13.4					11	1	10	1	9.1	0.0
	R3	BEDROOM	W6	0.3	0.3	0.0	0.0	13.4	13.4	0.0	0.0	0	0	0	0	0.0	0.0
	R4	L/K/D	W7	4.5	2.0	2.5	55.6	57.2	48.9	8.3	14.5	2	0	1	0	50.0	0.0
			W8	12.8	11.4	1.4	10.9					14	4	13	4	7.1	0.0
F02	R1	L/K/D	W1	35.8	34.7	1.1	3.1	99.7	99.7	0.0	0.0	11	0	7	0	36.4	0.0
			W2	5.4	4.5	0.9	16.7					6	0	2	0	66.7	0.0
			W3	5.3	5.3	0.0	0.0					11	8	11	8	0.0	0.0
	R2	BEDROOM	W4	9.8	9.4	0.4	4.1	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	34.1	32.3	1.8	5.3	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	31.5	29.2	2.3	7.3	98.0	98.0	0.0	0.0	5	0	3	0	40.0	0.0
			W7	34.5	31.5	3.0	8.7					8	0	6	0	25.0	0.0
			W8	3.1	2.6	0.5	16.1					5	0	5	0	0.0	0.0
	R5	BEDROOM	W9	8.4	5.3	3.1	36.9	82.2	82.2	0.0	0.0	5	0	3	0	40.0	0.0
			W10	14.4	13.0	1.4	9.7					15	1	14	1	6.7	0.0
	R6	BEDROOM	W11	0.4	0.4	0.0	0.0	13.5	13.5	0.0	0.0	1	0	1	0	0.0	0.0
	R7	L/K/D	W12	4.7	2.6	2.1	44.7	57.7	54.9	2.8	4.9	2	0	1	0	50.0	0.0
			W13	14.4	13.2	1.2	8.3					18	5	17	5	5.6	0.0
F03	R1	L/K/D	W1	36.5	35.1	1.4	3.8	100.0	100.0	0.0	0.0	9	0	7	0	22.2	0.0
			W2	4.6	3.9	0.7	15.2					6	0	4	0	33.3	0.0
			W3	6.1	6.1	0.0	0.0					13	10	13	10	0.0	0.0
	R2	BEDROOM	W4	11.2	10.6	0.6	5.4	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	37.0	35.1	1.9	5.1	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	36.3	34.1	2.2	6.1	98.0	98.0	0.0	0.0	8	0	6	0	25.0	0.0
			W7	37.1	34.4	2.7	7.3					9	0	7	0	22.2	0.0
			W8	3.1	2.7	0.4	12.9					4	0	4	0	0.0	0.0
	R5	BEDROOM	W9	8.4	5.9	2.5	29.8	81.9	81.9	0.0	0.0	5	0	3	0	40.0	0.0
			W10	16.4	15.3	1.1	6.7					18	2	17	2	5.6	0.0
	R6	BEDROOM	W11	0.3	0.3	0.0	0.0	13.5	13.5	0.0	0.0	0	0	0	0	0.0	0.0
	R7	L/K/D	W12	4.7	3.1	1.6	34.0	58.5	58.5	0.0	0.0	2	0	1	0	50.0	0.0
			W13	15.3	14.4	0.9	5.9					18	4	17	4	5.6	0.0
F04	R1	L/K/D	W1	37.0	36.0	1.0	2.7	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W2	4.7	4.2	0.5	10.6					6	0	6	0	0.0	0.0
			W3	6.7	6.7	0.0	0.0					14	11	14	11	0.0	0.0
	R2	BEDROOM	W4	11.5	11.1	0.4	3.5	97.8	97.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	37.6	36.2	1.4	3.7	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	36.7	35.2	1.5	4.1	98.0	98.0	0.0	0.0	8	0	7	0	12.5	0.0
			W7	37.5	35.7	1.8	4.8					9	0	8	0	11.1	0.0
			W8	3.1	2.9	0.2	6.5					4	0	4	0	0.0	0.0
	R5	BEDROOM	W9	8.9	7.4	1.5	16.9	81.9	81.9	0.0	0.0	6	0	5	0	16.7	0.0
			W10	18.4	17.7	0.7	3.8					20	2	19	2	5.0	0.0
	R6	BEDROOM	W11	0.3	0.3	0.0	0.0	13.5	13.5	0.0	0.0	0	0	0	0	0.0	0.0
	R7	L/K/D	W12	5.3	4.2	1.1	20.8	58.5	58.5	0.0	0.0	3	0	3	0	0.0	0.0
			W13	17.5	16.9	0.6	3.4					20	4	20	4	0.0	0.0
ABERFELDY ESTATE PHASE THREE BLOCK J																	
F00	R1	L/K/D	W1	35.0	30.2	4.8	13.7	100.0	100.0	0.0	0.0	8	0	8	0	0.0	0.0
			W2	24.0	23.8	0.2	0.8					34	13	34	13	0.0	0.0
			W3	24.1	24.0	0.1	0.4					43	11	43	11	0.0	0.0
	R2	BEDROOM	W4	35.1	29.5	5.6	16.0	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	35.1	29.0	6.1	17.4	99.0	99.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	BEDROOM	W6	34.9	28.2	6.7	19.2	97.1	96.8	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W7	34.6	27.4	7.2	20.8	99.3	99.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	BEDROOM	W8	34.2	26.4	7.8	22.8	97.1	95.6	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	L/K/D	W1	36.7	32.5	4.2	11.4	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W2	20.3	20.1	0.2	1.0					27	13	27	13	0.0	0.0
			W3	22.8	22.6	0.2	0.9					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	36.8	31.9	4.9	13.3	99.4	99.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	1.9	1.9	0.0	0.0	99.2	99.2	0.0	0.0	3	3	3	3	0.0	0.0
			W6	6.4	2.9	3.5	54.7					0	0	0	0	0.0	0.0
			W7	36.8	31.4	5.4	14.7					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.4	10.1	4.3	29.9	98.6	97.8	0.8	0.8	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	2.8	2.8	0.0	0.0	99.5	99.5	0.0	0.0	5	5	5	5	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W10	6.9	3.3	3.6	52.2					0	0	0	0	0.0	0.0
			W11	36.7	29.9	6.8	18.5					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.3	8.4	5.9	41.3	98.5	97.5	1.0	1.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	17.2	17.2	0.0	0.0	100.0	99.0	1.0	1.0	36	13	36	13	0.0	0.0
			W14	6.5	3.4	3.1	47.7					0	0	0	0	0.0	0.0
			W15	36.5	28.0	8.5	23.3					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.0	6.4	6.6	50.8	96.1	90.5	5.6	5.8	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.1	5.9	0.2	3.3	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	34.7	24.0	10.7	30.8					N/A	N/A	N/A	N/A	N/A	N/A
			W19	33.3	21.7	11.6	34.8					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	20.5	20.3	0.2	1.0	92.7	92.1	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	11.7	10.5	1.2	10.3					N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	L/K/D	W1	37.2	33.7	3.5	9.4	99.9	99.9	0.0	0.0	9	0	9	0	0.0	0.0
			W2	21.0	20.8	0.2	1.0					28	14	28	14	0.0	0.0
			W3	23.5	23.3	0.2	0.9					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.2	33.1	4.1	11.0	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	2.2	2.2	0.0	0.0	99.4	99.4	0.0	0.0	3	3	3	3	0.0	0.0
			W6	6.6	3.8	2.8	42.4					0	0	0	0	0.0	0.0
			W7	37.2	32.7	4.5	12.1					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.6	10.9	3.7	25.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	3.5	3.5	0.0	0.0	99.7	99.7	0.0	0.0	6	6	6	6	0.0	0.0
			W10	7.3	4.2	3.1	42.5					0	0	0	0	0.0	0.0
			W11	37.2	31.4	5.8	15.6					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.6	9.2	5.4	37.0	98.5	98.2	0.3	0.3	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	3.3	3.3	0.0	0.0	100.0	100.0	0.0	0.0	5	5	5	5	0.0	0.0
			W14	6.9	4.3	2.6	37.7					0	0	0	0	0.0	0.0
			W15	37.2	29.8	7.4	19.9					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.5	7.0	6.5	48.1	98.5	93.8	4.7	4.8	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.4	6.2	0.2	3.1	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	36.4	26.4	10.0	27.5					N/A	N/A	N/A	N/A	N/A	N/A
			W19	34.8	24.0	10.8	31.0					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	22.5	22.3	0.2	0.9	92.7	92.1	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	13.0	11.7	1.3	10.0					N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	L/K/D	W1	37.5	34.9	2.6	6.9	99.9	99.9	0.0	0.0	10	0	10	0	0.0	0.0
			W2	21.3	21.1	0.2	0.9					28	14	28	14	0.0	0.0
			W3	23.8	23.6	0.2	0.8					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.5	34.5	3.0	8.0	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	2.8	2.8	0.0	0.0	99.5	99.5	0.0	0.0	4	4	4	4	0.0	0.0
			W6	6.7	4.7	2.0	29.9					0	0	0	0	0.0	0.0
			W7	37.5	34.1	3.4	9.1					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.8	11.8	3.0	20.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	4.3	4.3	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W10	7.4	5.1	2.3	31.1					0	0	0	0	0.0	0.0
			W11	37.6	33.0	4.6	12.2					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.8	10.6	4.2	28.4	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	3.9	3.9	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W14	7.1	5.1	2.0	28.2					0	0	0	0	0.0	0.0
			W15	37.5	31.6	5.9	15.7					10	0	10	0	0.0	0.0
	R8	BEDROOM	W16	13.7	8.5	5.2	38.0	98.5	94.9	3.6	3.7	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	6.5	6.4	0.1	1.5	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	36.8	28.9	7.9	21.5					N/A	N/A	N/A	N/A	N/A	N/A
			W19	35.1	26.6	8.5	24.2					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	24.4	24.3	0.1	0.4	93.0	92.4	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W21	13.6	12.5	1.1	8.1					N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	L/K/D	W1	37.7	35.9	1.8	4.8	99.9	99.9	0.0	0.0	9	0	9	0	0.0	0.0
			W2	21.6	21.4	0.2	0.9					28	14	28	14	0.0	0.0
			W3	24.1	23.9	0.2	0.8					49	19	49	19	0.0	0.0
	R2	BEDROOM	W4	37.7	35.6	2.1	5.6	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	5.7	5.7	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W6	6.8	5.5	1.3	19.1					0	0	0	0	0.0	0.0
			W7	37.8	35.4	2.4	6.3					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.9	12.8	2.1	14.1	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	37.8	34.6	3.2	8.5	100.0	100.0	0.0	0.0	9	0	9	0	0.0	0.0
			W10	5.4	5.4	0.0	0.0					8	8	8	8	0.0	0.0
	R6	BEDROOM	W11	15.0	11.9	3.1	20.7	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W12	37.8	33.7	4.1	10.8	100.0	100.0	0.0	0.0	10	0	10	0	0.0	0.0
			W13	4.6	4.6	0.0	0.0					7	7	7	7	0.0	0.0
	R8	BEDROOM	W14	13.8	10.1	3.7	26.8	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W15	7.5	7.5	0.0	0.0	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W16	37.1	31.6	5.5	14.8					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W17	35.3	29.3	6.0	17.0					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W18	26.6	26.5	0.1	0.4	94.2	93.6	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
			W19	14.1	13.3	0.8	5.7					N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	L/K/D	W1	37.9	36.9	1.0	2.6	99.9	99.9	0.0	0.0	10	0	10	0	0.0	0.0
			W2	38.4	38.2	0.2	0.5					56	20	56	20	0.0	0.0
			W3	38.2	38.0	0.2	0.5					54	19	54	19	0.0	0.0
	R2	BEDROOM	W4	37.9	36.7	1.2	3.2	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	L/K/D	W5	6.0	6.0	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W6	6.2	5.7	0.5	8.1					0	0	0	0	0.0	0.0
			W7	38.0	36.6	1.4	3.7					9	0	9	0	0.0	0.0
	R4	BEDROOM	W8	14.0	12.7	1.3	9.3	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R5	L/K/D	W9	5.6	5.6	0.0	0.0	100.0	100.0	0.0	0.0	8	8	8	8	0.0	0.0
			W10	6.9	6.2	0.7	10.1					0	0	0	0	0.0	0.0
			W11	38.0	36.2	1.8	4.7					9	0	9	0	0.0	0.0
	R6	BEDROOM	W12	14.0	12.2	1.8	12.9	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	L/K/D	W13	4.7	4.7	0.0	0.0	100.0	100.0	0.0	0.0	6	6	6	6	0.0	0.0
			W14	6.7	6.0	0.7	10.4					0	0	0	0	0.0	0.0
			W15	38.0	35.7	2.3	6.1					11	0	11	0	0.0	0.0
	R8	BEDROOM	W16	12.9	10.8	2.1	16.3	98.5	98.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	L/K/D	W17	9.4	9.4	0.0	0.0	98.4	98.4	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W18	37.2	34.2	3.0	8.1					N/A	N/A	N/A	N/A	N/A	N/A
			W19	35.5	32.1	3.4	9.6					N/A	N/A	N/A	N/A	N/A	N/A
	R10	BEDROOM	W20	29.0	29.0	0.0	0.0	96.8	96.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W21	14.6	14.1	0.5	3.4					N/A	N/A	N/A	N/A	N/A	N/A
CULLODEN PRIMARY SCHOOL																	
F00	R1	TEACHER ROOM	W1	7.0	6.8	0.2	2.9	0.0	0.0	0.0	0.0	2	2	2	2	0.0	0.0
			W2	7.3	6.9	0.4	5.5					2	2	2	2	0.0	0.0
			W3	0.6	0.6	0.0	0.0					0	0	0	0	0.0	0.0
	R2	OFFICE	W4	9.5	8.8	0.7	7.4	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R3	OFFICE	W5	9.4	9.0	0.4	4.3	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	STAFF ROOM	W6	28.0	24.2	3.8	13.6	0.2	0.1	0.1	50.0	31	1	18	1	41.9	0.0
			W7	31.5	27.0	4.5	14.3					29	3	27	3	6.9	0.0
			W8	23.0	12.4	10.6	46.1					0	0	0	0	0.0	0.0
			W9	26.0	16.5	9.5	36.5					0	0	1	0	0.0	0.0
			W10	26.0	18.2	7.8	30.0					0	0	1	0	0.0	0.0
			W11	25.8	19.8	6.0	23.3					1	0	2	0	-100.0	0.0
			W12	30.3	30.3	0.0	0.0					56	24	56	24	0.0	0.0
			W13	30.5	30.5	0.0	0.0					56	24	56	24	0.0	0.0
			W14	20.4	20.4	0.0	0.0					30	7	30	7	0.0	0.0
			W15	7.9	8.4	-0.5	-6.3					2	2	2	2	0.0	0.0
	R5	OFFICE	W16	17.9	7.2	10.7	59.8	0.3	0.3	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R6	OFFICE	W17	18.4	8.3	10.1	54.9	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R7	OFFICE	W18	18.2	7.1	11.1	61.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W19	18.3	7.4	10.9	59.6					N/A	N/A	N/A	N/A	N/A	N/A
	R8	OFFICE	W20	18.2	6.7	11.5	63.2	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R9	OFFICE	W21	17.6	5.7	11.9	67.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W22	17.9	6.1	11.8	65.9					N/A	N/A	N/A	N/A	N/A	N/A
	R10	OFFICE	W23	16.1	5.1	11.0	68.3	0.2	0.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R11	OFFICE	W24	12.5	7.0	5.5	44.0	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R12	KITCHEN	W25	22.1	13.7	8.4	38.0	16.0	12.6	3.4	21.3	N/A	N/A	N/A	N/A	N/A	N/A
			W26	24.2	15.5	8.7	36.0					N/A	N/A	N/A	N/A	N/A	N/A
			W27	26.9	5.0	21.9	81.4					N/A	N/A	N/A	N/A	N/A	N/A
	R13	MAIN HALL	W28	28.3	15.5	12.8	45.2	50.1	22.6	27.5	54.9	31	4	16	3	48.4	25.0
			W29	24.5	10.6	13.9	56.7					3	0	0	0	100.0	0.0
			W30	25.3	11.2	14.1	55.7					4	0	0	0	100.0	0.0
			W31	26.1	12.1	14.0	53.6					4	0	0	0	100.0	0.0
			W32	26.9	12.6	14.3	53.2					4	0	0	0	100.0	0.0
			W33	27.4	13.0	14.4	52.6					3	0	0	0	100.0	0.0
			W34	27.9	13.5	14.4	51.6					3	0	0	0	100.0	0.0
			W35	28.4	13.8	14.6	51.4					5	0	2	0	60.0	0.0
			W36	28.9	14.2	14.7	50.9					5	0	2	0	60.0	0.0
			W37	29.2	14.5	14.7	50.3					5	0	2	0	60.0	0.0
			W38	15.4	7.4	8.0	51.9					0	0	0	0	0.0	0.0
			W39	29.8	14.7	15.1	50.7					5	0	3	0	40.0	0.0
			W40	22.0	14.9	7.1	32.3					27	10	25	10	7.4	0.0
			W41	10.5	9.2	1.3	12.4					4	0	4	0	0.0	0.0
			W42	10.6	6.5	4.1	38.7					15	7	13	7	13.3	0.0
			W43	10.5	6.6	3.9	37.1					15	7	13	7	13.3	0.0
			W44	10.5	6.7	3.8	36.2					15	7	13	7	13.3	0.0
			W45	10.5	6.8	3.7	35.2					16	7	14	7	12.5	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W46	10.5	7.0	3.5	33.3					16	7	14	7	12.5	0.0
			W47	10.5	7.1	3.4	32.4					15	7	13	7	13.3	0.0
			W48	10.6	7.3	3.3	31.1					14	7	13	7	7.1	0.0
			W49	10.6	7.4	3.2	30.2					14	7	13	7	7.1	0.0
			W50	10.6	7.5	3.1	29.2					15	7	14	7	6.7	0.0
			W51	10.6	7.7	2.9	27.4					14	7	14	7	0.0	0.0
			W52	10.7	7.8	2.9	27.1					14	7	14	7	0.0	0.0
			W53	21.8	17.7	4.1	18.8					31	15	31	15	0.0	0.0
			W54	24.5	23.9	0.6	2.4					52	29	49	27	5.8	6.9
			W55	23.5	22.9	0.6	2.6					45	29	42	27	6.7	6.9
			W56	22.6	22.1	0.5	2.2					44	29	41	27	6.8	6.9
			W57	21.7	21.1	0.6	2.8					41	29	38	27	7.3	6.9
			W58	20.8	20.2	0.6	2.9					38	29	36	27	5.3	6.9
			W59	19.9	19.3	0.6	3.0					36	29	34	27	5.6	6.9
			W60	19.0	18.3	0.7	3.7					35	29	33	27	5.7	6.9
			W61	17.8	17.1	0.7	3.9					30	29	28	27	6.7	6.9
			W62	16.7	16.0	0.7	4.2					29	29	27	27	6.9	6.9
			W63	15.3	14.9	0.4	2.6					27	27	27	27	0.0	0.0
	R14	OFFICE	W64	22.8	14.0	8.8	38.6	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R15	OFFICE	W65	23.7	6.0	17.7	74.7	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R16	OFFICE	W66	23.8	6.2	17.6	73.9	0.0	0.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NURSERY	W67	0.9	0.9	0.0	0.0	46.3	46.2	0.1	0.2	0	0	0	0	0.0	0.0
			W68	1.7	1.7	0.0	0.0					2	2	2	2	0.0	0.0
			W69	1.3	1.3	0.0	0.0					0	0	0	0	0.0	0.0
			W70	1.6	1.6	0.0	0.0					0	0	0	0	0.0	0.0
			W71	1.0	1.0	0.0	0.0					0	0	0	0	0.0	0.0
			W72	2.2	1.4	0.8	36.4					2	0	0	0	100.0	0.0
			W73	2.3	0.7	1.6	69.6					3	1	1	1	66.7	0.0
			W74	21.7	4.6	17.1	78.8					19	2	3	0	84.2	100.0
			W75	17.1	0.0	17.1	100.0					16	3	0	0	100.0	100.0
			W76	29.6	17.0	12.6	42.6					0	0	0	0	0.0	0.0
	R18	NURSERY	W77	2.2	2.2	0.0	0.0	40.3	7.6	32.7	81.1	4	4	4	4	0.0	0.0
			W78	1.5	1.4	0.1	6.7					1	1	1	1	0.0	0.0
	R19	RECEPTION	W79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	0.0
			W80	0.0	0.0	0.0	0.0					1	1	1	1	0.0	0.0
			W81	0.2	0.2	0.0	0.0					0	0	0	0	0.0	0.0
	R20	RECEPTION	W82	29.6	21.2	8.4	28.4	19.8	18.5	1.3	6.6	N/A	N/A	N/A	N/A	N/A	N/A
			W83	29.4	21.0	8.4	28.6					N/A	N/A	N/A	N/A	N/A	N/A
			W84	27.6	20.6	7.0	25.4					N/A	N/A	N/A	N/A	N/A	N/A
			W85	10.5	10.4	0.1	1.0					N/A	N/A	N/A	N/A	N/A	N/A
	R21	RECEPTION	W86	0.3	0.3	0.0	0.0	0.8	0.8	0.0	0.0	0	0	0	0	0.0	0.0
			W87	1.8	1.7	0.1	5.6					3	2	3	2	0.0	0.0
			W88	3.1	3.0	0.1	3.2					7	4	7	4	0.0	0.0
			W89	28.7	21.8	6.9	24.0					32	5	25	5	21.9	0.0
			W90	26.2	20.1	6.1	23.3					35	7	28	7	20.0	0.0
LANSBURY GARDENS 2-12																	
F00	R1	LIVING ROOM	W1	25.5	16.2	9.3	36.5	98.9	98.7	0.2	0.2	36	8	16	2	55.6	75.0
			W2	29.6	29.6	0.0	0.0					36	8	36	8	0.0	0.0
	R2	LIVING ROOM	W3	18.6	18.6	0.0	0.0	98.9	85.9	13.0	13.1	40	7	40	7	0.0	0.0
			W4	30.7	30.7	0.0	0.0					48	10	48	10	0.0	0.0
			W5	31.9	31.9	0.0	0.0					36	7	36	7	0.0	0.0
			W6	29.8	29.8	0.0	0.0					16	1	16	1	0.0	0.0
			W7	17.8	17.8	0.0	0.0					0	0	0	0	0.0	0.0
			W8	26.0	13.3	12.7	48.8					35	7	14	2	60.0	71.4
	R3	LIVING ROOM	W9	26.2	12.3	13.9	53.1	98.4	98.3	0.1	0.1	36	7	14	2	61.1	71.4
			W10	31.0	31.0	0.0	0.0					28	1	28	1	0.0	0.0
	R4	LIVING ROOM	W11	26.2	12.0	14.2	54.2	99.1	99.0	0.1	0.1	36	7	14	2	61.1	71.4
			W12	16.7	16.7	0.0	0.0					36	5	36	5	0.0	0.0
			W13	19.7	19.7	0.0	0.0					42	7	42	7	0.0	0.0
			W14	70.1	70.1	0.0	0.0					44	8	44	8	0.0	0.0
			W15	31.9	31.9	0.0	0.0					34	5	34	5	0.0	0.0
			W16	70.2	70.2	0.0	0.0					44	8	44	8	0.0	0.0
			W17	31.9	31.9	0.0	0.0					34	5	34	5	0.0	0.0
			W18	32.0	32.0	0.0	0.0					35	6	35	6	0.0	0.0
			W19	70.2	70.2	0.0	0.0					44	8	44	8	0.0	0.0
			W20	31.9	31.9	0.0	0.0					35	6	35	6	0.0	0.0
			W21	70.2	70.2	0.0	0.0					45	9	45	9	0.0	0.0
			W22	31.9	31.9	0.0	0.0					35	6	35	6	0.0	0.0
			W23	70.3	70.3	0.0	0.0					45	9	45	9	0.0	0.0
			W24	32.0	32.0	0.0	0.0					35	6	35	6	0.0	0.0
			W25	70.3	70.3	0.0	0.0					45	9	45	9	0.0	0.0

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W26	21.4	21.4	0.0	0.0					0	0	0	0	0.0	0.0
			W27	18.2	18.2	0.0	0.0					0	0	0	0	0.0	0.0
	R5	LIVING ROOM	W28	25.7	12.0	13.7	53.3	98.9	98.7	0.2	0.2	34	5	14	2	58.8	60.0
			W29	31.3	31.3	0.0	0.0					28	1	28	1	0.0	0.0
	R6	LIVING ROOM	W30	24.6	12.4	12.2	49.6	98.7	97.0	1.7	1.7	35	6	19	6	45.7	0.0
			W31	24.3	24.3	0.0	0.0					12	1	12	1	0.0	0.0
F01	R1	BEDROOM	W1	29.4	22.3	7.1	24.1	97.8	91.2	6.6	6.7	43	14	28	5	34.9	64.3
	R2	BEDROOM	W2	29.7	20.8	8.9	30.0	99.7	70.8	28.9	29.0	45	15	28	8	37.8	46.7
	R3	BEDROOM	W3	29.6	18.8	10.8	36.5	97.8	76.2	21.6	22.1	42	12	23	5	45.2	58.3
	R4	BEDROOM	W4	30.0	17.9	12.1	40.3	99.7	47.4	52.3	52.5	46	15	26	8	43.5	46.7
	R5	BEDROOM	W5	29.9	17.2	12.7	42.5	97.8	60.2	37.6	38.4	43	11	23	5	46.5	54.5
	R6	BEDROOM	W6	30.3	17.2	13.1	43.2	99.7	33.7	66.0	66.2	47	14	26	8	44.7	42.9
	R7	BEDROOM	W7	30.0	16.8	13.2	44.0	97.8	58.0	39.8	40.7	44	11	23	5	47.7	54.5
	R8	BEDROOM	W8	30.2	17.0	13.2	43.7	99.7	32.1	67.6	67.8	44	12	25	7	43.2	41.7
	R9	BEDROOM	W9	29.8	16.8	13.0	43.6	97.8	58.0	39.8	40.7	41	9	22	4	46.3	55.6
	R10	BEDROOM	W10	29.8	17.0	12.8	43.0	99.7	32.1	67.6	67.8	42	10	25	7	40.5	30.0
	R11	BEDROOM	W11	29.0	16.8	12.2	42.1	97.8	58.0	39.8	40.7	40	8	23	5	42.5	37.5
	R12	BEDROOM	W12	28.6	17.1	11.5	40.2	99.4	37.8	61.6	62.0	42	9	26	8	38.1	11.1
LOREN APPARTMENTS																	
F00	R1	L/K/D	W1	21.0	8.1	12.9	61.4	68.0	11.0	57.0	83.8	23	2	3	0	87.0	100.0
	R2	L/K/D	W2	24.2	8.9	15.3	63.2	56.1	13.5	42.6	75.9	30	2	10	0	66.7	100.0
	R3	BEDROOM	W3	23.4	10.1	13.3	56.8	99.6	56.1	43.5	43.7	29	2	15	2	48.3	0.0
	R4	BEDROOM	W4	23.4	11.9	11.5	49.1	97.2	73.8	23.4	24.1	26	1	17	1	34.6	0.0
	R5	BEDROOM	W5	16.5	11.8	4.7	28.5	98.6	97.4	1.2	1.2	24	1	20	2	16.7	-100.0
			W6	13.9	13.9	0.0	0.0					31	4	31	4	0.0	0.0
F01	R1	BEDROOM	W1	29.1	12.0	17.1	58.8	97.0	23.3	73.7	76.0	39	6	16	2	59.0	66.7
	R2	BEDROOM	W2	27.3	11.2	16.1	59.0	94.4	20.6	73.8	78.2	34	4	11	0	67.6	100.0
	R3	BEDROOM	W3	28.5	12.8	15.7	55.1	99.7	31.5	68.2	68.4	36	3	15	0	58.3	100.0
	R4	L/K/D	W4	27.8	13.7	14.1	50.7	81.3	33.9	47.4	58.3	36	4	19	3	47.2	25.0
	R5	L/K/D	W5	25.6	13.7	11.9	46.5	97.0	89.0	8.0	8.2	31	3	17	2	45.2	33.3
			W6	26.5	16.4	10.1	38.1					31	2	21	2	32.3	0.0
			W7	15.8	15.8	0.0	0.0					40	5	40	5	0.0	0.0
F02	R1	BEDROOM	W1	32.0	15.0	17.0	53.1	97.5	27.2	70.3	72.1	41	8	19	2	53.7	75.0
	R2	BEDROOM	W2	29.9	13.8	16.1	53.8	94.8	23.8	71.0	74.9	37	7	15	1	59.5	85.7
	R3	L/K/D	W3	31.1	15.5	15.6	50.2	99.5	45.7	53.8	54.1	39	6	19	1	51.3	83.3
			W4	30.4	16.2	14.2	46.7					39	6	23	4	41.0	33.3
	R4	L/K/D	W5	28.0	16.1	11.9	42.5	92.6	78.3	14.3	15.4	33	4	19	2	42.4	50.0
			W6	28.7	18.8	9.9	34.5					35	4	24	3	31.4	25.0
			W7	17.9	17.9	0.0	0.0					46	7	46	7	0.0	0.0
F03	R1	L/K/D	W1	30.8	18.4	12.4	40.3	98.8	48.8	50.0	50.6	43	10	27	4	37.2	60.0
			W2	30.2	17.9	12.3	40.7					35	7	19	1	45.7	85.7
	R2	BEDROOM	W3	32.1	20.1	12.0	37.4	100.0	44.1	55.9	55.9	41	8	26	3	36.6	62.5
	R3	BEDROOM	W4	31.1	20.4	10.7	34.4	97.9	72.6	25.3	25.8	39	6	27	4	30.8	33.3
	R4	BEDROOM	W5	30.1	21.6	8.5	28.2	90.2	90.2	0.0	0.0	37	5	26	3	29.7	40.0
			W6	20.0	20.0	0.0	0.0					54	8	54	8	0.0	0.0
SHERMAN HOUSE																	
F00	R1	LIVING ROOM	W1	28.2	28.2	0.0	0.0	100.0	100.0	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.1	27.1	4.0	12.9					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	28.7	24.0	4.7	16.4	98.3	97.0	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	25.3	22.8	2.5	9.9	95.0	94.0	1.0	1.1	N/A	N/A	N/A	N/A	N/A	N/A
	R4	KITCHEN	W5	30.4	24.0	6.4	21.1	98.9	98.3	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
	R5	LIVING ROOM	W6	29.7	23.0	6.7	22.6	99.3	88.9	10.4	10.5	3	0	0	0	100.0	0.0
			W7	30.0	12.7	17.3	57.7					46	12	16	3	65.2	75.0
	R6	BEDROOM	W8	27.5	10.6	16.9	61.5	86.6	35.6	51.0	58.9	41	10	11	2	73.2	80.0
	R7	BEDROOM	W9	28.5	10.2	18.3	64.2	89.9	33.4	56.5	62.8	41	11	12	2	70.7	81.8
	R8	BEDROOM	W10	28.1	9.5	18.6	66.2	89.4	20.8	68.6	76.7	39	10	11	2	71.8	80.0
	R9	BEDROOM	W11	27.0	9.1	17.9	66.3	88.2	18.2	70.0	79.4	30	5	7	0	76.7	100.0
	R10	LIVING ROOM	W12	28.3	9.5	18.8	66.4	98.1	14.0	84.1	85.7	41	11	13	3	68.3	72.7
	R11	KITCHEN	W13	20.2	16.4	3.8	18.8	83.7	75.0	8.7	10.4	N/A	N/A	N/A	N/A	N/A	N/A
	R12	KITCHEN	W14	16.1	8.0	8.1	50.3	91.4	50.9	40.5	44.3	36	5	20	1	44.4	80.0
			W15	19.3	9.7	9.6	49.7					44	8	27	1	38.6	87.5
	R13	LIVING ROOM	W16	21.4	11.4	10.0	46.7	100.0	100.0	0.0	0.0	43	10	24	2	44.2	80.0
			W17	31.3	31.3	0.0	0.0					29	4	29	4	0.0	0.0
F01	R1	L/K/D	W1	32.2	32.2	0.0	0.0	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W2	30.7	30.7	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	23.3	19.4	3.9	16.7					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	31.8	27.2	4.6	14.5	91.6	68.6	23.0	25.1	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	27.3	24.9	2.4	8.8	92.5	88.8	3.7	4.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	32.2	26.1	6.1	18.9	99.2	91.9	7.3	7.4	6	0	0	0	100.0	0.0
			W7	31.5	25.0	6.5	20.6					3	0	0	0	100.0	0.0
			W8	19.4	3.8	15.6	80.4					31	13	7	4	77.4	69.2
	R5	BEDROOM	W9	31.2	12.8	18.4	59.0	92.9	28.9	64.0	68.9	44	12	16	2	63.6	83.3
	R6	BEDROOM	W10	31.3	12.2	19.1	61.0	96.5	35.7	60.8	63.0	44	12	15	2	65.9	83.3
	R7	BEDROOM	W11	31.1	11.6	19.5	62.7	96.5	24.4	72.1	74.7	44	12	14	2	68.2	83.3
	R8	BEDROOM	W12	31.0	11.5	19.5	62.9	93.5	21.2	72.3	77.3	43	11	14	2	67.4	81.8
	R9	L/K/D	W13	18.7	1.4	17.3	92.5	99.4	89.3	10.1	10.2	31	15	4	4	87.1	73.3
			W14	24.6	19.6	5.0	20.3					29	3	12	0	58.6	100.0
	R10	L/K/D	W15	20.0	10.4	9.6	48.0	99.8	99.8	0.0	0.0	42	10	26	1	38.1	90.0
			W16	23.3	12.6	10.7	45.9					50	14	32	1	36.0	92.9
			W17	25.0	14.2	10.8	43.2					51	15	33	2	35.3	86.7
			W18	20.3	20.0	0.3	1.5					22	5	20	4	9.1	20.0
F02	R1	L/K/D	W1	33.3	33.3	0.0	0.0	99.2	99.2	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	31.9	31.9	0.0	0.0					N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.2	31.5	3.7	10.5					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W4	33.3	29.0	4.3	12.9	91.6	72.0	19.6	21.4	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W5	28.7	26.3	2.4	8.4	92.5	90.7	1.8	1.9	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W6	33.5	27.8	5.7	17.0	99.2	95.0	4.2	4.2	6	0	0	0	100.0	0.0
			W7	32.7	26.6	6.1	18.7					3	0	0	0	100.0	0.0
			W8	35.1	17.7	17.4	49.6					52	17	24	4	53.8	76.5
	R5	BEDROOM	W9	33.5	15.1	18.4	54.9	92.9	33.1	59.8	64.4	48	15	19	2	60.4	86.7
	R6	BEDROOM	W10	33.4	14.6	18.8	56.3	96.8	39.5	57.3	59.2	48	15	18	2	62.5	86.7
	R7	BEDROOM	W11	33.4	14.1	19.3	57.8	96.5	30.4	66.1	68.5	47	14	17	2	63.8	85.7
	R8	BEDROOM	W12	33.3	14.0	19.3	58.0	93.5	25.5	68.0	72.7	48	15	17	2	64.6	86.7
	R9	L/K/D	W13	34.8	15.4	19.4	55.7	99.4	92.6	6.8	6.8	51	17	20	4	60.8	76.5
			W14	28.1	23.6	4.5	16.0					30	4	19	0	36.7	100.0
	R10	L/K/D	W15	22.5	13.9	8.6	38.2	100.0	99.8	0.2	0.2	48	14	35	3	27.1	78.6
			W16	26.2	16.5	9.7	37.0					59	19	42	4	28.8	78.9
			W17	27.8	17.8	10.0	36.0					58	21	39	4	32.8	81.0
			W18	35.2	35.0	0.2	0.6					38	5	33	5	0.0	0.0
F03	R1	L/K/D	W1	33.7	33.7	0.0	0.0	98.6	98.6	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
			W2	24.9	24.2	0.7	2.8					N/A	N/A	N/A	N/A	N/A	N/A
	R2	BEDROOM	W3	34.2	30.2	4.0	11.7	92.8	83.1	9.7	10.5	N/A	N/A	N/A	N/A	N/A	N/A
	R3	BEDROOM	W4	30.0	27.7	2.3	7.7	93.8	93.8	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
	R4	L/K/D	W5	34.1	28.9	5.2	15.2	98.7	96.0	2.7	2.7	6	0	0	0	100.0	0.0
			W6	24.1	12.3	11.8	49.0					33	6	18	0	45.5	100.0
	R5	BEDROOM	W7	34.4	17.9	16.5	48.0	89.6	58.2	31.4	35.0	48	15	26	5	45.8	66.7
	R6	BEDROOM	W8	34.3	17.5	16.8	49.0	96.8	45.3	51.5	53.2	48	15	26	5	45.8	66.7
	R7	BEDROOM	W9	34.4	17.0	17.4	50.6	96.5	38.5	58.0	60.1	48	15	24	5	50.0	66.7
	R8	BEDROOM	W10	34.3	17.0	17.3	50.4	90.1	52.5	37.6	41.7	48	15	24	5	50.0	66.7
	R9	L/K/D	W11	25.1	12.3	12.8	51.0	98.7	91.4	7.3	7.4	41	15	21	6	48.8	60.0
			W12	31.5	28.8	2.7	8.6					31	5	24	1	22.6	80.0
			W13	22.9	21.7	1.2	5.2					30	5	26	3	13.3	40.0
	R10	L/K/D	W14	25.2	19.0	6.2	24.6	99.0	92.2	6.8	6.9	55	15	47	7	14.5	53.3
			W15	28.7	21.9	6.8	23.7					66	21	56	11	15.2	47.6
			W16	25.6	25.4	0.2	0.8					26	4	26	4	0.0	0.0
ST.NICHOLAS CHURCH																	
F00	R1	ANCILLARY SPACE	W1	18.7	18.7	0.0	0.0	99.4	97.4	2.0	2.0	1	0	1	0	0.0	0.0
			W2	21.2	21.2	0.0	0.0					4	0	4	0	0.0	0.0
			W3	3.9	3.1	0.8	20.5					0	0	0	0	0.0	0.0
			W4	3.9	3.1	0.8	20.5					0	0	0	0	0.0	0.0
			W5	3.8	3.1	0.7	18.4					0	0	0	0	0.0	0.0
			W6	3.7	3.0	0.7	18.9					0	0	0	0	0.0	0.0
			W7	3.6	2.9	0.7	19.4					0	0	0	0	0.0	0.0
			W8	29.7	8.7	21.0	70.7					44	13	9	0	79.5	100.0
			W9	29.7	8.0	21.7	73.1					45	13	9	0	80.0	100.0
			W10	29.8	7.4	22.4	75.2					45	13	7	0	84.4	100.0
			W11	29.8	5.5	24.3	81.5					44	11	7	2	84.1	81.8
			W12	29.9	5.3	24.6	82.3					45	12	7	2	84.4	83.3
			W13	29.9	5.1	24.8	82.9					45	12	7	2	84.4	83.3
			W14	29.6	4.8	24.8	83.8					44	12	6	2	86.4	83.3
	R2	WORSHIP AREA	W15	30.4	27.6	2.8	9.2	98.9	93.9	5.0	5.1	N/A	N/A	N/A	N/A	N/A	N/A
			W16	30.3	27.1	3.2	10.6					N/A	N/A	N/A	N/A	N/A	N/A
			W17	30.2	26.5	3.7	12.3					N/A	N/A	N/A	N/A	N/A	N/A

				VERTICAL SKY COMPONENT				NO SKY LINE				ANNUAL PROBABLE SUNLIGHT HOURS					
												WINDOW BASELINE		WINDOW CONSENTED		TOTAL	WINTER
FLOOR	ROOM	ROOM USE	WINDOW	BASELINE	CONSENTED	LOSS	%	BASELINE	CONSENTED	LOSS	%	TOTAL	WINTER	TOTAL	WINTER	% LOSS	% LOSS
			W18	26.4	9.2	17.2	65.2					N/A	N/A	N/A	N/A	N/A	N/A
			W19	26.5	9.3	17.2	64.9					N/A	N/A	N/A	N/A	N/A	N/A
			W20	22.8	7.5	15.3	67.1					N/A	N/A	N/A	N/A	N/A	N/A
	R3	WORSHIP AREA	W21	28.8	5.9	22.9	79.5	99.7	98.1	1.6	1.6	N/A	N/A	N/A	N/A	N/A	N/A
			W22	32.3	8.2	24.1	74.6					N/A	N/A	N/A	N/A	N/A	N/A
			W23	28.9	6.4	22.5	77.9					N/A	N/A	N/A	N/A	N/A	N/A
			W24	33.1	28.7	4.4	13.3					N/A	N/A	N/A	N/A	N/A	N/A
			W25	32.6	29.0	3.6	11.0					N/A	N/A	N/A	N/A	N/A	N/A
			W26	31.0	28.0	3.0	9.7					N/A	N/A	N/A	N/A	N/A	N/A
			W27	24.1	21.7	2.4	10.0					N/A	N/A	N/A	N/A	N/A	N/A
	R4	UNKNOWN	W28	20.2	14.5	5.7	28.2	94.1	53.6	40.5	43.0	38	11	29	8	23.7	27.3
	R5	UNKNOWN	W29	23.3	16.8	6.5	27.9	98.7	61.4	37.3	37.8	39	11	30	8	23.1	27.3
	R6	UNKNOWN	W30	25.4	18.3	7.1	28.0	99.3	68.0	31.3	31.5	40	11	29	7	27.5	36.4
	R7	UNKNOWN	W31	25.9	25.9	0.0	0.0	87.9	87.9	0.0	0.0	24	5	24	5	0.0	0.0
	R8	UNKNOWN	W32	25.5	25.5	0.0	0.0	94.0	94.0	0.0	0.0	22	3	22	3	0.0	0.0
	R9	UNKNOWN	W33	26.4	26.4	0.0	0.0	99.5	99.5	0.0	0.0	25	3	25	3	0.0	0.0
	R10	UNKNOWN	W34	25.3	25.3	0.0	0.0	97.5	94.0	3.5	3.6	28	3	28	3	0.0	0.0
	R11	UNKNOWN	W35	22.1	22.1	0.0	0.0	85.4	78.4	7.0	8.2	26	5	26	5	0.0	0.0
F01	R1	LIVING (ASSUMED)	W1	28.6	21.0	7.6	26.6	99.1	99.1	0.0	0.0	42	11	30	7	28.6	36.4
			W2	21.9	20.7	1.2	5.5					52	22	49	19	5.8	13.6
	R2	UNKNOWN	W3	26.6	19.6	7.0	26.3	99.3	63.4	35.9	36.2	40	11	31	8	22.5	27.3
	R3	UNKNOWN	W4	22.9	16.9	6.0	26.2	98.0	55.6	42.4	43.3	39	12	31	8	20.5	33.3
	R4	KITCHEN (ASSUMED)	W5	32.5	32.5	0.0	0.0	98.6	98.6	0.0	0.0	30	5	30	5	0.0	0.0
			W6	32.4	32.4	0.0	0.0					30	5	30	5	0.0	0.0
	R5	UNKNOWN	W7	32.2	32.2	0.0	0.0	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R6	UNKNOWN	W8	31.9	31.9	0.0	0.0	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R7	UNKNOWN	W9	31.1	31.1	0.0	0.0	100.0	100.0	0.0	0.0	30	5	30	5	0.0	0.0
	R8	UNKNOWN	W10	29.9	29.9	0.0	0.0	100.0	99.5	0.5	0.5	30	5	30	5	0.0	0.0
	R9	UNKNOWN	W11	28.3	28.3	0.0	0.0	99.5	99.5	0.0	0.0	30	5	30	5	0.0	0.0
	R10	UNKNOWN	W12	25.4	25.4	0.0	0.0	96.0	95.5	0.5	0.5	30	5	30	5	0.0	0.0
F02	R1	LIVING (ASSUMED)	W1	29.2	21.1	8.1	27.7	99.1	99.1	0.0	0.0	42	13	29	11	31.0	15.4
			W2	33.6	32.4	1.2	3.6					77	24	74	21	3.9	12.5
	R2	UNKNOWN	W3	28.5	20.5	8.0	28.1	99.3	66.0	33.3	33.5	40	13	29	11	27.5	15.4
	R3	UNKNOWN	W4	25.9	18.7	7.2	27.8	99.3	59.5	39.8	40.1	37	13	29	11	21.6	15.4
	R4	KITCHEN (ASSUMED)	W5	29.7	29.7	0.0	0.0	98.6	98.6	0.0	0.0	28	5	28	5	0.0	0.0
			W6	29.6	29.6	0.0	0.0					28	5	28	5	0.0	0.0
	R5	UNKNOWN	W7	29.5	29.5	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R6	UNKNOWN	W8	29.4	29.4	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R7	UNKNOWN	W9	29.4	29.4	0.0	0.0	100.0	100.0	0.0	0.0	28	5	28	5	0.0	0.0
	R8	UNKNOWN	W10	29.2	29.2	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R9	UNKNOWN	W11	29.0	29.0	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0
	R10	UNKNOWN	W12	28.8	28.8	0.0	0.0	99.5	99.5	0.0	0.0	28	5	28	5	0.0	0.0

Baseline v
Max Parameter
(NO BALCONIES)

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
ABERFELDY ESTATE PHASE TWO BLOCK D								
F00		R1	KITCHEN	W1	24.8	19.8	5.0	20.2
				W2	33.1	32.9	0.2	0.6
		R2	BEDROOM	W3	21.7	18.1	3.6	16.6
		R3	BEDROOM	W4	21.3	18.4	2.9	13.6
		R4	STUDIO	W5	14.8	14.8	0.0	0.0
				W6	22.7	19.1	3.6	15.9
		R5	KITCHEN	W7	1.2	1.2	0.0	0.0
				W8	22.7	18.4	4.3	18.9
		R6	BEDROOM	W9	23.0	18.8	4.2	18.3
		R7	BEDROOM	W10	22.9	18.7	4.2	18.3
		R8	L/K/D	W11	22.7	18.7	4.0	17.6
				W12	1.9	0.7	1.2	63.2
F01		R1	L/K/D	W1	27.8	21.9	5.9	21.2
				W2	33.7	33.4	0.3	0.9
				W3	33.7	33.4	0.3	0.9
		R2	BEDROOM	W4	26.2	20.9	5.3	20.2
		R3	BEDROOM	W5	24.4	20.1	4.3	17.6
		R4	STUDIO	W6	25.9	21.3	4.6	17.8
		R5	L/K/D	W7	26.1	21.0	5.1	19.5
				W8	25.7	20.6	5.1	19.8
		R6	BEDROOM	W9	25.9	21.1	4.8	18.5
		R7	L/K/D	W10	25.3	20.8	4.5	17.8
				W11	2.8	0.7	2.1	75.0
F02		R1	L/K/D	W1	30.2	23.4	6.8	22.5
				W2	34.4	33.8	0.6	1.7
				W3	34.3	33.8	0.5	1.5
		R2	BEDROOM	W4	29.2	22.5	6.7	22.9
		R3	BEDROOM	W5	27.6	21.8	5.8	21.0
		R4	STUDIO	W6	28.9	23.3	5.6	19.4
		R5	L/K/D	W7	29.1	23.5	5.6	19.2
				W8	28.7	22.8	5.9	20.6
		R6	BEDROOM	W9	29.0	23.7	5.3	18.3
		R7	L/K/D	W10	28.4	23.5	4.9	17.3
				W11	3.7	0.8	2.9	78.4
F03		R1	L/K/D	W1	32.5	24.7	7.8	24.0
				W2	34.8	34.2	0.6	1.7
				W3	34.9	34.2	0.7	2.0
		R2	BEDROOM	W4	31.7	23.8	7.9	24.9
		R3	BEDROOM	W5	30.2	23.1	7.1	23.5
		R4	STUDIO	W6	31.5	24.8	6.7	21.3
		R5	L/K/D	W7	31.7	25.5	6.2	19.6
				W8	31.1	24.5	6.6	21.2
		R6	BEDROOM	W9	31.7	26.0	5.7	18.0
		R7	L/K/D	W10	31.3	26.2	5.1	16.3
				W11	4.4	0.9	3.5	79.5
F04		R1	L/K/D	W1	34.7	26.3	8.4	24.2
				W2	35.1	34.4	0.7	2.0
				W3	35.1	34.5	0.6	1.7
		R2	BEDROOM	W4	34.1	25.4	8.7	25.5
		R3	BEDROOM	W5	29.4	29.4	0.0	0.0
				W6	32.6	24.6	8.0	24.5
F05		R1	L/K/D	W1	36.3	28.0	8.3	22.9
				W2	35.4	34.7	0.7	2.0
				W3	35.4	34.8	0.6	1.7
		R2	BEDROOM	W4	35.9	27.2	8.7	24.2
		R3	BEDROOM	W5	30.3	30.3	0.0	0.0
				W6	34.6	26.2	8.4	24.3
ATELIER COURT								
F00		R1	LIVING ROOM	W1	28.4	10.4	18.0	63.4
				W2	28.8	10.3	18.5	64.2
		R2	BEDROOM	W3	27.3	9.9	17.4	63.7
		R3	BEDROOM	W4	26.9	10.1	16.8	62.5
				W5	27.1	10.2	16.9	62.4
		R4	BEDROOM	W6	27.9	11.3	16.6	59.5

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
				W7	28.1	11.3	16.8	59.8
		R5	L/K/D	W8	25.6	10.7	14.9	58.2
				W9	26.7	10.9	15.8	59.2
		R6	KITCHEN	W10	25.2	10.8	14.4	57.1
		R7	LIVING ROOM	W11	26.1	12.0	14.1	54.0
F01		R1	LIVING ROOM	W1	34.1	13.9	20.2	59.2
				W2	34.4	13.7	20.7	60.2
		R2	BEDROOM	W3	32.9	13.4	19.5	59.3
		R3	BEDROOM	W4	32.6	13.7	18.9	58.0
				W5	32.7	13.6	19.1	58.4
		R4	L/K/D	W6	31.9	14.5	17.4	54.5
				W7	33.4	14.9	18.5	55.4
		R5	BEDROOM	W8	31.7	14.7	17.0	53.6
		R6	BEDROOM	W9	31.4	15.2	16.2	51.6
		R7	LIVING ROOM	W10	31.9	16.2	15.7	49.2
		R8	LIVING ROOM	W11	31.1	15.9	15.2	48.9
				W12	29.5	14.4	15.1	51.2
		R9	BEDROOM	W13	31.3	16.2	15.1	48.2
		R10	BEDROOM	W14	31.4	16.3	15.1	48.1
		R11	BEDROOM	W15	31.5	16.6	14.9	47.3
		R12	BEDROOM	W16	31.8	16.7	15.1	47.5
		R13	BEDROOM	W17	32.0	16.7	15.3	47.8
		R14	BEDROOM	W18	32.6	16.8	15.8	48.5
		R15	LIVING ROOM	W19	34.0	17.5	16.5	48.5
		R16	LIVING ROOM	W20	34.3	17.6	16.7	48.7
		R17	BEDROOM	W21	33.1	16.8	16.3	49.2
		R18	BEDROOM	W22	33.1	16.7	16.4	49.5
		R19	BEDROOM	W23	33.2	16.8	16.4	49.4
		R20	BEDROOM	W24	33.1	16.6	16.5	49.8
		R21	LIVING ROOM	W25	34.4	17.2	17.2	50.0
		R22	LIVING ROOM	W26	33.7	16.4	17.3	51.3
		R23	BEDROOM	W27	32.8	15.1	17.7	54.0
		R24	KITCHEN	W28	33.0	16.4	16.6	50.3
		R25	LIVING ROOM	W29	16.2	16.1	0.1	0.6
F02		R1	LIVING ROOM	W1	37.0	15.1	21.9	59.2
				W2	37.2	14.9	22.3	59.9
		R2	BEDROOM	W3	35.7	14.5	21.2	59.4
		R3	BEDROOM	W4	35.5	14.9	20.6	58.0
				W5	35.6	14.8	20.8	58.4
		R4	L/K/D	W6	35.0	16.2	18.8	53.7
				W7	36.4	16.2	20.2	55.5
		R5	BEDROOM	W8	34.8	16.5	18.3	52.6
		R6	BEDROOM	W9	34.6	17.2	17.4	50.3
		R7	LIVING ROOM	W10	35.4	18.5	16.9	47.7
		R8	LIVING ROOM	W11	34.6	18.5	16.1	46.5
				W12	32.8	16.8	16.0	48.8
		R9	BEDROOM	W13	34.8	18.8	16.0	46.0
		R10	BEDROOM	W14	35.0	19.0	16.0	45.7
		R11	BEDROOM	W15	35.3	19.2	16.1	45.6
		R12	BEDROOM	W16	35.4	19.1	16.3	46.0
		R13	BEDROOM	W17	35.3	19.0	16.3	46.2
		R14	BEDROOM	W18	35.5	18.8	16.7	47.0
		R15	LIVING ROOM	W19	36.7	19.4	17.3	47.1
		R16	LIVING ROOM	W20	36.7	19.4	17.3	47.1
		R17	BEDROOM	W21	35.4	18.8	16.6	46.9
		R18	BEDROOM	W22	35.4	18.9	16.5	46.6
		R19	BEDROOM	W23	35.5	19.0	16.5	46.5
		R20	BEDROOM	W24	35.4	19.0	16.4	46.3
		R21	LIVING ROOM	W25	36.8	19.8	17.0	46.2
		R22	LIVING ROOM	W26	35.9	19.3	16.6	46.2
		R23	BEDROOM	W27	34.8	18.8	16.0	46.0
		R24	KITCHEN	W28	34.9	20.0	14.9	42.7
		R25	LIVING ROOM	W29	16.7	16.7	0.0	0.0
F03		R1	LIVING ROOM	W1	37.9	16.0	21.9	57.8
				W2	38.0	15.7	22.3	58.7
		R2	BEDROOM	W3	36.8	15.7	21.1	57.3
		R3	BEDROOM	W4	36.8	16.1	20.7	56.3
				W5	36.8	16.0	20.8	56.5
		R4	L/K/D	W6	36.9	17.6	19.3	52.3
				W7	38.1	17.5	20.6	54.1

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
		R5	BEDROOM	W8	36.9	18.0	18.9	51.2
		R6	BEDROOM	W9	36.8	18.8	18.0	48.9
		R7	LIVING ROOM	W10	37.9	20.4	17.5	46.2
		R8	LIVING ROOM	W11	36.8	20.6	16.2	44.0
				W12	36.1	19.5	16.6	46.0
		R9	BEDROOM	W13	36.7	20.9	15.8	43.1
		R10	BEDROOM	W14	36.8	21.1	15.7	42.7
		R11	BEDROOM	W15	36.9	21.2	15.7	42.5
		R12	BEDROOM	W16	36.9	20.9	16.0	43.4
		R13	BEDROOM	W17	36.8	20.7	16.1	43.8
		R14	BEDROOM	W18	36.9	20.5	16.4	44.4
		R15	LIVING ROOM	W19	38.5	21.4	17.1	44.4
		R16	LIVING ROOM	W20	38.4	21.5	16.9	44.0
		R17	BEDROOM	W21	36.8	20.6	16.2	44.0
		R18	BEDROOM	W22	36.8	20.9	15.9	43.2
		R19	BEDROOM	W23	36.9	21.1	15.8	42.8
		R20	BEDROOM	W24	36.8	21.4	15.4	41.8
		R21	LIVING ROOM	W25	38.2	22.8	15.4	40.3
		R22	LIVING ROOM	W26	37.1	22.4	14.7	39.6
		R23	BEDROOM	W27	35.8	22.4	13.4	37.4
		R24	KITCHEN	W28	35.8	23.4	12.4	34.6
		R25	LIVING ROOM	W29	12.8	12.8	0.0	0.0
F04		R1	KITCHEN	W1	36.1	23.7	12.4	34.3
		R2	KITCHEN	W2	31.0	23.8	7.2	23.2
		R3	LIVING ROOM	W3	37.1	24.5	12.6	34.0
				W4	34.6	27.0	7.6	22.0
		R4	BEDROOM	W5	36.1	25.0	11.1	30.7
		R5	KITCHEN	W6	36.1	26.0	10.1	28.0
		R6	LIVING ROOM	W7	17.8	17.7	0.1	0.6
F05		R1	KITCHEN	W1	35.6	28.8	6.8	19.1
		R2	LIVING ROOM	W2	37.5	26.0	11.5	30.7
				W3	35.7	28.6	7.1	19.9
		R3	BEDROOM	W4	36.4	26.4	10.0	27.5
		R4	KITCHEN	W5	36.4	27.2	9.2	25.3
		R5	LIVING ROOM	W6	18.3	18.3	0.0	0.0
F06		R1	KITCHEN	W1	36.5	28.3	8.2	22.5
		R2	LIVING ROOM	W2	31.1	24.8	6.3	20.3
				W3	14.5	14.5	0.0	0.0
F07		R1	KITCHEN	W1	36.6	29.4	7.2	19.7
		R2	LIVING ROOM	W2	34.6	28.8	5.8	16.8
				W3	25.8	25.8	0.0	0.0
DEVONS WHARF								
F00		R1	L/K/D	W1	24.3	22.9	1.4	5.8
				W2	20.8	17.6	3.2	15.4
		R2	L/K/D	W3	25.1	21.4	3.7	14.7
				W4	27.0	23.2	3.8	14.1
				W5	27.5	23.7	3.8	13.8
		R3	L/K/D	W6	31.1	27.8	3.3	10.6
				W7	31.3	27.8	3.5	11.2
		R4	BEDROOM	W8	31.5	27.9	3.6	11.4
		R5	L/K/D	W9	31.8	28.0	3.8	11.9
		R6	L/K/D	W10	32.6	28.4	4.2	12.9
		R7	BEDROOM	W11	32.7	28.4	4.3	13.1
		R8	L/K/D	W12	32.8	28.2	4.6	14.0
				W13	33.1	27.5	5.6	16.9
		R9	BEDROOM	W14	32.9	27.1	5.8	17.6
M00		R1	BEDROOM	W1	33.6	28.8	4.8	14.3
				W2	33.7	28.7	5.0	14.8
		R2	BEDROOM	W3	33.9	28.5	5.4	15.9
				W4	35.8	29.0	6.8	19.0
				W5	36.0	29.3	6.7	18.6
		R3	BEDROOM	W6	35.7	29.0	6.7	18.8
		R4	L/K/D	W7	35.4	29.0	6.4	18.1
		R5	L/K/D	W8	35.0	29.1	5.9	16.9
				W9	34.9	29.4	5.5	15.8
				W10	22.6	22.6	0.0	0.0

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
		R6	BEDROOM	W11	6.7	6.7	0.0	0.0
		R7	BEDROOM	W12	11.7	11.7	0.0	0.0
		R8	BEDROOM	W13	10.3	10.3	0.0	0.0
		R9	L/K/D	W14	22.5	21.9	0.6	2.7
		R10	L/K/D	W15	30.0	27.9	2.1	7.0
				W16	25.7	23.8	1.9	7.4
		R11	BEDROOM	W17	30.9	27.9	3.0	9.7
		R12	L/K/D	W18	23.6	20.7	2.9	12.3
				W19	31.2	28.3	2.9	9.3
		R13	BEDROOM	W20	35.0	32.0	3.0	8.6
		R14	L/K/D	W21	33.9	30.9	3.0	8.8
				W22	33.9	30.8	3.1	9.1
				W23	8.8	5.7	3.1	35.2
		R15	L/K/D	W24	34.4	34.4	0.0	0.0
				W25	34.5	34.5	0.0	0.0
				W26	34.7	32.1	2.6	7.5
				W27	9.9	9.9	0.0	0.0
				W28	33.9	31.0	2.9	8.6
F01		R1	L/K/D	W1	34.8	34.8	0.0	0.0
				W2	34.9	34.9	0.0	0.0
				W3	36.3	33.1	3.2	8.8
				W4	10.1	10.1	0.0	0.0
				W5	35.5	32.0	3.5	9.9
		R2	L/K/D	W6	35.5	31.9	3.6	10.1
				W7	35.5	31.9	3.6	10.1
				W8	9.2	5.9	3.3	35.9
		R3	BEDROOM	W9	36.6	33.0	3.6	9.8
		R4	L/K/D	W10	25.0	21.4	3.6	14.4
				W11	33.0	29.5	3.5	10.6
		R5	BEDROOM	W12	32.7	29.2	3.5	10.7
		R6	L/K/D	W13	31.9	29.5	2.4	7.5
				W14	27.5	25.1	2.4	8.7
		R7	L/K/D	W15	23.7	22.9	0.8	3.4
		R8	L/K/D	W16	10.2	10.2	0.0	0.0
				W17	36.6	31.7	4.9	13.4
				W18	36.6	31.7	4.9	13.4
		R9	BEDROOM	W19	35.4	30.2	5.2	14.7
		R10	BEDROOM	W20	35.4	30.1	5.3	15.0
		R11	L/K/D	W21	35.6	29.8	5.8	16.3
				W22	35.7	29.8	5.9	16.5
				W23	35.9	28.9	7.0	19.5
				W24	35.9	28.8	7.1	19.8
				W25	10.2	9.9	0.3	2.9
		R12	BEDROOM	W26	37.1	30.1	7.0	18.9
		R13	BEDROOM	W27	37.4	30.5	6.9	18.4
		R14	BEDROOM	W28	37.3	30.6	6.7	18.0
		R15	L/K/D	W29	10.5	6.1	4.4	41.9
				W30	35.6	29.3	6.3	17.7
		R16	L/K/D	W31	36.9	30.8	6.1	16.5
				W32	36.9	30.9	6.0	16.3
				W33	36.8	30.9	5.9	16.0
				W34	36.8	31.0	5.8	15.8
				W35	25.5	25.4	0.1	0.4
		R17	BEDROOM	W36	7.6	7.6	0.0	0.0
		R18	BEDROOM	W37	14.3	14.3	0.0	0.0
		R19	BEDROOM	W38	12.1	12.1	0.0	0.0
F02		R1	L/K/D	W1	35.2	35.2	0.0	0.0
				W2	35.3	35.3	0.0	0.0
				W3	37.5	33.7	3.8	10.1
				W4	10.3	10.3	0.0	0.0
				W5	36.6	32.6	4.0	10.9
		R2	L/K/D	W6	36.7	32.5	4.2	11.4
				W7	36.7	32.5	4.2	11.4
				W8	9.5	6.2	3.3	34.7
		R3	BEDROOM	W9	37.7	33.6	4.1	10.9
		R4	L/K/D	W10	26.0	21.9	4.1	15.8
				W11	34.1	30.1	4.0	11.7
		R5	BEDROOM	W12	34.2	30.3	3.9	11.4
		R6	L/K/D	W13	33.8	31.0	2.8	8.3
				W14	29.5	26.8	2.7	9.2
		R7	L/K/D	W15	25.3	24.3	1.0	4.0

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
		R8	L/K/D	W16	10.8	10.8	0.0	0.0
				W17	37.7	32.4	5.3	14.1
				W18	37.7	32.4	5.3	14.1
		R9	BEDROOM	W19	36.2	30.7	5.5	15.2
		R10	BEDROOM	W20	36.3	30.6	5.7	15.7
		R11	L/K/D	W21	36.3	30.3	6.0	16.5
				W22	36.4	30.3	6.1	16.8
				W23	36.3	29.5	6.8	18.7
				W24	36.2	29.4	6.8	18.8
				W25	10.3	10.0	0.3	2.9
		R12	BEDROOM	W26	37.4	30.8	6.6	17.6
		R13	BEDROOM	W27	37.7	31.2	6.5	17.2
		R14	BEDROOM	W28	37.7	31.3	6.4	17.0
		R15	L/K/D	W29	10.8	6.3	4.5	41.7
				W30	36.0	30.0	6.0	16.7
		R16	L/K/D	W31	37.6	31.6	6.0	16.0
				W32	37.7	31.7	6.0	15.9
				W33	37.7	31.7	6.0	15.9
				W34	37.8	31.8	6.0	15.9
				W35	28.1	27.9	0.2	0.7
		R17	BEDROOM	W36	8.6	8.6	0.0	0.0
		R18	BEDROOM	W37	17.2	17.2	0.0	0.0
		R19	BEDROOM	W38	14.0	14.0	0.0	0.0
F03		R1	L/K/D	W1	35.5	35.5	0.0	0.0
				W2	35.6	35.6	0.0	0.0
				W3	37.9	34.2	3.7	9.8
				W4	10.5	10.5	0.0	0.0
				W5	37.1	33.1	4.0	10.8
		R2	L/K/D	W6	37.1	33.0	4.1	11.1
				W7	37.1	33.0	4.1	11.1
				W8	9.7	6.3	3.4	35.1
		R3	BEDROOM	W9	38.1	34.1	4.0	10.5
		R4	L/K/D	W10	25.8	21.7	4.1	15.9
		R5	BEDROOM	W11	33.9	29.6	4.3	12.7
		R6	L/K/D	W12	35.2	31.0	4.2	11.9
				W13	35.7	32.3	3.4	9.5
				W14	32.6	29.5	3.1	9.5
		R7	L/K/D	W15	28.4	27.2	1.2	4.2
		R8	L/K/D	W16	11.4	11.4	0.0	0.0
				W17	38.2	32.9	5.3	13.9
				W18	38.2	32.8	5.4	14.1
		R9	BEDROOM	W19	36.7	31.1	5.6	15.3
		R10	BEDROOM	W20	36.7	31.0	5.7	15.5
		R11	L/K/D	W21	36.7	30.8	5.9	16.1
				W22	36.8	30.8	6.0	16.3
				W23	36.4	30.1	6.3	17.3
				W24	36.4	30.1	6.3	17.3
				W25	10.3	10.1	0.2	1.9
		R12	BEDROOM	W26	37.4	31.2	6.2	16.6
		R13	BEDROOM	W27	37.7	31.6	6.1	16.2
		R14	BEDROOM	W28	37.7	31.8	5.9	15.6
		R15	L/K/D	W29	10.9	6.5	4.4	40.4
				W30	36.2	30.6	5.6	15.5
		R16	L/K/D	W31	37.7	32.0	5.7	15.1
				W32	37.7	32.1	5.6	14.9
				W33	37.7	32.1	5.6	14.9
				W34	37.8	32.3	5.5	14.6
				W35	30.2	30.1	0.1	0.3
		R17	BEDROOM	W36	9.9	9.9	0.0	0.0
		R18	BEDROOM	W37	20.4	20.4	0.0	0.0
		R19	BEDROOM	W38	15.9	15.9	0.0	0.0
F04		R1	L/K/D	W1	30.2	28.1	2.1	7.0
		R2	BEDROOM	W2	36.2	31.0	5.2	14.4
		R3	BEDROOM	W3	29.7	27.9	1.8	6.1
		R4	L/K/D	W4	36.2	31.4	4.8	13.3
				W5	29.7	28.0	1.7	5.7
				W6	31.8	31.7	0.1	0.3
		R5	BEDROOM	W7	13.7	13.7	0.0	0.0
		R6	BEDROOM	W8	23.8	23.8	0.0	0.0
		R7	BEDROOM	W9	18.6	18.6	0.0	0.0
		R8	L/K/D	W10	37.0	33.0	4.0	10.8

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
		R9	L/K/D	W11	37.4	33.0	4.4	11.8
				W12	36.1	31.5	4.6	12.7
		R10	BEDROOM	W13	32.4	28.1	4.3	13.3
LEVEN ROAD PHASE THREE								
F00		R1	KITCHEN	W1	16.4	12.2	4.2	25.6
		R2	LIVING ROOM	W2	24.2	14.2	10.0	41.3
		R3	LIVING ROOM	W3	26.3	13.0	13.3	50.6
		R4	KITCHEN	W4	19.0	19.0	0.0	0.0
		R5	KITCHEN	W5	28.8	28.8	0.0	0.0
		R6	LIVING ROOM	W6	27.5	9.6	17.9	65.1
				W7	1.7	1.3	0.4	23.5
		R7	LIVING ROOM	W8	28.1	9.9	18.2	64.8
		R8	LIVING ROOM	W9	28.3	10.2	18.1	64.0
		R9	KITCHEN	W10	27.2	27.0	0.2	0.7
		R10	KITCHEN	W11	28.1	28.0	0.1	0.4
F01		R1	BEDROOM	W1	27.4	17.4	10.0	36.5
		R2	BEDROOM	W2	28.9	17.7	11.2	38.8
		R3	BEDROOM	W3	30.5	15.5	15.0	49.2
		R4	BEDROOM	W4	22.5	22.5	0.0	0.0
		R5	BEDROOM	W5	25.0	25.0	0.0	0.0
		R6	BEDROOM	W6	31.2	16.1	15.1	48.4
		R7	L/K/D	W7	28.3	14.8	13.5	47.7
		R8	BEDROOM	W8	0.8	0.0	0.8	100.0
		R9	BEDROOM	W9	18.8	14.0	4.8	25.5
		R10	BEDROOM	W10	34.3	12.1	22.2	64.7
				W11	0.1	0.1	0.0	0.0
		R11	BEDROOM	W12	34.4	12.2	22.2	64.5
		R12	BEDROOM	W13	34.5	12.6	21.9	63.5
		R13	BEDROOM	W14	34.6	12.8	21.8	63.0
		R14	BEDROOM	W15	30.0	11.1	18.9	63.0
		R15	BEDROOM	W16	30.9	11.1	19.8	64.1
		R16	BEDROOM	W17	29.8	29.6	0.2	0.7
				W18	29.7	29.5	0.2	0.7
		R17	BEDROOM	W19	33.3	33.0	0.3	0.9
				W20	33.1	32.8	0.3	0.9
		R18	BEDROOM	W21	33.4	33.1	0.3	0.9
				W22	33.4	33.1	0.3	0.9
F02		R1	LIVING ROOM	W1	27.8	27.8	0.0	0.0
				W2	24.9	24.9	0.0	0.0
		R2	BEDROOM	W3	35.0	18.5	16.5	47.1
		R3	BEDROOM	W4	34.0	17.6	16.4	48.2
		R4	LIVING ROOM	W5	32.7	20.2	12.5	38.2
				W6	33.3	17.7	15.6	46.8
		R5	BEDROOM	W7	32.4	20.6	11.8	36.4
		R6	BEDROOM	W8	21.1	16.0	5.1	24.2
		R7	BEDROOM	W9	23.9	7.4	16.5	69.0
		R8	LIVING ROOM	W10	32.5	11.4	21.1	64.9
		R9	BEDROOM	W11	35.8	12.5	23.3	65.1
		R10	BEDROOM	W12	35.9	12.8	23.1	64.3
		R11	BEDROOM	W13	35.8	13.0	22.8	63.7
		R12	LIVING ROOM	W14	33.5	13.0	20.5	61.2
F03		R1	LIVING ROOM	W1	31.2	31.2	0.0	0.0
				W2	28.4	28.4	0.0	0.0
		R2	BEDROOM	W3	36.7	19.8	16.9	46.0
		R3	BEDROOM	W4	35.8	18.9	16.9	47.2
		R4	LIVING ROOM	W5	34.8	21.5	13.3	38.2
				W6	36.1	19.2	16.9	46.8
		R5	BEDROOM	W7	35.6	22.1	13.5	37.9
		R6	BEDROOM	W8	25.7	20.8	4.9	19.1
		R7	BEDROOM	W9	26.1	9.0	17.1	65.5
		R8	LIVING ROOM	W10	34.9	12.6	22.3	63.9
		R9	BEDROOM	W11	37.0	13.6	23.4	63.2
		R10	BEDROOM	W12	37.0	13.9	23.1	62.4
		R11	BEDROOM	W13	37.0	14.1	22.9	61.9
		R12	LIVING ROOM	W14	34.9	14.4	20.5	58.7
F04		R1	BEDROOM	W1	33.1	32.9	0.2	0.6
		R2	BEDROOM	W2	35.8	35.6	0.2	0.6

					VERTICAL SKY COMPONENT			
FLOOR	FLAT	ROOM	ROOM USE	WINDOW	BASELINE (NO BALCONIES)	MAX PARAMETER (NO BALCONIES)	LOSS	%
		R3	BEDROOM	W3	35.8	35.6	0.2	0.6
		R4	LIVING ROOM	W4	35.8	35.6	0.2	0.6
				W5	37.1	34.4	2.7	7.3
		R5	KITCHEN	W6	36.3	33.6	2.7	7.4
		R6	KITCHEN	W7	36.3	33.3	3.0	8.3
		R7	LIVING ROOM	W8	37.2	33.8	3.4	9.1
				W9	37.4	15.1	22.3	59.6
		R8	BEDROOM	W10	37.4	14.8	22.6	60.4
		R9	BEDROOM	W11	37.4	14.4	23.0	61.5
		R10	BEDROOM	W12	34.7	13.5	21.2	61.1

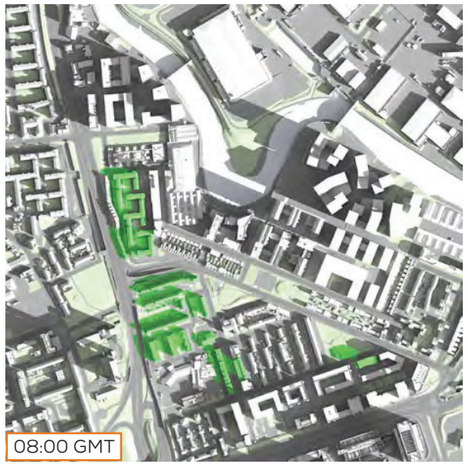
Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

Baseline v
Max Parameter v
Cumulative

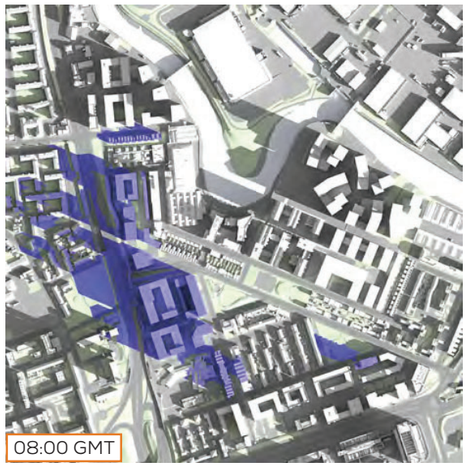
TRANSIENT OVERSHADOWING ASSESSMENT
21ST MARCH (08:00 - 11:00 GMT)

BASELINE



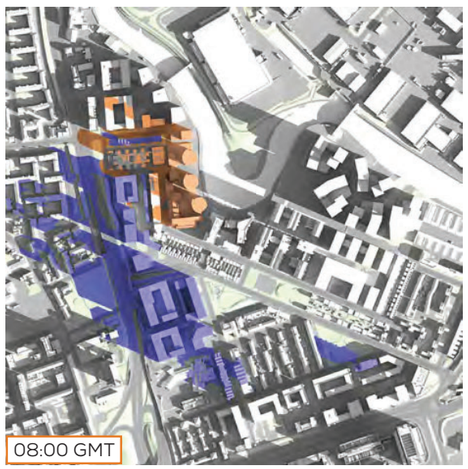


MAX PARAMETER



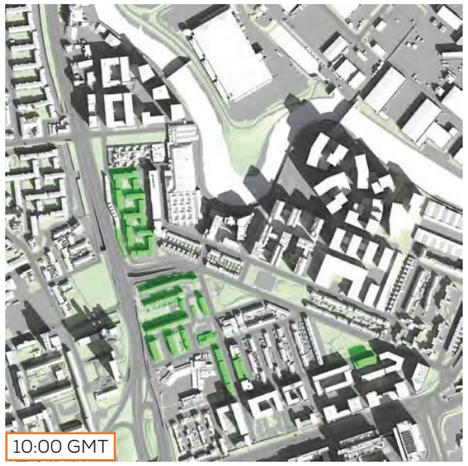


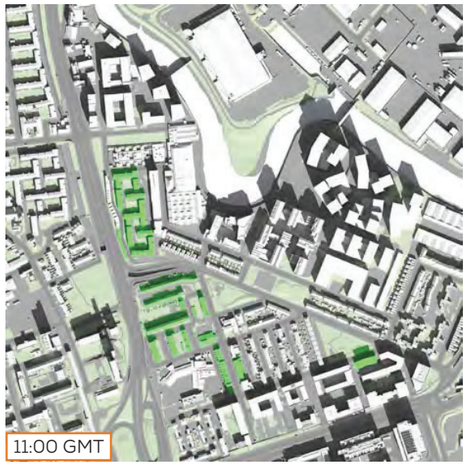
CUMULATIVE



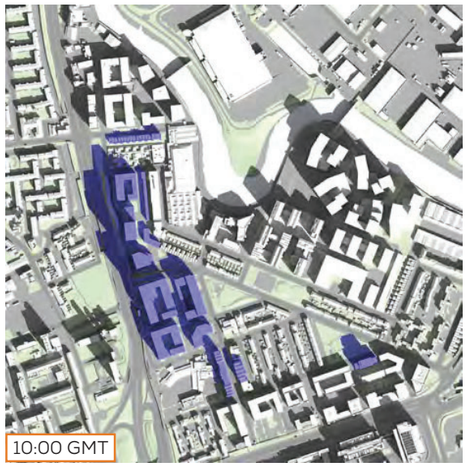


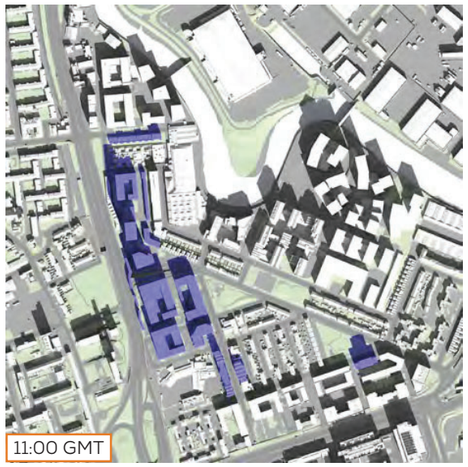
BASELINE





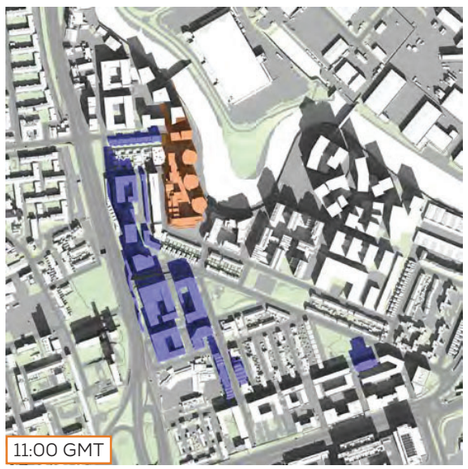
MAX PARAMETER





CUMULATIVE





TRANSIENT OVERSHADOWING ASSESSMENT
21ST MARCH (12:00 - 15:00 GMT)

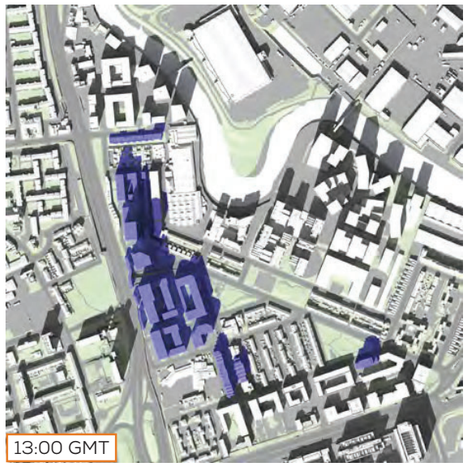
BASELINE





MAX PARAMETER



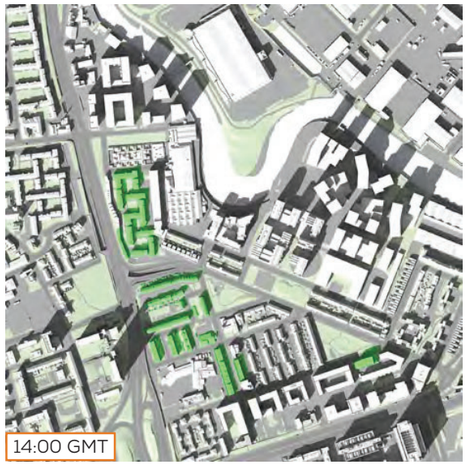


CUMULATIVE



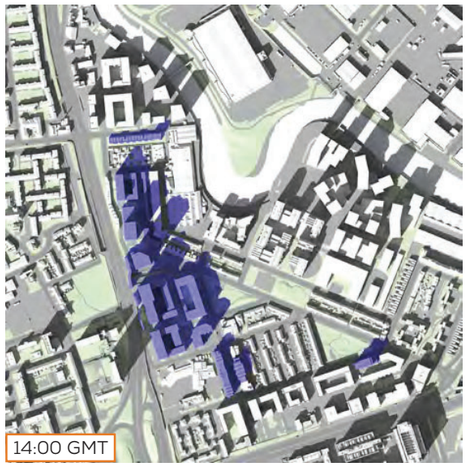


BASELINE





MAX PARAMETER





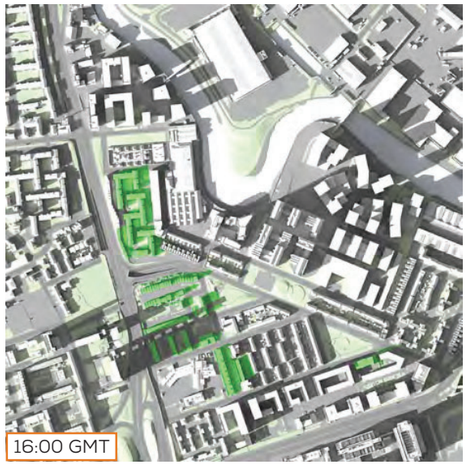
CUMULATIVE

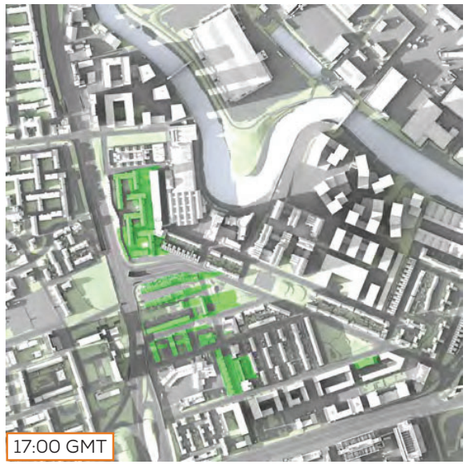




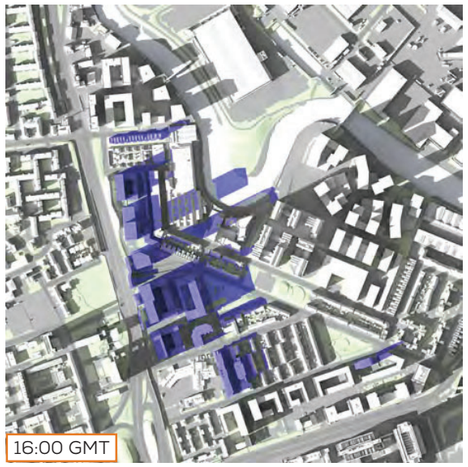
TRANSIENT OVERSHADOWING ASSESSMENT
21ST MARCH (16:00 - 17:00 GMT)

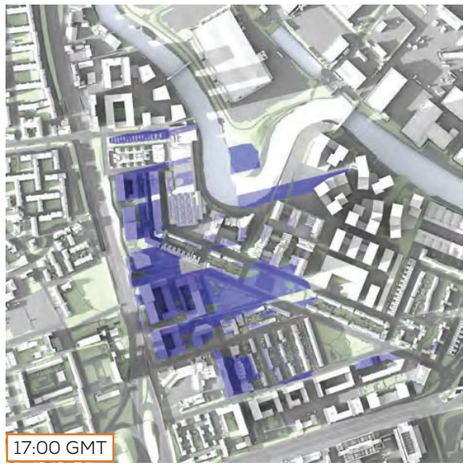
BASELINE



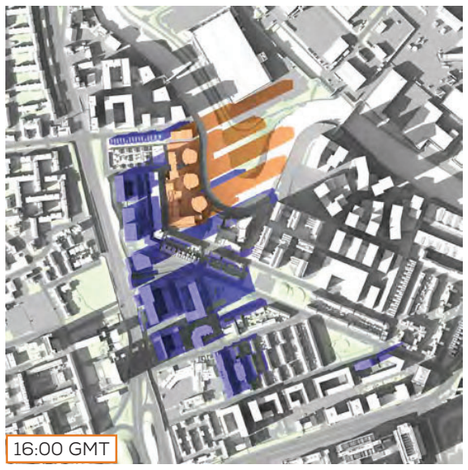


MAX PARAMETER





CUMULATIVE

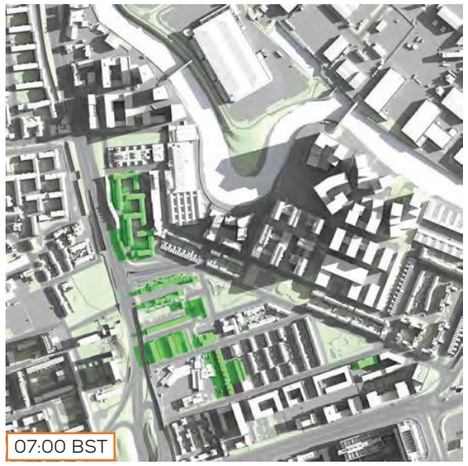




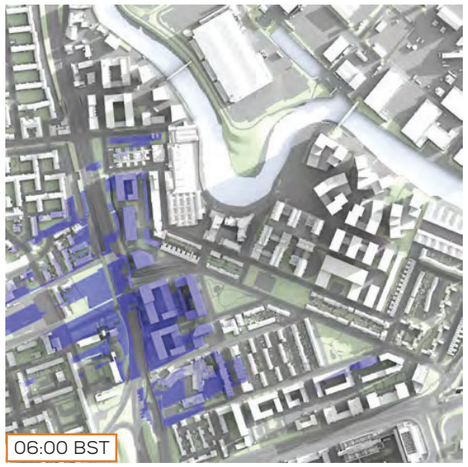
TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (06:00 - 09:00 BST)

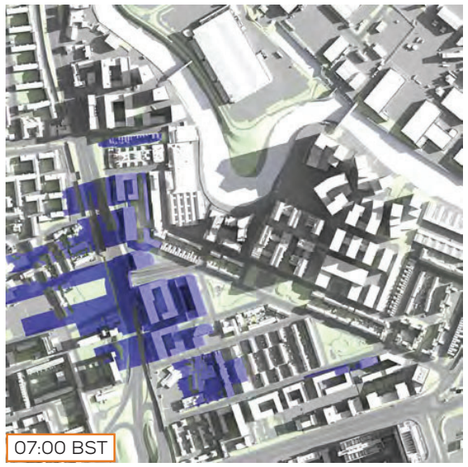
BASELINE



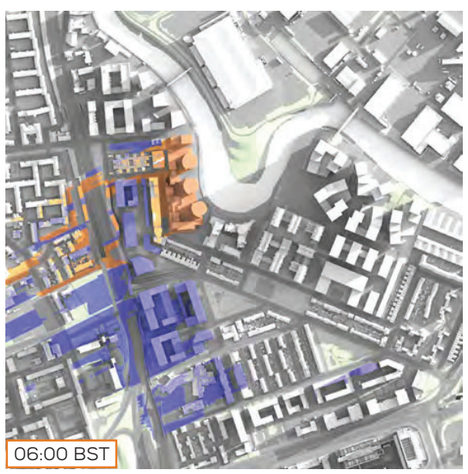


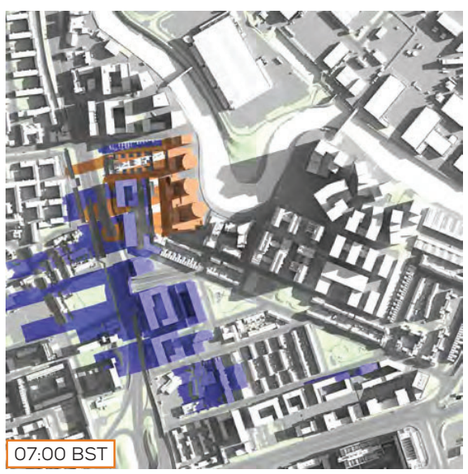
MAX PARAMETER



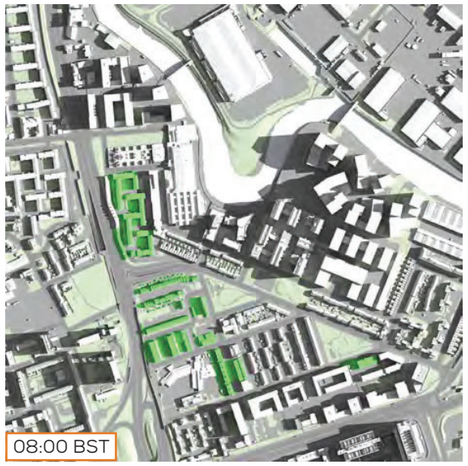


CUMULATIVE



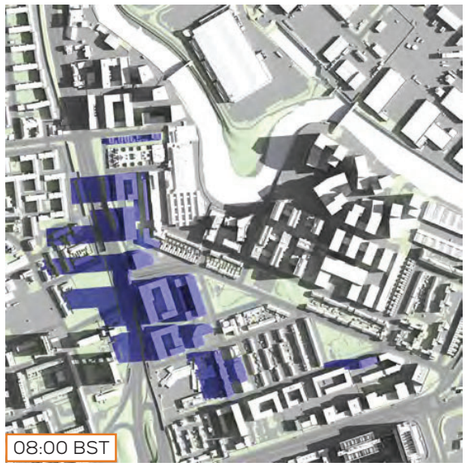


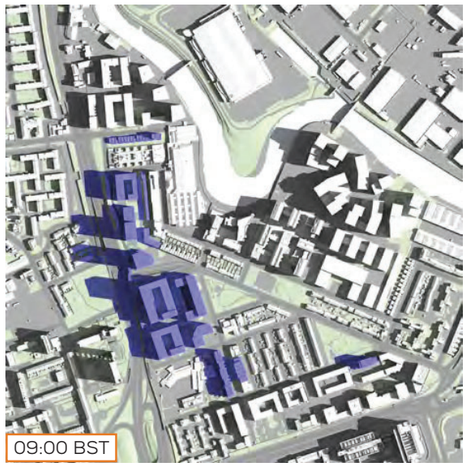
BASELINE



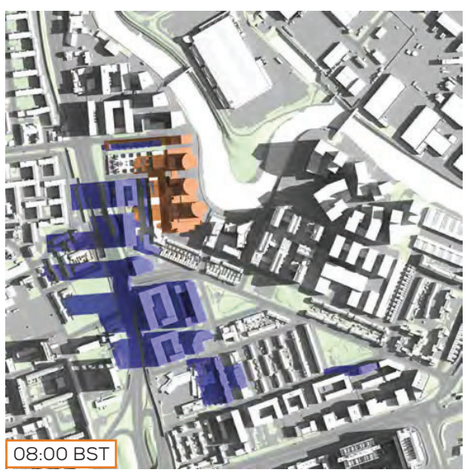


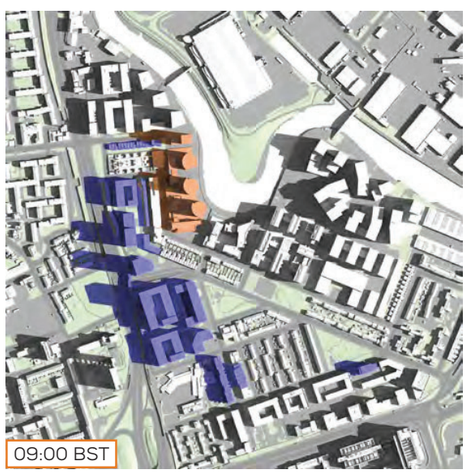
MAX PARAMETER





CUMULATIVE





TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (10:00 - 13:00 BST)

BASELINE



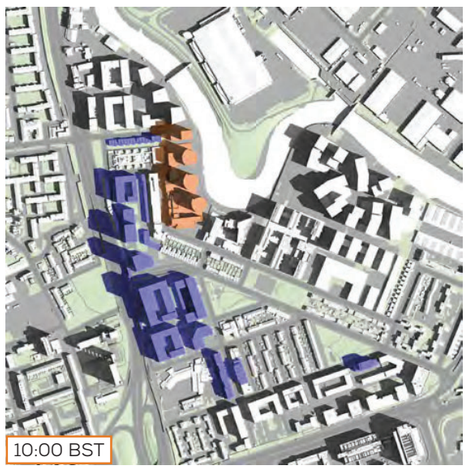


MAX PARAMETER





CUMULATIVE





BASELINE





MAX PARAMETER





CUMULATIVE

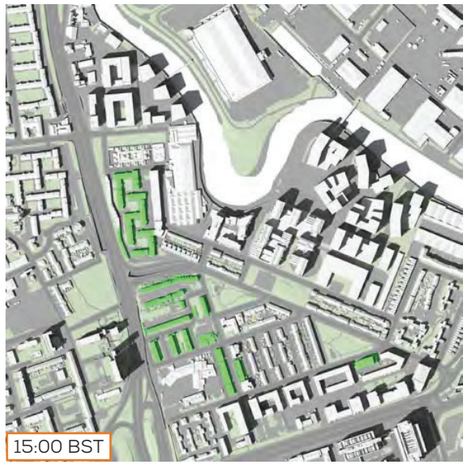




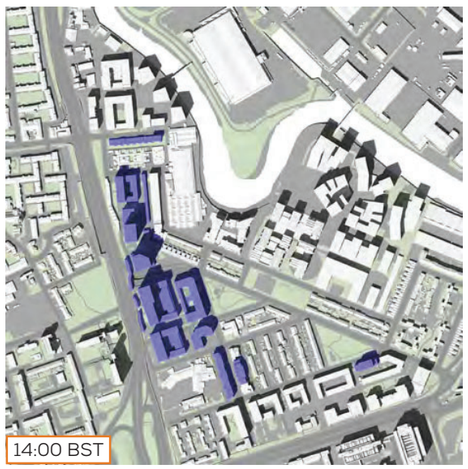
TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (14:00 - 17:00 BST)

BASELINE





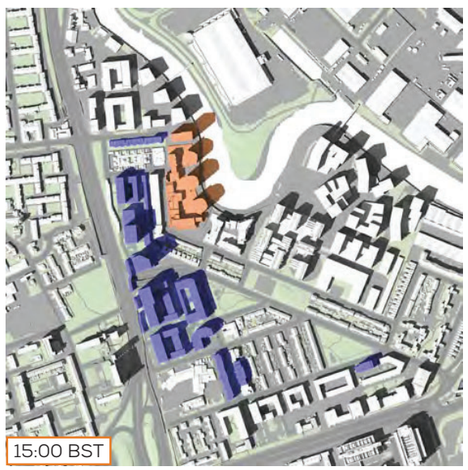
MAX PARAMETER





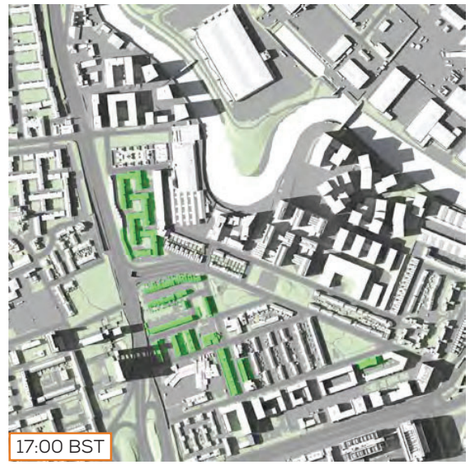
CUMULATIVE



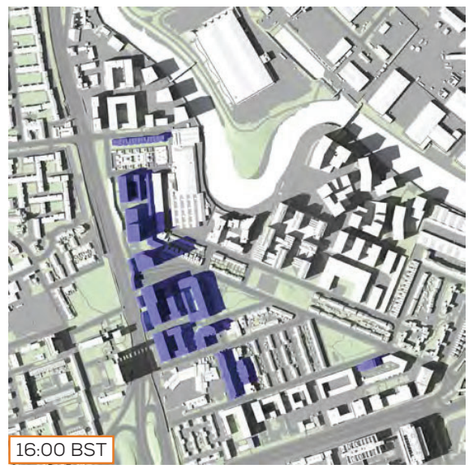


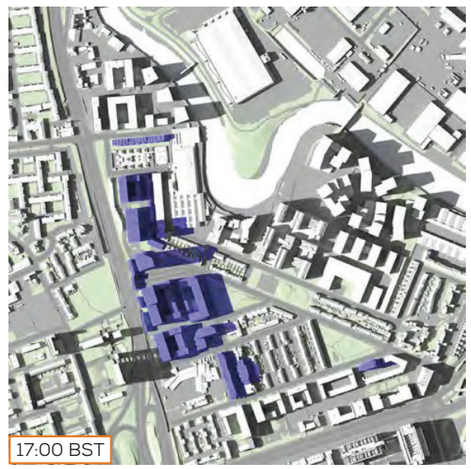
BASELINE



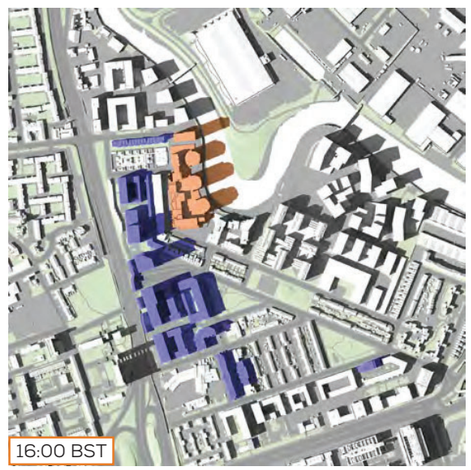


MAX PARAMETER





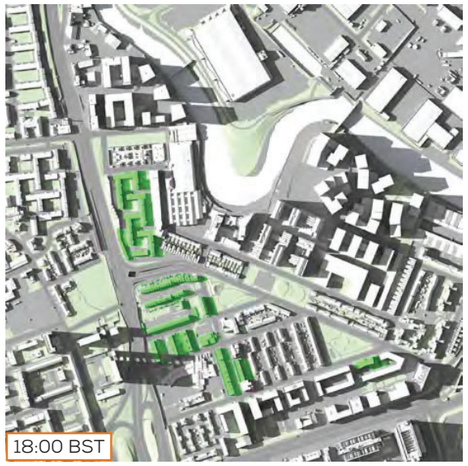
CUMULATIVE





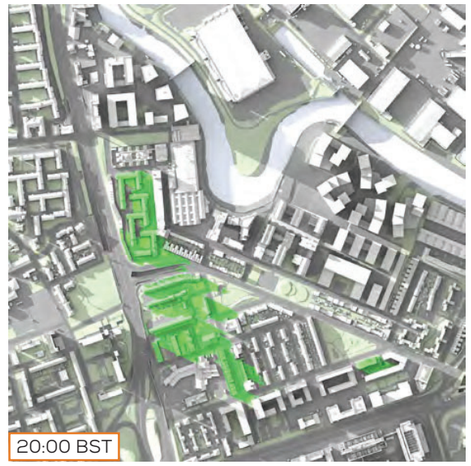
TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (18:00 - 20:00 BST)

BASELINE



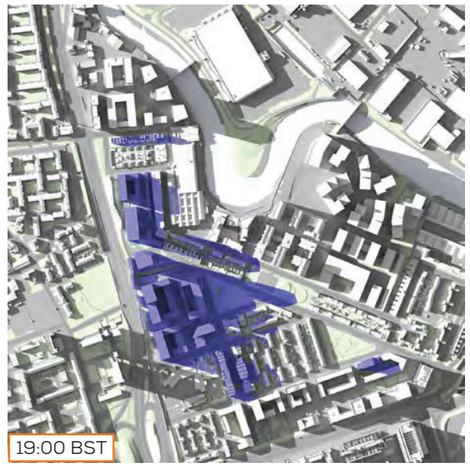


BASELINE

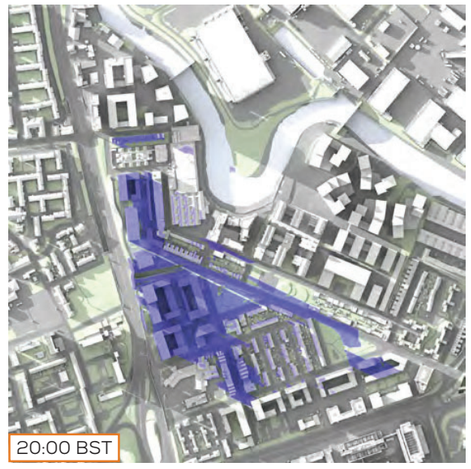


MAX PARAMETER

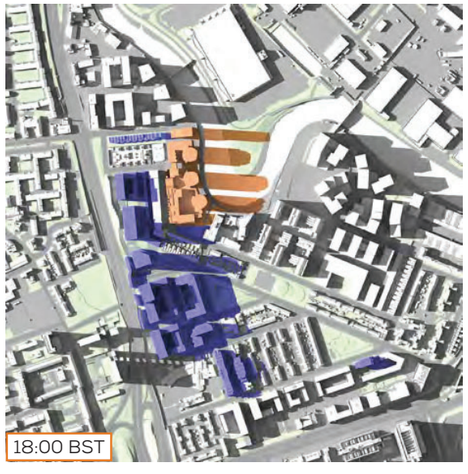




MAX PARAMETER

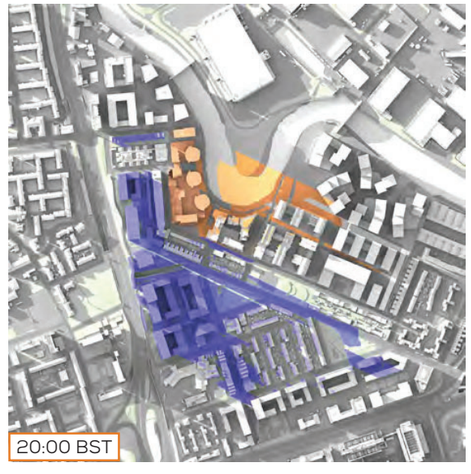


CUMULATIVE



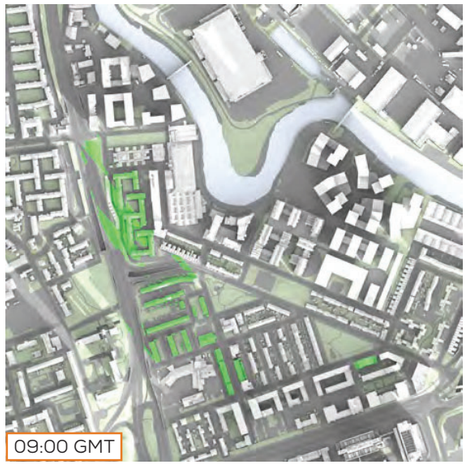


CUMULATIVE



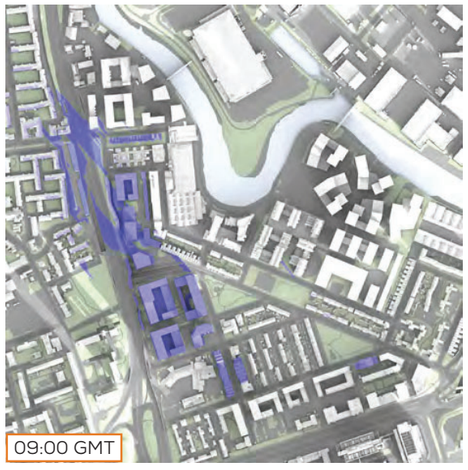
TRANSIENT OVERSHADOWING ASSESSMENT
21ST DECEMBER (09:00 - 12:00 GMT)

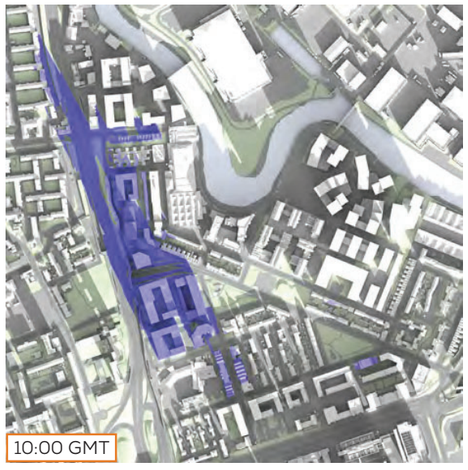
BASELINE





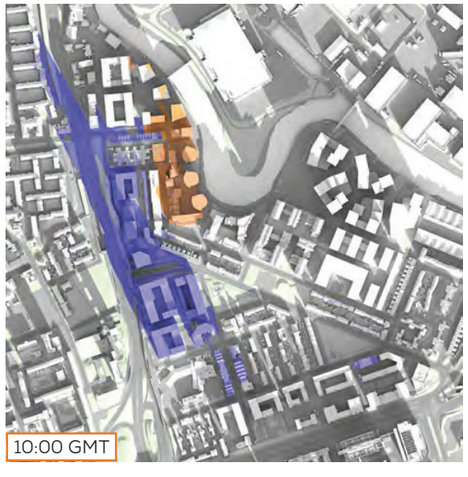
MAX PARAMETER



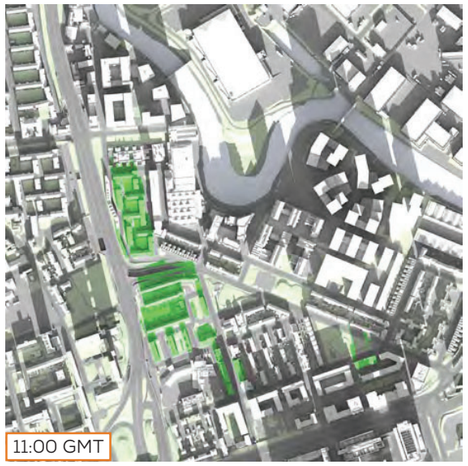


CUMULATIVE



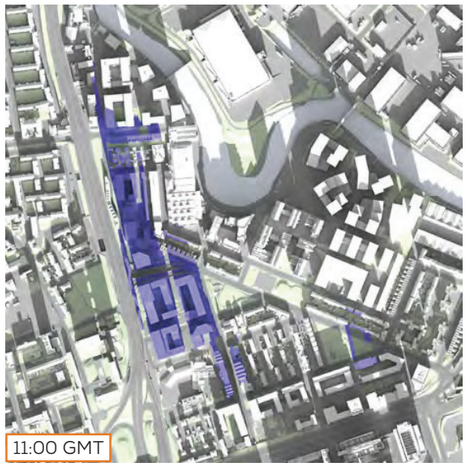


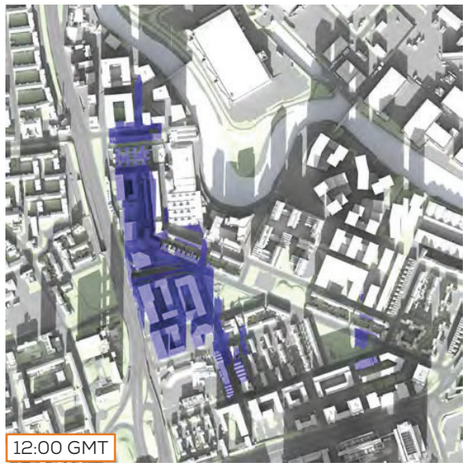
BASELINE



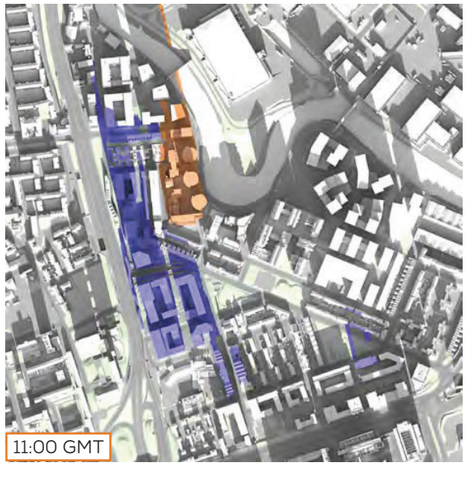


MAX PARAMETER





CUMULATIVE





TRANSIENT OVERSHADOWING ASSESSMENT
21ST DECEMBER (13:00 - 15:00 GMT)

BASELINE

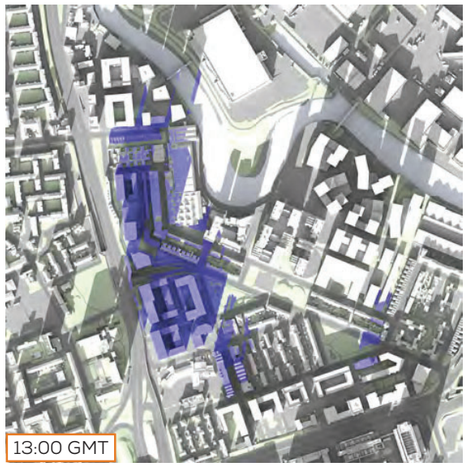


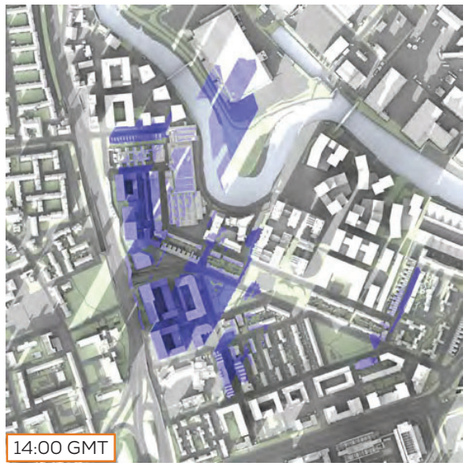


BASELINE

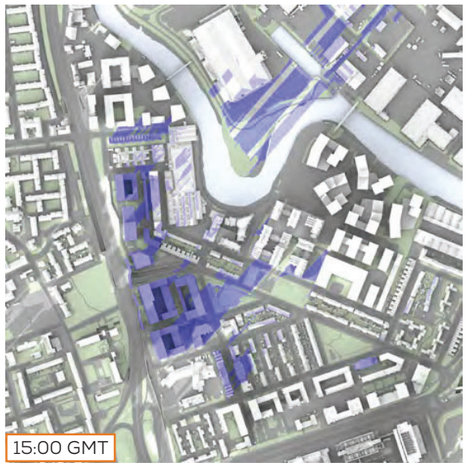


MAX PARAMETER





MAX PARAMETER



CUMULATIVE





CUMULATIVE

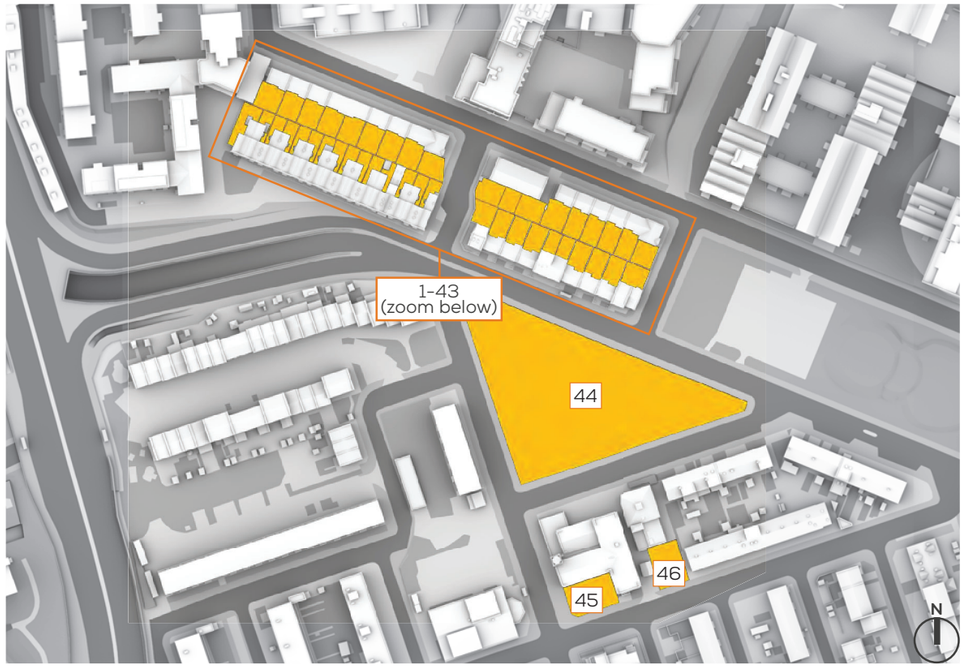


ASSESSED AREAS OVERVIEW





ASSESSED AREAS





ASSESSMENT RESULTS

		% area receiving 2+ hours of direct sunlight on 21st March						
AREA	ADDRESS	BASELINE	MAX PARAMETER	LOSS BASELINE v MAX PARAMETER	% LOSS BASELINE v MAX PARAMETER	CUMU LATIVE	LOSS BASELINE v CUMULATIVE	% LOSS BASELINE v CUMULATIVE
1	110 Leven Rd	87	77.6	9.4	11%	77.6	9.4	11%
2	112 Leven Rd	86.7	77.7	9	10%	77.7	9	10%
3	114 Leven Rd	87.1	80.1	7	8%	80.1	7	8%
4	116 Leven Rd	86.8	81.4	5.4	6%	81.4	5.4	6%
5	118 Leven Rd	87	82.4	4.6	5%	82.4	4.6	5%
6	120 Leven Rd	87.2	84.1	3.1	4%	84.1	3.1	4%
7	122 Leven Rd	86.8	85.2	1.6	2%	85.2	1.6	2%
8	124 Leven Rd	87	84.6	2.4	3%	84.6	2.4	3%
9	126 Leven Rd	85.1	83.9	1.2	1%	83.9	1.2	1%
10	128 Leven Rd	89.6	85.4	4.2	5%	85.4	4.2	5%
11	130 Leven Rd	88.6	85	3.6	4%	85	3.6	4%
12	132 Leven Rd	89.9	87.9	2	2%	87.9	2	2%
13	134 Leven Rd	89	86.9	2.1	2%	86.9	2.1	2%
14	136 Leven Rd	87	86	1	1%	86	1	1%
15	138 Leven Rd	88	88	0	0%	88	0	0%
16	140 Leven Rd	88.3	88.3	0	0%	88.3	0	0%
17	142 Leven Rd	88	88	0	0%	88	0	0%
18	144 Leven Rd	86.3	86.3	0	0%	86.3	0	0%
19	177 Abbott Rd	65.7	65.7	0	0%	65.7	0	0%
20	179 Abbott Rd	40.4	40.4	0	0%	40.4	0	0%
21	181 Abbott Rd	50.5	50.5	0	0%	50.5	0	0%
22	183 Abbott Rd	54.5	54.5	0	0%	54.5	0	0%
23	185 Abbott Rd	57.9	57.9	0	0%	57.9	0	0%
24	187 Abbott Rd	38.8	38.2	0.6	2%	38.2	0.6	2%
25	189 Abbott Rd	36.9	35.2	1.7	5%	35.2	1.7	5%
26	191 Abbott Rd	46.5	45.7	0.8	2%	45.7	0.8	2%
27	193 Abbott Rd	55.4	55	0.4	1%	55	0.4	1%
28	195 Abbott Rd	71.2	69.1	2.1	3%	69.1	2.1	3%
29	197 Abbott Rd	12.1	8.6	3.5	29%	8.6	3.5	29%
30	199 Abbott Rd	4.3	4.3	0	0%	4.3	0	0%
31	201 Abbott Rd	3	0.7	2.3	77%	0.7	2.3	77%
32	203 Abbott Rd	0	0	0	0%	0	0	0%
33	205 Abbott Rd	3.5	1.4	2.1	60%	1.4	2.1	60%
34	207 Abbott Rd	3.5	3.5	0	0%	3.5	0	0%
35	209 Abbott Rd	5.8	2.9	2.9	50%	2.9	2.9	50%
36	211 Abbott Rd	3.6	3.6	0	0%	3.6	0	0%
37	213 Abbott Rd	7.2	1.8	5.4	75%	1.8	5.4	75%
38	215 Abbott Rd	3.5	3.5	0	0%	3.5	0	0%
39	217 Abbott Rd	5.8	0.7	5.1	88%	0.7	5.1	88%
40	219 Abbott Rd	3.6	3.6	0	0%	3.6	0	0%
41	221 Abbott Rd	5.8	0	5.8	100%	0	5.8	100%
42	223 Abbott Rd	4.4	4.4	0	0%	4.4	0	0%
43	225 Abbott Rd	18.3	8.3	10	55%	8.3	10	55%
44	Aberfeldy Millennium Green	100	100	0	0%	100	0	0%
45	2 St Nicholas Church	100	100	0	0%	100	0	0%
46	2 St Nicholas Church	100	100	0	0%	100	0	0%

ASSESSED AREAS



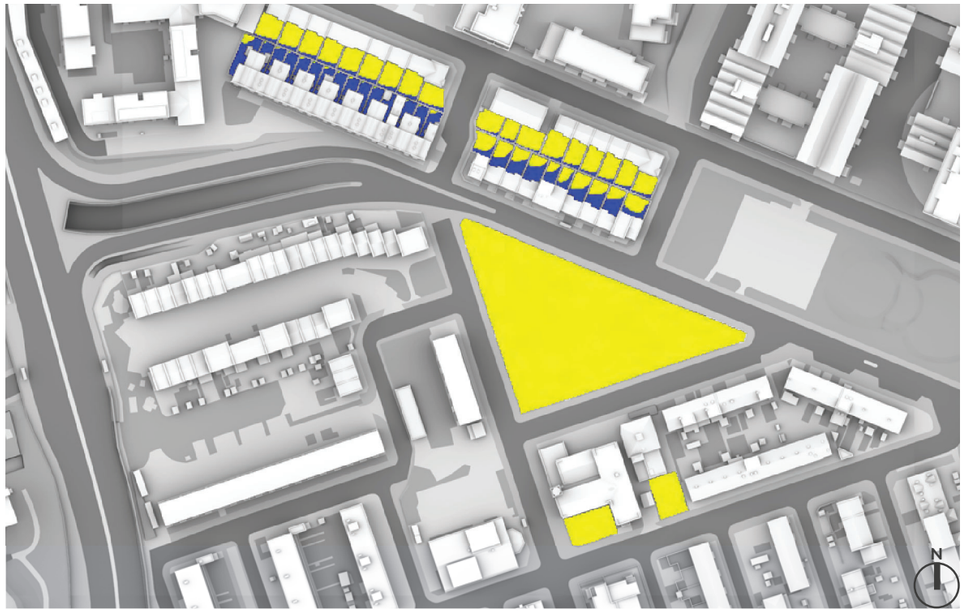


ASSESSMENT RESULTS

		% area receiving 2+ hours of direct sunlight on 21st March						
AREA	ADDRESS	BASELINE	MAX PARAMETER	LOSS BASELINE v MAX PARAMETER	% LOSS BASELINE v MAX PARAMETER	CUMULATIVE	LOSS BASELINE v CUMULATIVE	% LOSS BASELINE v CUMULATIVE
47	54 Sherman House, Aberfeldy St	37.4	37	0.4	1%	37	0.4	1%
48	54 Sherman House, Aberfeldy St	68.1	59	9.1	13%	59	9.1	13%
49	3 Dee St	82.1	0	82.1	100%	0	82.1	100%
50	4 Dee St	56.8	0	56.8	100%	0	56.8	100%
51	15 Wooster Gardens	49.5	49.5	0	0%	49.5	0	0%
52	13 Wooster Gardens	52.8	52.3	0.5	1%	52.3	0.5	1%
53	11 Wooster Gardens	51.1	49.5	1.6	3%	49.5	1.6	3%
54	9 Wooster Gardens	25.4	8.8	16.6	65%	8.8	16.6	65%
55	12 Lansbury Gardens	50.3	50.3	0	0%	50.3	0	0%
56	10 Lansbury Gardens	44	44	0	0%	44	0	0%
57	8 Lansbury Gardens	48.1	48.1	0	0%	48.1	0	0%
58	6 Lansbury Gardens	43.4	43.4	0	0%	43.4	0	0%
59	4 Lansbury Gardens	44.5	44.5	0	0%	44.5	0	0%
60	2 Lansbury Gardens	0	0	0	0%	0	0	0%
61	7 Wooster Gardens	46.3	46.3	0	0%	46.3	0	0%
62	5 Wooster Gardens	48	48	0	0%	48	0	0%
63	3 Wooster Gardens	32.2	32.2	0	0%	32.2	0	0%
64	1 Wooster Gardens	0	0	0	0%	0	0	0%
65	Bromley Hall	88.1	75	13.1	15%	74.8	13.3	15%
66	Bromley Hall	59.4	59.4	0	0%	59.4	0	0%
67	Bromley Hall	60.6	59.8	0.8	1%	59.8	0.8	1%
68	Bromley Hall	59.6	58.4	1.2	2%	58.4	1.2	2%
69	Bromley Hall	64.1	62	2.1	3%	59.7	4.4	7%
70	Bromley Hall	76.2	76.2	0	0%	76.2	0	0%
71	Bromley Hall	60.2	56.3	3.9	6%	32.6	27.6	46%
72	Bromley Hall	63.2	43.5	19.7	31%	41.8	21.4	34%
73	Bromley Hall	35.7	35.7	0	0%	35.7	0	0%
74	Bromley Hall	65.1	47.1	18	28%	34.6	30.5	47%
75	Bromley Hall	65.8	35.8	30	46%	35.8	30	46%
76	Bromley Hall	74.2	21.3	52.9	71%	21.3	52.9	71%
77	Bromley Hall	65.2	0	65.2	100%	0	65.2	100%
78	Bromley Hall	65.7	0	65.7	100%	0	65.7	100%

SUN HOURS ON GROUND

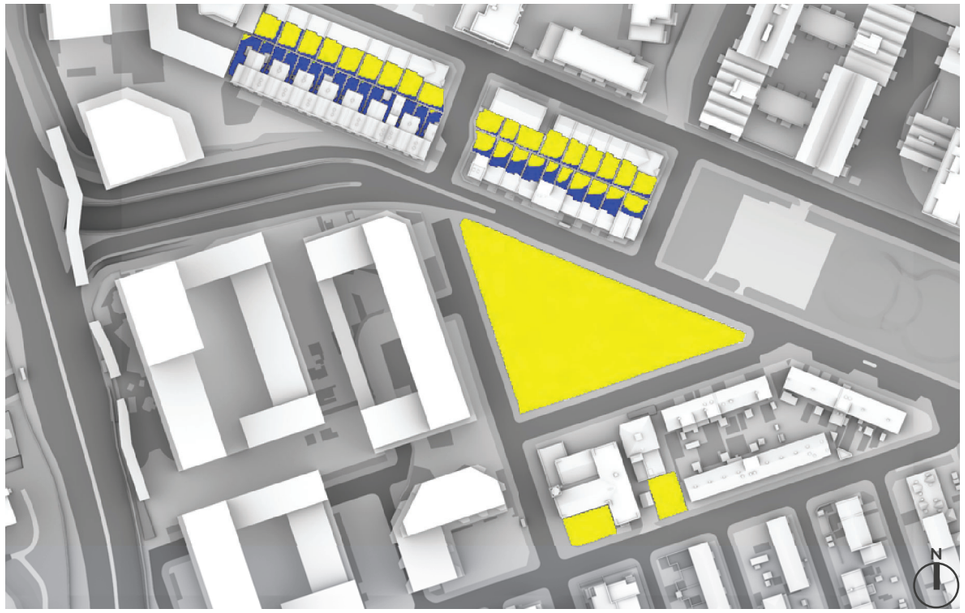
OVERSHADOWING ASSESSMENT - BASELINE - AREAS 1-46
SUN HOURS ON GROUND - BRE TEST



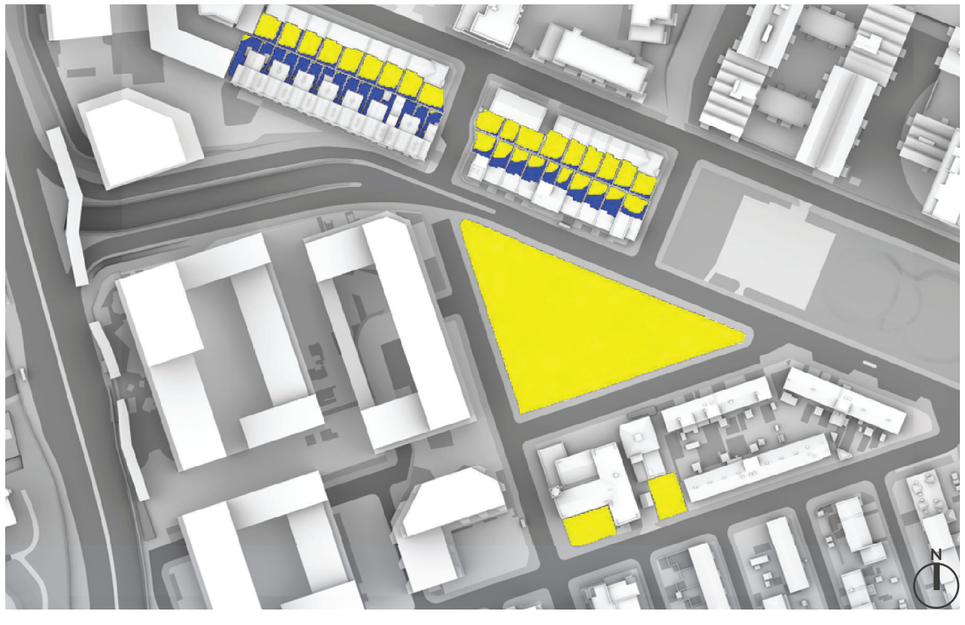
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 1-46
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 1-46
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE
TOTAL HOURS



21st MARCH
(SPRING EQUINOX)

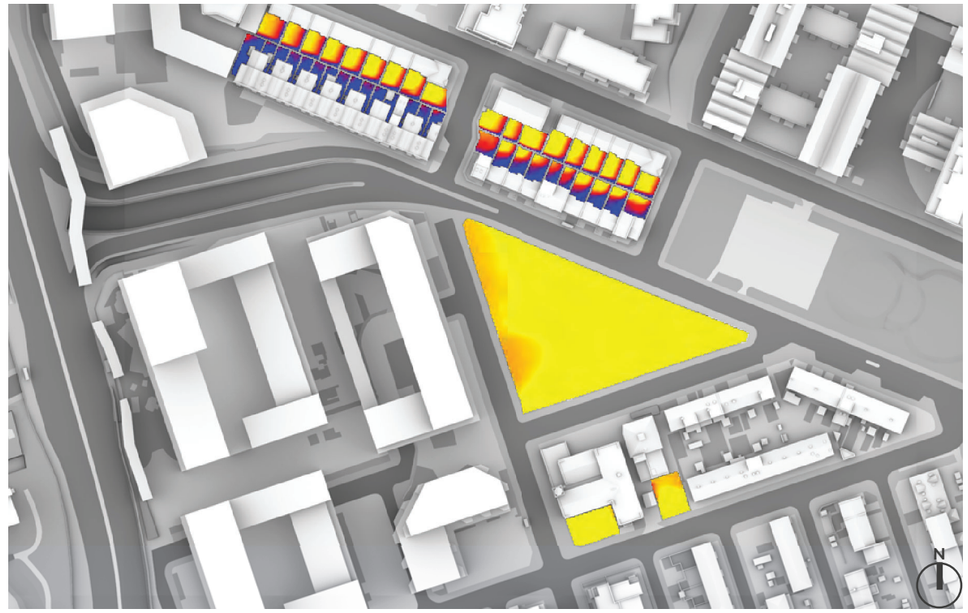
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

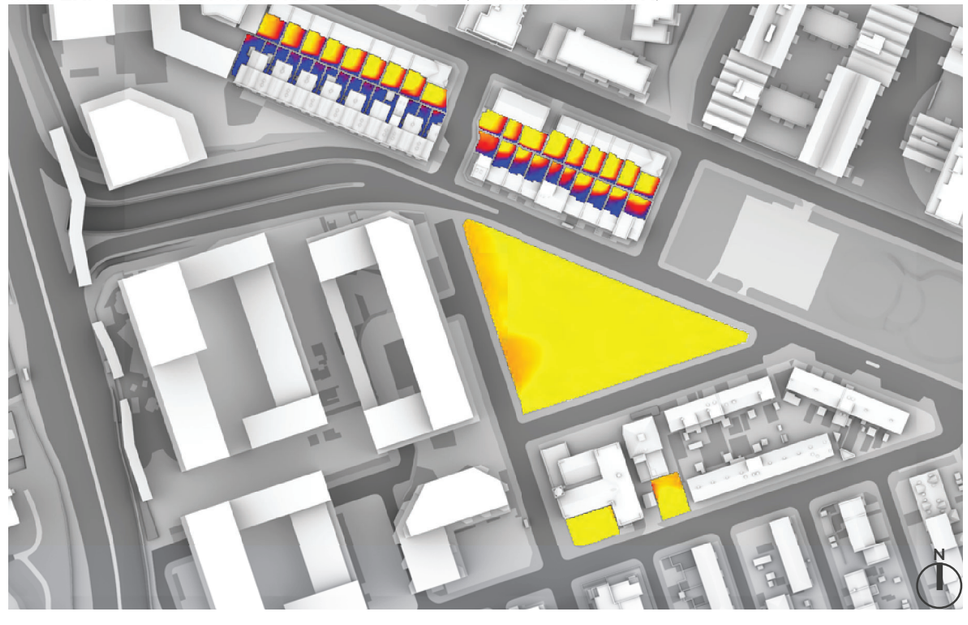
OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 1-46
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



21st JUNE
(SUMMER SOLSTICE)

LONDON
Latitude: 51.4
Longitude: 0.0
Sunrise: 04:43 BMT
Sunset: 21:21 BMT

Total Available Sunlight:
16hrs 38mins

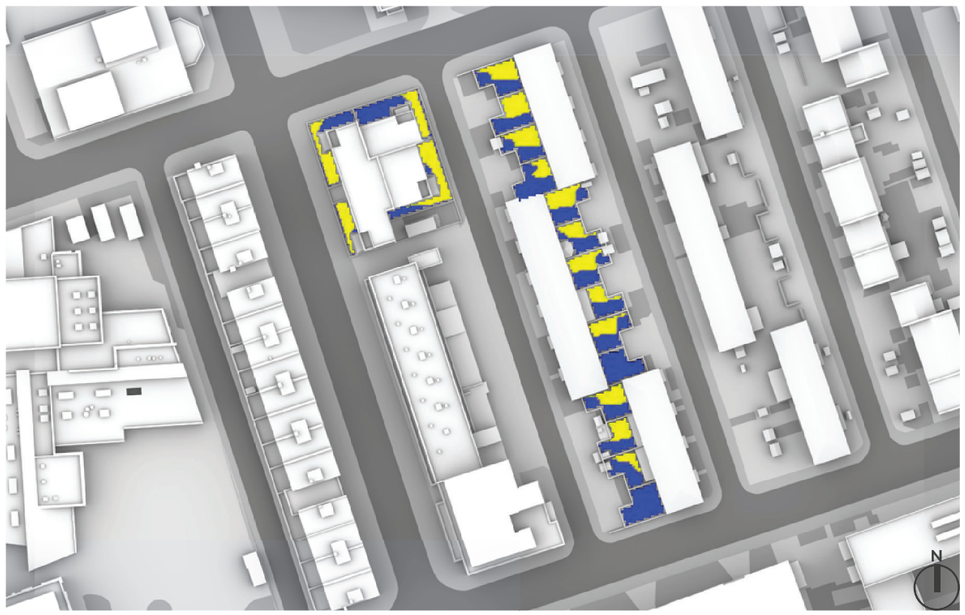
OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 1-46
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 1-46
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



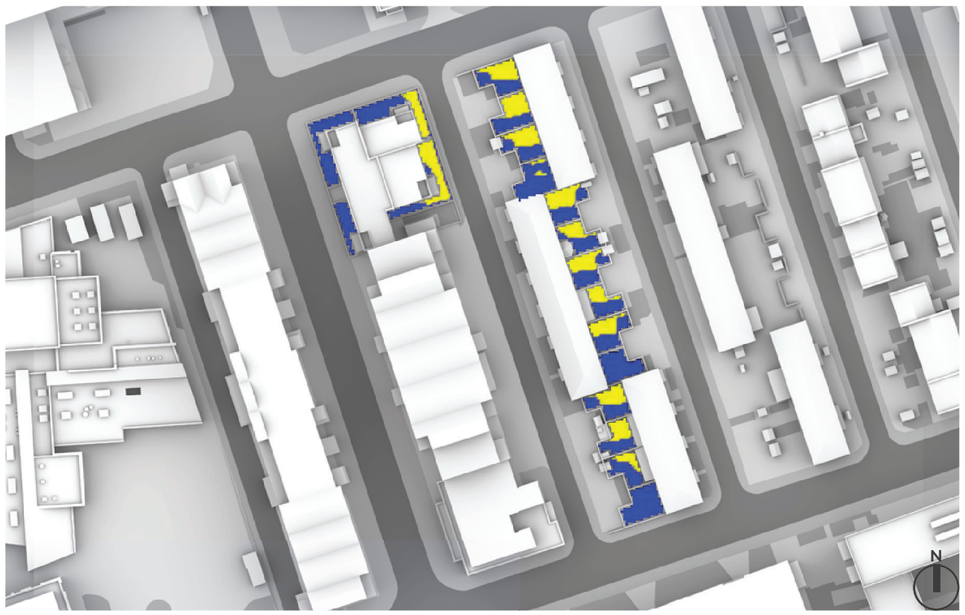
OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64
SUN HOURS ON GROUND - BRE TEST



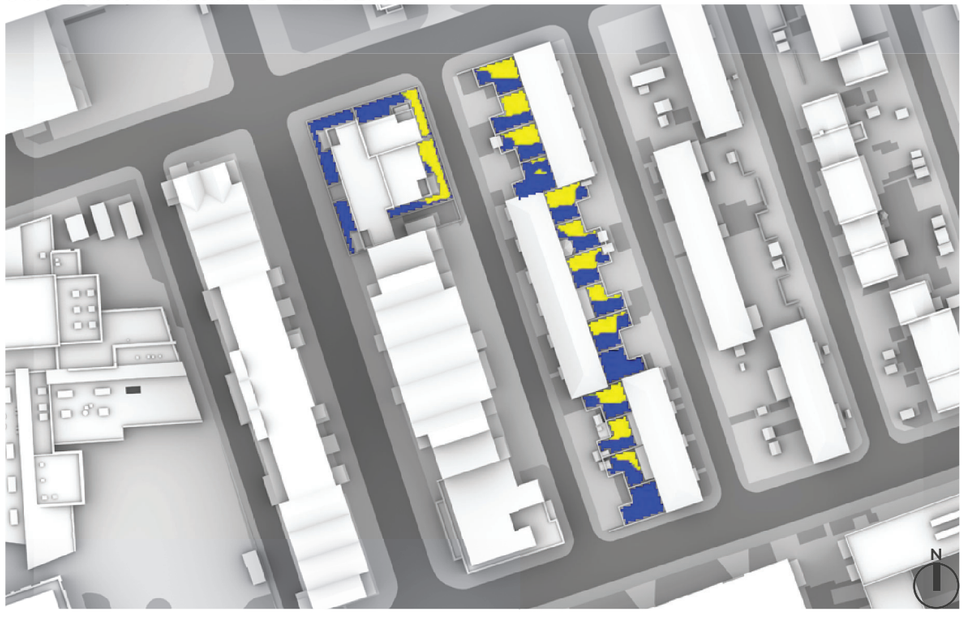
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64
SUN HOURS ON GROUND - BRE TEST

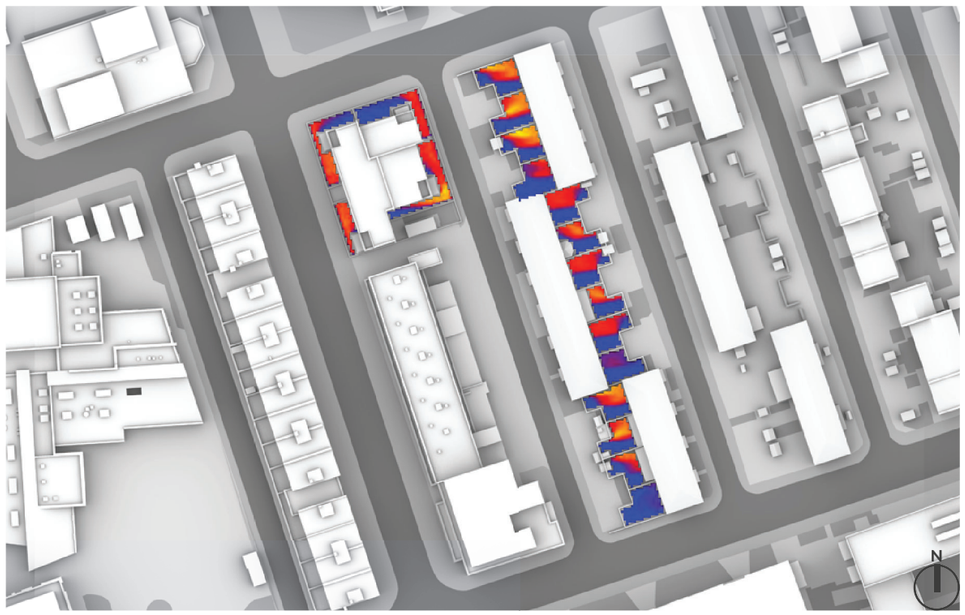


OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 47-64
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE

TOTAL HOURS

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5 5.5 6.0+

21st MARCH
(SPRING EQUINOX)

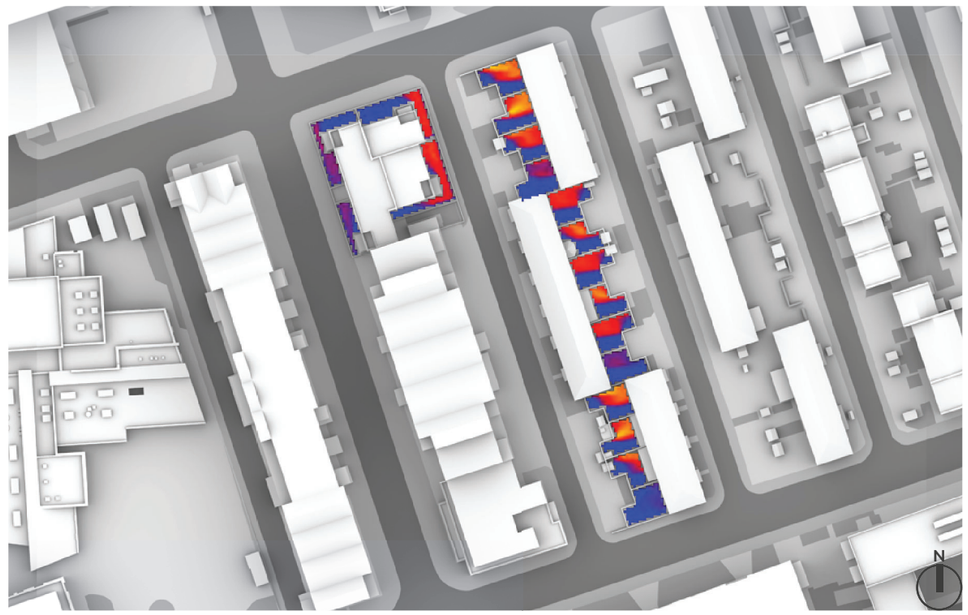
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

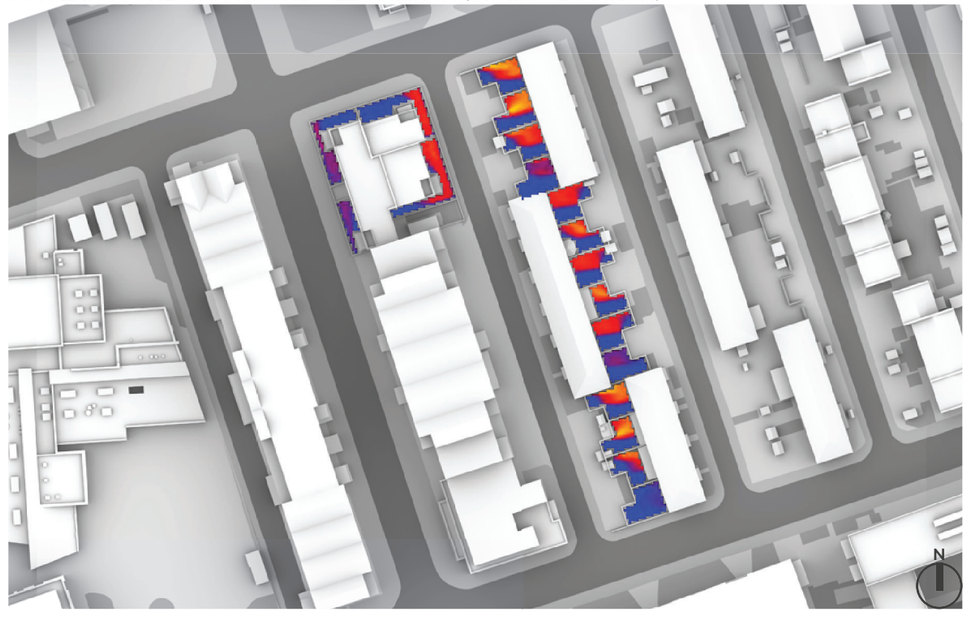
OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



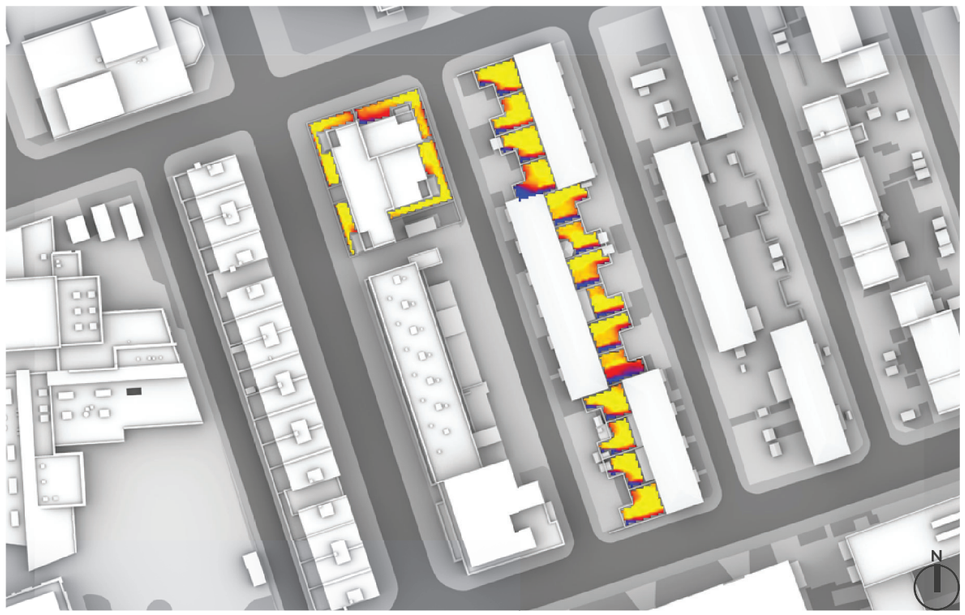
OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



gia CHARTERED SURVEYORS

OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



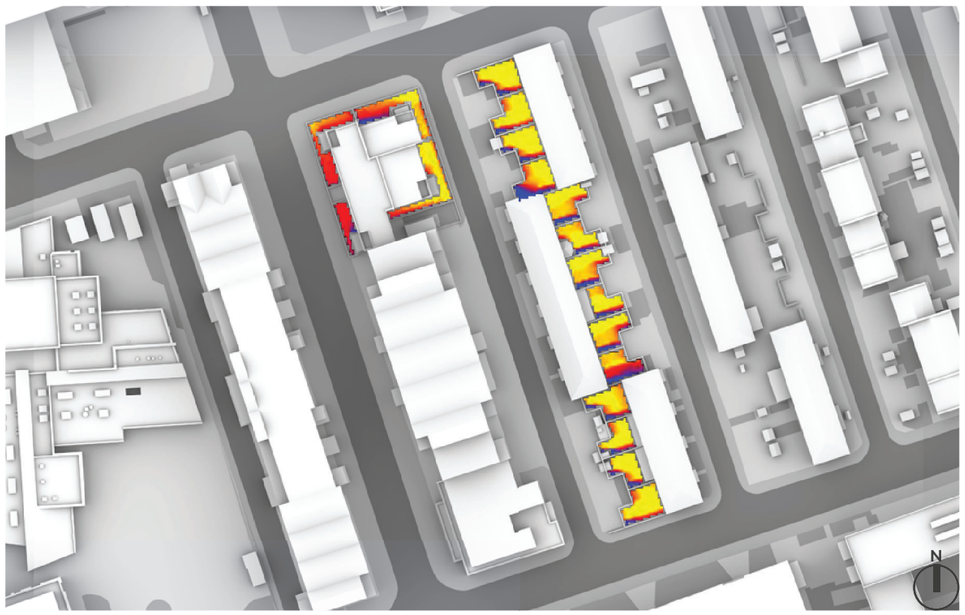
21st JUNE
(SUMMER SOLSTICE)

LONDON

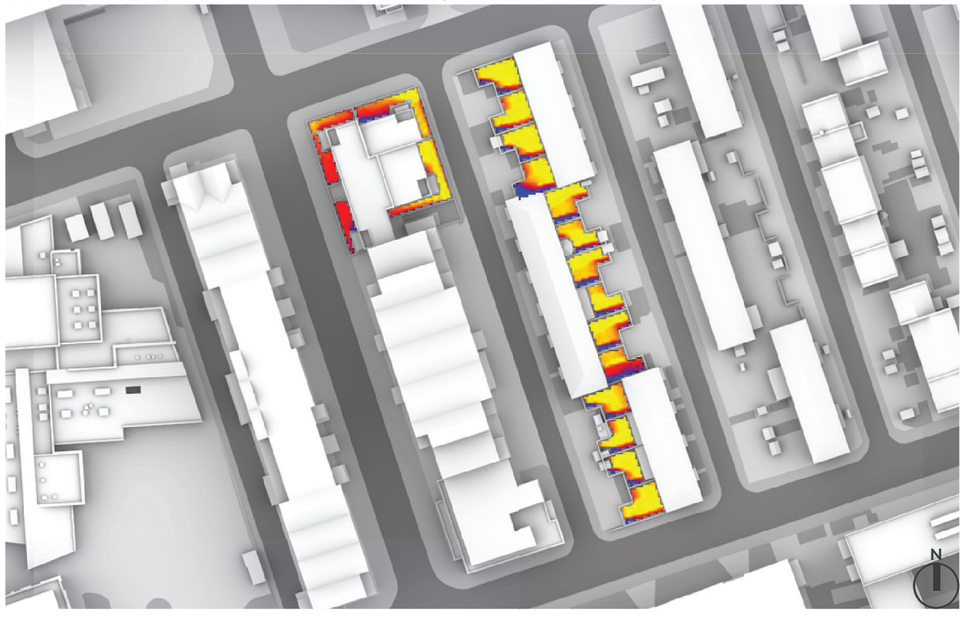
Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BMT
Sunset:	21:21 BMT

Total Available Sunlight:
16hrs 38mins

OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 47-64
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



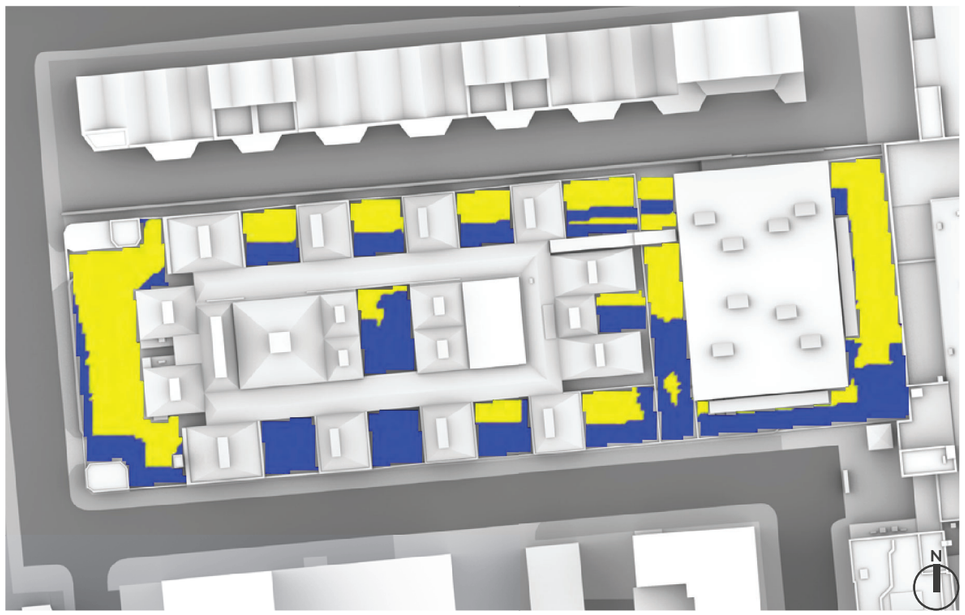
OVERSHADOWING ASSESSMENT - BASELINE - AREAS 65-78
SUN HOURS ON GROUND - BRE TEST



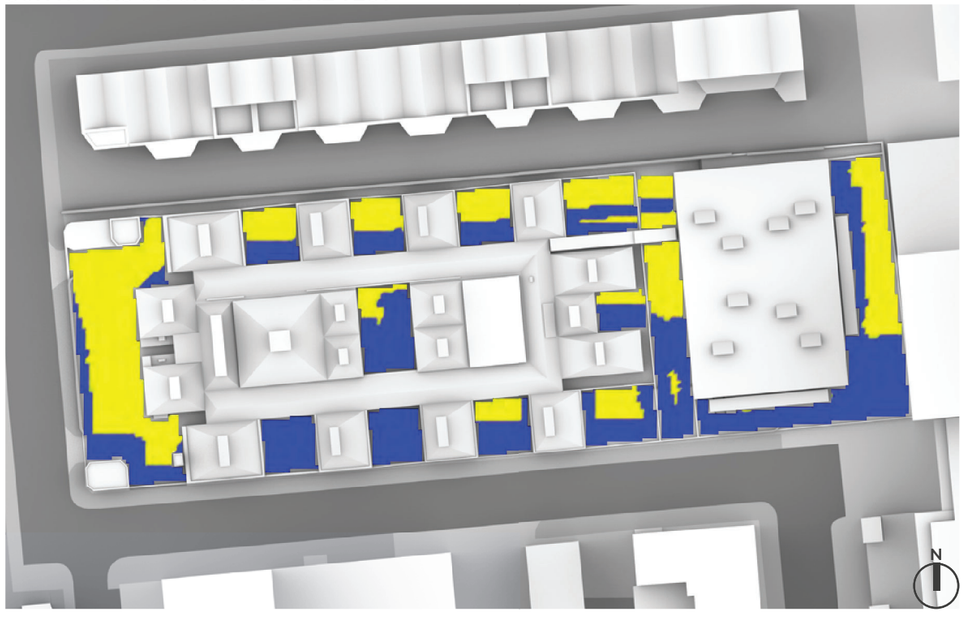
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 65-78
SUN HOURS ON GROUND - BRE TEST

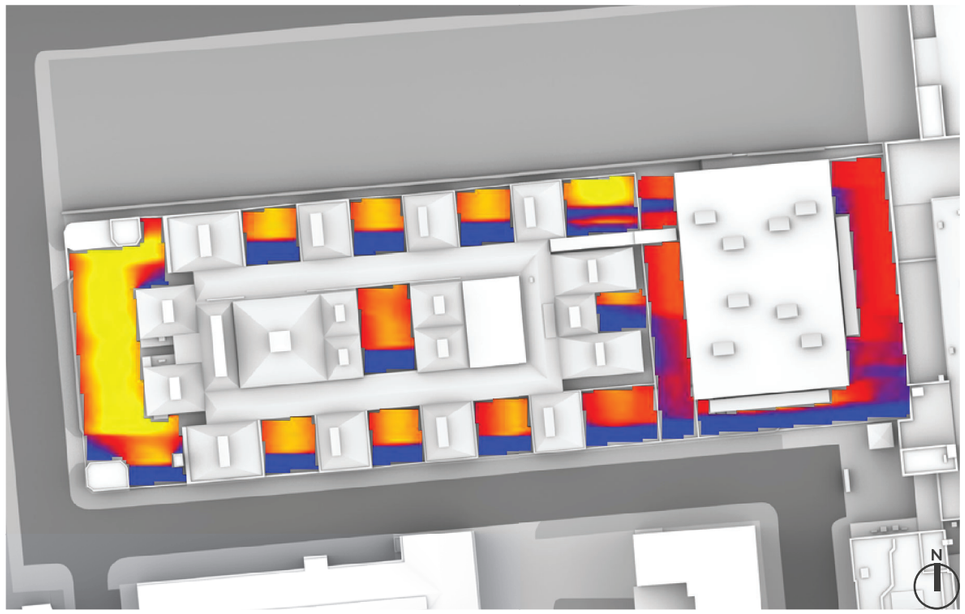


OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 65-78
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 65-78

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE
TOTAL HOURS

21st MARCH
(SPRING EQUINOX)

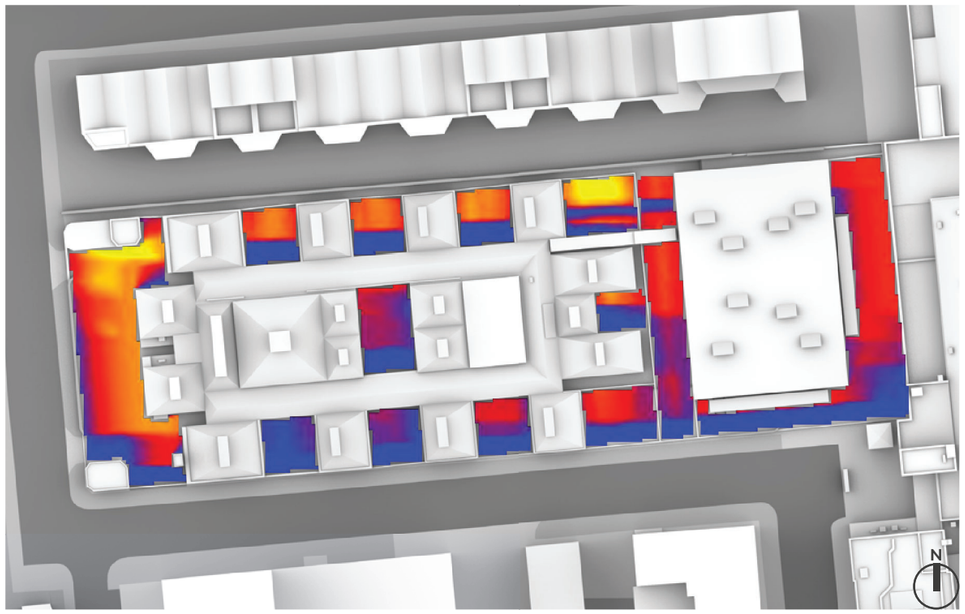
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

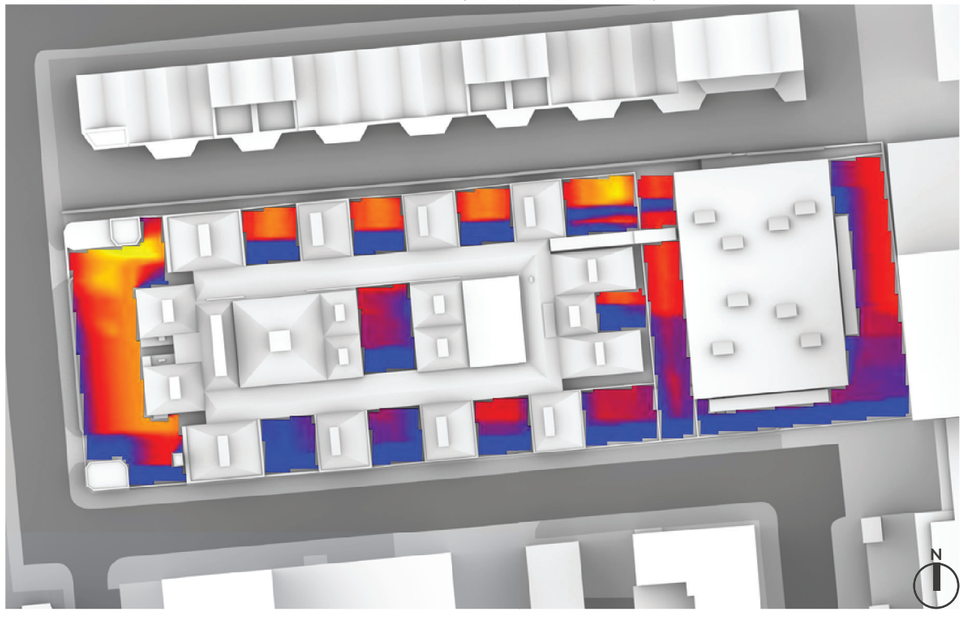
OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 65-78

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



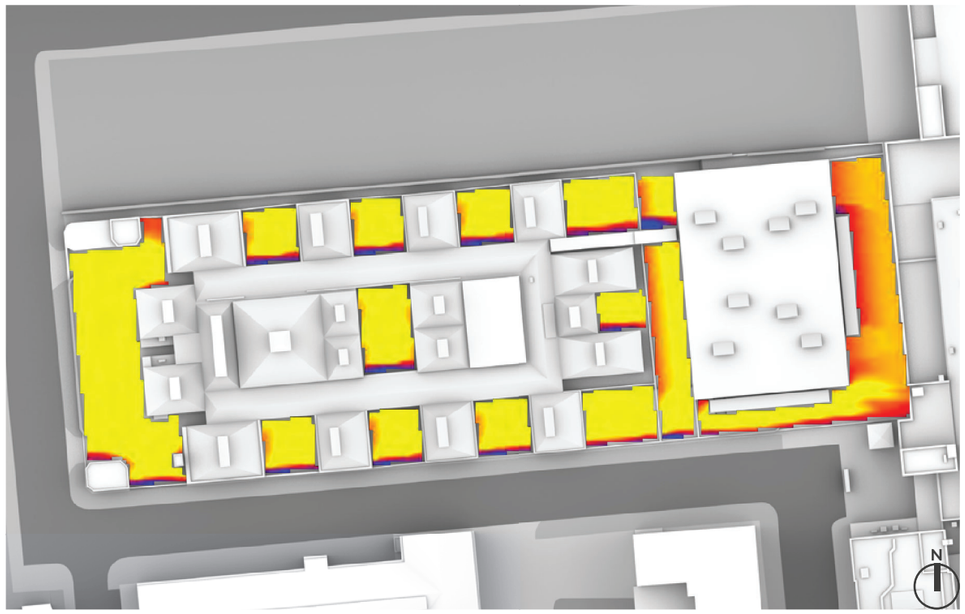
OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 65-78

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 65-78

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



21st JUNE
(SUMMER SOLSTICE)

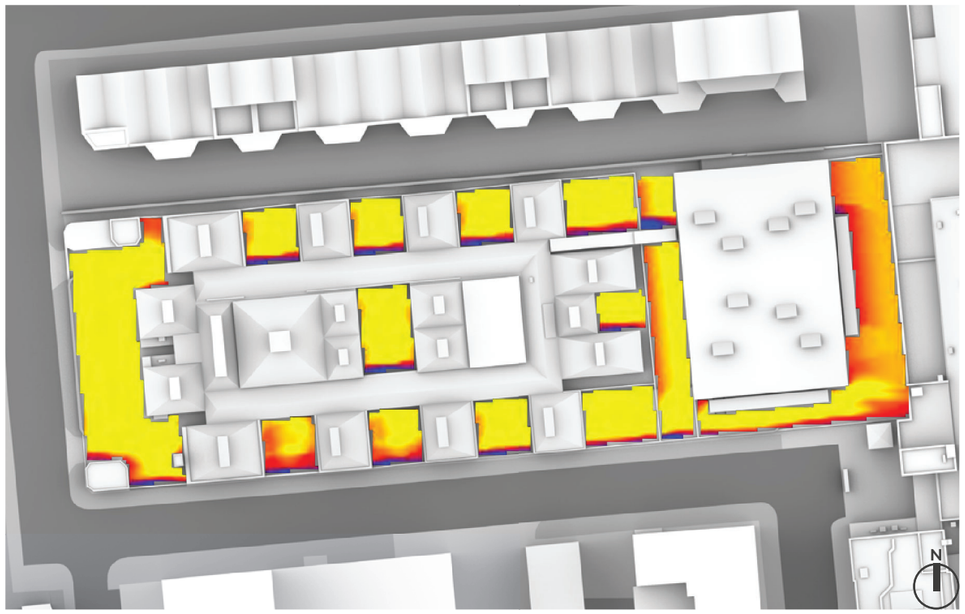
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BMT
Sunset:	21:21 BMT

Total Available Sunlight:
16hrs 38mins

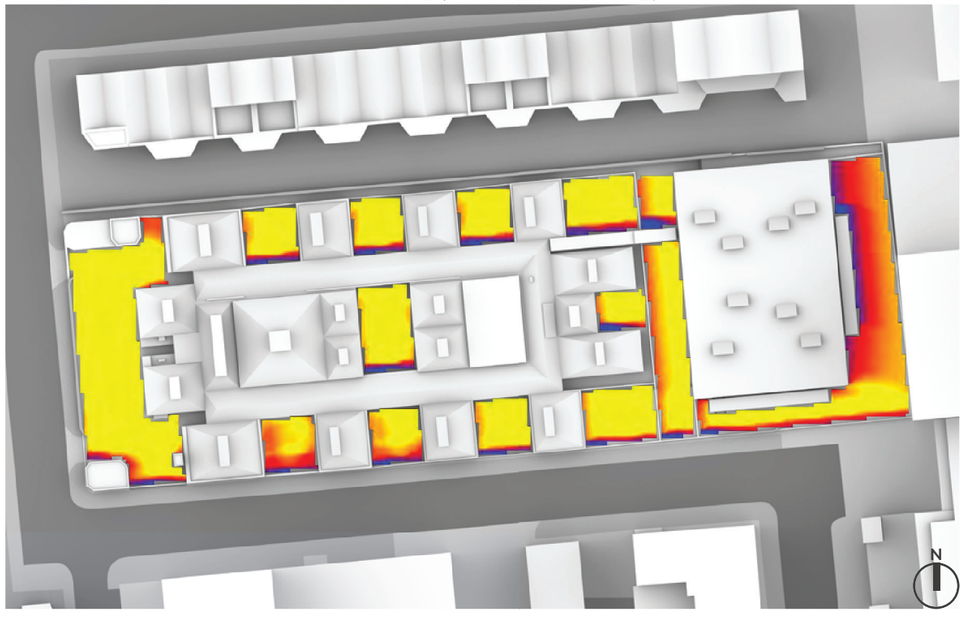
OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 65-78

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



OVERSHADOWING ASSESSMENT - CUMULATIVE - AREAS 65-78

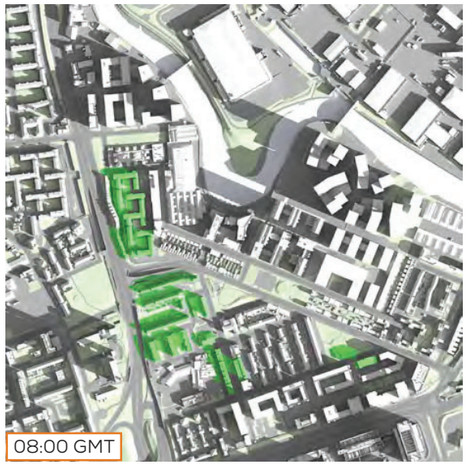
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



Baseline v
Consented v
Max Parameter

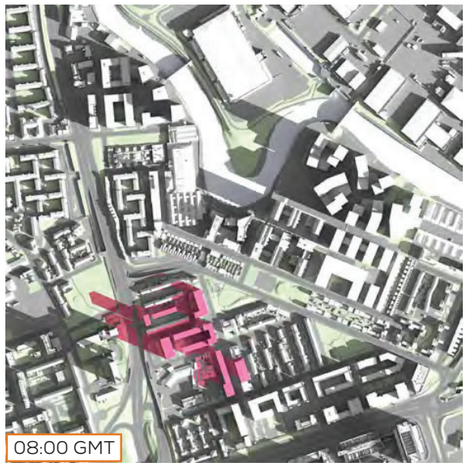
TRANSIENT OVERSHADOWING ASSESSMENT
21ST MARCH (08:00 - 11:00 GMT)

BASELINE



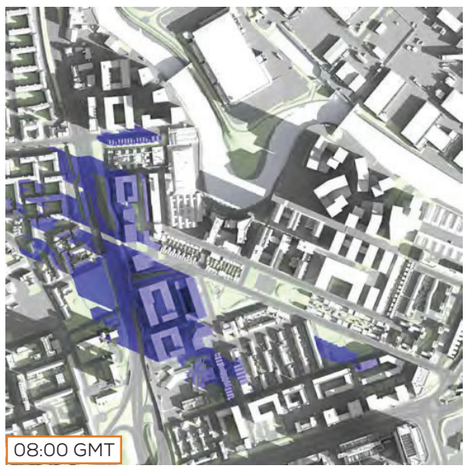


CONSENTED



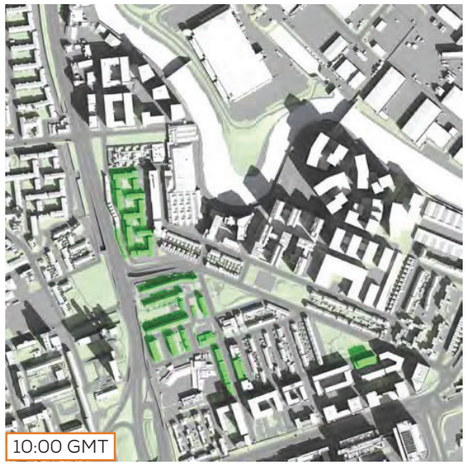


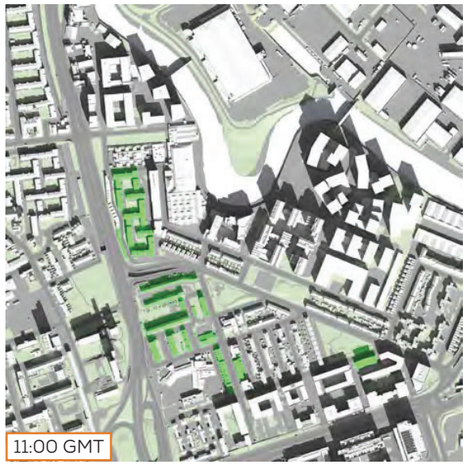
MAX PARAMETER



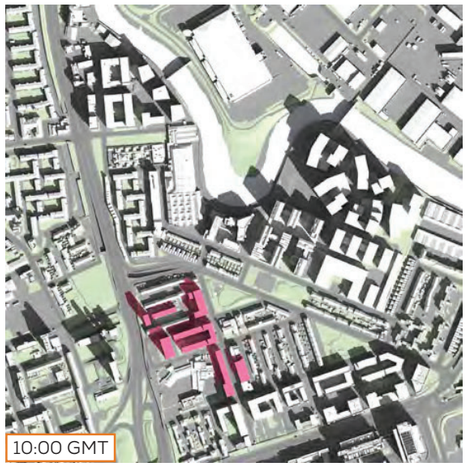


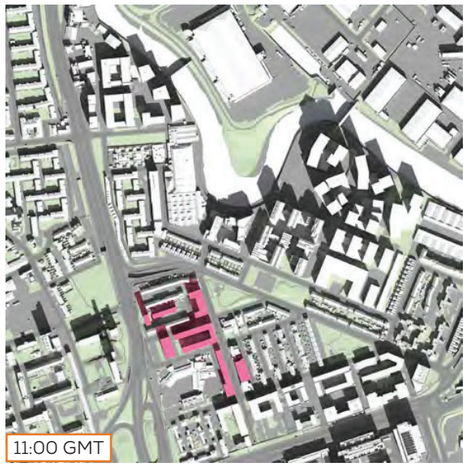
BASELINE





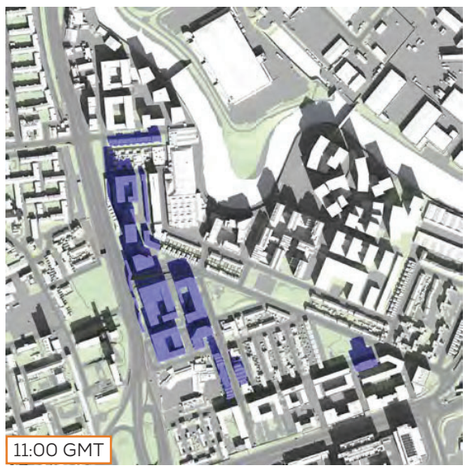
CONSENTED





MAX PARAMETER





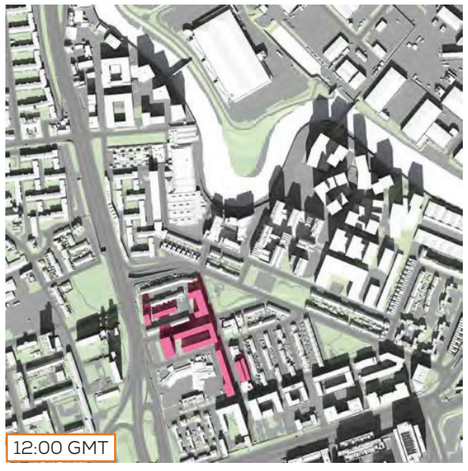
TRANSIENT OVERSHADOWING ASSESSMENT
21ST MARCH (12:00 - 15:00 GMT)

BASELINE





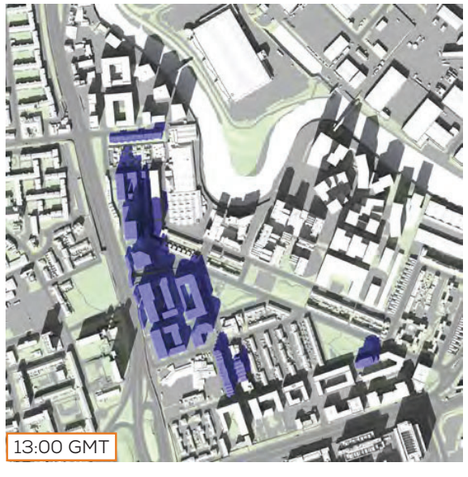
CONSENTED





MAX PARAMETER





BASELINE





CONSENTED





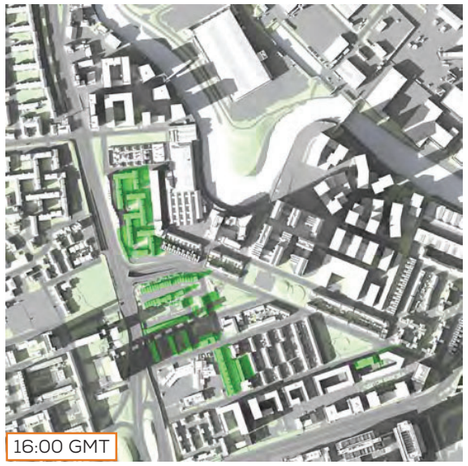
MAX PARAMETER

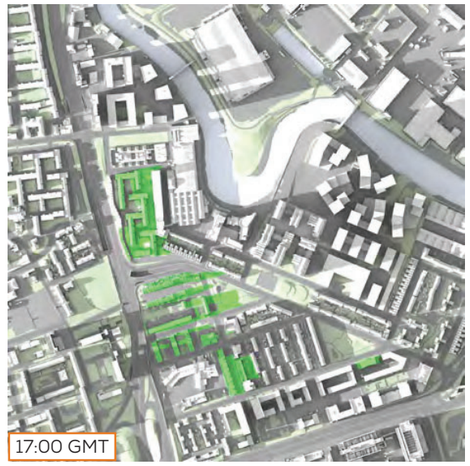




TRANSIENT OVERSHADOWING ASSESSMENT
21ST MARCH (16:00 - 17:00 GMT)

BASELINE





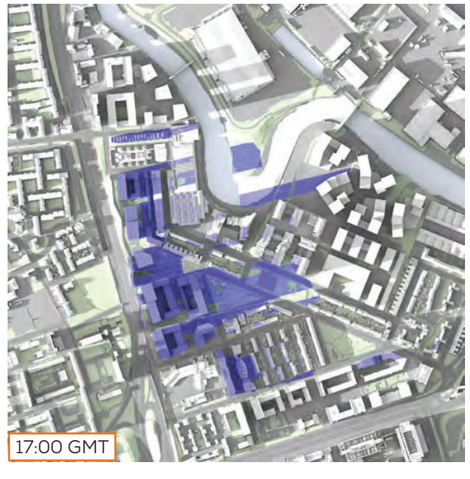
CONSENTED





MAX PARAMETER

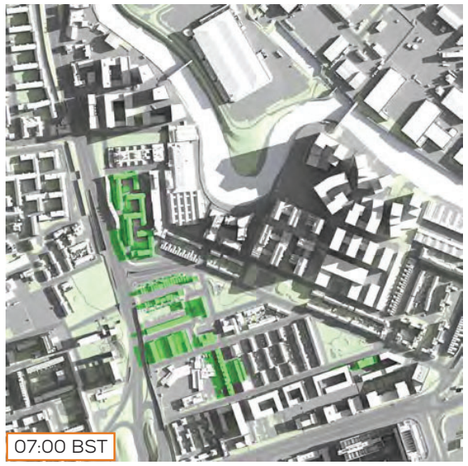




TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (06:00 - 09:00 BST)

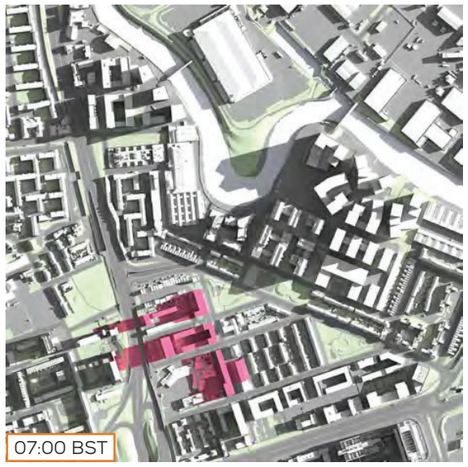
BASELINE



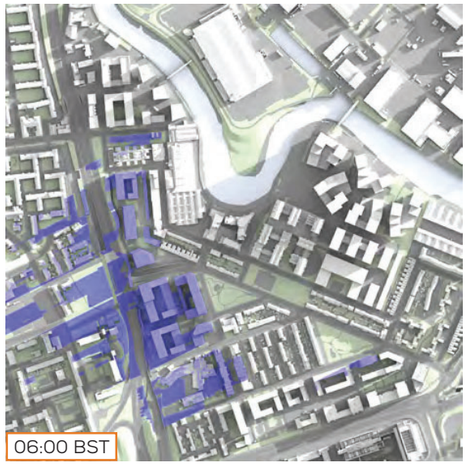


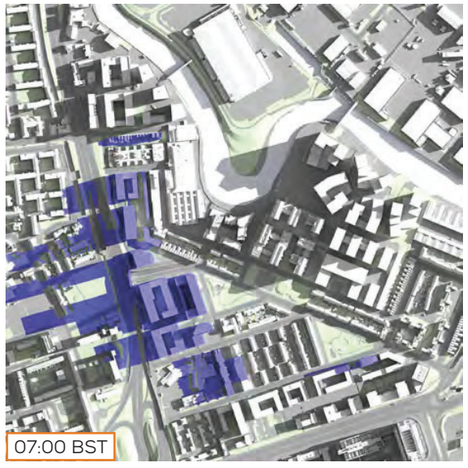
CONSENTED



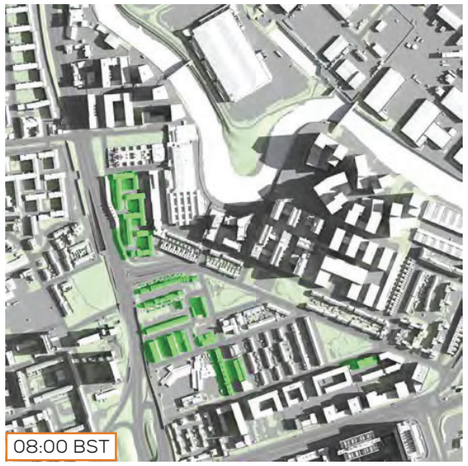


MAX PARAMETER





BASELINE



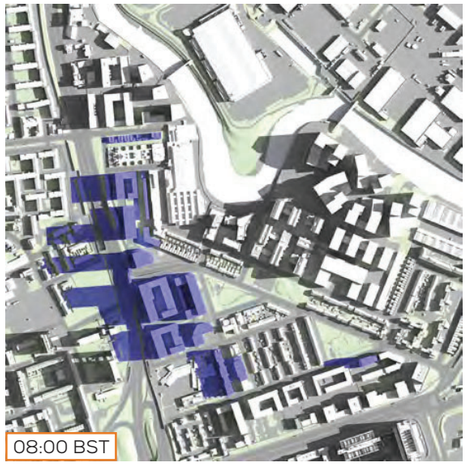


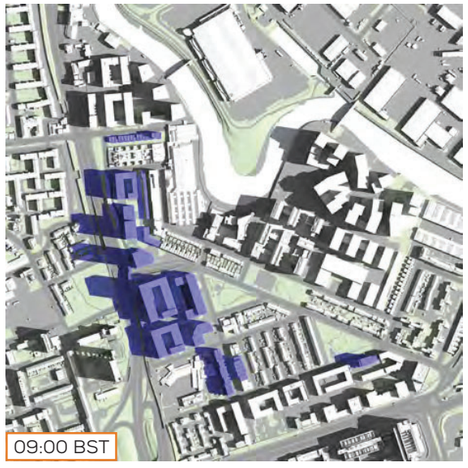
CONSENTED





MAX PARAMETER





TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (10:00 - 13:00 BST)

BASELINE



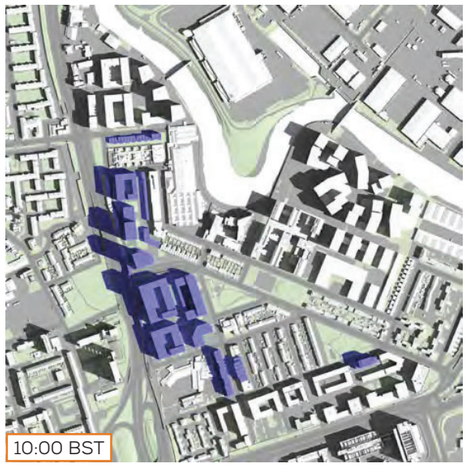


CONSENTED





MAX PARAMETER





BASELINE





CONSENTED





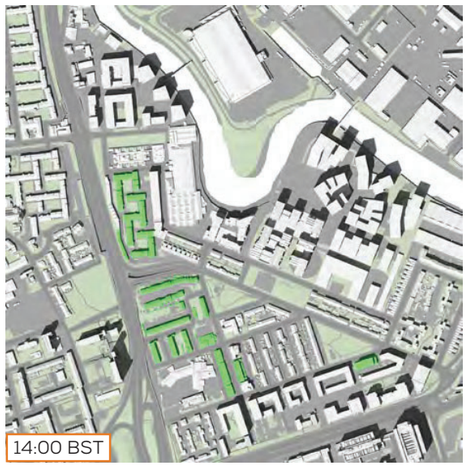
MAX PARAMETER

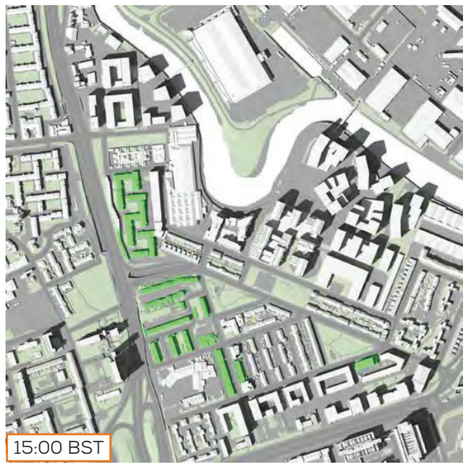




TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (14:00 - 17:00 BST)

BASELINE





CONSENTED



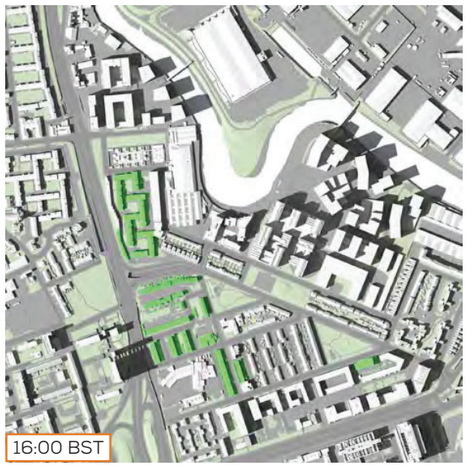


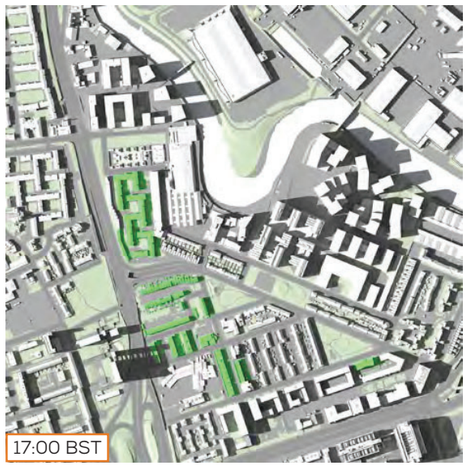
MAX PARAMETER





BASELINE





CONSENTED





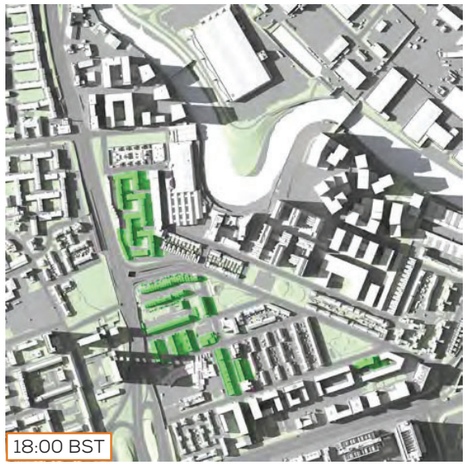
MAX PARAMETER





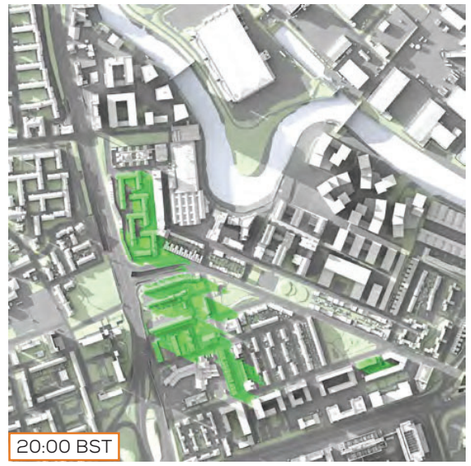
TRANSIENT OVERSHADOWING ASSESSMENT
21ST JUNE (18:00 - 20:00 BST)

BASELINE



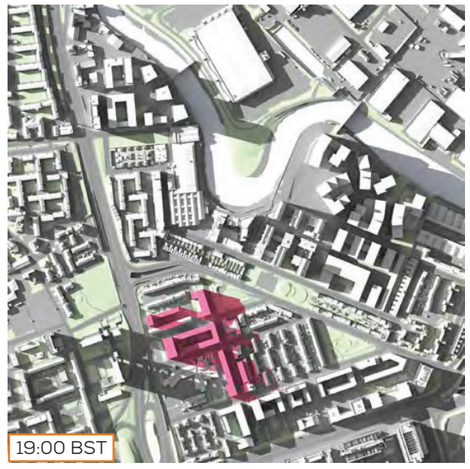


BASELINE

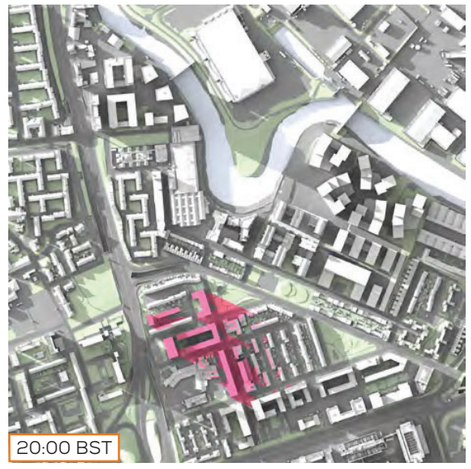


CONSENTED

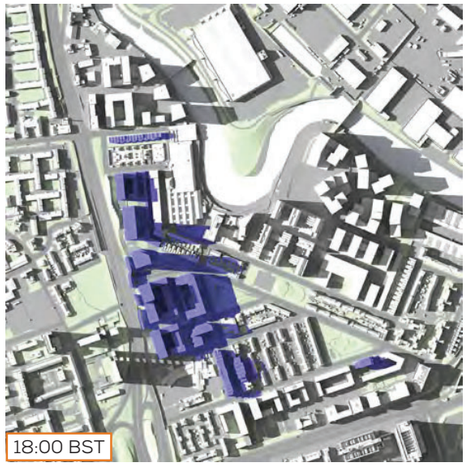


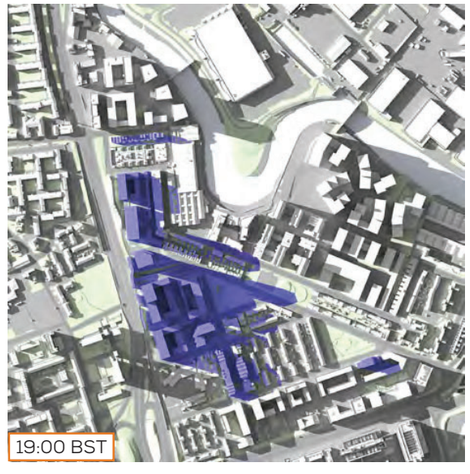


CONSENTED

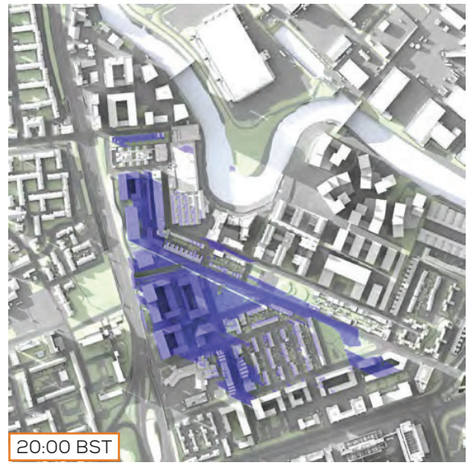


MAX PARAMETER



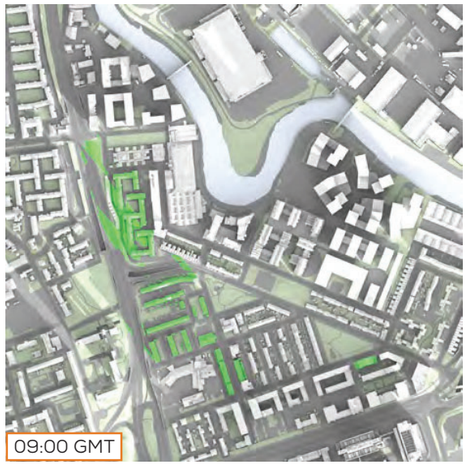


MAX PARAMETER



TRANSIENT OVERSHADOWING ASSESSMENT
21ST DECEMBER (09:00 - 12:00 GMT)

BASELINE





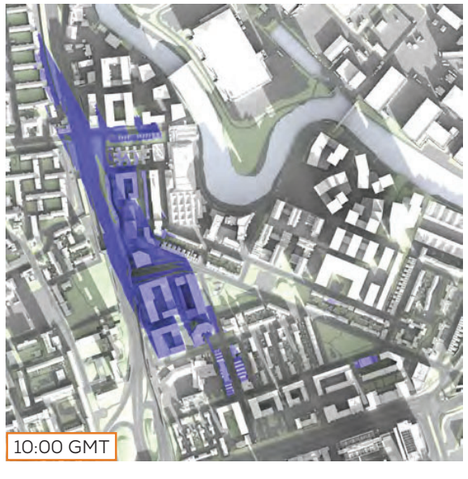
CONSENTED



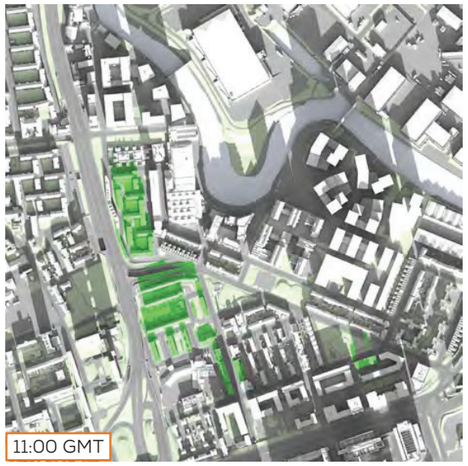


MAX PARAMETER



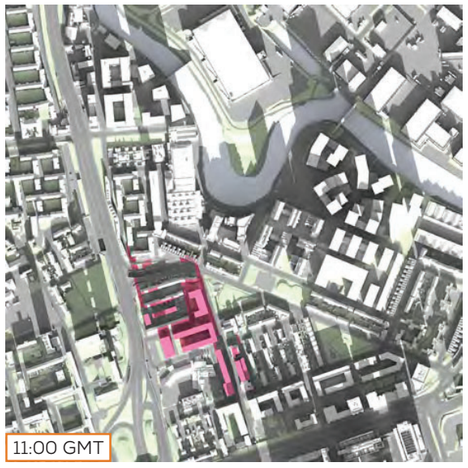


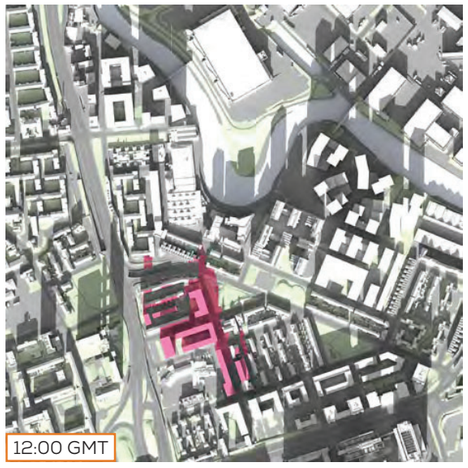
BASELINE



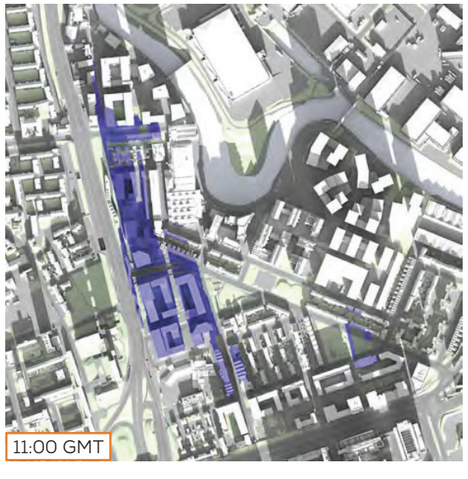


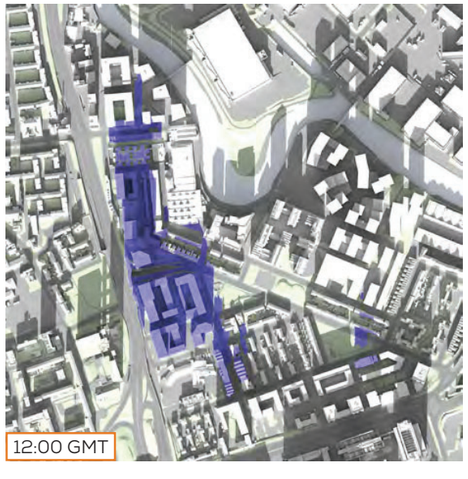
CONSENTED





MAX PARAMETER





TRANSIENT OVERSHADOWING ASSESSMENT
21ST DECEMBER (13:00 - 15:00 GMT)

BASELINE





CONSENTED





MAX PARAMETER

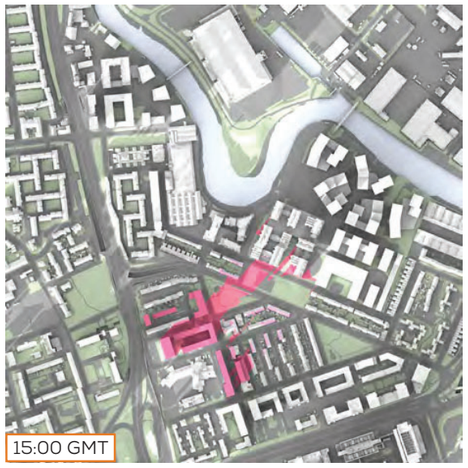




BASELINE



CONSENTED



MAX PARAMETER

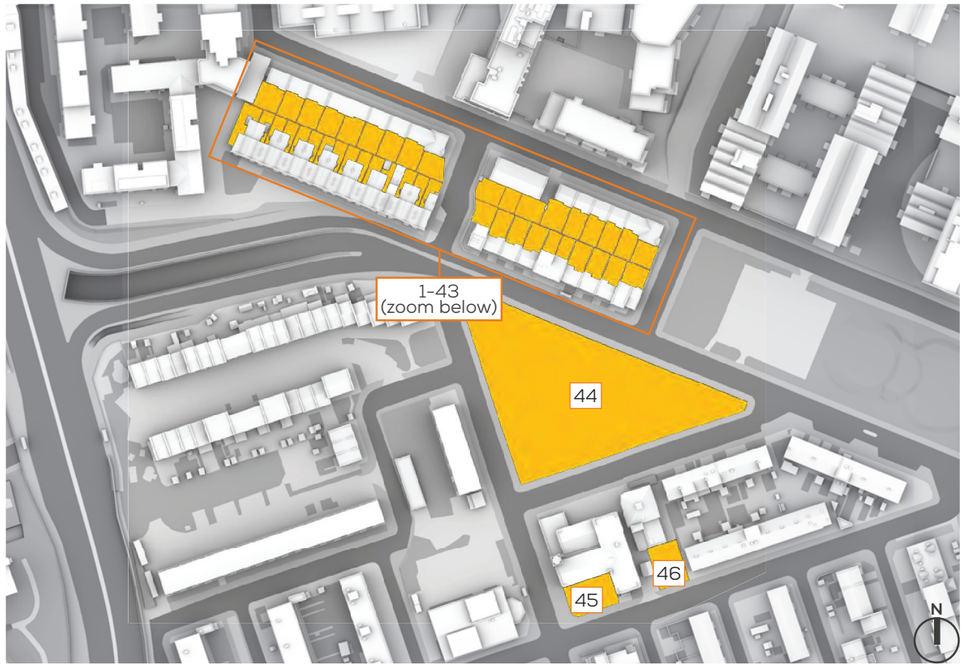


ASSESSED AREAS OVERVIEW





ASSESSED AREAS





ASSESSMENT RESULTS

		% area receiving 2+ hours of direct sunlight on 21st March						
AREA	ADDRESS	BASELINE	CONSENTED	LOSS BASELINE v CONSENTED	% LOSS BASELINE v CONSENTED	MAX PARAMETER	LOSS BASELINE v MAX PARAMETER	% LOSS BASELINE v MAX PARAMETER
1	110 Leven Rd	87	87	0	0%	77.6	9.4	11%
2	112 Leven Rd	86.7	86.7	0	0%	77.7	9	10%
3	114 Leven Rd	87.1	87.1	0	0%	80.1	7	8%
4	116 Leven Rd	86.8	86.8	0	0%	81.4	5.4	6%
5	118 Leven Rd	87	87	0	0%	82.4	4.6	5%
6	120 Leven Rd	87.2	87.2	0	0%	84.1	3.1	4%
7	122 Leven Rd	86.8	86.8	0	0%	85.2	1.6	2%
8	124 Leven Rd	87	87	0	0%	84.6	2.4	3%
9	126 Leven Rd	85.1	85.1	0	0%	83.9	1.2	1%
10	128 Leven Rd	89.6	89.6	0	0%	85.4	4.2	5%
11	130 Leven Rd	88.6	88.6	0	0%	85	3.6	4%
12	132 Leven Rd	89.9	89.9	0	0%	87.9	2	2%
13	134 Leven Rd	89	89	0	0%	86.9	2.1	2%
14	136 Leven Rd	87	87	0	0%	86	1	1%
15	138 Leven Rd	88	88	0	0%	88	0	0%
16	140 Leven Rd	88.3	88.3	0	0%	88.3	0	0%
17	142 Leven Rd	88	88	0	0%	88	0	0%
18	144 Leven Rd	86.3	86.3	0	0%	86.3	0	0%
19	177 Abbott Rd	65.7	65.7	0	0%	65.7	0	0%
20	179 Abbott Rd	40.4	40.4	0	0%	40.4	0	0%
21	181 Abbott Rd	50.5	50.5	0	0%	50.5	0	0%
22	183 Abbott Rd	54.5	54.5	0	0%	54.5	0	0%
23	185 Abbott Rd	57.9	57.9	0	0%	57.9	0	0%
24	187 Abbott Rd	38.8	38.8	0	0%	38.2	0.6	2%
25	189 Abbott Rd	36.9	36.9	0	0%	35.2	1.7	5%
26	191 Abbott Rd	46.5	46.5	0	0%	45.7	0.8	2%
27	193 Abbott Rd	55.4	55.4	0	0%	55	0.4	1%
28	195 Abbott Rd	71.2	71.2	0	0%	69.1	2.1	3%
29	197 Abbott Rd	12.1	12.1	0	0%	8.6	3.5	29%
30	199 Abbott Rd	4.3	4.3	0	0%	4.3	0	0%
31	201 Abbott Rd	3	3	0	0%	0.7	2.3	77%
32	203 Abbott Rd	0	0	0	0%	0	0	0%
33	205 Abbott Rd	3.5	3.5	0	0%	1.4	2.1	60%
34	207 Abbott Rd	3.5	3.5	0	0%	3.5	0	0%
35	209 Abbott Rd	5.8	5.8	0	0%	2.9	2.9	50%
36	211 Abbott Rd	3.6	3.6	0	0%	3.6	0	0%
37	213 Abbott Rd	7.2	7.2	0	0%	1.8	5.4	75%
38	215 Abbott Rd	3.5	3.5	0	0%	3.5	0	0%
39	217 Abbott Rd	5.8	5.8	0	0%	0.7	5.1	88%
40	219 Abbott Rd	3.6	3.6	0	0%	3.6	0	0%
41	221 Abbott Rd	5.8	5.8	0	0%	0	5.8	100%
42	223 Abbott Rd	4.4	4.4	0	0%	4.4	0	0%
43	225 Abbott Rd	18.3	18.3	0	0%	8.3	10	55%
44	Aberfeldy Millennium Green	100	100	0	0%	100	0	0%
45	2 St Nicholas Church	100	100	0	0%	100	0	0%
46	2 St Nicholas Church	100	100	0	0%	100	0	0%

ASSESSED AREAS



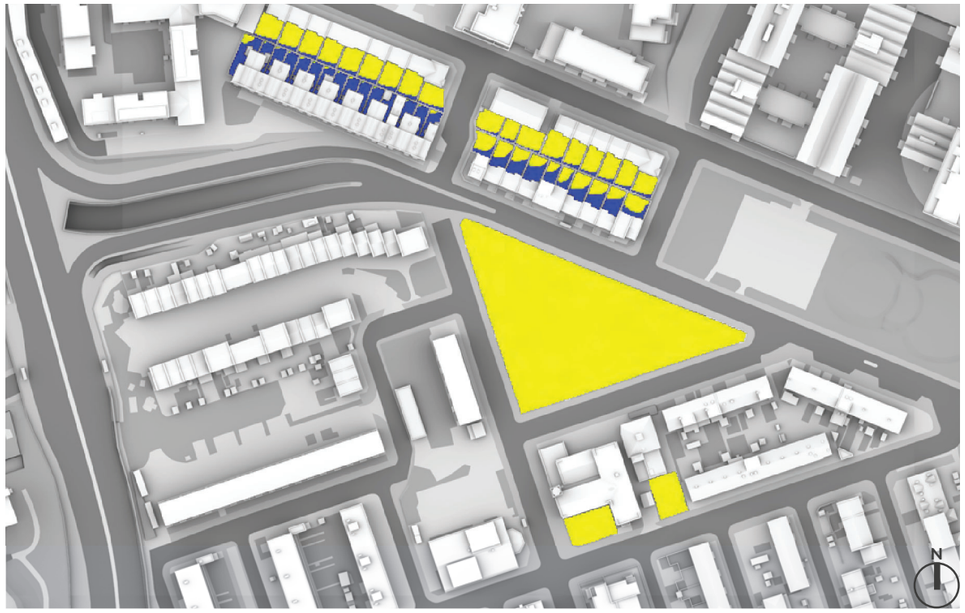


ASSESSMENT RESULTS

		% area receiving 2+ hours of direct sunlight on 21st March						
AREA	ADDRESS	BASELINE	CONSENTED	LOSS BASELINE v CONSENTED	% LOSS BASELINE v CONSENTED	MAX PARAMETER	LOSS BASELINE v MAX PARAMETER	% LOSS BASELINE v MAX PARAMETER
47	54 Sherman House, Aberfeldy St	37.4	37	0.4	1%	37	0.4	1%
48	54 Sherman House, Aberfeldy St	68.1	49.8	18.3	27%	59	9.1	13%
49	3 Dee St	82.1	0.9	81.2	99%	0	82.1	100%
50	4 Dee St	56.8	13.1	43.7	77%	0	56.8	100%
51	15 Wooster Gardens	49.5	49.5	0	0%	49.5	0	0%
52	13 Wooster Gardens	52.8	52.8	0	0%	52.3	0.5	1%
53	11 Wooster Gardens	51.1	50	1.1	2%	49.5	1.6	3%
54	9 Wooster Gardens	25.4	14.1	11.3	44%	8.8	16.6	65%
55	12 Lansbury Gardens	50.3	50.3	0	0%	50.3	0	0%
56	10 Lansbury Gardens	44	44	0	0%	44	0	0%
57	8 Lansbury Gardens	48.1	48.1	0	0%	48.1	0	0%
58	6 Lansbury Gardens	43.4	43.4	0	0%	43.4	0	0%
59	4 Lansbury Gardens	44.5	44.5	0	0%	44.5	0	0%
60	2 Lansbury Gardens	0	0	0	0%	0	0	0%
61	7 Wooster Gardens	46.3	46.3	0	0%	46.3	0	0%
62	5 Wooster Gardens	48	48	0	0%	48	0	0%
63	3 Wooster Gardens	32.2	32.2	0	0%	32.2	0	0%
64	1 Wooster Gardens	0	0	0	0%	0	0	0%
65	Bromley Hall	88.1	88.1	0	0%	75	13.1	15%
66	Bromley Hall	59.4	59.4	0	0%	59.4	0	0%
67	Bromley Hall	60.6	60.6	0	0%	59.8	0.8	1%
68	Bromley Hall	59.6	59.6	0	0%	58.4	1.2	2%
69	Bromley Hall	64.1	64.1	0	0%	62	2.1	3%
70	Bromley Hall	76.2	76.2	0	0%	76.2	0	0%
71	Bromley Hall	60.2	60.2	0	0%	56.3	3.9	6%
72	Bromley Hall	63.2	63.2	0	0%	43.5	19.7	31%
73	Bromley Hall	35.7	35.7	0	0%	35.7	0	0%
74	Bromley Hall	65.1	65.1	0	0%	47.1	18	28%
75	Bromley Hall	65.8	65.8	0	0%	35.8	30	46%
76	Bromley Hall	74.2	74.2	0	0%	21.3	52.9	71%
77	Bromley Hall	65.2	65.2	0	0%	0	65.2	100%
78	Bromley Hall	65.7	65.7	0	0%	0	65.7	100%

SUN HOURS ON GROUND

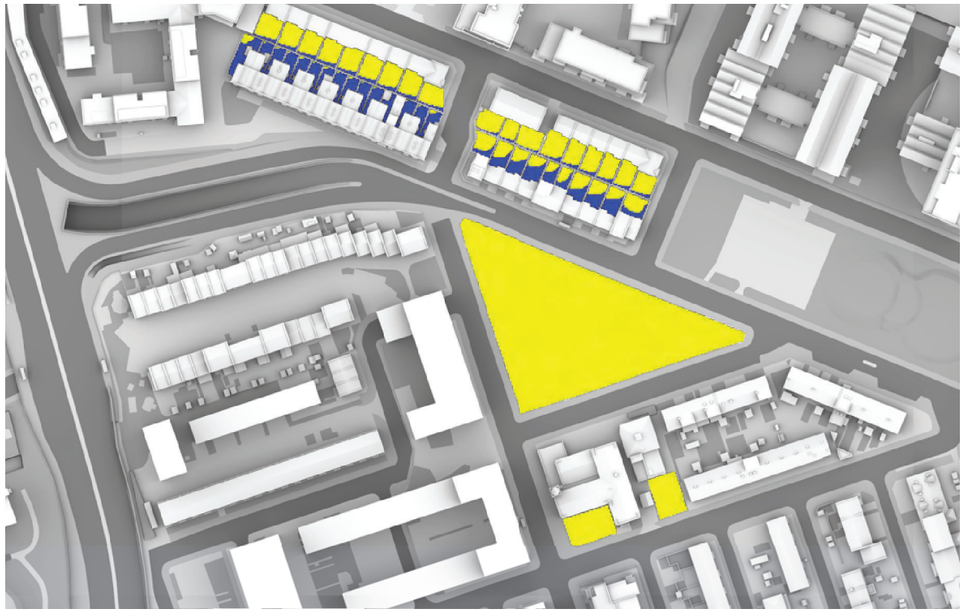
OVERSHADOWING ASSESSMENT - BASELINE - AREAS 1-46
SUN HOURS ON GROUND - BRE TEST



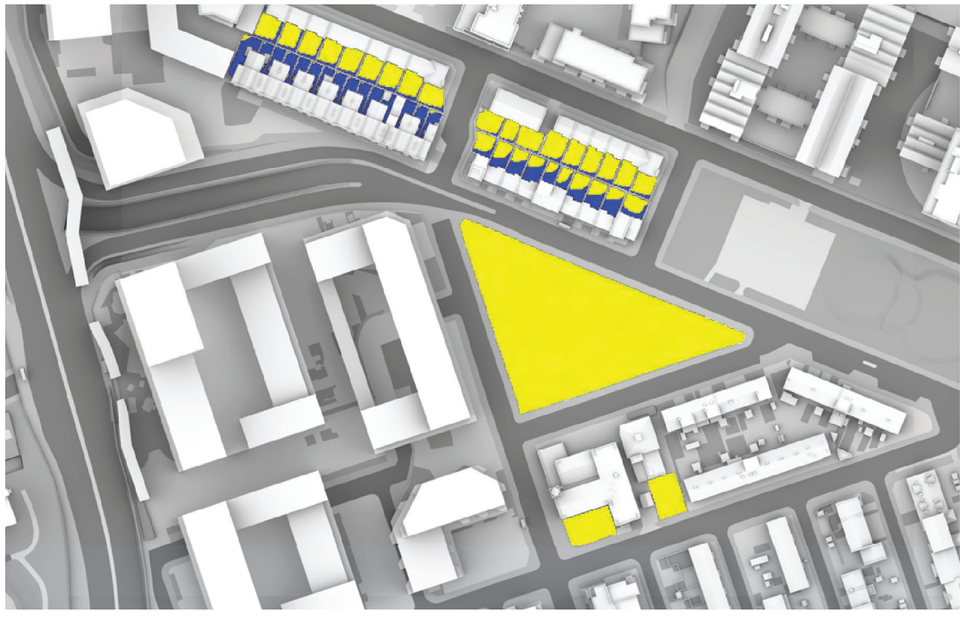
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 1-46
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 1-46
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE
TOTAL HOURS

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5 5.5 6.0+

21st MARCH
(SPRING EQUINOX)

LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

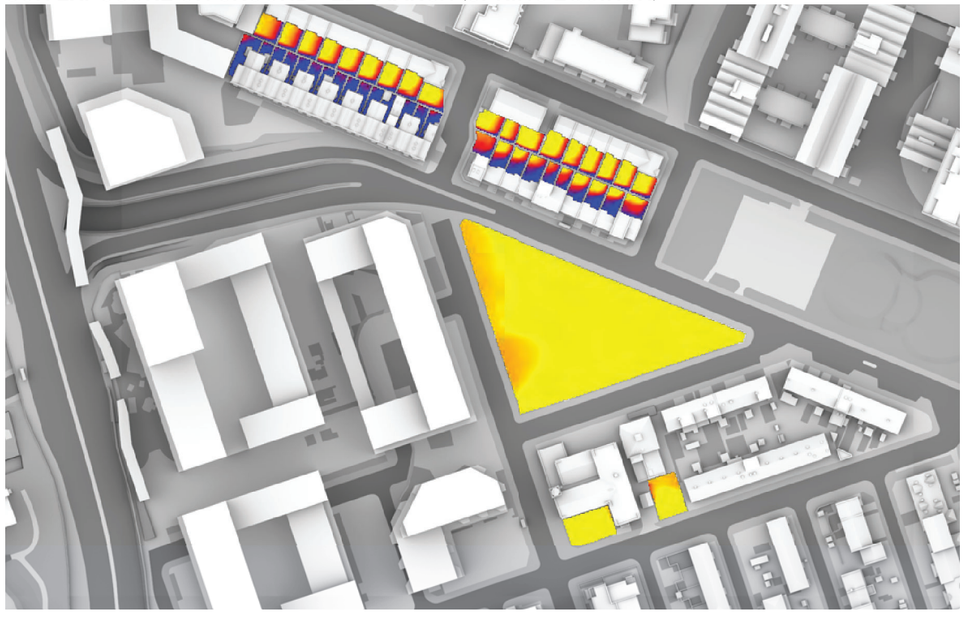
OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5 5.5 6.0+

21st JUNE
(SUMMER SOLSTICE)

LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BMT
Sunset:	21:21 BMT

Total Available Sunlight:
16hrs 38mins

OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)

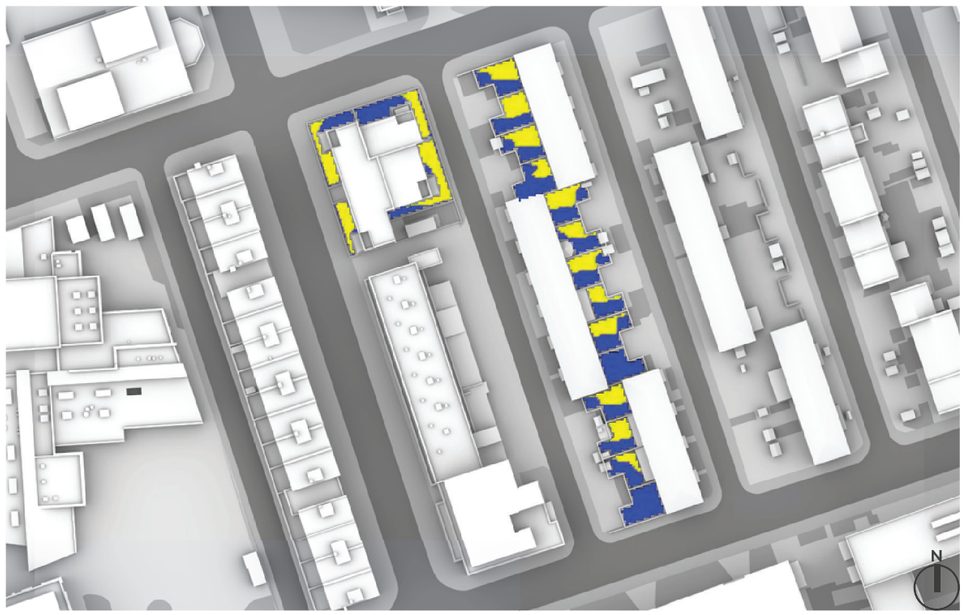


OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 1-46

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



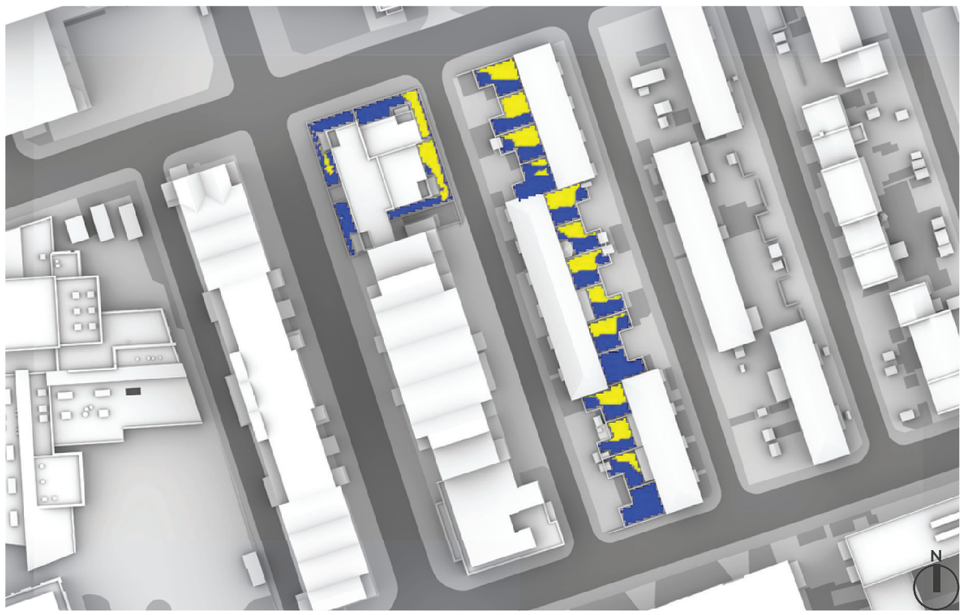
OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64
SUN HOURS ON GROUND - BRE TEST



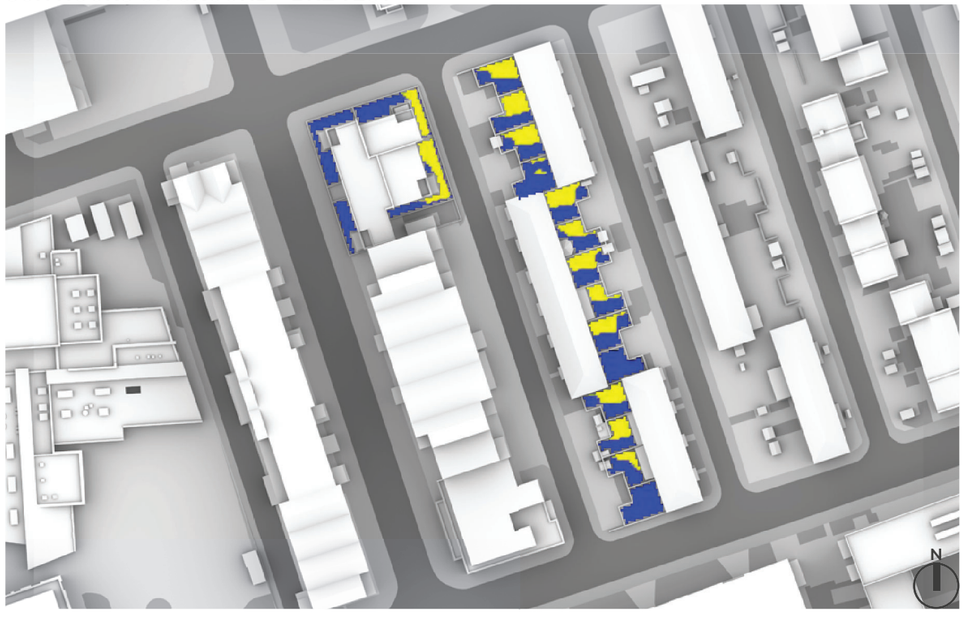
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 47-64
SUN HOURS ON GROUND - BRE TEST

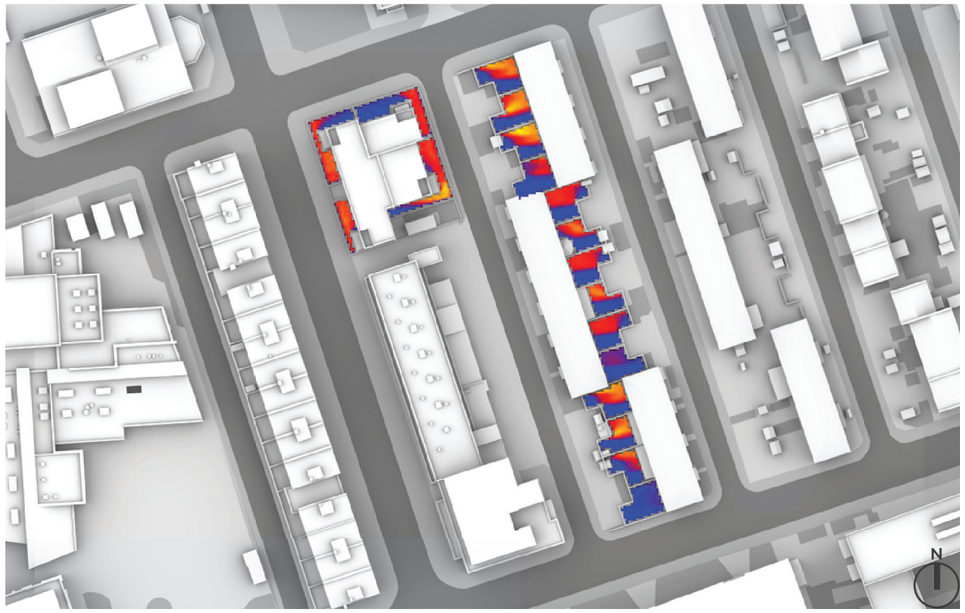


OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE
TOTAL HOURS

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5 5.5 6.0+

21st MARCH
(SPRING EQUINOX)

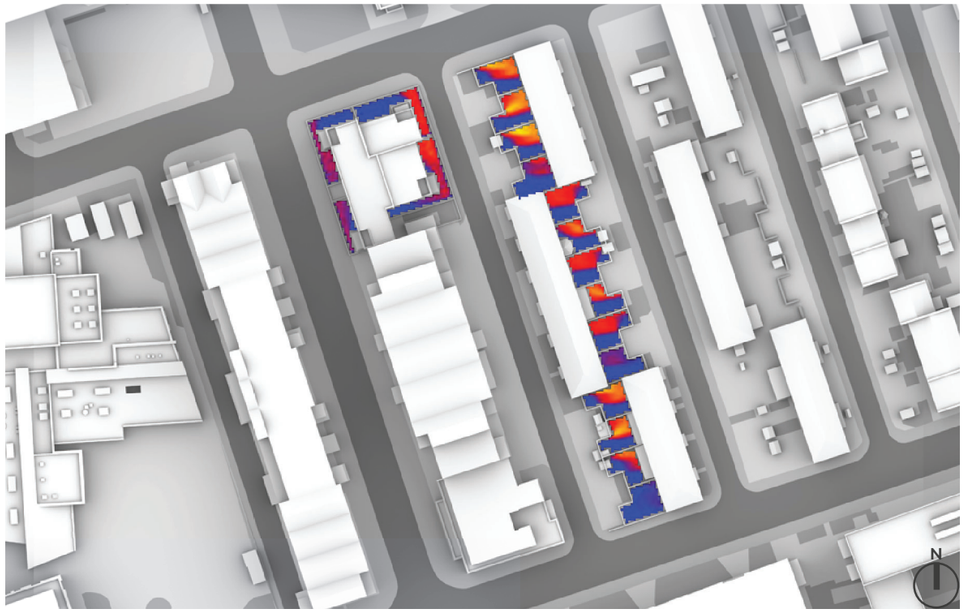
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

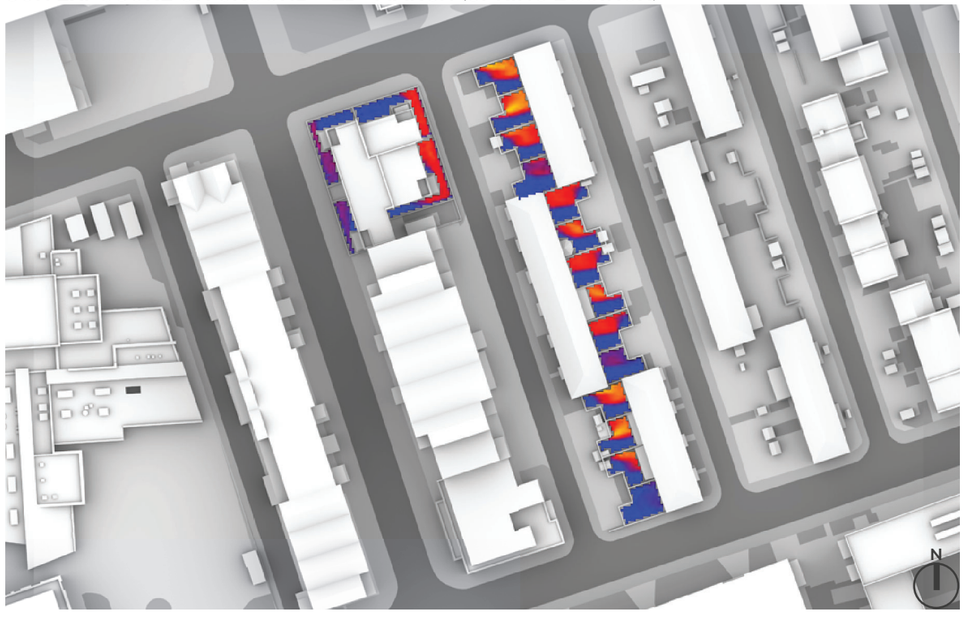
OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64

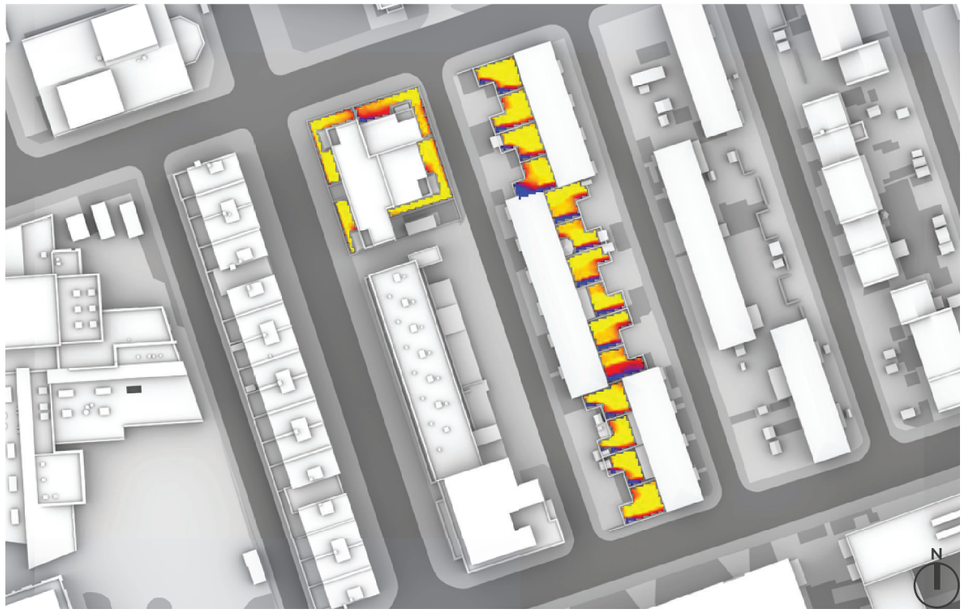
SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



gia CHARTERED SURVEYORS

OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



21st JUNE
(SUMMER SOLSTICE)

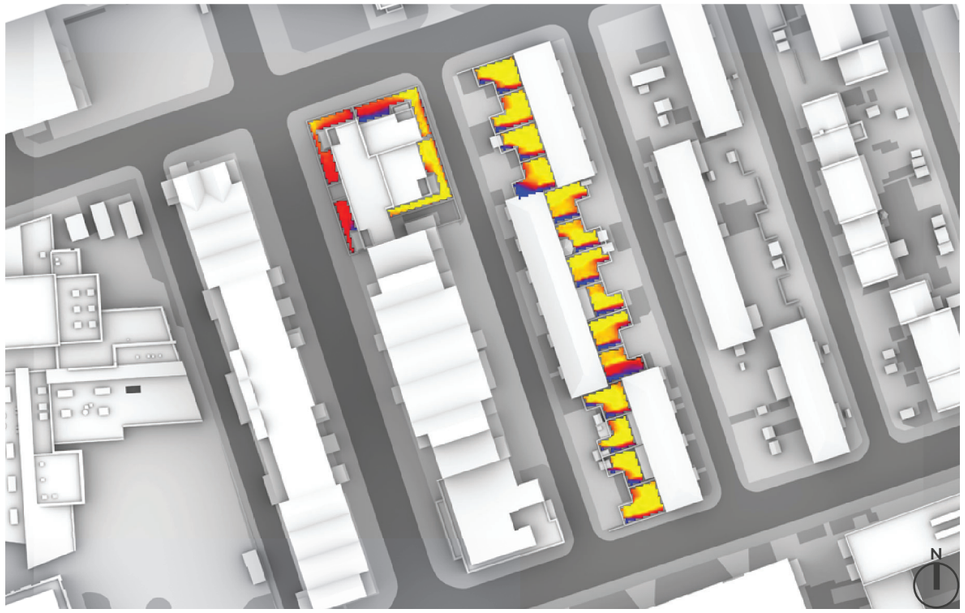
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BMT
Sunset:	21:21 BMT

Total Available Sunlight:
16hrs 38mins

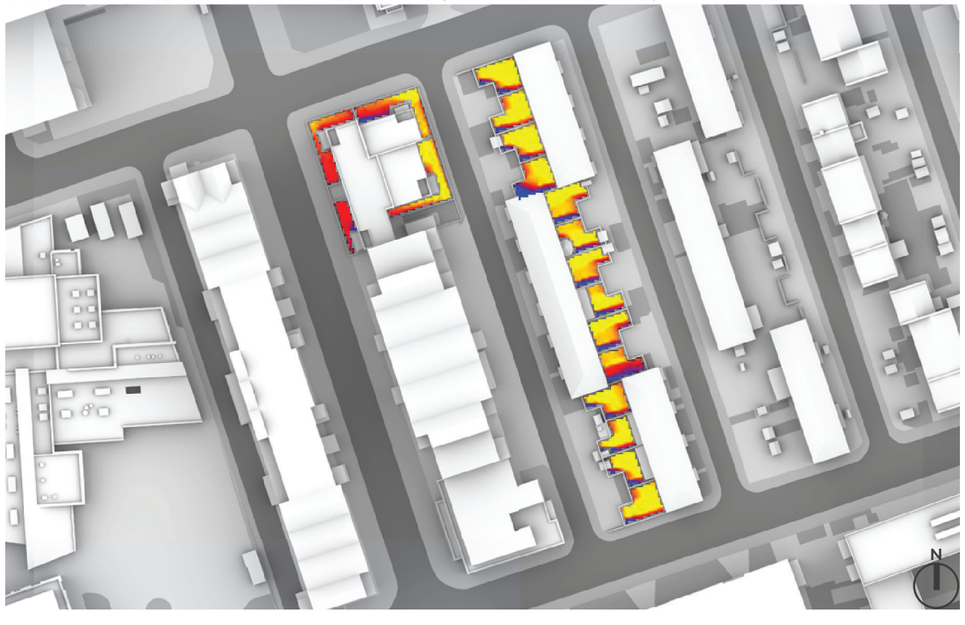
OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



gia CHARTERED SURVEYORS

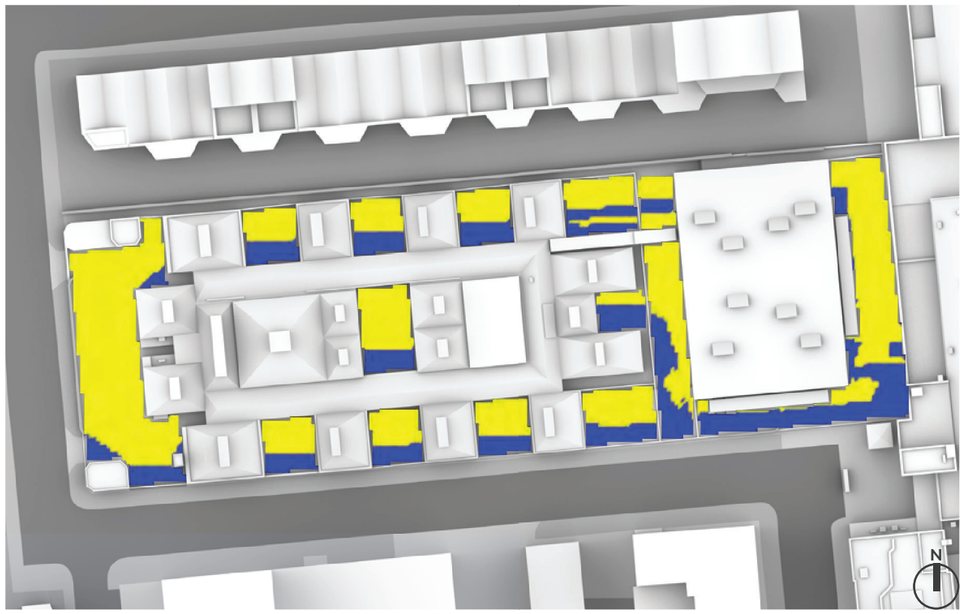
OVERSHADOWING ASSESSMENT - BASELINE - AREAS 65-78
SUN HOURS ON GROUND - BRE TEST



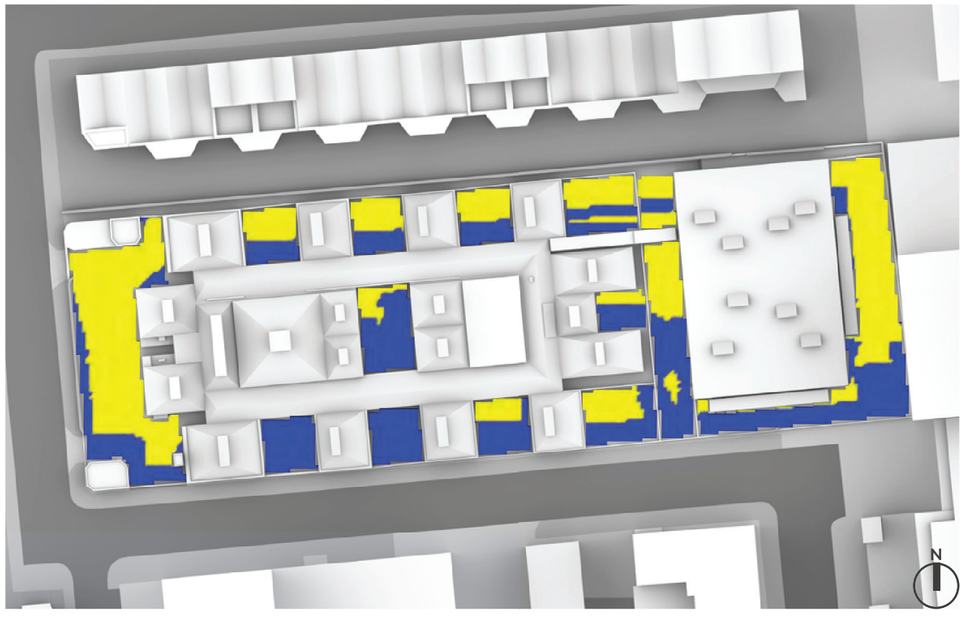
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

<2 2+

OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 65-78
SUN HOURS ON GROUND - BRE TEST

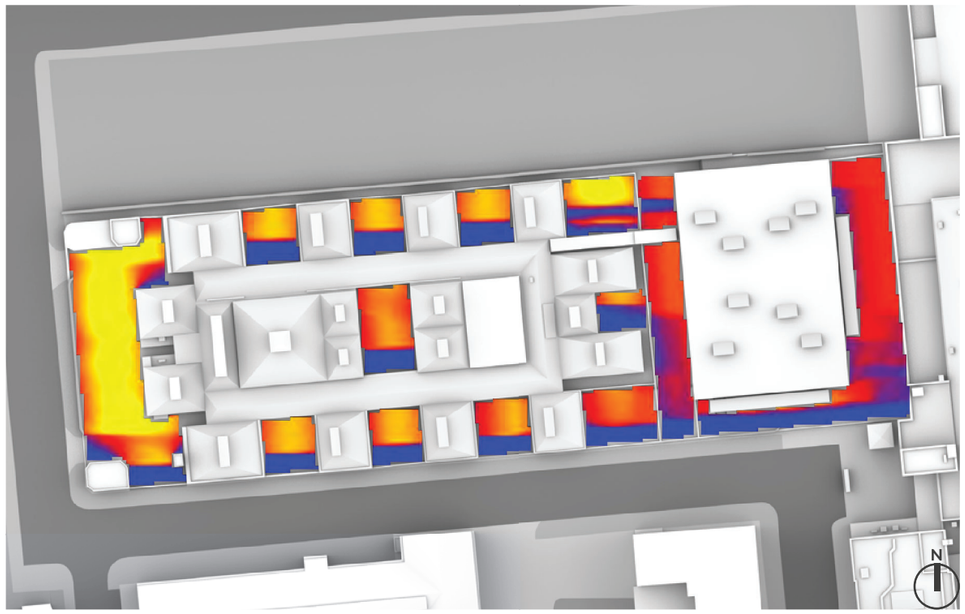


OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 65-78
SUN HOURS ON GROUND - BRE TEST



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE
TOTAL HOURS



21st MARCH
(SPRING EQUINOX)

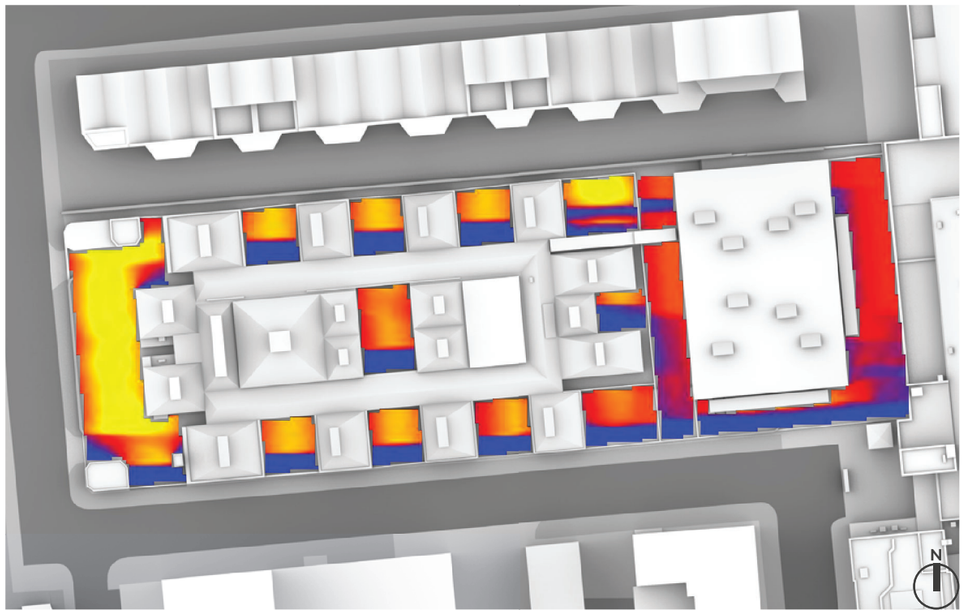
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

Total Available Sunlight:
12hrs 12mins

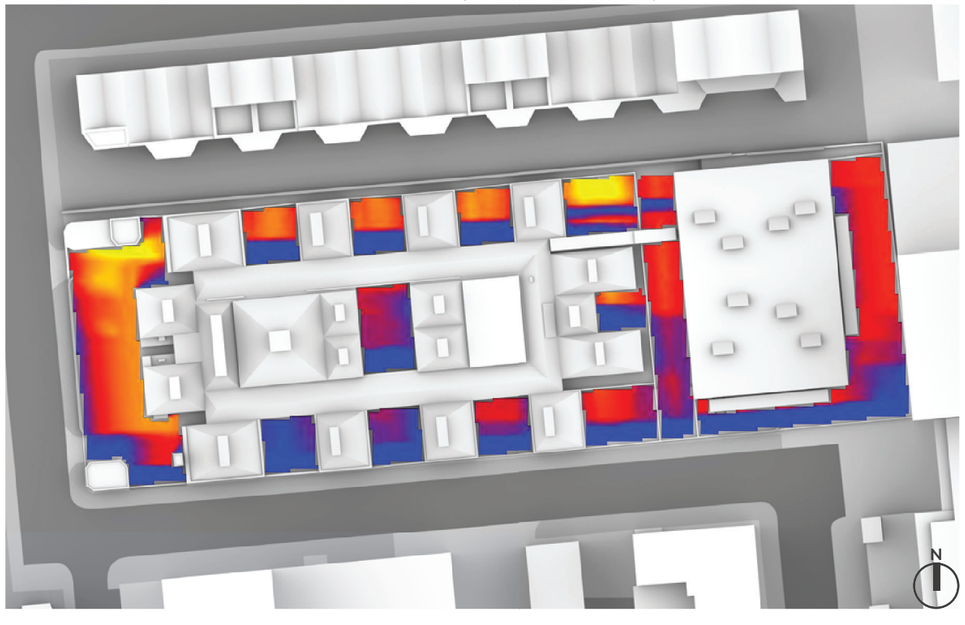
OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



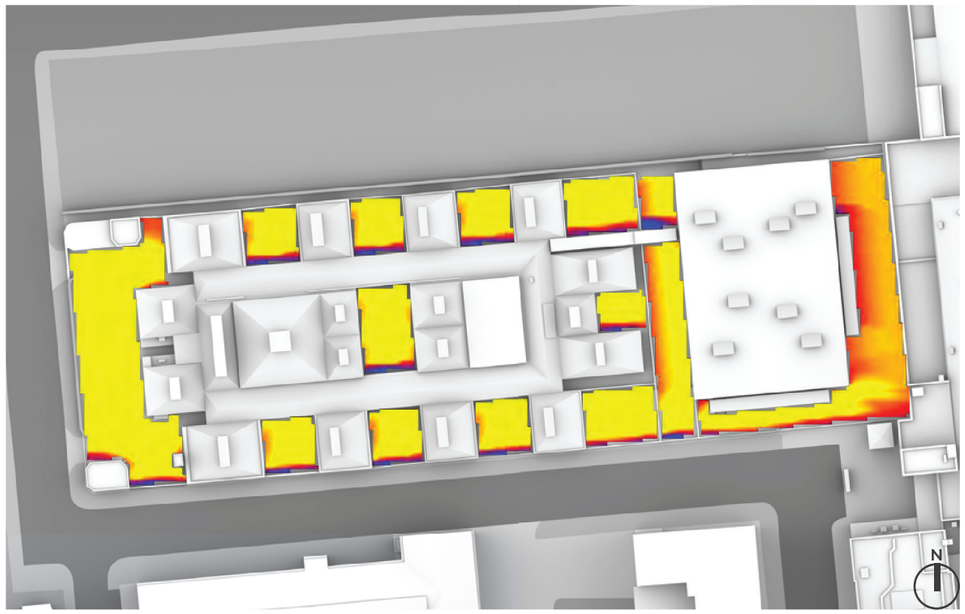
OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



OVERSHADOWING ASSESSMENT - BASELINE - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



21st JUNE
(SUMMER SOLSTICE)

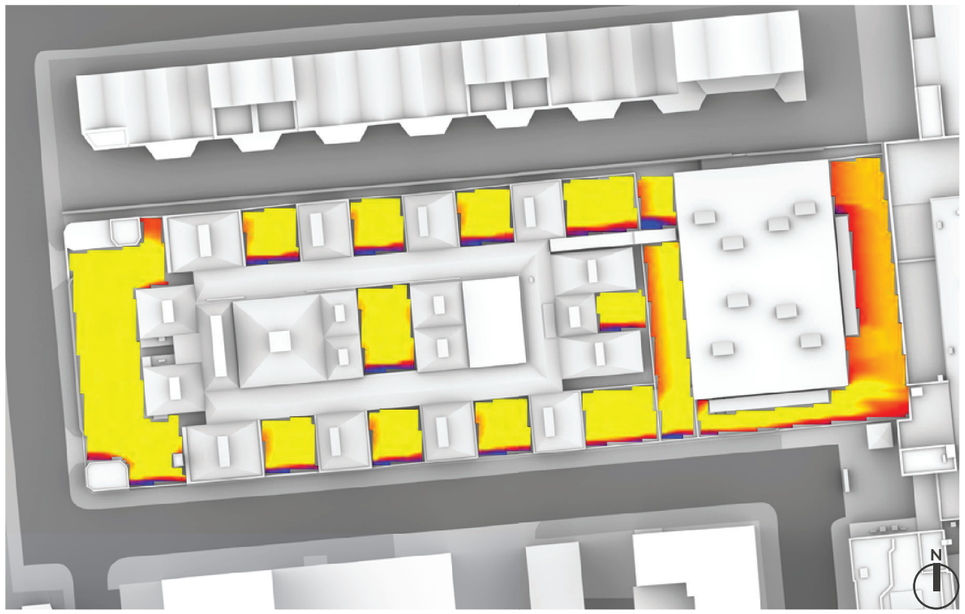
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BMT
Sunset:	21:21 BMT

Total Available Sunlight:
16hrs 38mins

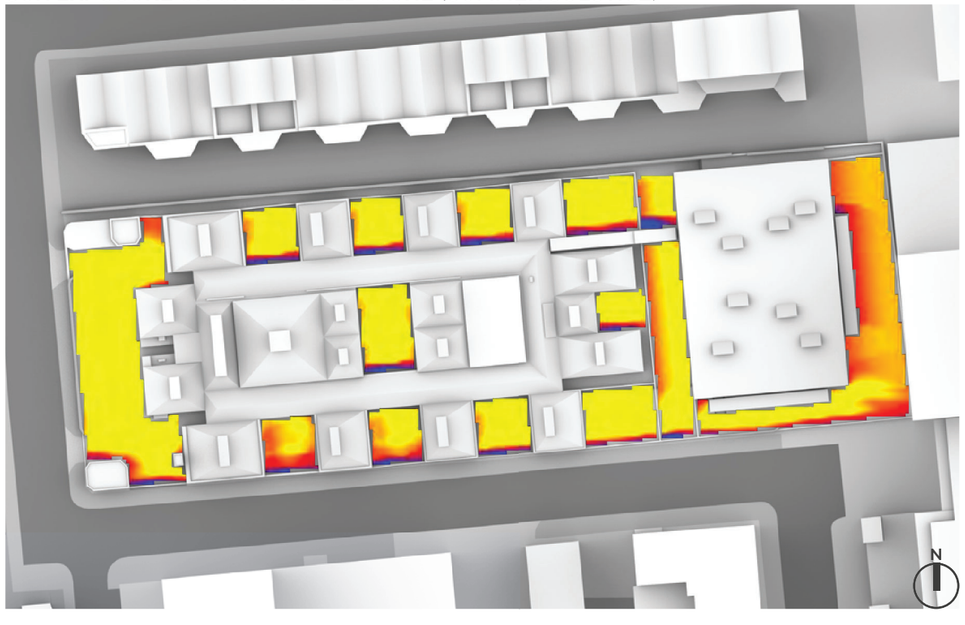
OVERSHADOWING ASSESSMENT - CONSENTED - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)

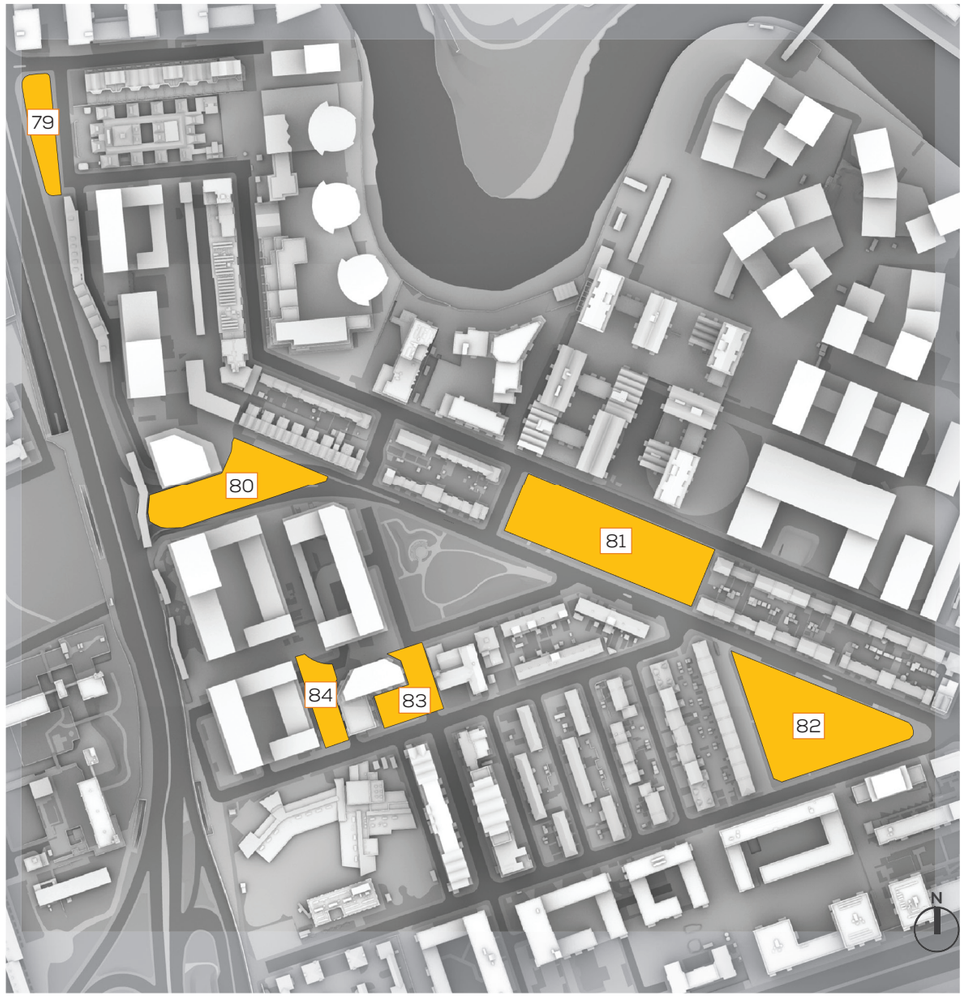


OVERSHADOWING ASSESSMENT - MAX PARAMETER - AREAS 47-64

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)

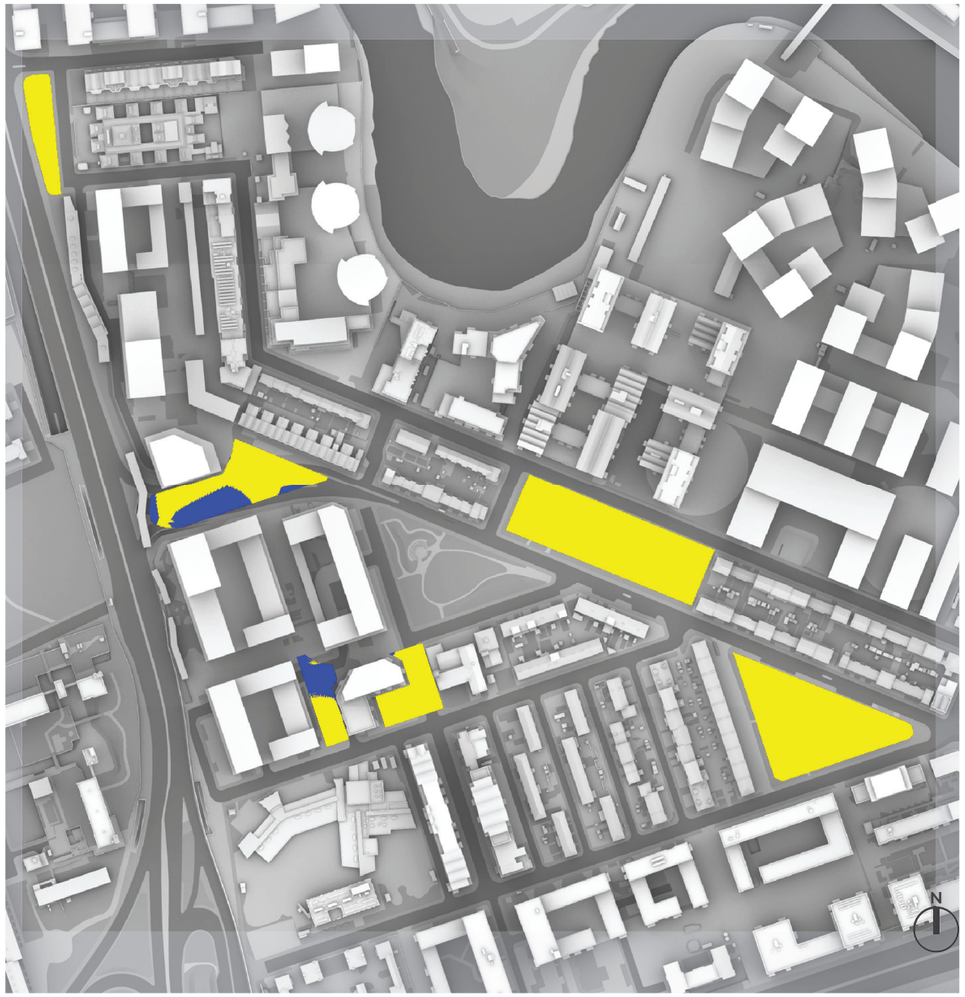


ASSESSED AREAS - PROPOSED DEVELOPMENT



		BRE TEST
AREA	NAME	MAXIMUM PARAMETER
79	Allottments	100%
80	Highland Place	71.70%
81	Leven Road Green	100%
82	Braithwaite Park	98.40%
83	The Square	99.40%
84	Culloden Green	52.30%

OVERSHADOWING ASSESSMENT - PROPOSED PUBLIC REALM
SUN HOURS ON GROUND - BRE TEST



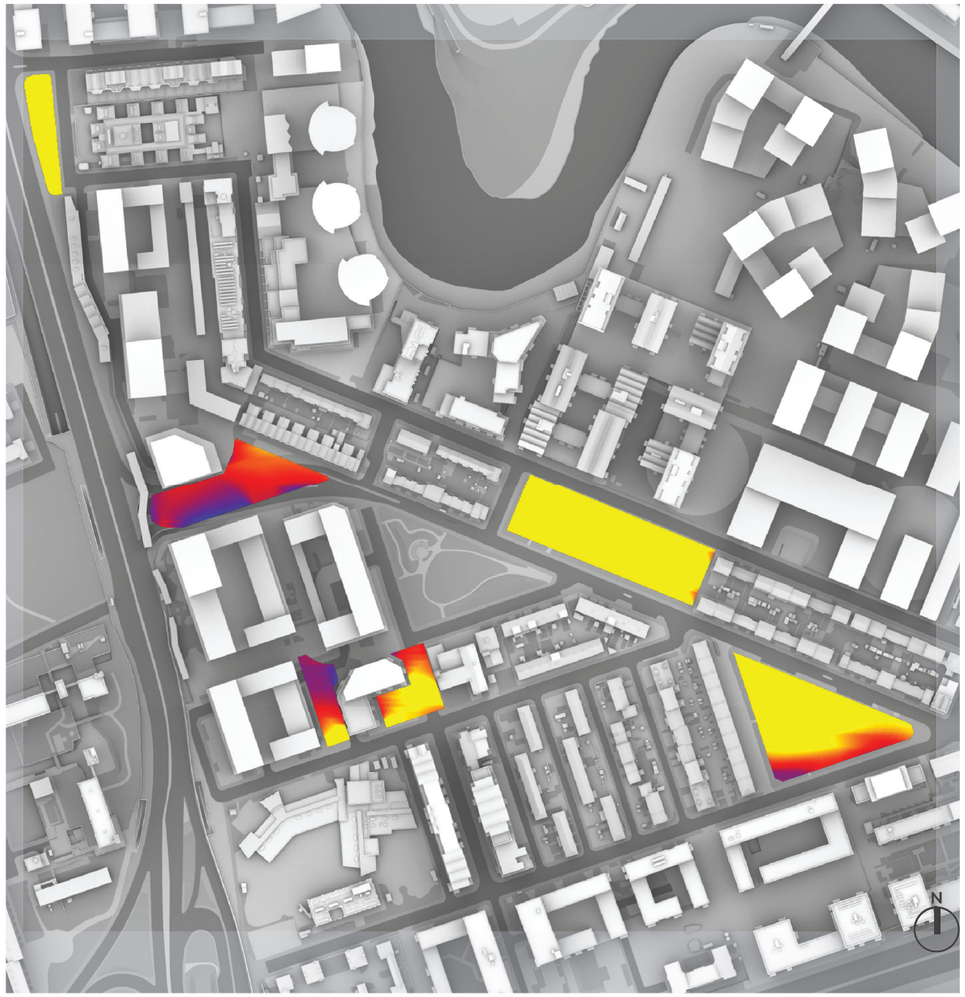
SUN HOURS ON GROUND
BRE TEST - 21ST MARCH



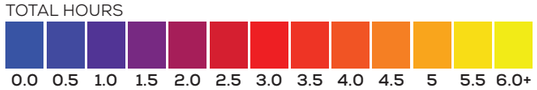
<2 2+

OVERSHADOWING ASSESSMENT - PROPOSED PUBLIC REALM

SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



SUN EXPOSURE
TOTAL HOURS



21st MARCH
(SPRING EQUINOX)

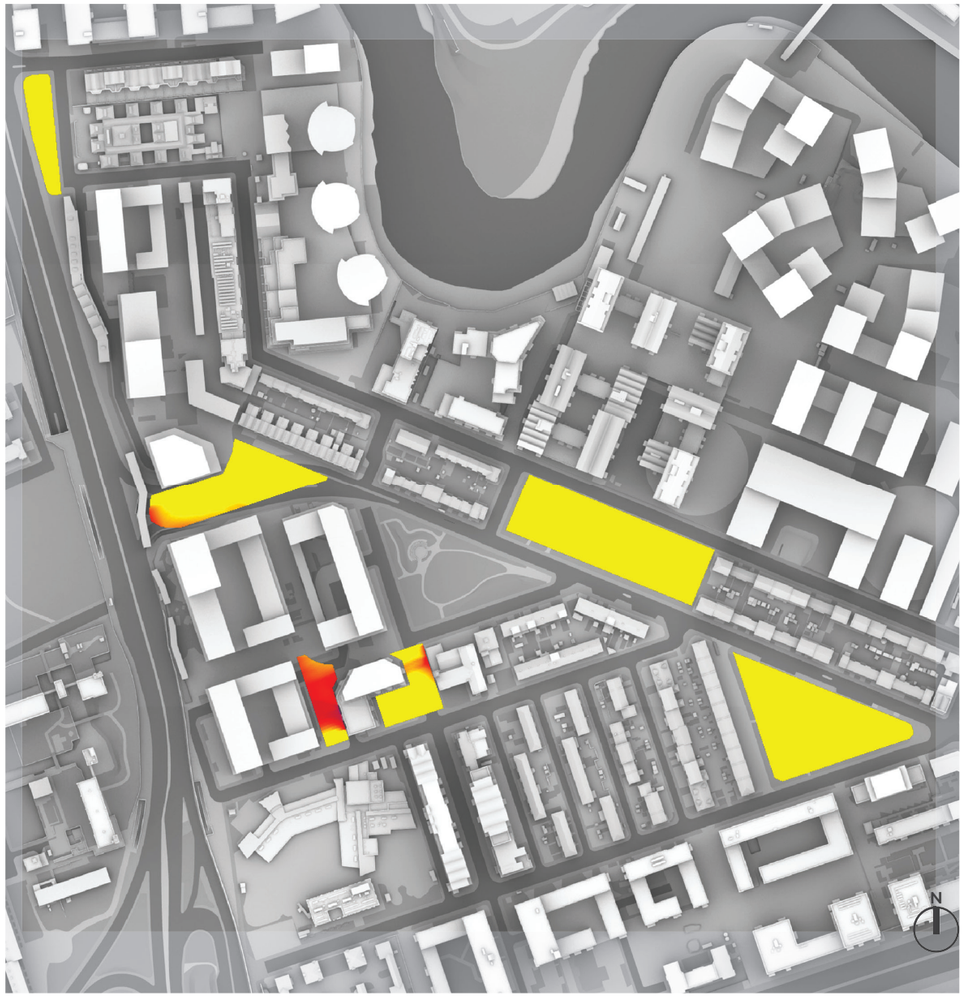
LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	06:02 GMT
Sunset:	18:14 GMT

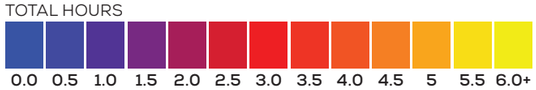
Total Available Sunlight:
12hrs 12mins

OVERSHADOWING ASSESSMENT - PROPOSED PUBLIC REALM

SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



21st JUNE
(SUMMER SOLSTICE)

LONDON

Latitude:	51.4
Longitude:	0.0
Sunrise:	04:43 BST
Sunset:	21:21 BST

Total Available Sunlight:
16hrs 38mins

Appendix: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

Annex 1: Planning Policy
Annex 2: Methodology and Baseline Results
Annex 3: Scenario Overviews and Window Maps
Annex 4: Daylight and Sunlight Results
Annex 5: Overshadowing Results
Annex 6: Solar Glare Results

1 SCENARIO OVERVIEW



Fig. 01: Site Overview Perspective



Fig. 02: Site Plan - Viewpoints

→ Building visible from the viewpoint
→ Building NOT visible from the viewpoint

2 SOLAR GLARE ASSESSMENT

The following pages present our Stage 1 Assessment results

60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 1 - LOOKING FORWARD

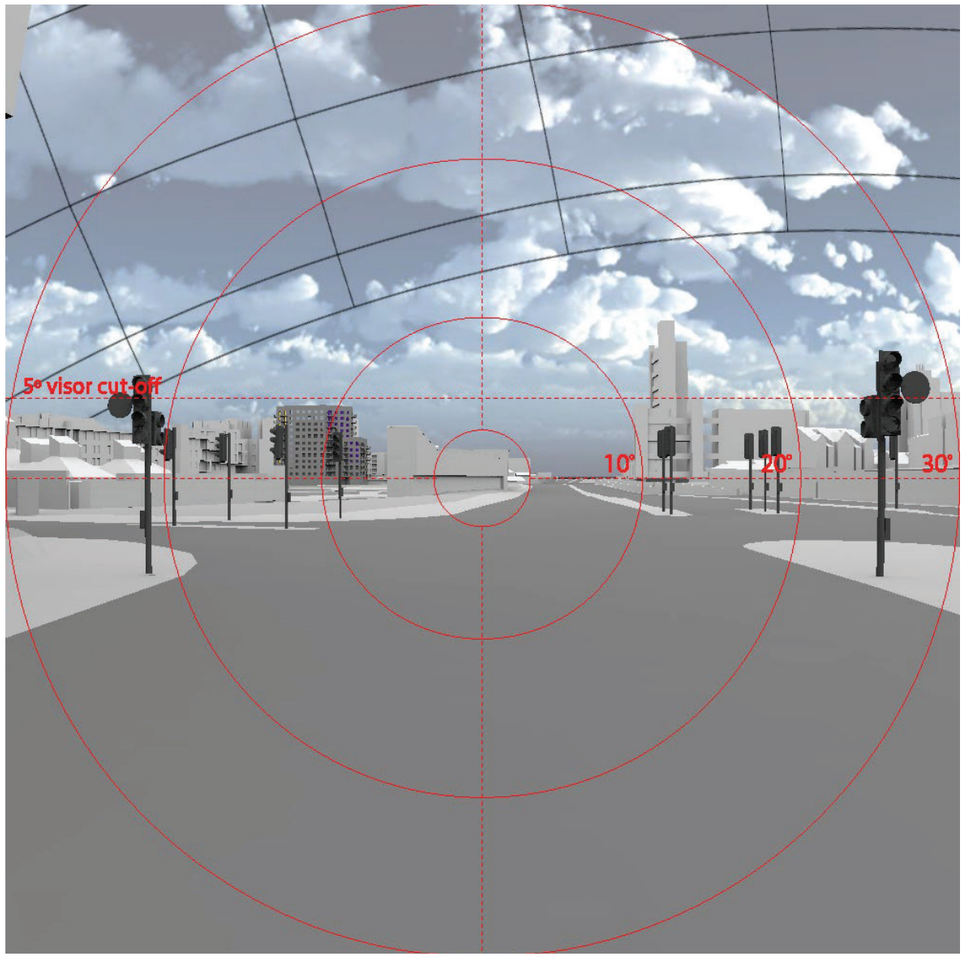
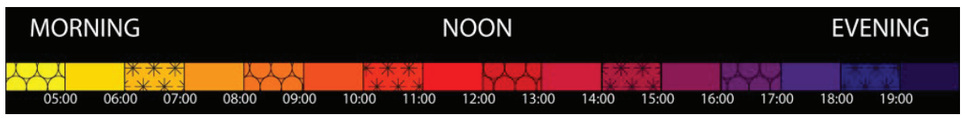


Fig. 03: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 1 - LOOKING FORWARD

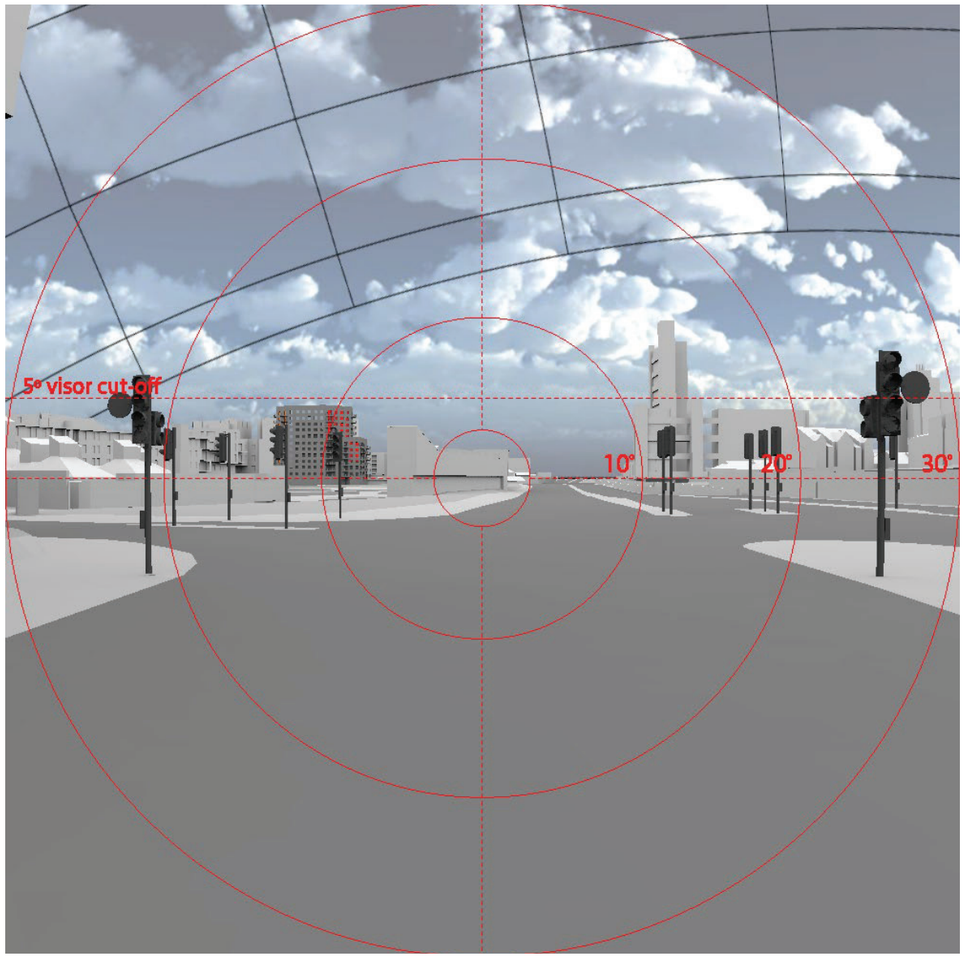


Fig. 04: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 2 - LOOKING FORWARD

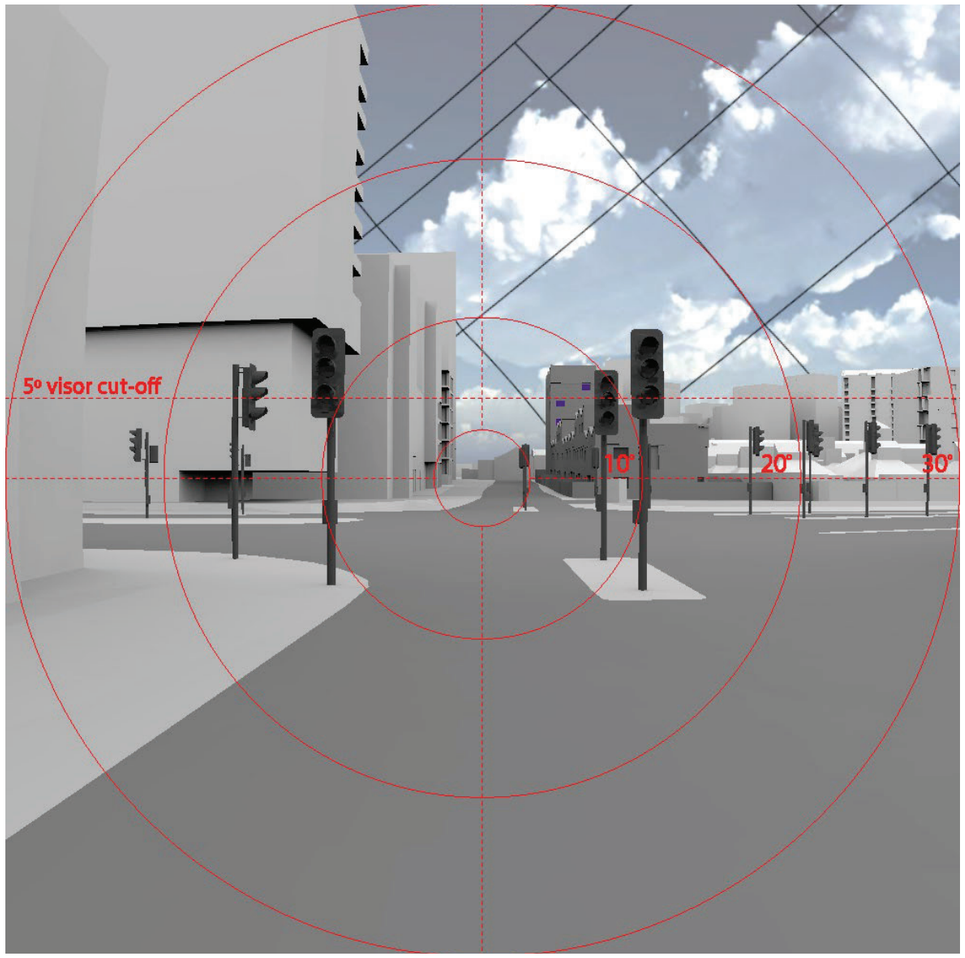
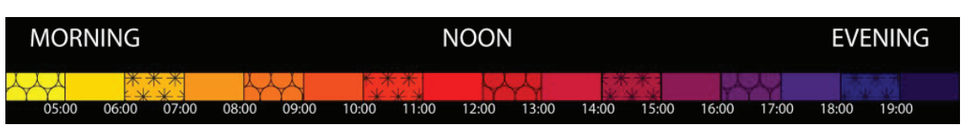


Fig. 05: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 2 - LOOKING FORWARD

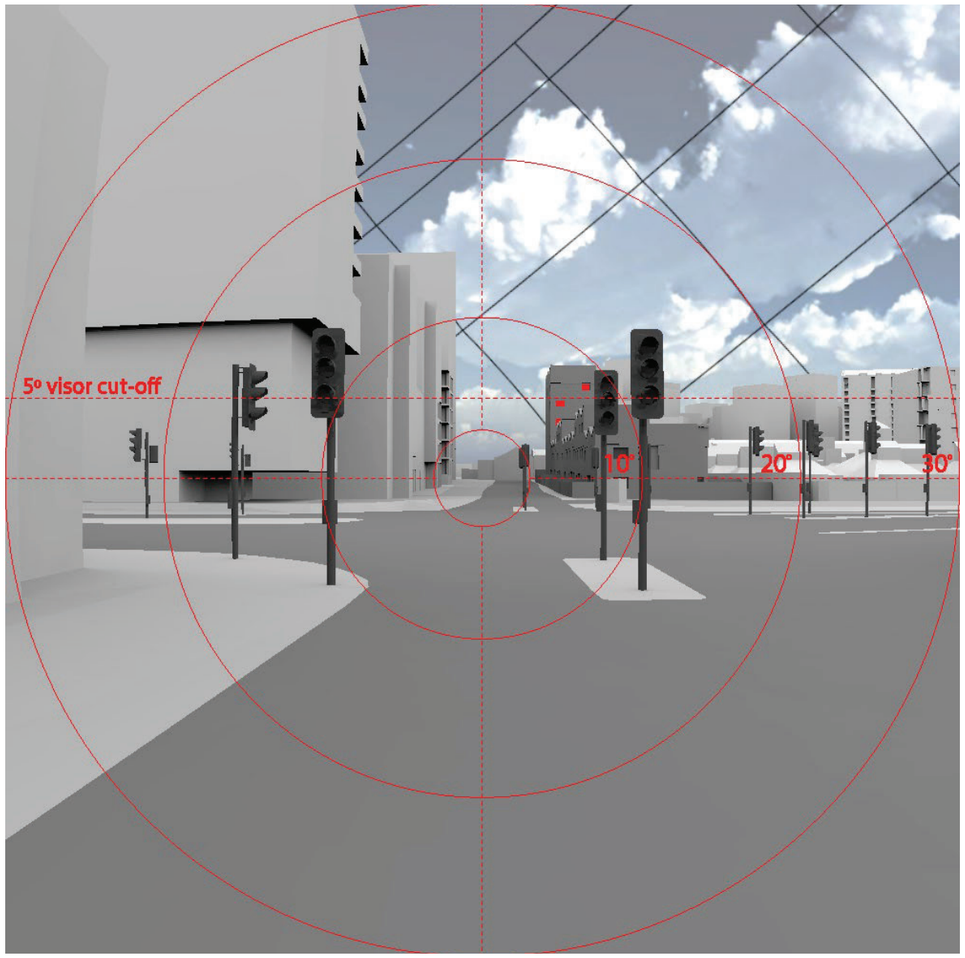


Fig. 06: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 5 - LOOKING FORWARD

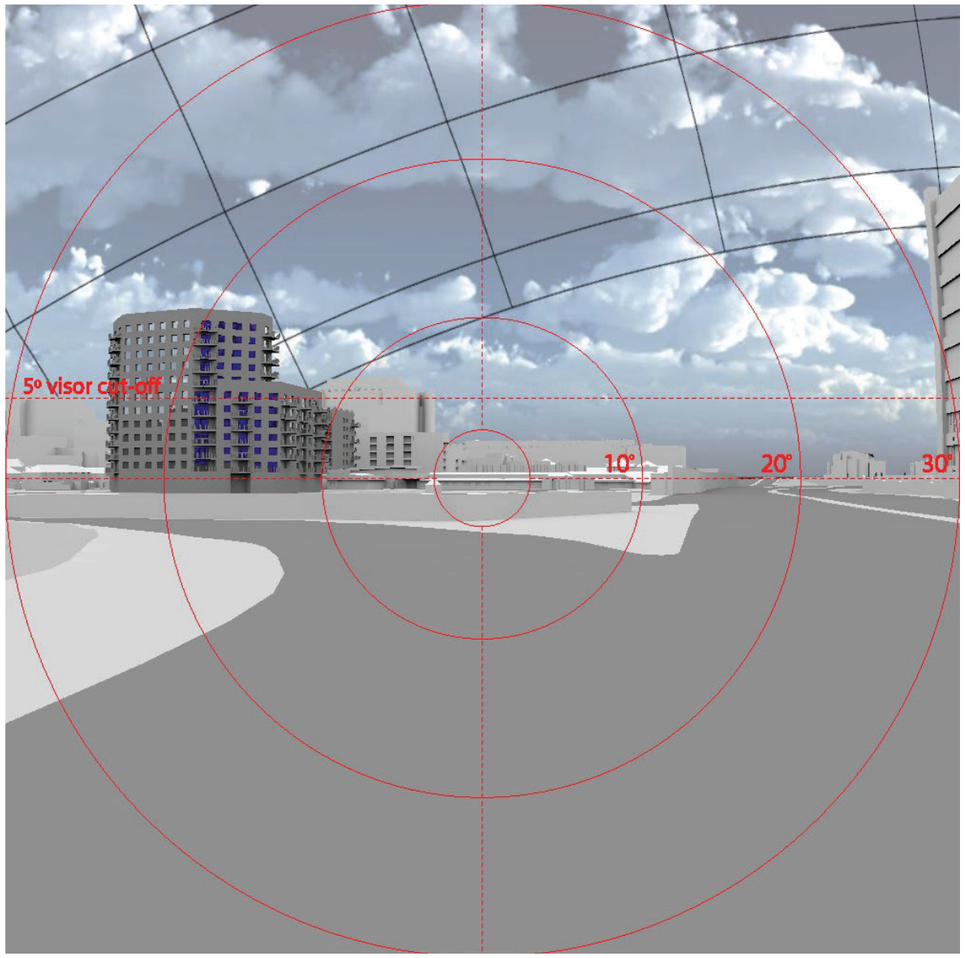
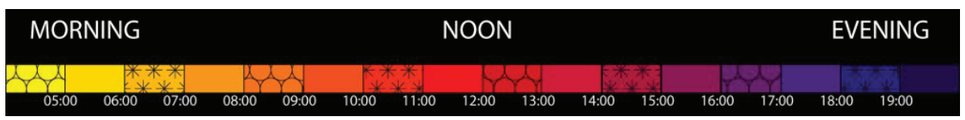


Fig. 07: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 5 - LOOKING FORWARD

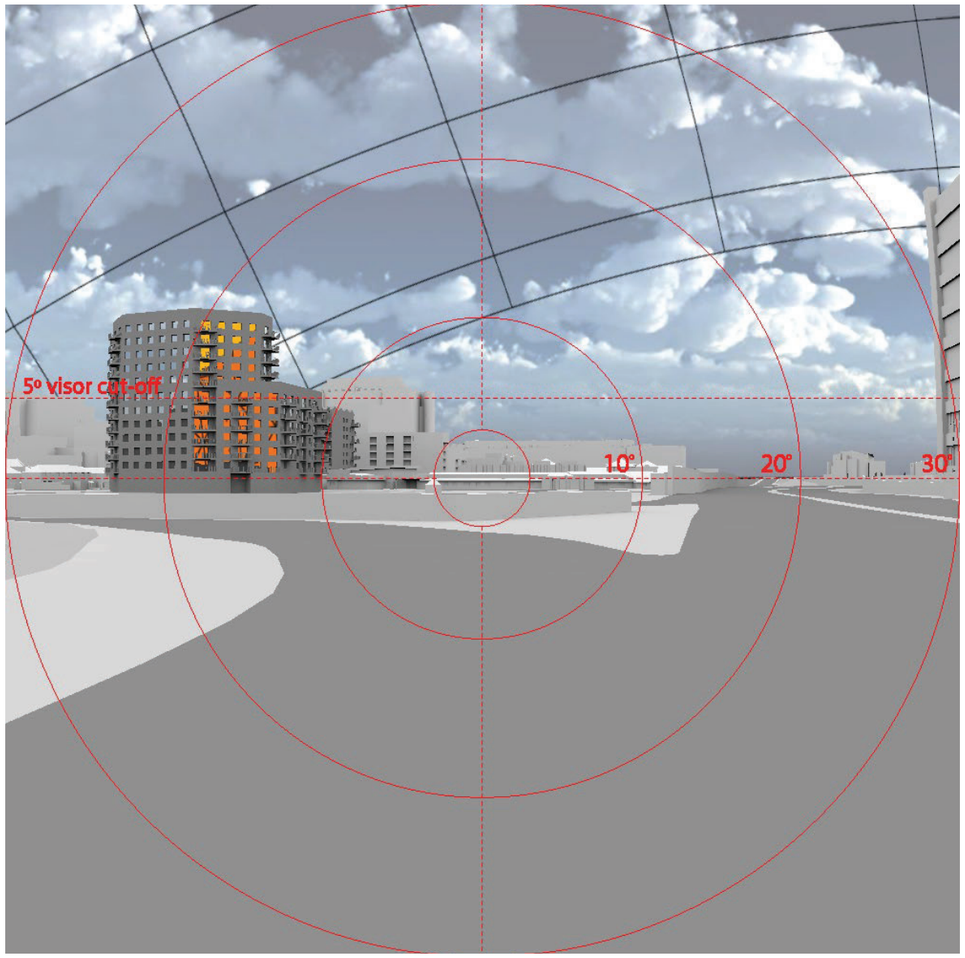


Fig. 08: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 7 - LOOKING FORWARD

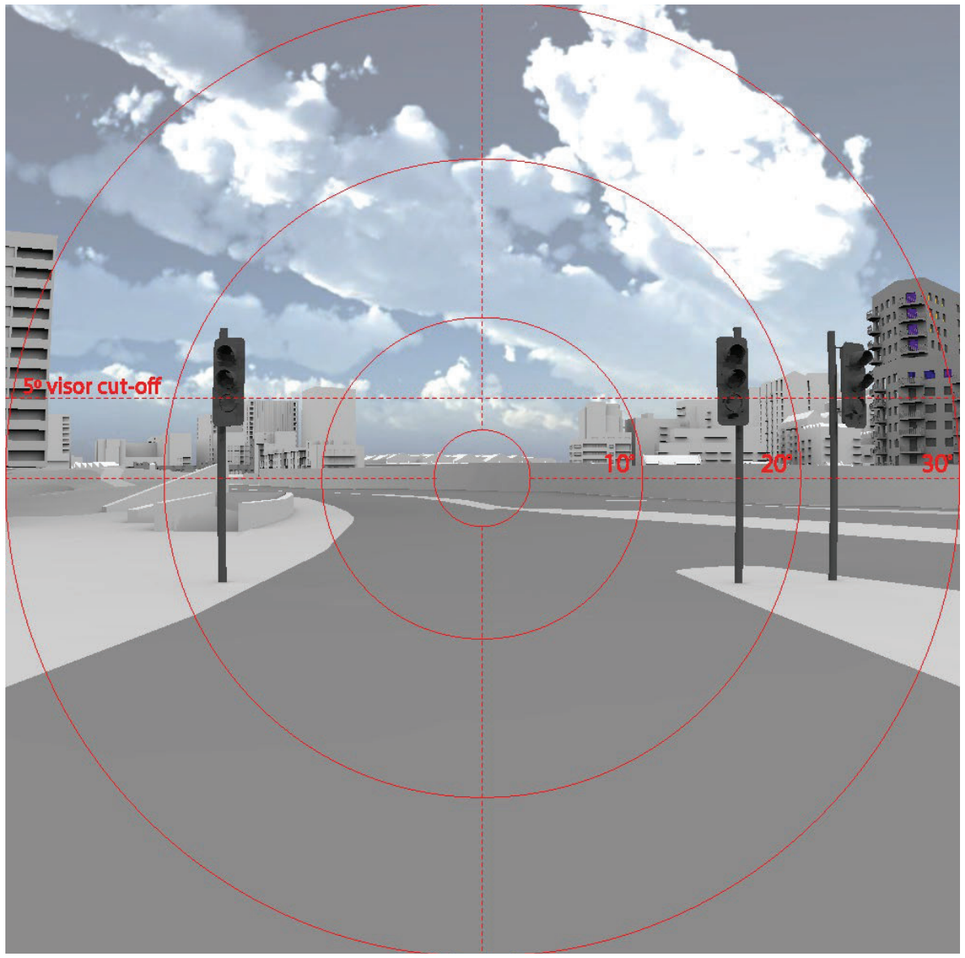
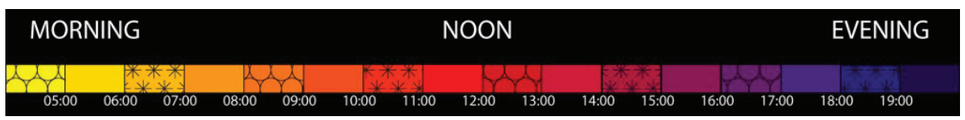


Fig. 09: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 7 - LOOKING FORWARD

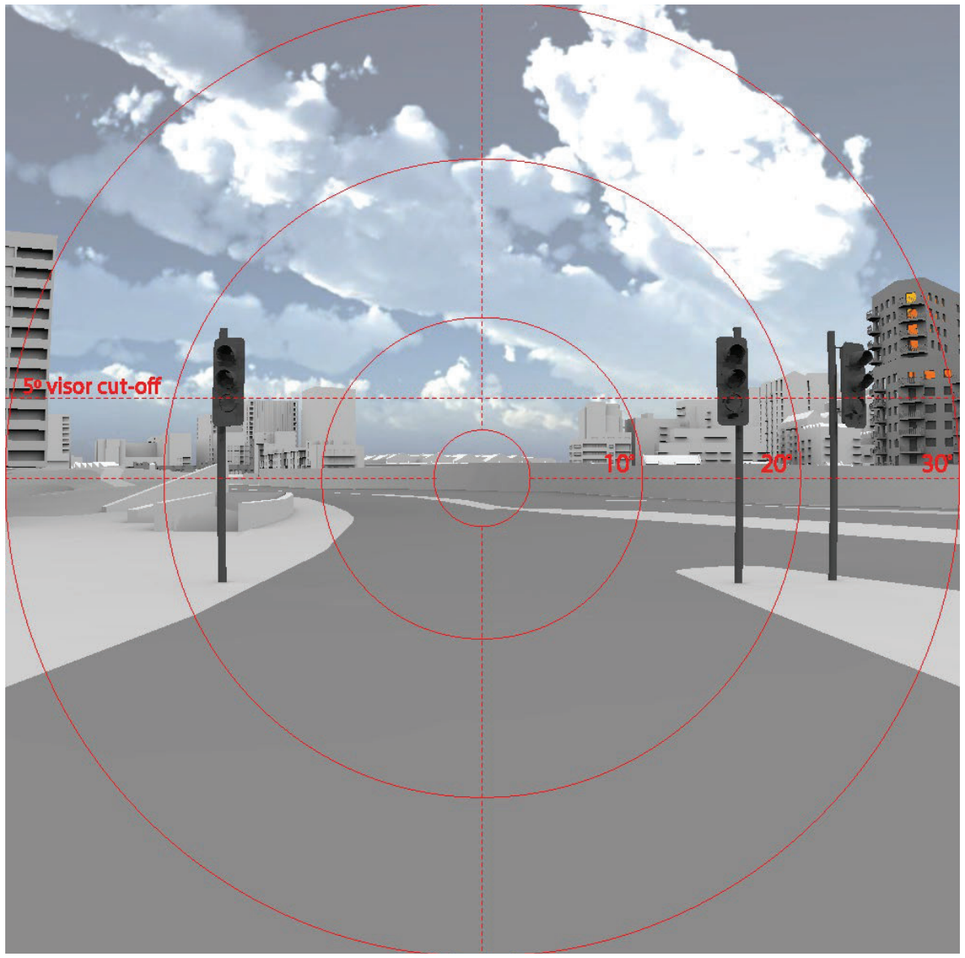


Fig. 10: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 8 - LOOKING FORWARD

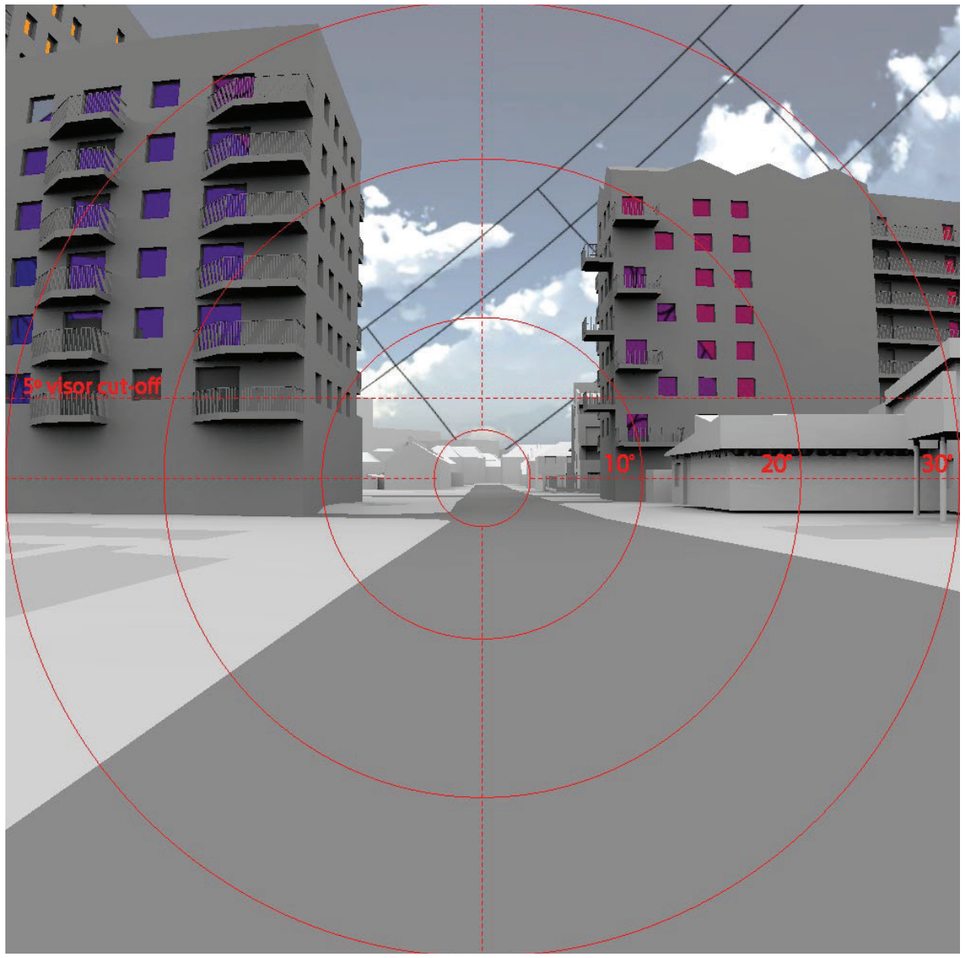
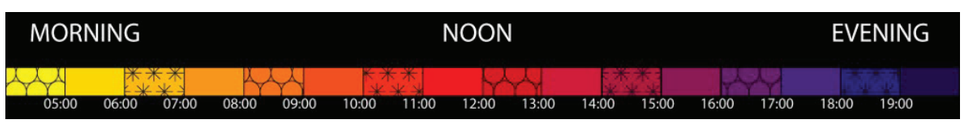


Fig. 11: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 8 - LOOKING FORWARD

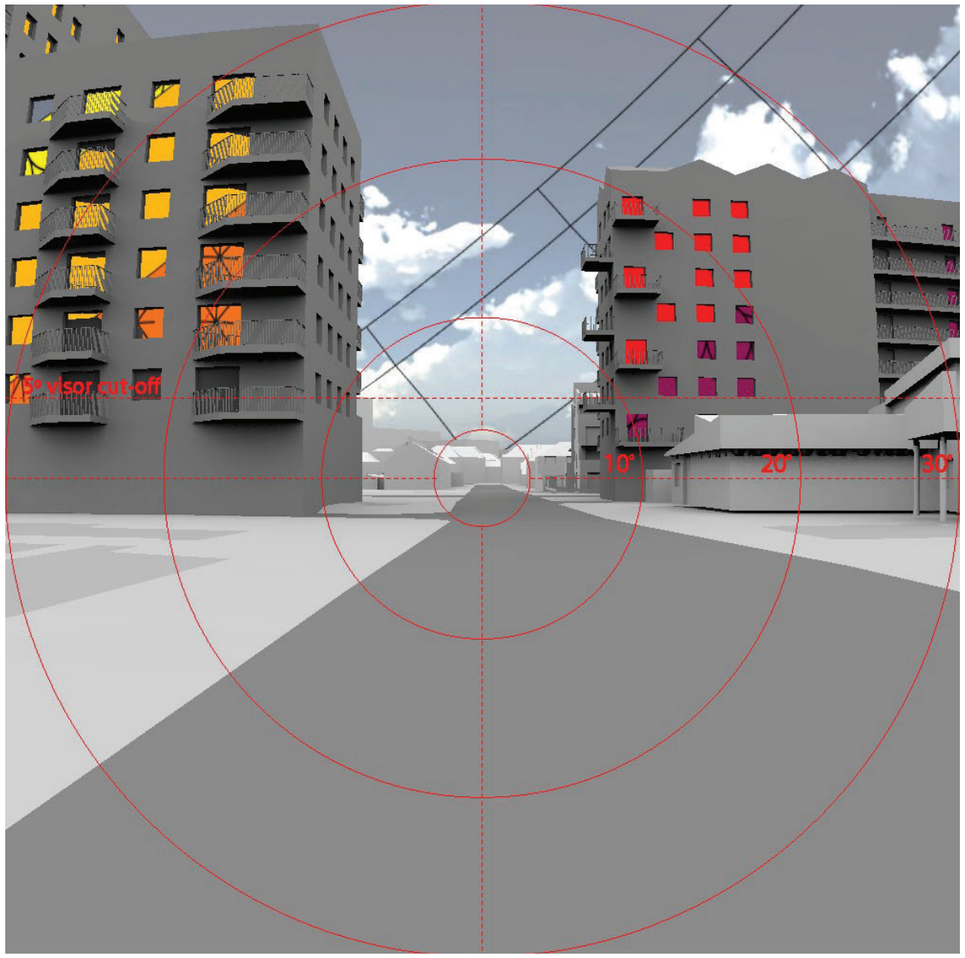


Fig. 12: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 9 - LOOKING FORWARD

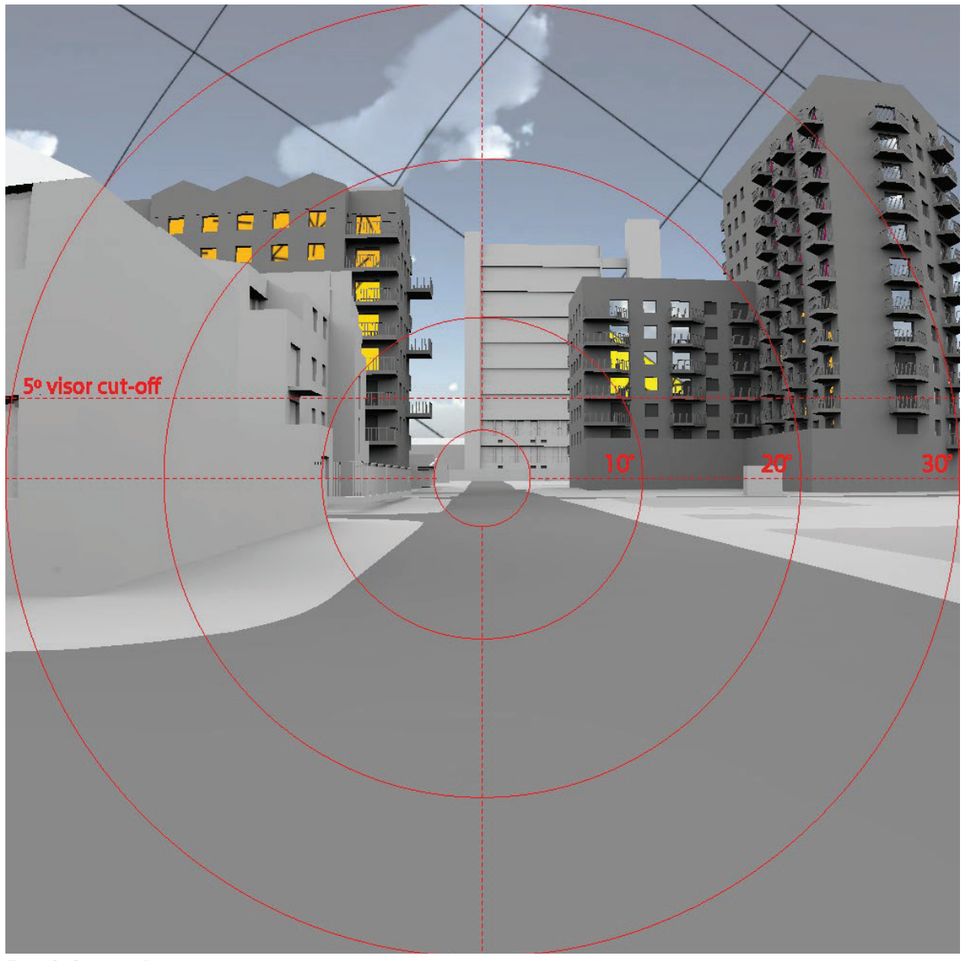


Fig. 13: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 9 - LOOKING FORWARD

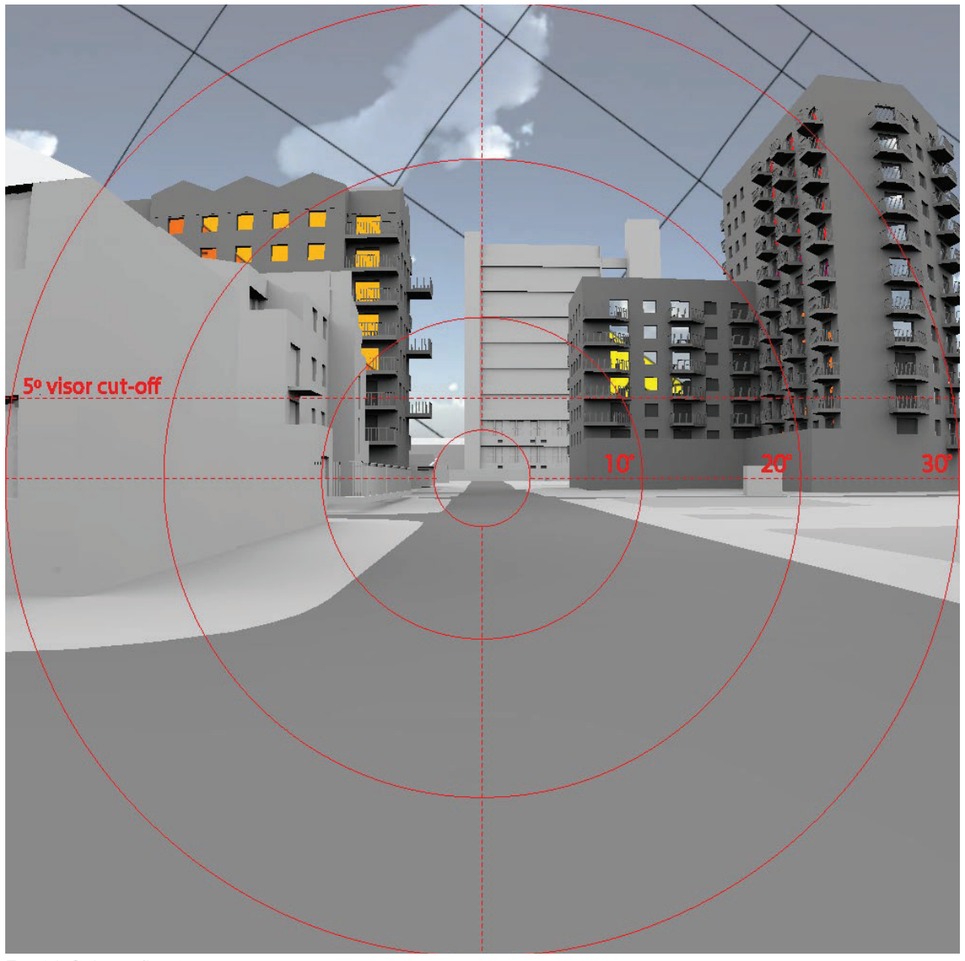


Fig. 14: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 10 - LOOKING FORWARD

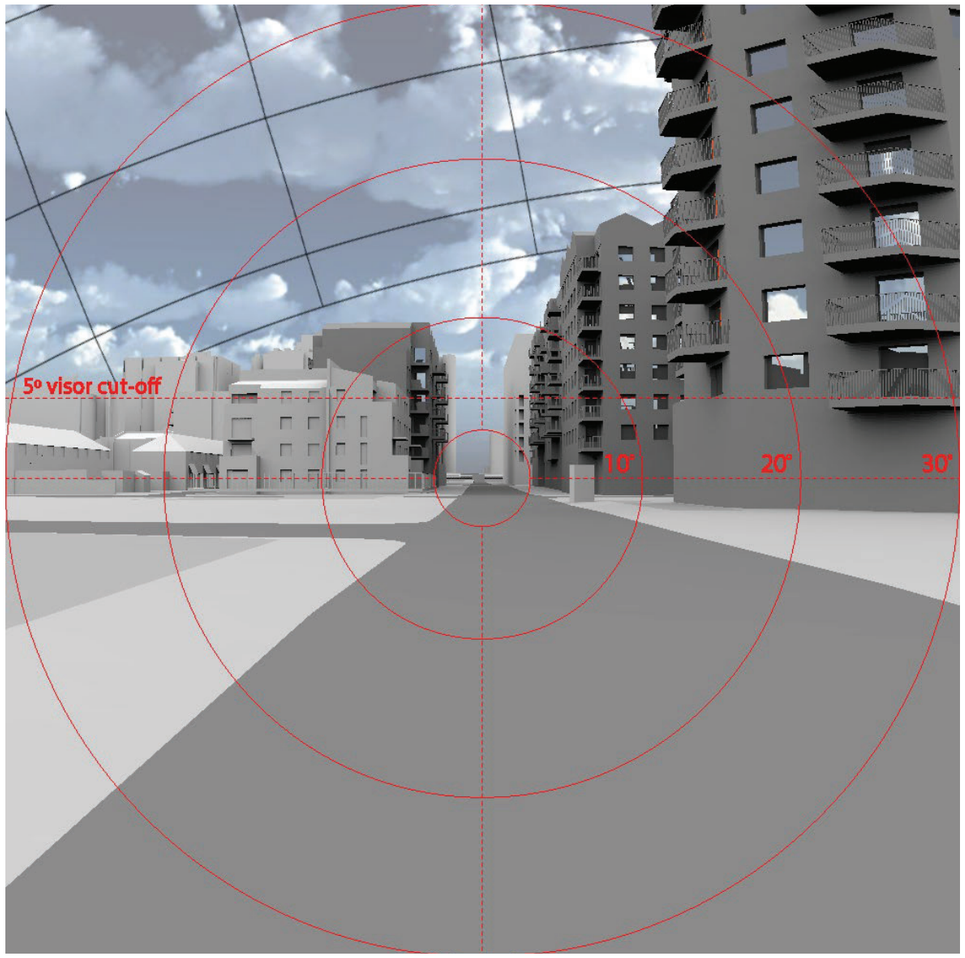
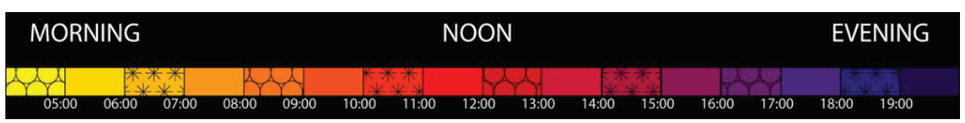


Fig. 15: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 10 - LOOKING FORWARD

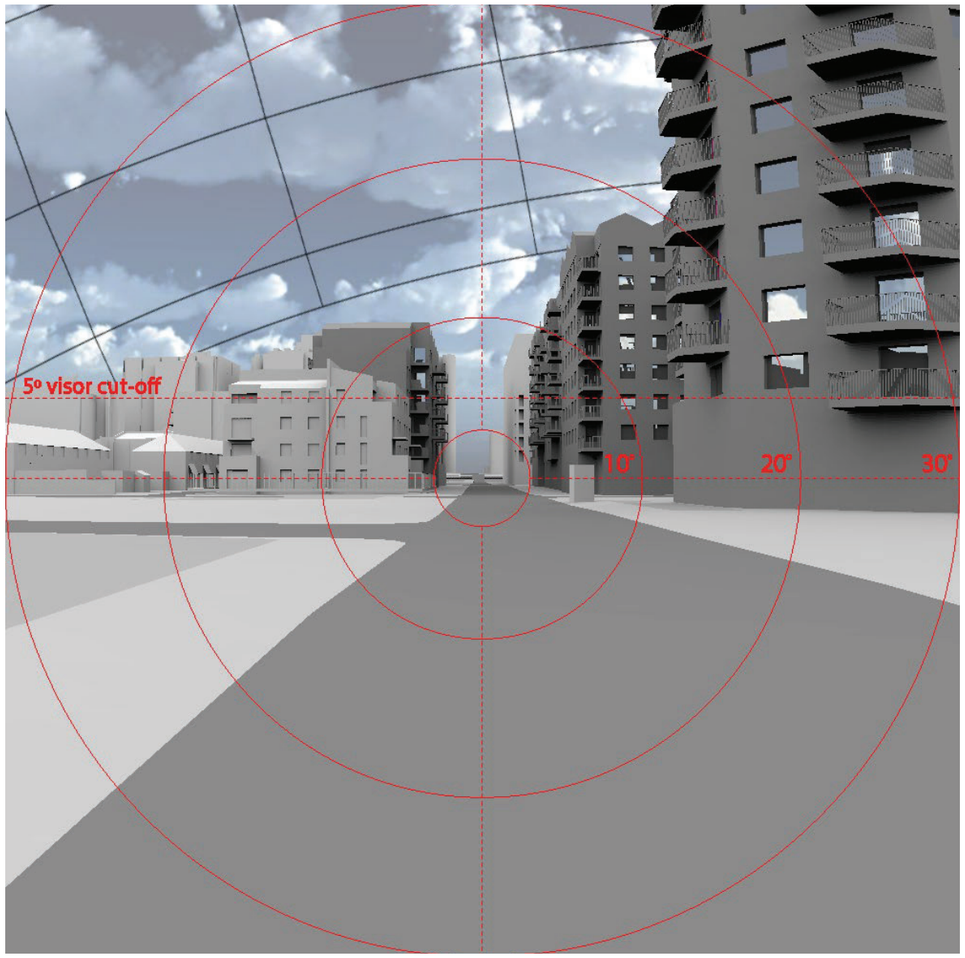


Fig. 16: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 11 - LOOKING FORWARD

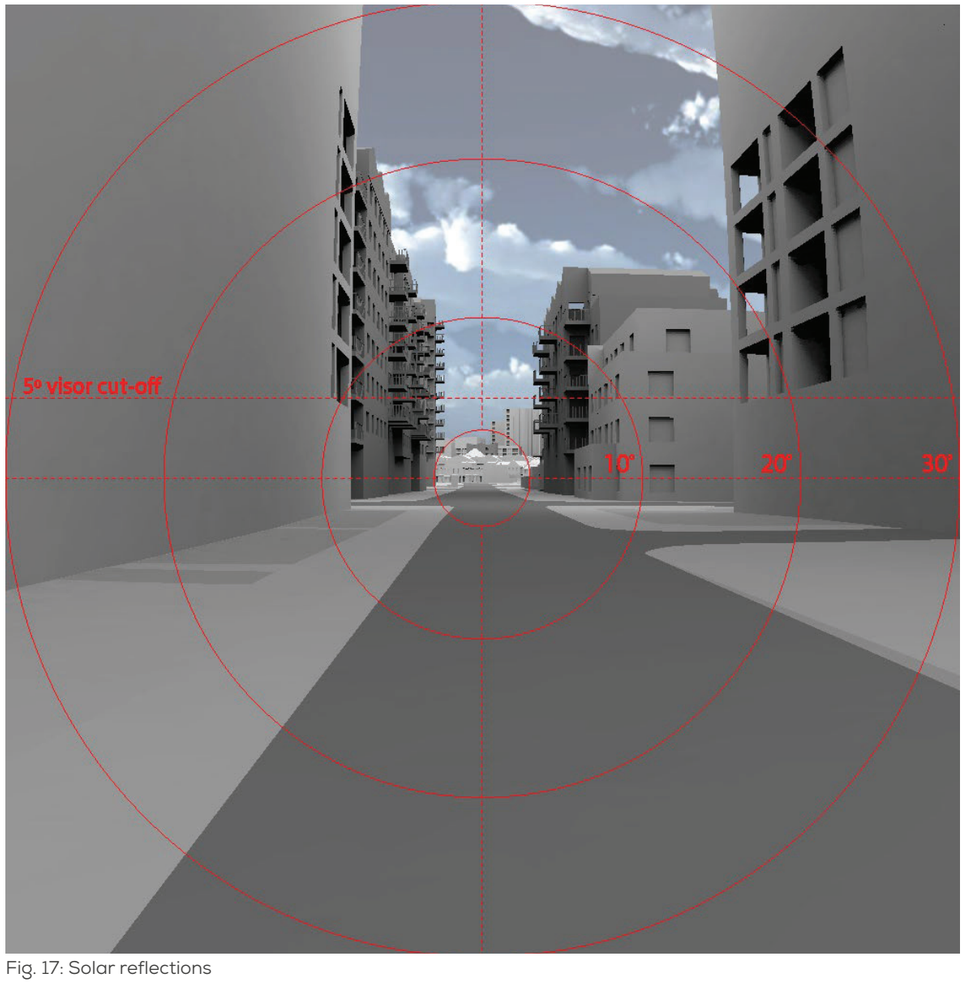
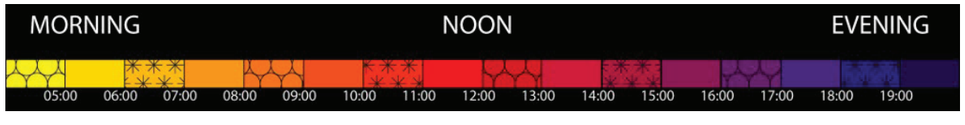


Fig. 17: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 11 - LOOKING FORWARD

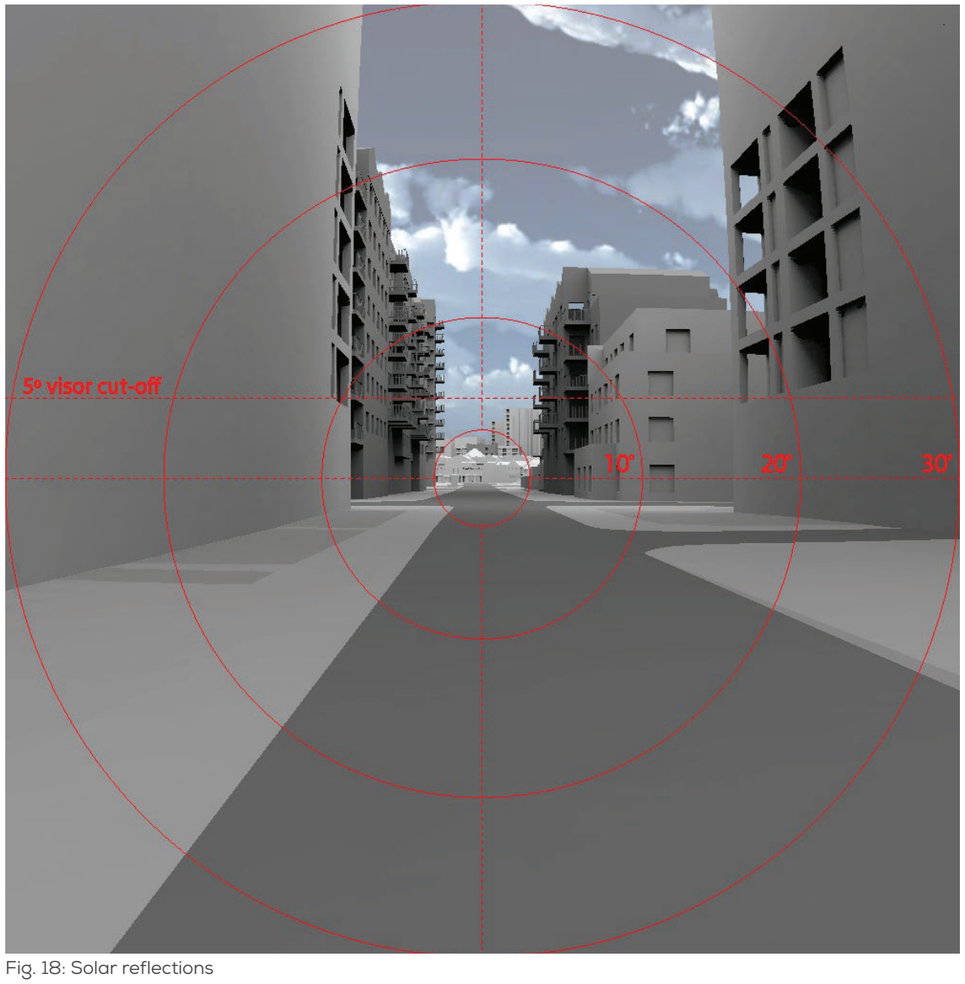


Fig. 18: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 12 - LOOKING FORWARD

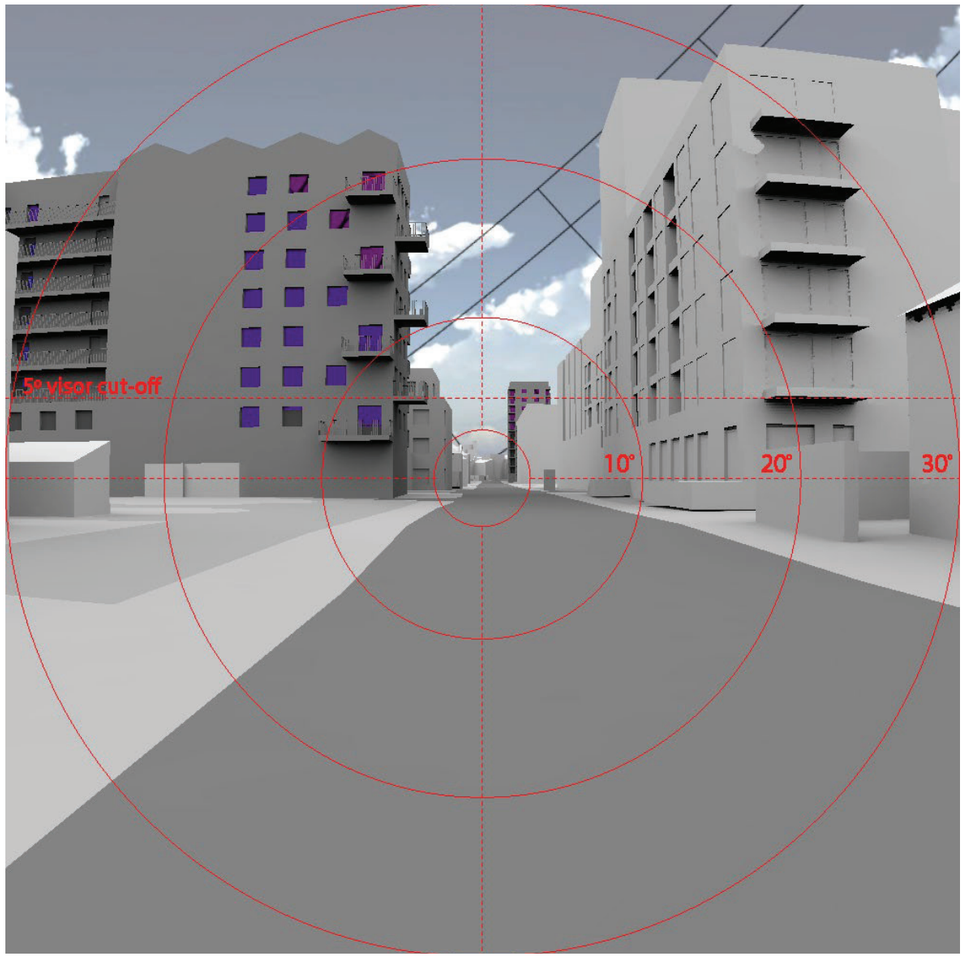
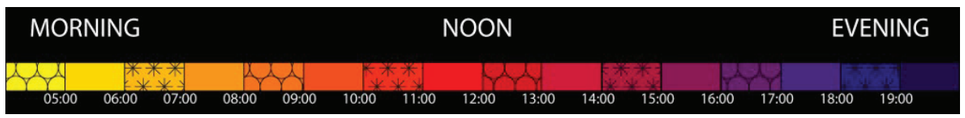


Fig. 19: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 12 - LOOKING FORWARD

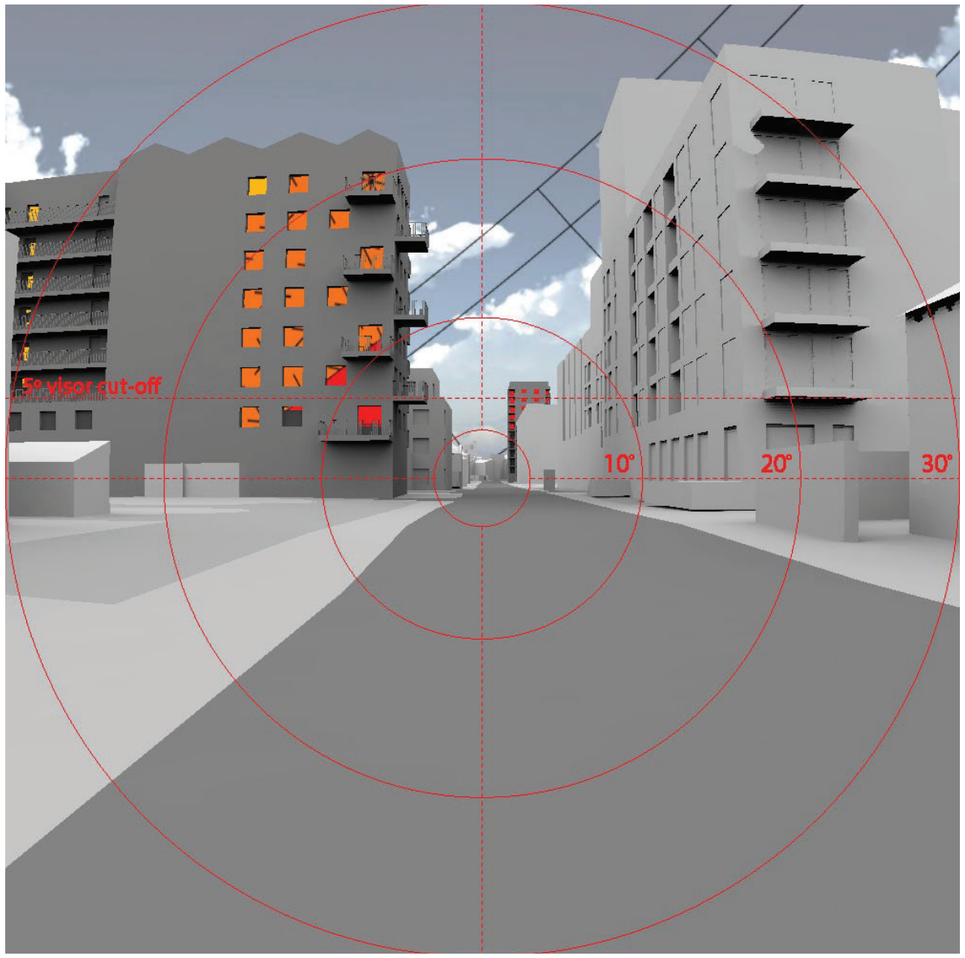


Fig. 20: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 13 - LOOKING FORWARD

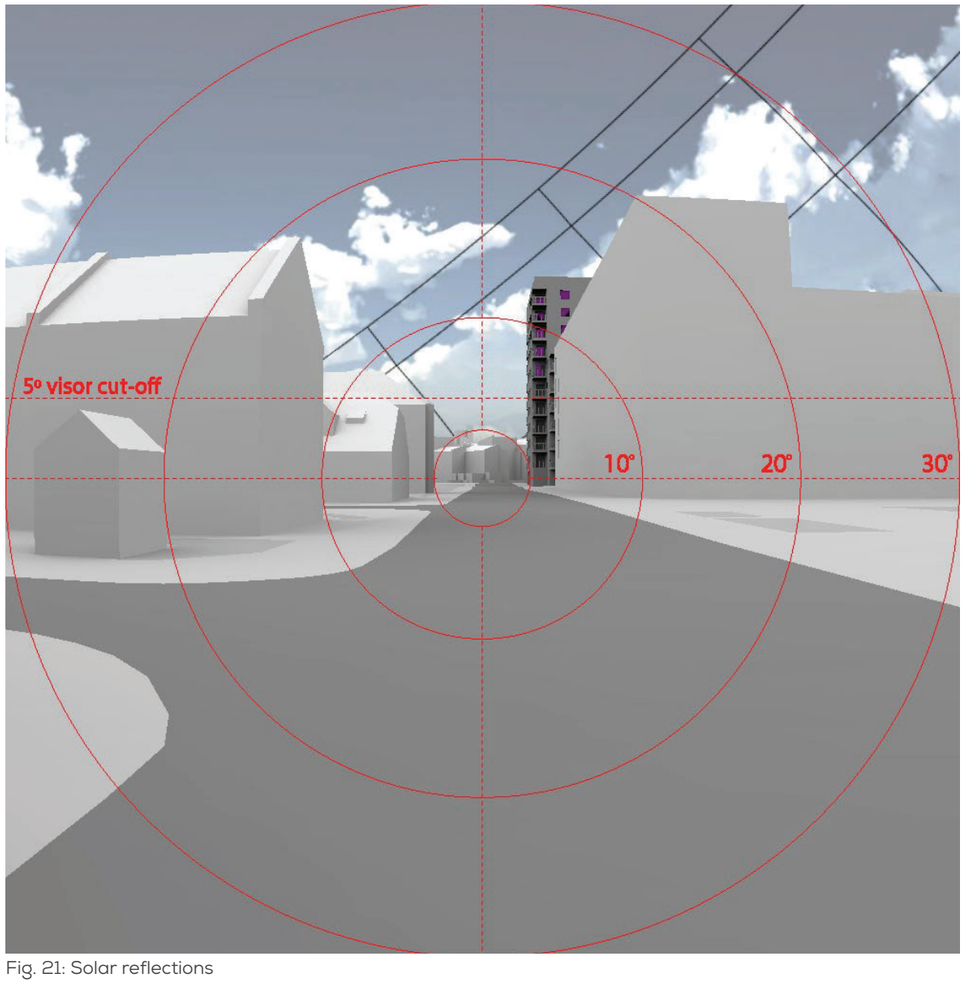
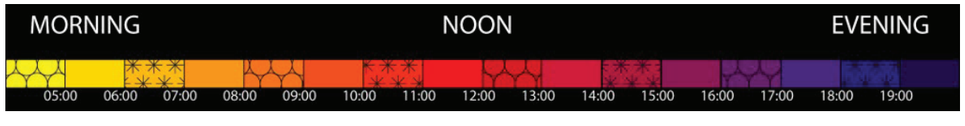


Fig. 21: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 13 - LOOKING FORWARD

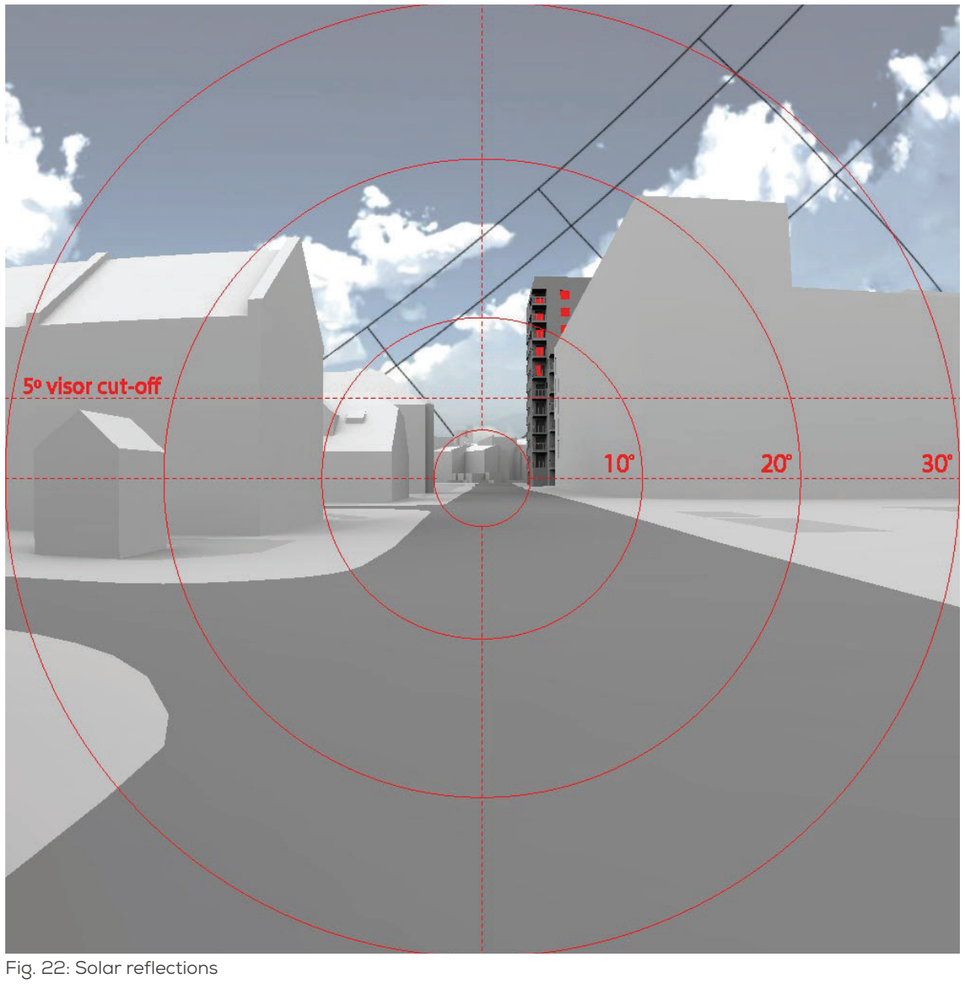


Fig. 22: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 14 - LOOKING FORWARD

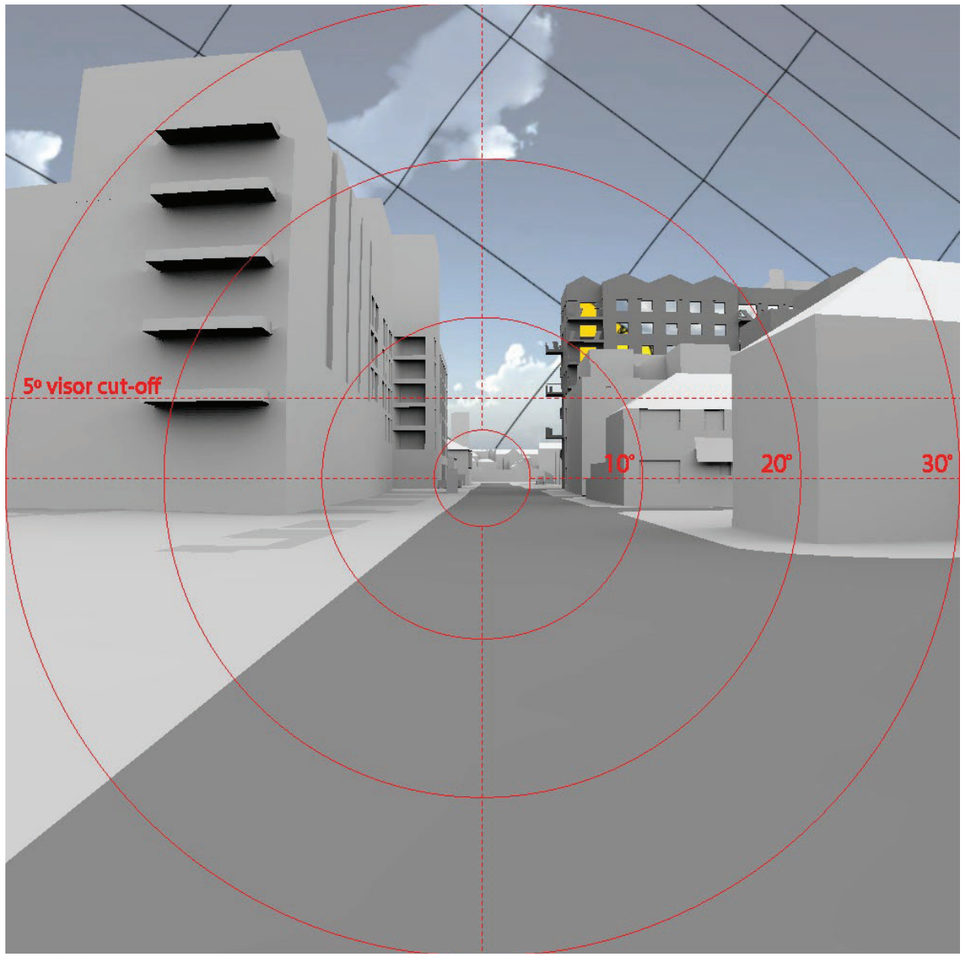


Fig. 23: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 14 - LOOKING FORWARD

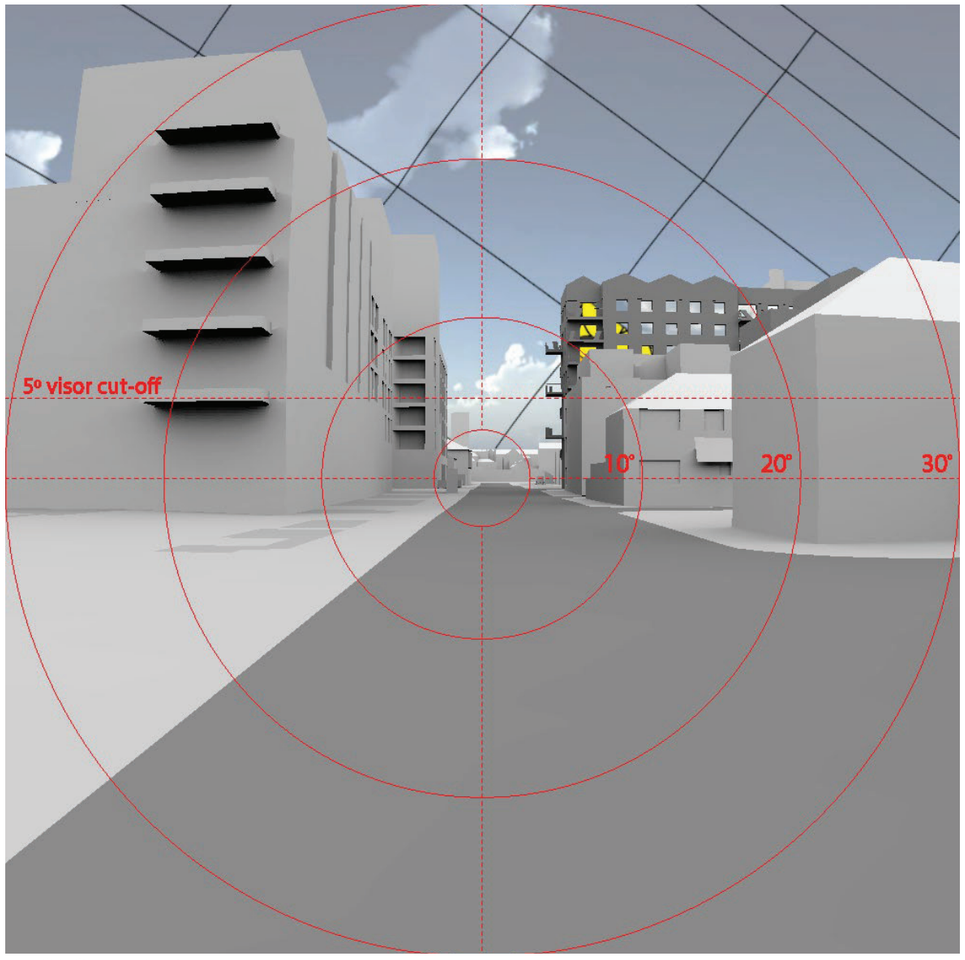


Fig. 24: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT 15 - LOOKING FORWARD

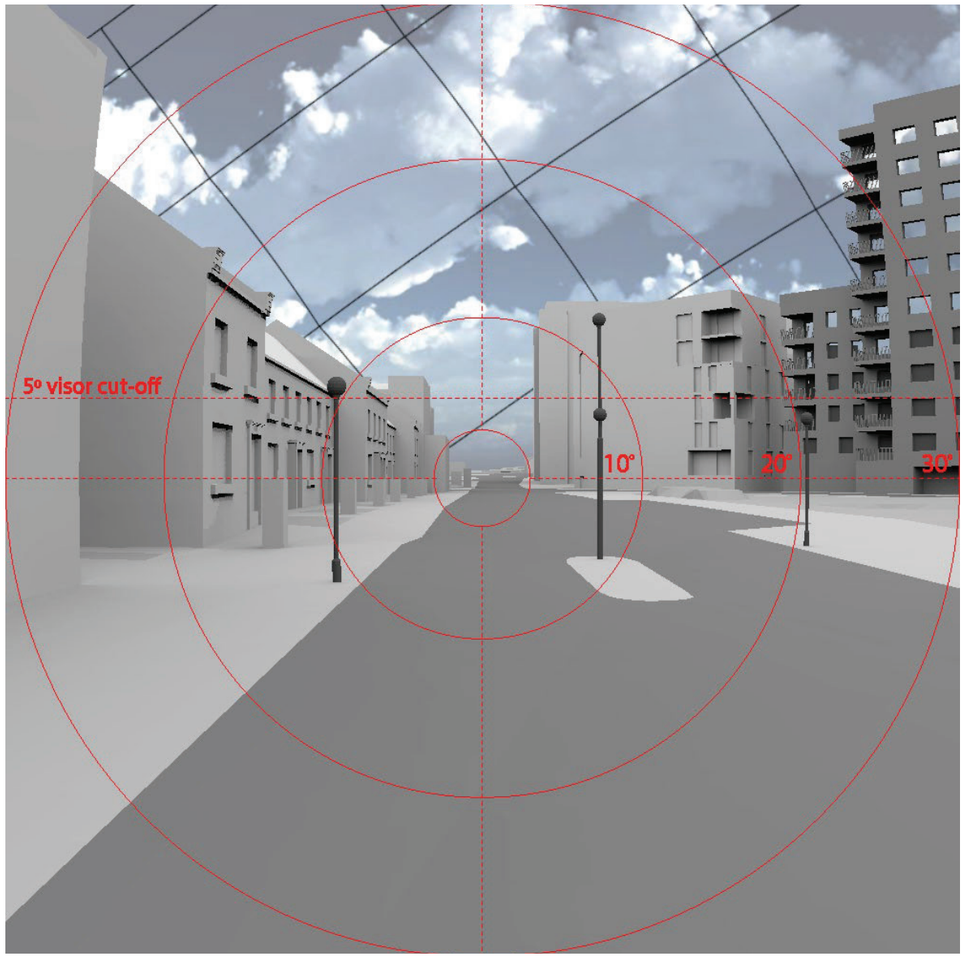
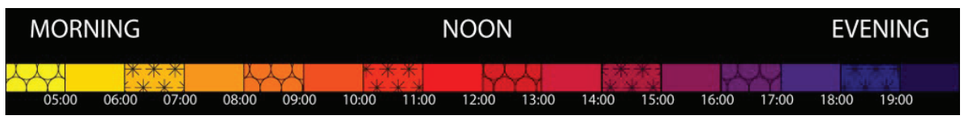


Fig. 25: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT 15 - LOOKING FORWARD

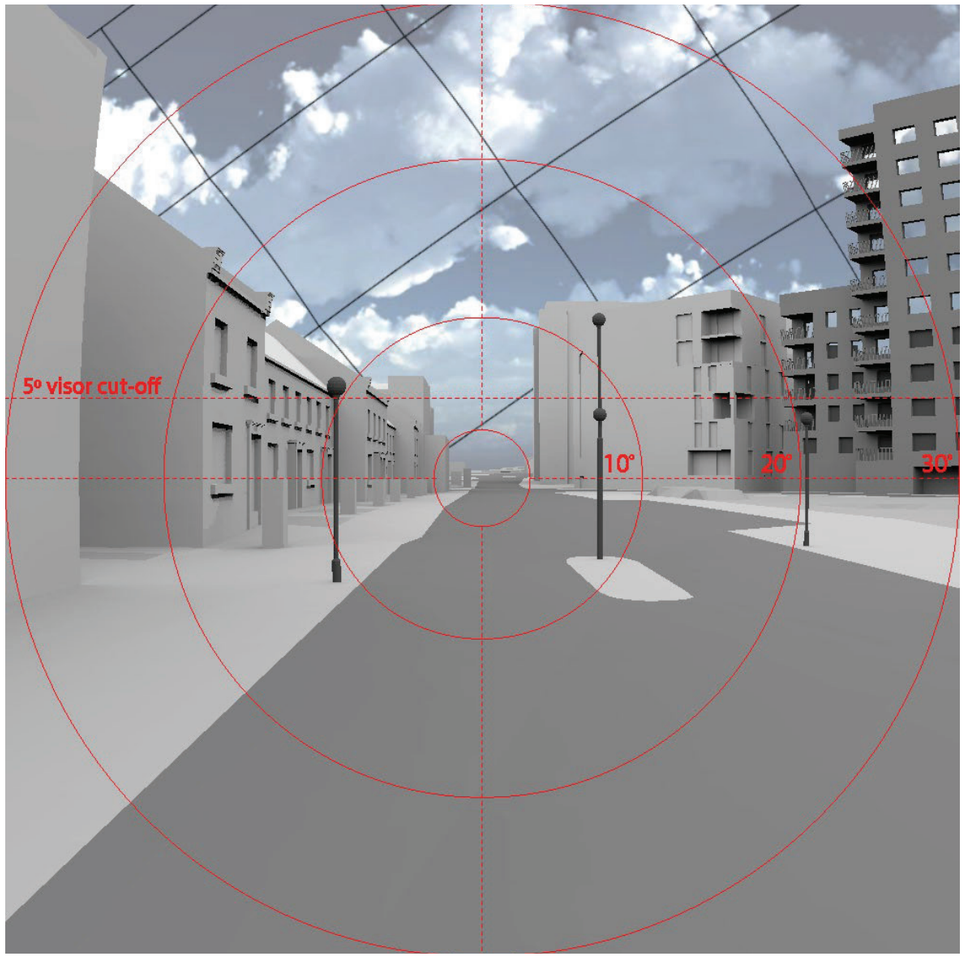


Fig. 26: Solar reflections



Appendix: Built Heritage

Annex 1: Built Heritage Statement

Appendix: Built Heritage

Annex 1: Built Heritage Statement

Aberfeldy Village
Poplar, London E14

Heritage Statement

October 2021

Consultancy for the Historic Built Environment KMHeritage

Contents

1 Introduction 4
Purpose 4
Organisation 5
Nomenclature 5
Authorship and contributors 5
2 The site and its surroundings 6
Summary description 6
Early 19th century 7
Mid to late 19th century 8
Early 20th century 10
The post-war housing programme 13
Abbot Road area redevelopment 13
The Brownfield Estate and Balfron Tower 18
Late 20th century 22
3 The heritage significance of the site and its context 24
Introduction 24
The heritage context of the site 27
Conservation areas 27
Listed buildings 33
Locally Listed Buildings 42
Other Non-Designated Heritage Assets 42
Other designations 43
Assessing heritage significance: concepts and terminology 44
Heritage significance: general comments 44
'Evidential value' 'Historic interest' or 'Historical value' 44
'Architectural interest', 'artistic interest' or 'aesthetic value' 45
Communal value 46
4 Legislation, policy and guidance 47
Introduction 47
The Planning (Listed Buildings and Conservation Areas) Act 1990 47
The National Planning Policy Framework 47
Planning Practice Guidance 53
Historic England guidance 55
Good Practice Advice 55
GPA 3: Historic England guidance on the setting of heritage assets 56
Historic England Advice Notes 57
Conservation principles, policies and guidance for the sustainable management of the historic environment 57
The London Plan 57
The Tower Hamlets Local Plan 61

5 The Proposed Development and its effect 65
Introduction 65
The Proposed Development 65
The effect of the Proposed Development on heritage significance 67
The significance of Balfron Tower 67
The nature of Balfron's Tower's setting 68
The contribution of Balfron's Tower's setting to its heritage significance 69
Historic England guidance on the setting of heritage assets 69
Other heritage assets 72
Conclusion 72
6 Compliance with policy and guidance 74
The Planning (Listed Buildings and Conservation Areas) Act 1990 74
The level of 'harm' caused by the proposed scheme 74
The balance of 'harm' versus benefit 75
The National Planning Policy Framework 75
London Plan 75
Tower Hamlets Local Plan 76
7 Summary and conclusions 77
Appendix A: Balfron Tower List Description 80

Aberfeldy Village, London E14: Heritage Statement

1 Introduction

1.1 This Built Heritage report has been prepared by KM Heritage and is submitted in support of a hybrid planning application for the Aberfeldy Village Masterplan. The hybrid planning application is made in relation to the north of East India Dock Road (A13), east of the Blackwall Tunnel Northern Approach Road (A12) and to the south west of Abbot Road (the "Site") on behalf of The Aberfeldy New Village LLP' ("The Applicant"). The hybrid planning application is formed of detailed development proposals in respect of Phase A for which no matters are reserved ("Detailed Proposals"), and outline development proposals for the remainder of the Site, with all matters reserved ("Outline Proposals"). The Detailed Proposals and Outline Proposals together are referred to as the "Proposed Development".

1.2 The Proposed Development comprises the comprehensive redevelopment of the Site. The Proposed Development will provide new retail and workspace floorspace along with residential dwellings and the pedestrianisation of the A12 Abbott Road vehicular underpass to create a new east to west route. The Development will also provide significant, high quality public realm, including a new Town Square, a new High Street and a public park.

Purpose

1.3 The purpose of the report is to identify heritage assets that may be affected by the Proposed Development and to analyse their heritage significance. The report also sets out national and local policies and guidance relating to the historic built environment.

1.4 Balfron Tower is far from being the only heritage asset potentially affected by the Proposed Development, nor the only heritage asset of notable heritage significance. However, its status as a Grade II*, its prominence and its proximity to the Site causes it to figure centrally in considerations regarding the heritage effects of the scheme. The report, therefore, puts a special emphasis on understanding the nature of the setting of on Balfron Tower and its surrounding Brownfield Estate (the Balfron Conservation Area) and the contribution of that setting to their heritage significance.

Organisation

1.5 This introduction is followed by a description and analysis of the site and its context in Section 2. Section 3 discusses heritage significance, with a particular focus on Balfron Tower. Section 4 sets out the national and local policy and guidance relating to the historic built environment that is relevant to this matter. Section 5 looks at the Proposed Development and its effects. Section 6 describes how the Proposed Development complies with policy and guidance and Section 7 is a summary and conclusion.

Nomenclature

1.6 The extent of the Proposed Development is also referred as the 'Site' throughout this report.

Authorship and contributors

1.7 The author of this report is Kevin Murphy B.Arch MUBC RIBA IHBC. Kevin was an Inspector of Historic Buildings in the London Region of English Heritage and dealt with a range of major projects involving listed buildings and conservation areas in London. Prior to this, he had been a conservation officer with the London Borough of Southwark and was Head of Conservation and Design at Hackney Council between 1997 and 1999. He trained and worked as an architect and has a specialist qualification in urban and building conservation.

1.8 Drafting and initial assessment was undertaken by Anne Roache MA MSc. Anne is an experienced heritage professional who began her career at Jones Lang LaSalle and went on to gain broad experience working for leading commercial organizations in the fields of property, planning and law. She has a specialisation in the architectural and social history of London.

1.9 Historical research was carried out by Dr Jonathan Clarke. Jonathan is an experienced historic environment professional, with over 25 years' experience in the private and public sectors including English Heritage where he was a Senior Architectural Investigator.

2 The site and its surroundings

2.1 This section of the report describes the history and development of the site and its surroundings.

Summary description

2.2 Aberfeldy Village is a residential and community development sited on an approximately triangular tract of land bounded by the A12, A13 (the East India Dock Road) and the River Lea (figure 1).



Figure 1: Aerial view of Aberfeldy Village and its environs

2.1 Located immediately north of the East India Dock Road, the area developed from open marshland through to a peak of industrial and residential development in the second half of the 19th century before an extended period of decline during the post-war period. Poplar, like many working-class neighbourhoods which relied heavily upon the docks for employment opportunities, saw rapid economic decline as a result of the closure of the inner-London docks system, a

process largely completed by the early 1970s. A new era began to be ushered-in during the 1980s when the London Docklands Development Corporation begin the regeneration of the extensive former docks and their hinterlands – symbolized most conspicuously by the Canary Wharf development of 1987–91 on the former West India Docks.

2.2 The site is not located in a conservation area, nor does it have any heritage designation.

Early 19th century

2.3 Until the second half of the 19th century, the area to the north of the East India Docks was called Bromley Marsh. Following the construction of these docks - 'a secure, walled enclosure constructed in 1803–6 by the engineers John Rennie and Ralph Walker - the East India Dock Company laid out East India Dock Road (1806–12).[1] A branch of Whitechapel's Commercial Road, it extended from Burdett Road in the west to a new iron bridge over the River Lea to the east. The section of road east of the entrance to the East India Docks was, until 1871, called the Barking Road, as was the highway beyond the bridge.[2]

2.4 In 1813 the company sold land on the north side of the East India Dock Road to its principal engineering contractor, Hugh McIntosh (1768–1840), for £192 an acre.[3] McIntosh (who had followed his mentor John Rennie to London, to 'supervise directly the massive East India dock excavations'[4]) built a large farmhouse in the middle of the Bromley Marsh which was, accessed by a lane from the Barking Road. An extract from the 1867 OS map, shows Bromley Marsh and the farmhouse built by Hugh McIntosh (fig. 2).

[1] Cherry, B., O'Brien, C. & Pevsner, N. (2005) *The Buildings of England. London 5: East*. London: Yale University Press, 659.
[2] Hobhouse, H. (ed.) (1994) *Survey of London: Volumes 43 and 44, Poplar, Blackwall and Isle of Dogs*, 575-82.
[3] *Ibid*.
[4] Chrimes, M.M., (1994) 'Hugh McIntosh (1768–1840), National Contractor', *Transactions of the Newcomen Society*, 66:1, 177.

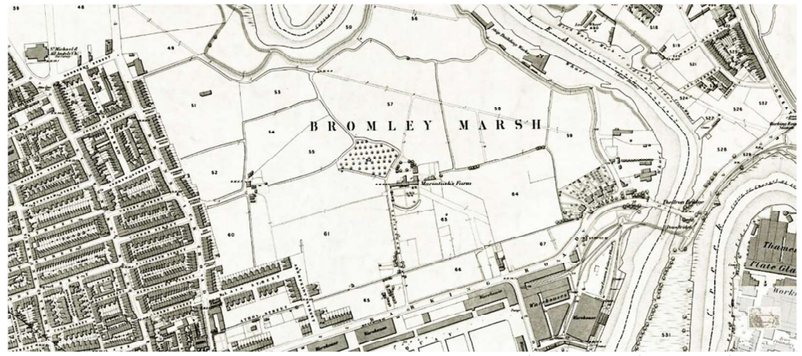


Figure 2: Extract from the 1867 (survey date) OS map

Mid to late 19th century

2.5 It was Hugh McIntosh's grandson David that began the process of transforming Bromley Marsh into the densely packed streets of workers' houses that came to be known as the McIntosh Estate. New docks and factories in Canning Town and Poplar had created the demand and from about 1861 McIntosh began building along Barking Road laying out new streets behind, most with Scottish place names to reflect his family heritage including Blair, Athol and Aberfeldy Streets.

2.6 The architect or surveyor who supervised the early stages of the estate is not known, but the later stages of the work for speculator John Abbott, were supervised by Charles Dunch, a City-based architect. Most of the houses were small, terraced homes, with relatively few being detached or semi-detached.[5] The OS map surveyed in 1867 shows the beginnings of the McIntosh Estate as well as the four pairs of semi-detached houses built at Lea Place in the 1820s (fig. 3).

[5] *Op. cit.* Hobhouse, 1994; 147-153.

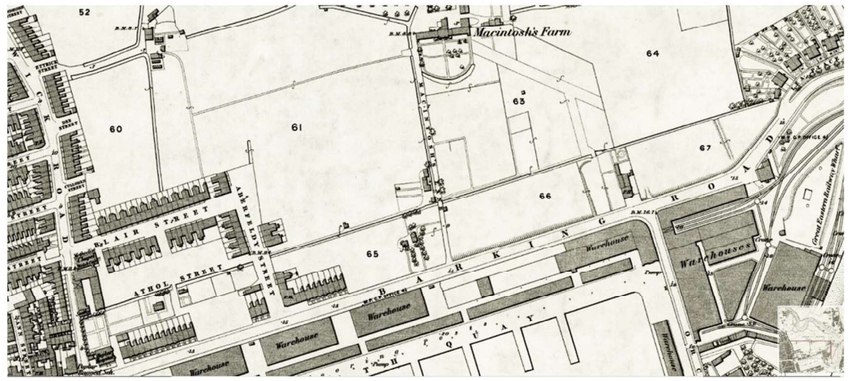


Figure 3: Extract from the 1867 (survey date) OS map

2.7 The estate, which was notable for its uniformity, might have been even more expansive had John Abbott not sold a part of it beside the River Lea to the Commercial Gas Company in 1873. Abbott took the estate right up to the boundary of the gasworks, with long terraces along Leven Road and the eponymous Abbott Road. These were built on the site formerly occupied by Hugh Mcintosh's farm.

2.8 Although housing predominated, other buildings were also constructed. The first to be built on Barking Road, opposite the Dockyard, was the East India Dock Tavern erected in 1806–7 on a site at the east corner of East India Dock Road and Brunswick Road (then Quag Lane). From 1816 until the late 1830s it was used as a Customs House, then a 'Depot for 'migrants', and, from 1855, Poplar Hospital[6] (figure 4[7]).



Figure 4: Poplar Hospital in 1855 and 1912

[6] Demolished 1981–2.
[7] *Illustrated London News*, 1855

2.9 A Methodist chapel had been built on the corner of Brunswick Road and Blair Street by the 1860s. In the 1890s this had become 'Brunswick Hall', later demolished or absorbed into the expanding hospital.

2.10 In 1872 the North Metropolitan Tramways Company opened a horse-drawn tramway from the East India Docks to Whitechapel, with a depot on the north side of Leven Road. In 1906 the London County Council ('LCC') constructed an electric tramway along the whole length East India Dock Road (extending it across the Lea in 1912) along with a depot in Athol Street[8]. In 1939–40, trolley-buses replaced trams, necessitating the erection of overhead cables, and the LLC depot in Leven Road was extended to cater to these.[9]

2.11 In 1879–80 a mission church, All Hallows, was built to designs by Ewan Christian (1814–95) on a site along the East India Dock Road now occupied by one of the blocks of New River Avenue. It was badly damaged in the Second World War and was demolished in 1952. Thereafter it was represented by the church of St Nicholas and All Hallows in Aberfeldy Street.[10]

2.12 By the 1890s, a number of schools had been built, including one adjacent to the Poplar Gas Works, and another further north-west, between Bromley Hall Road, Lochnagar Street and Leven Road. Both were erected for the London School Board in the early 1880s to progressive designs by E.R. Robson (1836–1917). The former, Oban Street Board School, provided for 1,400, and the latter 1300 children.[11] In c.1897, the LCC built a school between Dee Street and Culloden Street.[12]

Early 20th century

2.13 The OS map published in 1916 illustrates the densely packed urban nature of the area very clearly (fig. 5[13]). The planned streets of terraced houses following the triangular shape former Bromley Marsh. To the south can be seen some of the transit sheds of East India Docks, Poplar Gasworks are a dominating presence to the east and the topography is defined by the bends of the River Lea.

[8] Athol Street no longer exists but was immediately south of Blair Street
[9] *Ibid.*, 120-126
[10] *Ibid.*, 147-153
[11] *The Builder*, 24 September 1881, 388; *The Building News*, 30 July 1880, 142
[12] Culloden Street School (formerly Dee Street School), Poplar, E.14. London Metropolitan Archives LCC/AR/SCH/050
[13] OS Essex (New Series 1913-) n LXXXVI.9 Revised: 1914, Published: 1916



Figure 5: The area in 1916

2.15 The area saw relatively little change in its built environment during the early 20th century. Even though housing conditions would have been poor, with noxious riverside industries close at hand, it was other parts of the borough which had more acute problems of slum housing and which saw piecemeal clearance and replacement by LCC cottage estates and flats. The four and five-storey Adelaide, Melbourne and Sydney Buildings, for example, were built on the west side of Brunswick Road, opposite Poplar Hospital (fig. 6[14]).

2.16 Proximity to the dockyards and riverside industrial sites saw Poplar relentlessly targeted during the London Blitz of the Second World War, and by flying bombs and rockets in 1944 and 1945. Some 24 per cent of the buildings in Stepney and Poplar were destroyed or seriously damaged,[15] including whole swathes of the Aberfeldy Street area (fig. 7[16]).

[14] Historic England Archive (EPW046625)
[15] *Op. cit.* Hobhouse, 1994; 212-223
[16] Historic England Archive (EAW022762)

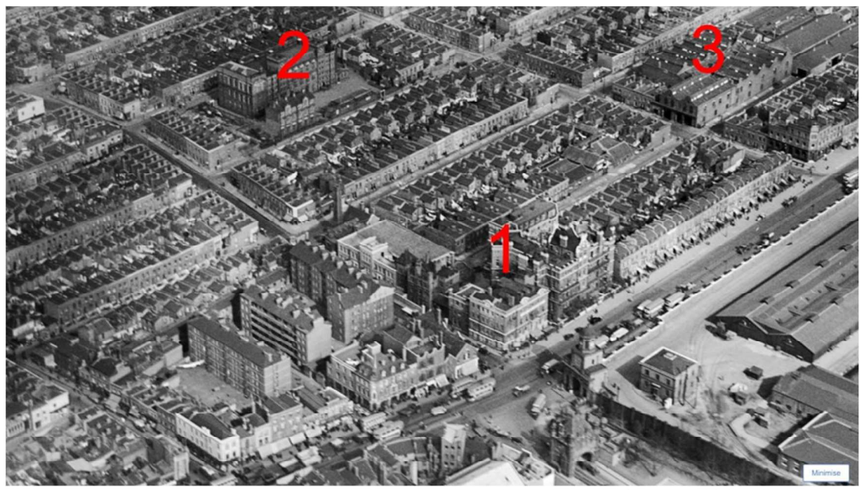


Figure 6: View looking north-east in 1935, with the Poplar Hospital complex in the foreground (1); Culloden Street School (2) and the LCC Tram Depot (3)

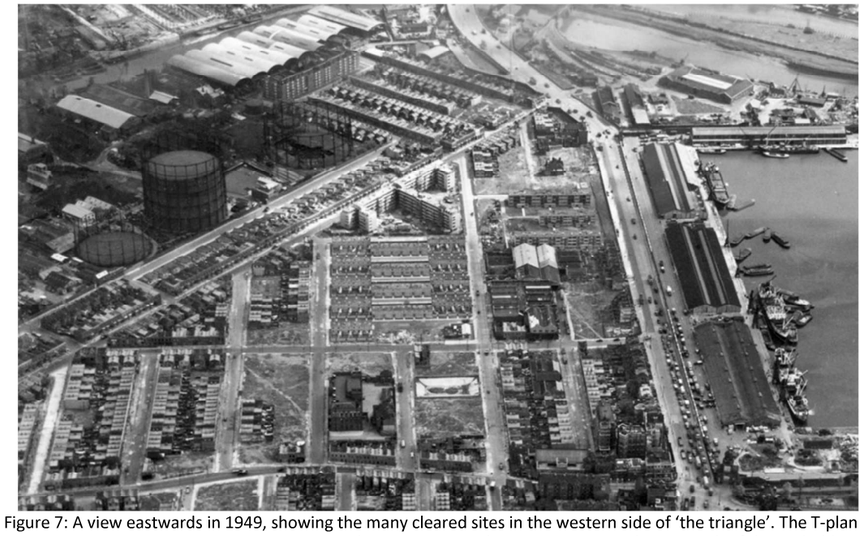


Figure 7: A view eastwards in 1949, showing the many cleared sites in the western side of 'the triangle'. The T-plan Braithwaite House is shown nearing completion south of the gasholders

The post-war housing programme

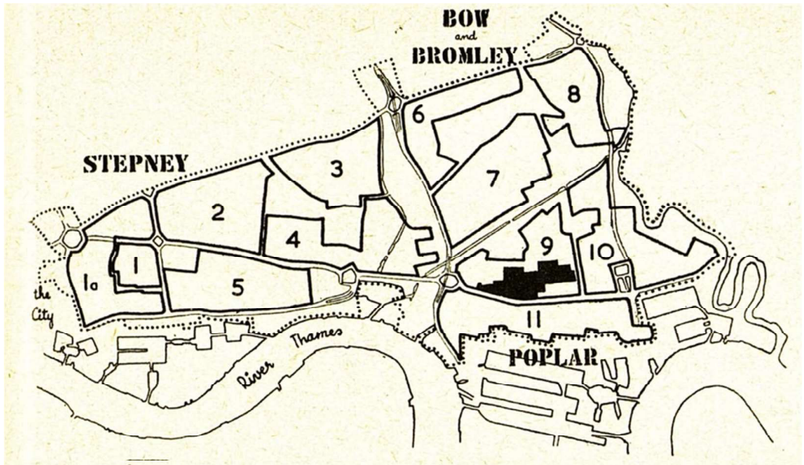
Abbot Road area redevelopment

2.17 In July 1945 the Metropolitan Boroughs of Stepney and Poplar were included in the LCC's first post-war redevelopment programme, and 'steps were taken by the LCC to control or prevent rebuilding, reconstruction or replacement of war-damaged buildings in the area'.[17] In December 1947 the Minister of Town and Country Planning declared the 'Stepney and Poplar Reconstruction Area' and gave the Councils powers to make compulsory purchase orders. The Reconstruction Area was divided into 11 neighbourhood units, with Neighbourhood 9 becoming the Lansbury Estate – 'the most important, largest and best-known council estate in Poplar'.

2.18 Neighbourhood 10 straddled A12 and was bounded by the East India Dock Road to the south and the River Lea to the east (Figure 8[18]). Within the portion east of the A12, the LCC compulsorily purchased the Abbott Road Area, bounded by

Abbott Road to Nairn Street; Southern boundary of No 2 Nairn Street; Rear of No 229¬-233, Abbott Road, and North-West boundary OF 86, Leven Road, South-eastern Boundary of Poplar Gas Works, Western Boundary of River Lea, East India Dock Road, the Port of London Authority Boundary, Brunswick Road to Abbott Road.[19]

[17] *Ibid*.
[18] Neighbourhood 10 would become the Teviot, Brownfield and Abbot Road (later Aberfeldy) estates. *Architects' Journal*, 15 June 1950.
[19] *The London Gazette*, 20 February 1948, 1199



Communities and neighbourhoods in Stepney—Poplar reconstruction area, with live architecture area blacked in within Lansbury neighbourhood 9.

Figure 8: The 11 neighbourhood units within the Stepney–Poplar Reconstruction Area

2.19 Poplar Borough Council had already erected 60 prefabricated Orlit houses on the Abbott Road Area. These two-storey terraced houses employed precast concrete and a pier-and-panel system. Initially Orlit houses formed part of the borough's temporary housing programme, but after their successful trial use at Abbott Road Area and on the Isle of Dogs (Kingfield Street Estate Area and the Glengall Grove Area), they were deemed as forming the initial instalment of its permanent programme. The experience gained in the Abbott Road Area led to the construction of a three-storey block of Orlit flats named Rawalpindi House in Mellish Street, Isle of Dogs (1947–8), which was, according to the Architects' Journal, the first block of pre-cast concrete-framed flats to be built in this country.[20]

2.20 The Orlit houses were followed by larger, low-rise residential blocks including Braithwaite House (Abbott Road) (Figure 9), and Mackay, Richie, Gaze, and Jervis Bay Houses (Blair Street). All seem to have been completed by the late 1940s and were followed by others in the early 1950s including Helen Mackay House, Currie House and Dunkeld House (Blair Street and Abbott Road) (fig 11). They were designed, presumably, in

[20] *Op. cit.* Hobhouse, 1994; 446-451

conjunction with the Ministry of Works, by the Borough Engineer and Surveyor's Department.[21]

2.21 Braithwaite House was a six-storey block of 105 flats arranged on a T-plan block, built on an experimental steel frame in 1949-50 (Figure 9). Its name honoured Mrs Margaret Braithwaite, the first woman air raid warden to be killed on duty in Poplar during the war.[22] Currie House and Dunkeld House were nine-storey blocks (the former on a curved plan), designed by Faquharson & McMorran and built 1952–3. The volume of work meant that most of the developments were assigned to private architects.



Figure 9: Early 1950s view south towards the East India Dock, showing (left to right) Richie House, Gaze House, Jervis Bay House and the taller Braithwaite House. Helen Mackay House has yet to take shape, parallel with Blair Street

2.22 Underpinning the planning of the 11 neighbourhood units within the Stepney-Poplar Reconstruction Area, was a recognition of the identity and sense of place of existing communities. The elementary school was seen as the determining factor in the size and organization of subsidiary or 'neighbourhood units' within a community.[23] The bomb-damaged Culloden Street Primary School site (between

[21] William J. Rankin, headed the department from January 1947
[22] Imperial War Museum, *War Memorial Register*, Online: www.iwm.org.uk/memorials/item/memorial/56669
[23] The Abbott Road Area already had the LSB schools in Bromley Hall Road and Culloden Street.

Culloden Street and Dee Street)[24] was demolished and rebuilt in 1967-8 on the same site which was extended south to obliterate Culloden Street itself (Figure 10).[25]



Figure 10: Extract from the 1949 and 1970 (published dates) OS maps, showing the relocation and reconstruction of Culloden Primary School

2.23 Built as a school for physically disabled children by the LCC/GLC Architects' Department under Bob Giles; the former Bromley Hall School opened in 1968 and was extended 1978-9. It replaced an earlier London School Board building on the site. Special schools, with their air of segregation and exclusion, fell from favour during the 1970s, as educational policy shifted towards greater integration of disabled children in mainstream schooling and the school later became a pupil referral unit for Tower Hamlets Borough Council. This closed in 2002 and the site has remained vacant. The building was listed Grade II in 2012[26] however it is on Historic England's Heritage at Risk Register where its condition is judged to be 'Poor'. [27]

2.24 The school's design responded to the A12 Blackwall Tunnel Approach Road (at the time under construction to the west) by employing 'an inward-looking cellular plan with classroom pavilions alternating with enclosed courtyards encircled by a continuous boundary wall – an arrangement indebted to Arne Jacobsen's Munkegård School in Copenhagen (completed 1957)'.[28] Its organic, expressive forms and intricate cellular plan

[24] London Metropolitan Archives ILEA/S/SB/38/009 & ILEA/S/SB/38/010
[25] *The Financial Times*, 13 March 1967, 9
[26] Historic England, National Heritage List for England, List Entry Number 1402561, Online: historicengland.org.uk/listing/the-list/list-entry/1402561
[27] Historic England, Heritage at Risk Register, Online: historicengland.org.uk/advice/heritage-at-risk/search-register/list-entry/407060
[28] Text taken from Listing description

stood in stark contrast with the system-building that characterised much contemporaneous school architecture (figure 11[29]).

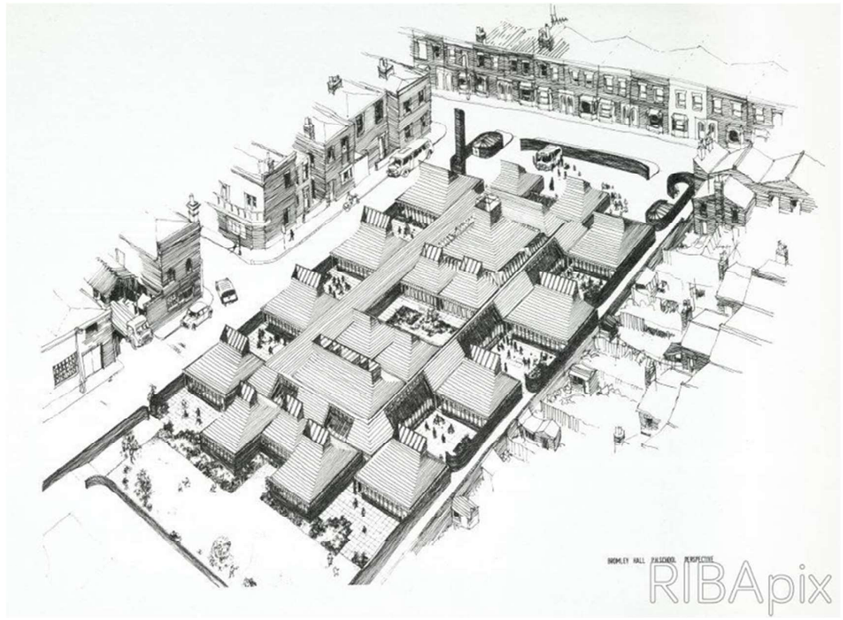


Figure 11: Design for Bromley Hall School for children with physical disabilities, 1960

2.25 Aberfeldy Street was 'rebuilt from 1948 as the main local shopping street: three-storey blocks of flats over shops' and became the commercial heart of the neighbourhood.

2.26 Reconstruction of the Abbott Road Area neighbourhood was substantially complete by the 1960s, with most housing having been erected in the late 1940s and 1950s. Despite the new scale of these high-density residential units, much of the pre-existing street pattern was preserved. The main alteration was the creation of four new streets (Lansbury, Wooster, Ada and Goodway Gardens) lined with two-storey terraced houses, which removed a stretch of Culloden Street. This was followed in the late 1950s/early 1960s by new estate roads for three

[29] RIBA Library, PA836/1

four-storey system-built blocks named Thistle, Heather and Tartan House.[30]

2.27 In 1953–5 St Nicholas and All Hallows church was built to the designs of Seely & Paget. Aluminium was specified for both the roof covering and the steeple and 'an innovation was the prefabrication of the steeple in the workshop and its assembly on the site.'[31]

2.28 Unlike other post-war neighbourhood units within the Stepney and Poplar Reconstruction Area, the Abbott Road Area neighbourhood did not see the construction of high-rise flats. It had been largely completed before the 1956 Act and in any case Poplar Borough Council had been opposed to high-rise flats generally. The Metropolitan Borough's successor, the London Borough of Tower Hamlets (formed in 1965 from the merger of the former metropolitan boroughs of Stepney, Poplar and Bethnal Green) was less averse, as indeed was the Greater London Council ('GLC'):

> *'The GLC, thus encouraged by the Government, and following the LCC's lead, erected in Poplar a series of much taller blocks of flats than previously: the 19-storey Fitzgerald House, set on a podium, on the Lansbury Estate (1968–71), the four 21-storey point blocks (Bowsprit, Knighthead, Midship, and Topmast Points) on the Barkantine Estate (1968–70), the 25-storey Kelson House (an example of the 'scissors' type of maisonettes that were developed by the LCC in the early 1960s) on the Samuda Estate (1965–7), and, tallest of all, Ernö Goldfinger's 26-storey Balfron Tower, just outside the parish, on the GLC's Brownfield Estate (1966–8).'* [32]

The Brownfield Estate and Balfron Tower

2.29 The Housing Subsidy Act 1956 had confined provision of government subsidy only to new housing built to replace that removed by slum clearance; offering higher subsidy amounts for blocks of more than six storeys. Local authorities therefore focused their efforts on demolition and rebuilding coming under pressure to build ever higher by embracing the industrialized building systems which were then being

[30] These blocks appear on the 1962 (published date) OS map, and seem to have replaced mobile, temporary houses: files in the London Metropolitan Archives relate to 'mobile homes, Dee Street, 1964' (LMA SC/PHL/02/1057-1059-147) and 'Landscaping: Dee Street, open space, 1974' (GLC/RA/D2G/12/208)
[31] *The Municipal Journal* v63 (9 September 1955), 2444
[32] *Survey of London: Volumes 43 and 44, Poplar, Blackwall and Isle of Dogs*, ed. Hermione Hobhouse (London, 1994), 37-54.

developed. The concrete point block seemed to offer a solution providing high density on a smaller footplate leading to the 1960s becoming a 'golden age' for mixed-type local authority estate developments.

2.30 Towards the end of the 1960s however, tower blocks and concrete system-built high-density estates came in for criticism for their 'inhuman' scale and of difficulty of upkeep. The Robin Hood Gardens Estate in Poplar, designed in the late 1960s and completed in 1972, was to become a symbol of this perceived failure of design philosophy being workable in the 'real' world. The partial collapse of the 22-storey Ronan Point building in Canning Town, Newham, on 16 May 1968, only two months after it had opened, heralded the demise of the point block as an option for local authorities.

2.31 The Brownfield Estate[33], immediately west of the Abbott Road Area neighbourhood on the other side of the new Blackwall Tunnel Approach Road, was the south-western portion of the LCC's 'Neighbourhood 10' and was approved for construction in 1951. It was originally envisioned as a low-rise scheme, with a mixture of 2-storey terraces, 4-storey maisonette blocks and 2/3-storey blocks of flats. However, this density of 142 persons to the acre ('ppa') for the first stages of scheme (1957–61) had to be increased to 170ppa to compensate for land taken for the eastern bore of the Blackwall Tunnel (1960–1967).

2.32 Short of in-house capacity, the LCC approached the architect Ernö Goldfinger in October 1962. The scheme was Goldfinger's first public housing project and is considered to be an exemplar of post-war social housing.

2.33 Goldfinger planned the first two phases as a whole, to be executed in two halves. Phase one was completed in 1967 and included the construction of the Balfron Tower. Phase two was designed in 1965 and Goldfinger's proposals for Carradale House were accepted in 1967. Phase three was completed in 1976 and included Glenkerry House.[34]

2.34 Balfron Tower (1965-67) was listed Grade II in 1996 and upgraded to II* in October 2015. The listing description[35] noting that the idiosyncratic high-rise

[33] The Brownfield Estate was named in July 1958 after an existing road which had been named after a local doctor.
[34] Balfron, Carradale and Glenkerry were all named after Scottish places, following the precedent set by the Abbott Road Area neighbourhood.
[35] National Heritage List for England, List entry number: 1334931 Date first listed: 14-Mar-1996, Date of most recent amendment: 15-Oct-2015.

'is the earliest component of the two large blocks of flats[36] and maisonettes that were arguably the most important commissions of his career and has a distinctive profile that sets it apart from other tall blocks. More importantly, it proved that such blocks could be well planned and beautifully finished, revealing Goldfinger as a master in the production of finely textured and long-lasting concrete masses.'

2.35 Carradale House (1967–70) was listed Grade II in 2000[37] and Glenkerry House (1972–5) listed Grade II[38] in 2015 (Figure 12[39]).

2.36 Writing in 2013, Owen Hatherley noted:

'The Balfron Tower is surrounded by an entire estate of Goldfinger structures, all designed with an attention to detail and quality of materials unusual for the '60s or any other decade … The Brownfield Estate as a whole is still remarkable as an example of a time when public housing could be valued as much, or rather more, than any other form of building …'[40]

2.37 Ernö Goldfinger's studies of the site layout show that Balfron Tower's shape and position within the wider estate was fixed early on whilst the positioning of the surrounding blocks were experimented with. Balfron was designed as two separate blocks of distinct function - the main accommodation block and the other a service tower - linked together by bridge corridors on every third floor. Accommodation comprised of 146 flats and maisonettes over 26 floors with the maisonettes at levels 14 and 15 being distinguished by 'pop out' balconies. Goldfinger introduced the concept of an enclosed gallery on every third floor to serve flats on the same level, one level above and one below.[41]

2.38 Each main elevation (east and west) is framed to the north by the service tower with its graphically distinctive access corridors and, to the south by the slim tower of the protruding staircase. The west elevation is rationalised into 6 bays, the

[36] i.e, Balfron preceded Trellick Tower in west London by a number of years. Balfron was built 1965–67. Construction of Trellick began in 1968.
[37] National Heritage List for England, List entry number: 1246931 / Date first listed: 04-Dec-2000.
[38] National Heritage List for England, List entry number: 1427917 /Date first listed: 15-Oct-2015.
[39] © W. Faichney https://www.flickr.com/photos/willfaichneyphotography/8718278125
[40] 'London's most underappreciated architecture – in pictures', *The Guardian*, 28 May 2013.
[41] This basic organisational principle was later repeated in his Trellick Tower. Grade: II* / List Entry Number: 1246688 / Date first listed: 22-Dec-1998.

dense horizontal and vertical elements of which are tempered by an interplay between each element in which the vertical bays appear secondary to the thicker horizontal floor slabs with the 'pop out' balconies providing further relief to the broad expanse of the façade. On the east elevation, the interplay of floor slabs and vertical flat dividers continues to a layering which has the effect of lightening the elevation.

2.39 The north elevation embodies a strong verticality; the service tower's slender proportion being emphasised by a regular pattern of vertical slit windows. The contrasting southern elevation uses the architectural expression of both main elevations with planter balustrades and set-back glazing rising up its left side and glazing with fixed panels and clerestory windows to the right side.

2.40 Carradale House was completed in 1967 as the second part of Phase One of Goldfinger's scheme. A block of 88 flats in 11 storeys the reinforced concrete block is set at right angles to the north elevation of Balfron separated by a small green. It is described as 'a distinctive, unique reworking of the ideas first embraced in Balfron Tower, taking the planning idea of a corridor only every third floor to increase speed of lift service, neighbourliness and internal space, but with a refinement of detail more characteristic of Trellick Tower, with which it is more comparable in date.'

2.41 Glenkerry House was completed in 1972-5 as part of Phase Two of Goldfinger's scheme. It lies a short distance to the west of Balfron and Carradale separated from them by the narrow St Leonard's Road. The 14-storey block comprises of 75 flats and four maisonettes and is laid out on the same principals as Balfron Tower. The main service tower is joined at a right angle to the northern end of the slab and a secondary stair tower projects at the southern end.

2.42 Immediately to the north of all three blocks are the large sportsgrounds of Langdon Park School and the open grass space of Jolley's Green. The Blackwall Tunnel Northern Approach Road (A102) to the east and East India Dock road to the south are the dominant features.



Figure 12: Brownfield Estate looking east, 2013 (1) Balfron (2) Carradale (3) Glenkerry

Late 20th century

2.43 In 1996 the London Borough of Tower Hamlets set up the Poplar HARCA (Housing and Regeneration Community Association) to regenerate a number of council estates and in 1998, parts of seven estates (about 4,500 homes), including the Abbott Road Area neighbourhood, transferred to Poplar HARCA. Between 2005 and 2007 several more were transferred, including the Brownfield Estate.[42]

2.44 It was under this new management that the name 'Aberfeldy Estate' emerged, replacing the mid-20th century appellation 'Abbott Road Area' neighbourhood. Poplar HARCA instigated a number of changes around the turn of the century. These included the re-opening and re-dedication of St Nicholas and All Hallows church (which had closed in 1969 and served as a vinyl record warehouse); the rebuilding of Culloden Primary School in 2000 and the Aberfeldy Neighbourhood Centre in 2003.

2.45 In 2010, Poplar HARCA submitted a planning application to regenerate the Aberfeldy Estate, setting up a limited liability

[42] 'Poplar HARCA' Wikipedia: https://en.wikipedia.org/wiki/Poplar_HARCA

partnership (Aberfeldy New Village LLP) to deliver this regeneration plan. A key aim was to enhance access to the estate by reconnecting it to the wider area and developing a mixed community that could support a wider range of commercial, public and voluntary sector services. This entailed 'the demolition of 297 residential units along with retail units and the existing Aberfeldy Neighbourhood Centre', and its replacement with up to 1,176 residential units in a range of buildings between two and ten storeys in height'.[43]

2.46 Among those buildings that have been demolished were Braithwaite House, Helen Mackay House, Richie House, Gaze House, Jervis Bay House, Currie House and Dunkeld House (replaced by the brown-brick blocks around New Village Avenue) as well as streets of 19th-century terraced housing, such as that along the (realigned) Bromley Hall Road and Abbott Road.

[43] Pattison, B., Tyler, P., Wells, P. and Wilson, I. (2016) *Regeneration revival? Making housing-led regeneration work across England*. Project Report. Sheffield, Chartered Institute of Housing, 30–31.

3 The heritage significance of the site and its context

Introduction

3.1 This section of the report identifies designated heritage assets – conservation areas and listed buildings - and non-designated heritage assets that have potential intervisibility with the Site, and considers their heritage significance and the contribution of their setting to that significance.

3.2 The nature and location of these heritage assets was established through a search of the Greater London Historic Environment Record (GLHER), the National Heritage List for England (NHLE), resources provided the LB Tower Hamlets and additional desk research using published sources including historical OS maps.

3.3 In order to identify an appropriate geographical extent for the study area, a Zone of Visual Influence ('ZVI') map of 1750m radius from the centre of the Site was created and within this an appropriate study area of 1500m was defined - based upon professional judgment as to the likely maximum affected distance of the Proposed Development - considering distance from the Site and the intervening built townscape. (The ZVI map is contained within the Townscape and Visual Impact Assessment).

3.4 Built heritage assets within the 1500m study area were identified and plotted on the ZVI in order to ascertain which might have intervisibility with the Site and possibly experience an effect upon their setting from the Proposed Development. The area of existing context likely to be affected will vary with the scale and alignment of the existing context, and the scale and massing of the Proposed Development. For example, where streets align with the Site or the Site is seen across open space this can extend the zone of influence in certain areas.

3.5 A group of 9 conservation areas and 36 individual or groups of receptors which may have a level of intervisibility with the Site were identified for assessment. They are discussed in detail in the following section of this report.

3.6 Figures 13 & 14[44] show the location of these assets in relation to the Site.

[44] LB Tower Hamlets Interactive Map, Online: https://www.towerhamlets.gov.uk/lgnl/planning_and_building_control/conservation_and_urban_design/listed_buildings.aspx

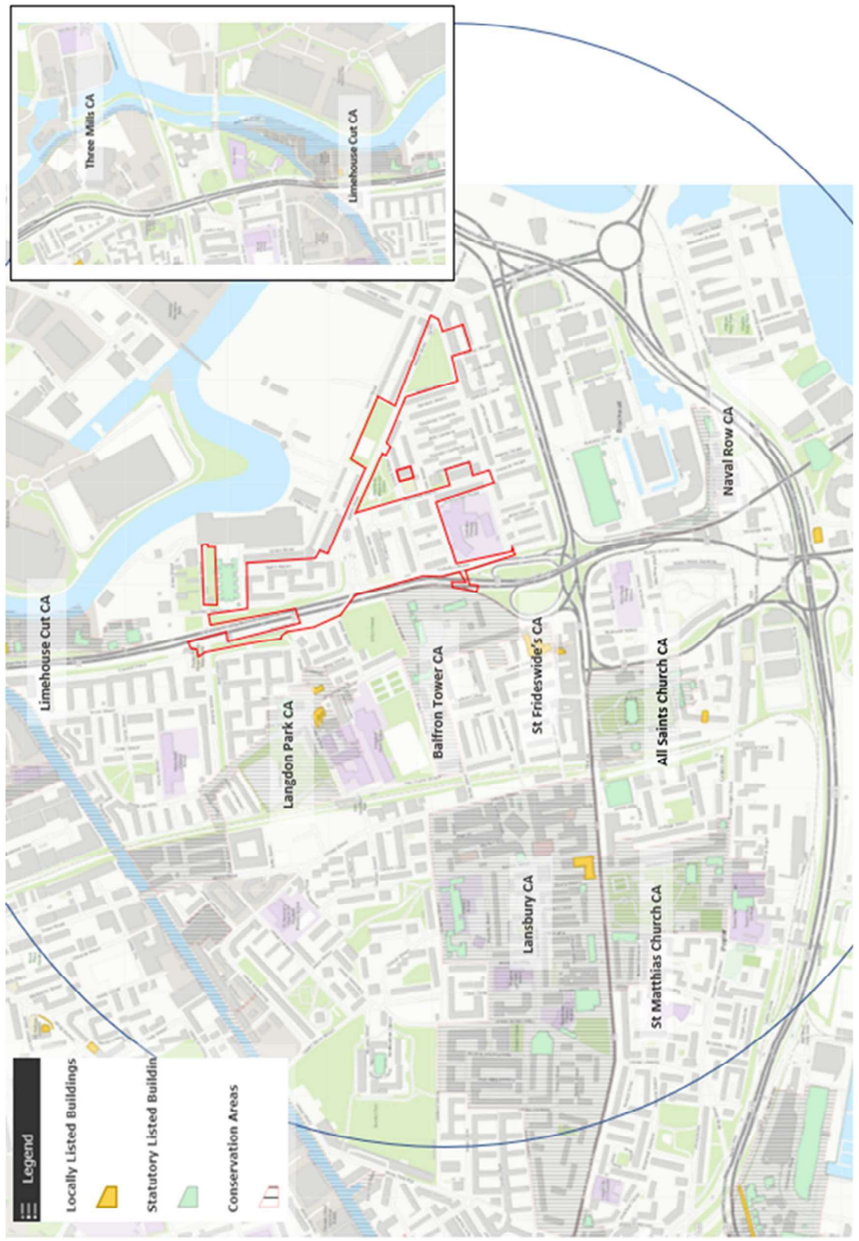


Figure 13: Location of heritage assets in LBTH within 1500m radius of centre of Site

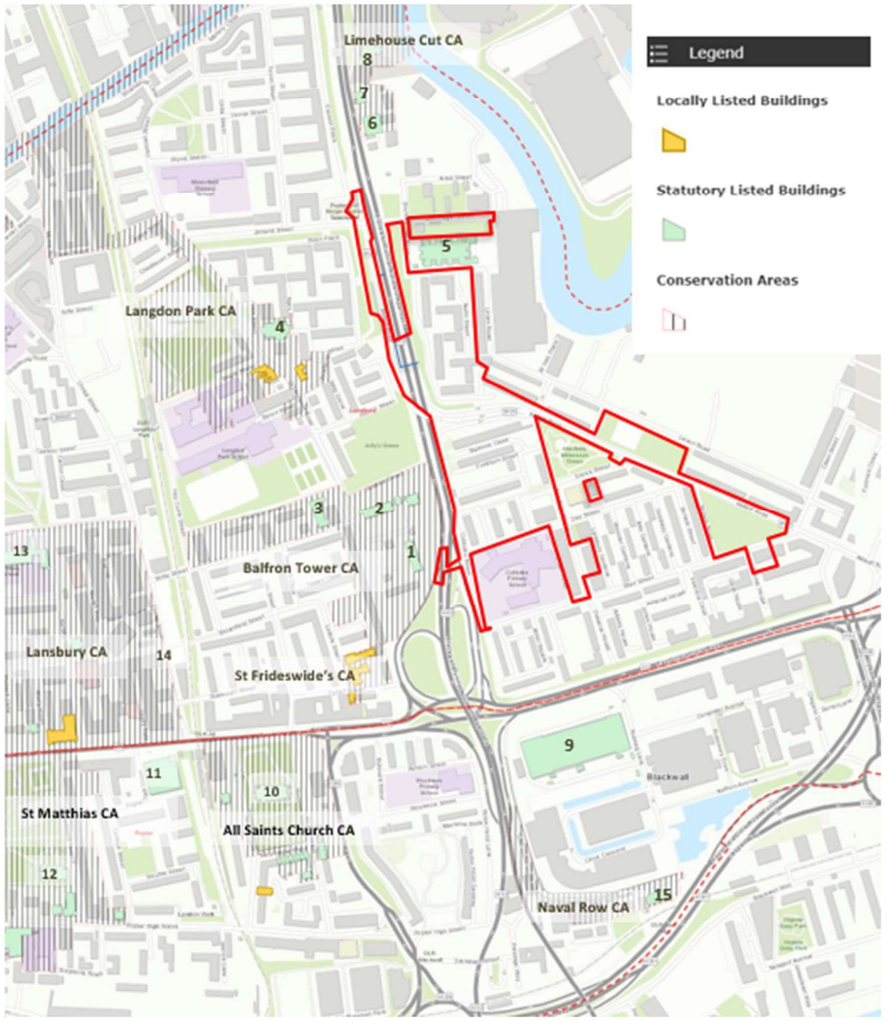


Figure 14.Heritage assets located c. 500m radius of centre of Site

Key to listed buildings in fig. 14

1. Balfron Tower, St Leonard's Road (GII*);
2. Carradale House, St Leonard's Road (GII);
3. Glenkerry House, Burcham Street (GII);
4. Church Of St Michael And All Angels & War Memorial, St Leonard's Road (GII);
5. Former Bromley Hall School, Bromley Hall Road (GII);
6. Poplar Public Library, Gillender Street (GII);
7. Bromley Hall, Gillender Street (GII*);
8. Former Fire Station, Gillender Street(GII);
9. Former Financial Times Print Works, East India Dock Road (Grade II*);
10. All Saints All Saints' with St Frideswide Church (GII);
11. Poplar Baths (GII);
12. St Matthias Church (GII);
13. Susan Lawrence and Elizabeth Lansbury Schools (GII);
14. Chrisp Street Market Clock Tower (GII);
15. East India Dock Pumping Station (GII).

The heritage context of the site

3.7 The Site itself does not contain any designated or non-designated heritage assets.

3.8 The heritage assets within the study area exist in a highly heterogenous built environment, with an overall character that is strongly post-war, including large areas of post-industrial sites in a state of flux either undergoing or awaiting redevelopment, and dominated by the busy multi-lane highway and intersections of the A12 and A13. Building age, form and quality is varied, with the earliest Listed building dating from the early 16th century however most heritage assets date from the mid-19th to mid-20th century.

Conservation areas

3.9 The site lies does not lie within a conservation area. The following conservation areas lie within the ZVI:

- All Saints Church, Poplar Conservation Area
- Balfron Tower Conservation Area
- Langdon Park Conservation Area
- Lansbury Conservation Area
- Limehouse Cut Conservation Area

- Naval Row Conservation Area
- St Frideswide's Conservation Area
- Three Mills Conservation Area

All Saints Church Poplar Conservation Area

3.10 This small conservation area lies *c.*280m to the south west of the of the closest site boundary of the Proposed Development.[45] It was designated in February 1986 and has as its focus, the 1820s All Saints Church with St Frideswide (GII*), along with its grounds and rectory both listed Grade II. It extends to the south to enclose a small group of low-rise early 19th century residential streets and listed buildings on Montague Place and Bazeley Street.

3.11 The character and significance of the conservation area is based upon its retention, unusual for this area extensive post war redevelopment, of an early 19th century streetscape grouped around the generously sized churchyard of All Saints. The low-rise nature of the surviving 19th century streetscape on the northern side of East India Dock Road adds to this sense of historical homogeneity.

Balfron Tower Conservation Area

3.12 The Balfron Tower Conservation Area lies *c.*15m to the west of the closest site boundary of the Proposed Development. It was designated in October 1998. It is a small area designated to protect the Brownfield Estate, most of which was designed by Ernö Goldfinger himself or his Studio and includes the Balfron Tower (GII*), Carradale House (GII) and Glenkerry House (GII) alongside associated buildings including low-rise housing, a community centre, shops and green space.

3.13 The Brownfield Estate is recognised as a fine example of planned 1960s social housing and is considered to be exemplary amongst post-war housing schemes. This is reflected in the listing of its three set-piece tower blocks. The conservation area is defined by the clear boundaries of the estate, forming an architectural and geographical extent to its setting.

3.14 The Character Appraisal, adopted by Cabinet on 7 March 2007, noted the desirability of maintaining key vistas, both within and

[45] LBTH All Saints Conservation Area, Appraisal and Management Guidelines, March 2007

outside the Conservation Area.[46] In terms of the latter, it noted that from Balfron Tower there are '*striking views across the Borough*' and '*The tower blocks are clearly visible from East India Dock Road and have long been considered landmark buildings in London's East End*'.

3.15 Although there are no London Views Management Framework ('LVMF') protected views in the area, the Tower Hamlets Conservation Strategy 2016 identified a number of local landmarks, and locally important views in this part of the borough. Balfron Tower was one such landmark, and views towards it from Langdon Park and East India Dock Road were specified.

Langdon Park Conservation Area

3.16 The Langdon Park Conservation Area lies *c.*120m west of the closest site boundary of the Proposed Development. It was first designated in December 1990, and extended to the north west in October 2008.[47] The original area, to the south east of the Docklands Light Railway line, includes Langdon Park itself, a school, and a series of locally listed terraces of *c.*1850 to its south. The focal point is the Grade II listed former St Michael's Church, vicarage, institute and war memorial located on St Leonard's Road. The church was converted to residential use in the 1980s and is now named St Michael's Court. Opposite, the former St Leonard's Arms public house, now flats, is locally listed and forms part of a grouping along with the church and locally listed terraces. The north western portion, contains the former Spratt's Biscuit Factory, which sits beside the Limehouse Cut Canal, and is now a complex of residential and studio units. Langdon Park itself is an informal open space created during the post-war period for recreation.

3.17 The Langdon Park Conservation Area is a mixed proposition in terms of its heterogeneous character, especially with its off-centre groupings of heritage assets, but the whole is successfully stitched together by Langdon Park itself which offers long, wide views all around towards taller elements on the horizon such as the roofscape of St Michael's Court, Balfron Tower and Glenkerry House to its south east and the Canary Wharf cluster to the south west.

[46] LBTH, Balfron Tower Conservation Area, Appraisal and Management Guidelines, March 2007
[47] LBTH, Langdon Park Conservation Area, Appraisal and Management Guidelines, November 2009

Lansbury Conservation Area

3.18 The Lansbury Conservation Area lies c.450m west of the closest site boundary of the Proposed Development. It was designated in January 1997.[48] It is an extensive area, encompassing much of the post-war redevelopment of Poplar, bounded by Canton Street, Lindfield Street and Cordelia Streets to the north, East India Dock Road to the south, Stansby Road to the west and Chrisp Street to the east. The fundamental principle behind the designation of the Lansbury Conservation Area is to preserve and safeguard the original character and integrity of this exemplary post-war housing development. In 1951 the newly finished Lansbury Estate became the 'Live Architecture Exhibition' of the Festival of Britain and Chrisp Street Market was the first specially designed pedestrianised shopping centre in the UK.

3.19 There are a number of listed buildings within the conservation area including the post-war Chrisp Street Market Clock Tower, the Susan Lawrence and Elizabeth Lansbury School, and the Church of St Mary and St Joseph. Older, listed, 19th century terraces remain in an around East India Dock Road. There is one locally listed building: the landmark George Green's School building of 1883.

3.20 The Lansbury Conservation largely retains those elements of its post-war, planned residential character which is intrinsic to its significance.

Limehouse Cut Conservation Area

3.21 The Limehouse Cut Conservation Area lies *c.*175m north and west of the closest site boundary of the Proposed Development. Designated in 2009, the boundaries of this extensive linear conservation area are closely drawn, being focussed on the historic Limehouse Cut canal and immediate hinterland, running south west from the River Lea to the Limehouse Basin and the River Thames.[49] Dominated by the waterscapes of the Canal, River Lea and Bow Creek, it includes all retaining walls, revetment walls and associated features on both sides of the historic cutting and its tow path, including some 19th century light industrial development. The substantial wall along the west bank of the associated part of the River Lea is also included within the area. The designation aims to protect

[48] LBTH, Lansbury Conservation Area, Appraisal and Management Guidelines, March 2008

[49] LBTH, Limehouse Cut Conservation Area, Appraisal and Management Guidelines, August 2011

the canalside from redevelopment which fails to respect the character of the historic canal or develop a positive relationship between new and existing buildings.

3.22 The focus of the present study is upon the buildings of Gillender Street which fall within the conservation area, namely Bromley Hall (GII*) and the Grade II listed Dowgate Wharf (22-23), Former Fire Station (38), and Poplar Public Library (45); along with the locally listed warehouse building at No. 21 Gillender Street. Bromley Hall is of particular interest, being the oldest surviving structure in Poplar; thought to date from the early 16th century with later remodelling and additions. Dowgate Wharf clearly relates to historic canal use and the former Poplar Public Library dates from the time before the construction of the A12 when it would have been much more accessible to the surrounding community living in the densely packed streets of terraced houses that would have surrounded it.

3.23 The setting of the part of the conservation area within the study area, has managed, despite the busy A12 which forms its western boundary, to maintain much of its 19th and early 20th century character embodied within the heritage assets referred to. New, tall, canalside development currently underway contributes to a feeling of flux, which is common in the area, as underutilised or abandoned canalside plots give way to new uses.

Naval Row Conservation Area

3.24 The Naval Row Conservation Area lies c.250m to the south of the site boundary. Designated in January 1987 by the London Docklands Development Corporation it is an extremely tightly focused area.[50] Laid out in the early 19th century, Naval Row takes its name from a small terrace constructed c.1782 by John Perry, owner of Blackwall Yard although the last of those houses were demolished in 1945. The listed perimeter wall of the former East India Docks dominates but the southern edge of Naval Row which is lined with historic buildings of interest including the Grade II listed hydraulic Pumping Station, now converted to residential use. It is their group value which is safeguarded by the Conservation Area designation. A few metres to the north of the conservation area perimeter is the Grade II* East India Dock House, the former Financial Times Print Works, designed by Nicholas Grimshaw and Partners. The 'hemmed in' nature of the conservation area, means that

[50] LBTH, Naval Row Conservation Area, Appraisal and Management Guidelines, March 2007

despite its extremely urbanised setting amid complex road junctions and modern development, it manages to maintain a sense of the character that is central to its significance.

St Frideswide's Conservation Area

3.25 The St Frideswide's Conservation Area lies c.110m to the west of the closest site boundary of the Proposed Development. It was designated in September 1993.[51] A small area, bounded by Follett Street, Lodore Street and St Leonard's Road, it encompasses the St Frideswide's Mission and associated buildings. This group of locally listed buildings, include the Mission Hall and St Frideswide's Mews, Mission House and the associated Christ Church and 18 Follett Street. Its designation highlights its historic and architectural significance and ensures that its special character is retained.

St Matthias Church, Poplar Conservation Area

3.26 The St Matthias Church, Poplar Conservation Area lies *c.*575m south west of the closest site boundary of the Proposed Development. It was designated in February 1986.[52] The conservation area is bounded by East India Dock Road to the north, Woodstock Terrace to the east, Tower Hamlets College along Poplar High Street to the south and Hale Street and Wade's Place to the west. It has as its centrepiece, the historic St Matthias Church and churchyard. The Grade II* listed War memorial to the children of Upper North Street School lies within the Poplar Recreation Ground - a semi-formal public garden to the north of the church. Other Grade II listed buildings within its confines include tombs in the churchyard, the Coroner's Court, Old Poplar Town Hall and Council Offices, St Matthias's Vicarage, and Pope John House.

3.27 The purpose of the designation is to safeguard the visual setting of the Grade II* listed St Matthias Church, the oldest church in Poplar. The prevailing character of conservation area is defined by the generous green spaces of the churchyard and adjacent Poplar Recreation Ground which complement the setting of the church and the small 19th century houses of Woodstock Terrace.

Three Mills Conservation Area

3.28 The Three Mills Conservation Area lies at the far extent of the study area, *c.*950m to the north of the closest site boundary of

[51] LBTH, St Frideswide's Conservation Area, Appraisal and Management Guidelines, March 2007

[52] LBTH, St Matthias Church Mills Conservation Area Appraisal and Management Guidelines, March 2008

the Proposed Development. It was designated in September 1971 to complement The London Borough of Newham's adjacent Three Mills Conservation Area on the east side of the River Lea, within Newham (the river is the boundary between the two boroughs).[53] The Listed buildings associated with the conservation area lie within the Newham portion; the part within Tower Hamlets is a small area on the west bank of the river largely comprising of towpath. The two authorities share responsibility for the enhancement of the riverscape in this location in order to ensure that development respects the character of the historic industrial quarter on the east side.

Listed buildings

3.29 Buildings and structures are listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 for their special architectural or historic interest.

3.30 There are a number of listed buildings within a 1500m radius of the centre of the site. The following Listed buildings are those which have been identified as having some level of intervisibility with the Proposed Development. Their key points of heritage significance are described, along with a brief analysis of their setting. The list is presented alphabetically by asset name.

All Saints Church with St Frideswide (GII)

3.31 Built in 1817 from designs by J Hollis. The slender spire of this white stone parish church is a local landmark and the centrepiece and key reason for the designation of the All Saints Conservation Area. It is set back from the busy East India Dock Road within an extensive churchyard and forms an attractive grouping with the surrounding Grade II listed early 19th century buildings: All Saints' Rectory, Newby Place; Nos 5 to 11 (consec) Mountague Place; Nos. 1-3, 24 Bazely Street; the Greenwich Pensioner Public House; and Nos. 45 to 51 Bazely Street (odd).

List Entry Number: 1240311 / Date first listed: 19-Jul-1950 / Date of most recent amendment: 27-Sep-1973.

All Saints Rectory (GII)

3.32 This early 19th century, yellow stock brick 3 storey building sits within a large garden opposite All Saints Church with St Frideswide (GII) and Churchyard. Behind are the DLR railway lines. Its significance lies in its architectural form and massing

[53] LBTH, Three Mills Conservation Area Appraisal and Management Guidelines, March 2007

and its historical relationship with the All Saints' with St Frideswide Church (GII).

Grade: II / List Entry Number: 1357861 / Date first listed: 27-Sep-1973

Brownfield Estate

Balfron Tower (GII)*

3.33 A high-rise block of flats and maisonettes designed by Ernö Goldfinger, and built 1965-7 as phase 1 of the London County Council (later Greater London Council -GLC) Brownfield Estate. It is currently undergoing a programme of refurbishment. Comprises of 136 one- and two-bedroomed flats and ten maisonettes arranged over 26 storeys, with six units per floor and five maisonettes on floors 1 and 2 and 15 and 16 - the latter forming a distinctive break in the pattern of the fenestration and balconies. The units are served at every third floor by enclosed corridors or access galleries linking them to an otherwise detached service tower. It is constructed of reinforced concrete, with timber cladding to balconies, and an asphalt flat roof. Bush hammered concrete is well detailed, with fair margins and radiused (rounded) corners and executed to a high standard. There are marble linings to the hall, and sapele hardwood doors.

3.34 The principal reasons for designation are: Authorship: designed and planned by Ernö Goldfinger, a major exponent of the European Modern Movement in Britain and an architect of international standing; Architectural, Materials, Planning interest; Degree of survival; Social and historic interest and Group value. Balfron Tower has strong group value with the low-rise and high-rise elements of the estate, most notably with Carradale House, and the space within which it stands.

List Entry Number: 1334931 / Date first listed: 14-Mar-1996 / Amended: 15-Oct-2015.

Carradale House (GII)

3.35 A high-rise block of flats, designed by Ernö Goldfinger and built 1967-8 for phase 2 of the London County Council (later Greater London Council - GLC) Brownfield Estate. Refurbished 2012. A block of 88 flats over 11 storeys, it is of in-situ reinforced concrete, cross-wall construction with some pre-cast panels and cedar boarding; a flat concrete roof. The principal reasons for designation are as above for Balfron Tower.

List Entry Number: 1246931 / Date first listed: 04-Dec-2000 / Date of most recent amendment: 15-Oct-2015.

Glenkerry House (GII)

3.36 A high-rise block of flats, designed by Ernö Goldfinger and built 1967-8 and for phase 2 of the London County Council (later Greater London Council - GLC) Brownfield Estate. Refurbished 2012. A 14 storey block, comprising 75 flats and four maisonettes, it is of in-situ reinforced concrete, cross-wall construction with some pre-cast panels and cedar boarding; a flat concrete roof. The principal reasons for designation are as above for Balfron Tower.

List Entry Number: 1427917 / Date first listed: 15-Oct-2015.

Bazely Street, Nos. 1-3, 24 & Mountague Place, Nos.5, 6, 7, 8, 9, 10, 11 (GII)

3.37 These early 19th century terraced houses form of a group with the similar Grade II listed terraces making up Nos. 45-51 Bazely Street and the Greenwich Pensioner Public House. Their significance lies in their architectural form and setting around the All Saints Church With St Frideswide (GII).

List Entry Number: 1357833 / Date first listed: 27-Sep-1973.

Bromley Hall (GII)*

3.38 Bromley Hall is the oldest building in Poplar and is thought to be the oldest brick house in London built in approximately 1485 by Holy Trinity Priory. It was largely remodelled *c.*1700 and further altered during its lifetime. Nevertheless it retains a large amount of original fabric.

3.39 Now in use as a business premises its setting has changed exponentially since it was first erected at the edge of Bromley Marsh: first during the 19th century when Industrialisation and dense residential development infilled the canalside and open fields around it and later, during the post-war period, when its setting was once again changed dramatically with the construction of the dual carriageway of the A12 just metres from it. The building's significance lies in its architectural form and survival of historical fabric. The presence of the A12 is a wholly negative factor in its setting and detracts from its significance.

List Entry Number: 1357791 / Date first listed: 19-Jul-1950, Amended: 08-Mar-1993.

Former Bromley Hall School for the Physically Handicapped (GII)

3.40 Built as a school for physically disabled children by the LCC/GLC Architects' Department under Bob Giles; it opened in 1968 and was extended 1978-9. It replaced an earlier London School Board building on the site. Special schools, with their air of

segregation and exclusion, fell from favour during the 1970s, as educational policy shifted towards greater integration of disabled children in mainstream schooling and the school later became a pupil referral unit for Tower Hamlets Borough Council. This closed in 2002 and the site has remained vacant. The building was listed Grade II in 2012 however it is on Historic England's Heritage at Risk Register where its condition is judged to be 'Poor'.

3.41 The building's significance lies in its architectural quality and meticulously planned spaces. It is described in the listing as 'one of the architecturally outstanding schools of the 1960s, designed by the pioneering architects of the LCC/GLC and combining intimate, child-scaled interiors with bold, expressive external forms reflecting the local industrial vernacular. This 'vernacular' is referenced in the tall, hipped roof forms rising to a canted rooflight which top a series of linked classroom pavilions: a nod to the nearby industrial warehouse typology. It is also important for its educational interest: 'a building painstakingly designed around the specific needs of physically disabled children, reflecting the post-war education system's increasingly sensitive attitude to disability.'

3.42 The school's design responded to the A12 Blackwall Tunnel Approach Road (at the time under construction to the west) by employing 'an inward-looking cellular plan with classroom pavilions alternating with enclosed courtyards encircled by a continuous boundary wall – an arrangement indebted to Arne Jacobsen's Munkegård School in Copenhagen (completed 1957)'. Its organic, expressive forms and intricate cellular plan stood in stark contrast with the system-building that characterised much contemporaneous school architecture.

Designed to sit within an intensely urban setting, the inward-looking building is very much isolated from its context by a 2m high perimeter wall which served not only to give privacy to the occupants but also helped mitigate some of the noise and pollution from the nearby A12. Its heritage significance does not rely on its setting, however the condition of its present setting, amongst brownfield sites and scrub, is a negative factor which somewhat affects the ability to appreciate its architectural and aesthetic merits.

List Entry Number: 1402561 / Date first listed: 09-Jan-2012.

Chrisp Street Market Clock Tower (GII)

3.43 The Chrisp Street Market Clock Tower was built 1951-52 to the designs of Frederick Gibberd. Built as part of the 'Live'

architecture exhibition of the Festival of Britain between 1951-1954, its heritage significance lies in its architectural form and communal and historical significance as part of the Festival. Its setting contributes to its significance as being part of the wider post-war set-piece development that is protected by the Lansbury Conservation Area as well as being a landmark on Chrisp Street.

List Entry Number: 1450866 / Date first listed: 31-Oct-2017.

Church of St Mary and St Joseph (GII)

3.44 This building is a striking modern design by Adrian Gilbert Scott part of the Gilbert Scott dynasty of architects. Built as part of the 'Live' architecture exhibition of the Festival of Britain between 1951-1954 its heritage significance lies in its architectural form and massing and communal and historical significance as part of the Festival. Its setting contributes to its significance, being part of the wider post-war set-piece development that is protected by the Lansbury Conservation Area.

List Entry Number: 1376749 / Date first listed: 05-Mar-1998.

Church Of St Michael And All Angels (GII) and War Memorial (GII)

3.45 The former Church of St Michael and All Angels was built 1864/5 and restored in 1901 and 1955. It was deconsecrated and converted into flats c.2000. High Victorian in style, its interest lies in its external architectural form and massing. The church, vicarage, institute and War Memorial (GII) form a coherent group creating a key focus of the Langdon Park Conservation Area. Its setting, at a busy road junction is intrinsic to the original intent as a church built to serve the newly developed suburb.

List Entry Number: 1065049 / Date first listed: 27-Sep-1973.

Church Of St Saviours (GII)

3.46 Built 1873-4 by Frederick J and Horace Francis, brothers who specialised in Gothic revival architecture (several buildings of theirs are listed Grade II*and II). St Saviours is a good example of a town church, embodying the separation of elements in the Puginian tradition. Unfortunately it was badly damaged by fire in 2007 and remains boarded up and roofless. The church is set with a small development of modern houses within Bartlett Park, a departure from its original setting which would have seen it set within streets of terraced housing.

List Entry Number: 1242275 / Date first listed: 12-Dec-1989.

Dry Dock at Blackwall Engineering

3.47 The Dry Dock is of late 18th century origin, but enlarged and rebuilt to its present dimensions sometime before 1850. It was drastically remodelled by Richard Rogers Partnership in 1988. Listed for its architectural, historical and evidential interest, it is one of the earliest, large, dry docks remaining on the Thames. Although by the banks of the Thames, its original industrial dockside setting and use have exponentially changed from when it was first constructed.

List Entry Number: 1242217 / Date first listed: 01-Apr-1983 / Date of most recent amendment: 21-Nov-2000.

East India Dock House, former Financial Times Print Works (GII)*

3.48 The former production and printing works for the Financial Times, 1987-88, by Nicholas Grimshaw and Partners. It was converted to a data centre in the late 1990s. A winner of several major architectural awards; its listing recognises its architectural interest as an impressive and characteristic example of High Tech architecture and the technological innovation employed in its construction. It has historical and communal interest as being at the vanguard of the post-Fleet Street development of the British Press which embraced new technologies and ways of working to produce print newspapers.

3.49 The building is located on the northern side of the Naval Row Conservation Area boundary. It turns its back on the river and the conservation area however and its setting is firmly within the ultra-urbanised townscape created by the dual carriageways of the A13 and A102 (which demarcate two sides of its site) and the tall, modern buildings, railway lines and elevated carriageway to its east and south. The townscape in which the building is set was not designed as a place for pedestrians to ambulate through or linger, rather it was designed to facilitate fast passage by motor vehicle through and out of the area.

List Entry Number: 1430114 / Date first listed: 24-Feb-2016.

East India Dock Pumping Station (GII)

3.50 This mid-19th century, one storey, brick building in Italianate style was built for an industrial purpose within an industrial dockside landscape. Its heritage significance lies in its architectural form and historical use. It forms a group with the East India Dock Boundary Wall (GII) and the Embankment Wall and Steps (GII) on Naval Row and these and the remaining historic buildings on Naval Row contribute to its setting.

Naval Row E14 / List Entry Number: 1357801 / Date first listed: 27-Sep-1973.

East India Dock Wall and Gateway (GII)

3.51 Part of the extensive survival in this area of the early 19th century East India Dock walls, this stock brick wall, *c.*4.5m high, also has a surviving arched gateway. Listed for its historical, evidential and communal interest as a surviving element of the great dock system which once dominated this part of London. Its original setting as part of the docks system has long since disappeared and the remnant walls are now stranded in the central reservation of the A2012 Leamouth Road.

List Entry Number: 1357843 / Date first listed: 27-Sep-1973.

Former Fire Station (GII)

3.52 This former LCC fire station of 1910 is considered one of the best examples of its type, and despite recent conversion to residential use, remains externally intact with a distinctive picturesque facade that successfully combines the formal qualities of the building type with a strong municipal presence. Its original setting, within a townscape of established 19th century industrialisation and dense residential development, changed dramatically during the post-war period, with the construction of the dual carriageway A12 just metres from it. The building's significance lies in its architectural form and massing and historical use.

List Entry Number: 1393719 / Date first listed: 01-Feb-2010.

Gasholder No. 1, 2, 4, 6, 7, 8, 9; former Bromley-by-Bow Gasworks (GII)

3.53 This group of Gasholders were built c.1871/72 to the design of the engineers Joseph Clark and Thomas Kirkham for the Imperial Gas Light and Coke Company and altered in 1925/7. Embedded into the industrial canalside which enabled coal to be brough to the gasworks, their setting is intrinsic to their interest. Coal gas production ceased at Bromley in 1972, but the site has remained in use for storing natural gas ever since. The site's future may be under review as a candidate for decommissioning. The heritage significance of the structures lies in their architectural form, historical use and canalside setting.

List Entry Number: 1080996; 1080993; 1190911; 1293590; 1080995; 1190906; 1080994 / Date first listed: 14-Mar-1996 / Amended: 15-Oct-2015.

Plaque on Modern Dock Wall Facing West, East India Dock Road (GII)

3.54 This plaque of 1806, was formerly part of the demolished East India Dock Gateway and is of historical interest in commemorating the construction of the dock and its opening. The plaque is situated on a modern wall at the approach to the Blackwall Tunnel at the junctions of the A12 and A102. Having lost its original setting, it serves as a commemorative near to where it was once installed.

List Entry Number: 1240324 / Date first listed: 19-Jul-1950.

Pope John House (GII)

3.55 Listed as 'Pope John House', but now known as 'Blomfield House', this imposing red brick building was designed, in Tudor revival style, by Sir Arthur Blomfield & Son in 1892. Its side elevation is on the East India Dock Road but it faces Poplar Recreation Ground and St Matthias Church (GII*) across Hale Street. Its immediate built environment setting has changed little since it was first built, although looking south along Hale Street, the Canary Wharf cluster can be clearly seen. Its significance lies in its architectural form and massing.

List Entry Number: 1240304 / Date first listed: 27-Sep-1973.

Poplar Baths, (GII)

3.56 Poplar Public Baths were built 1932-4 by Poplar Borough Council. Built in brick in the streamlined Art Deco style, it is most admired for its interior where reinforced concrete hyperbolic ribs support the glazed roof structure that was innovative in bringing natural light into the pools below. Closed in 1988, the building was remodelled and reopened in 2016 as part of a new leisure centre and residential development. Its significance lies in its architectural form and massing.

List Entry Number: 1334939 / Date first listed: 11-Jan-2001.

Poplar Public Library (GII)

3.57 Built 1904-5 by Squire, Myers and Petch, the building is faced with striking white ashlar masonry in a Beaux-Arts style. Its grandeur, which would have been in high contrast to its original context of canalside Industry and dense streets of workers' housing, speaks of the philanthropic ambitions of its founders. No longer a library, but in use as a business premises, its setting has changed markedly since it was first erected with the construction, during the post-war period, of the dual carriageway of the A12 just metres from it. The building's

significance lies in its architectural form and historical and communal use.

List Entry Number: 1252435 / Date first listed: 27-Sep-1973 / Amended: 22-Oct-1992.

Poplar Technical College (GII)

3.58 Built in 1906, by W E Riley and the LCC architects department, this Portland stone faced building faces onto the busy Poplar High Street. The college was purpose-built and had A Merchant Navy cadet training emphasis, hence the maritime putti of the overdoor. Its significance lies in its architectural expression and historical use.

List Entry Number: 1260095 / Date first listed: 01-Jul-1983 / Amended: 06-Oct-1992.

Northern Portal and Parapet to the Blackwall Tunnel (GII)

3.59 The portal and remnant parapet, *c*.1897, is listed primarily for historical interest as the northern portal to the first vehicular tunnel built under the Thames and the parapet for its architectural interest in its use of pink polished granite. The parapet, though located in its original position, has lost the context of its original built environment due to modern development in the surrounding area. Its heritage significance however remains as it does not rely on no change happening in its surroundings.

List Entry Number: 1065070 / Date first listed: 27-Sep-1973 / Amended: 11-May-2018.

Statue Of Richard Green (In Front Of Public Baths) (GII)

3.60 A bronze statue on pedestal of granite of 1865 situated on the busy East India Dock Road. Richard Green (1803–1863) was an English shipowner and philanthropist born in nearby Blackwall and associated with the East India Company.

List Entry Number: 1065216 / Date first listed: 19-Jul-1950.

Susan Lawrence and Elizabeth Lansbury Schools, (GII)

3.61 The primary and adjoining nursery school were built 1949-1951 and 1951-1952 respectively, as part of the 'Live' architecture exhibition of the Festival of Britain. Their heritage significance lies in their architectural form and communal and historical significance as part of the Festival. Setting contributes to significance in being part of the wider post-war set-piece development that is protected by the Lansbury Conservation Area.

List Entry Number: 1376748 / Date first listed: 05-Mar-1998.

Twelvetrees Crescent Bridge (GII)

3.62 The two-arched bridge spanning the River Lea and Bow Creek was built in 1872 for the Imperial Gaslight and Coke Company to give access to their Gas Works. Listed for its architectural and evidential value, the bridge forms part of a group with the nearby listed gas holders.

List Entry Number: 1268439 / Date first listed: 10-Jun-1996.

War Memorial to the Children of Upper North Street School (GII)*

3.63 A First World War memorial erected in 1917 in Poplar Recreation Ground as a memorial to children from a nearby school. It is listed for its architectural and historical interest and has group value with a number of Grade II listed buildings fronting the park, and the Grade II* listed Church of St Matthias.

List Entry Number: 1065215 / Date first listed: 27-Sep-1973 / Amended: 01-Jun-2017.

Locally Listed Buildings

St Leonards Road E3: 159-167 (odd) & 162

3.64 A series of locally listed terraces of *c.*1850 and the former St Leonard's Arms public house, now flats. They form a group with the Grade II listed Church Of St Michael And All Angels and War Memorial. Of a common type built all over London during this period, their setting is only of interest in relation to the surviving townscape elements of a similar period.

Lodore Street: St Frideswide's Mission Hall, 18 Follett Street E14; 1 Lodore Street (Tabard Court)

3.65 Part of the late 19th century philanthropic Oxbridge east London missions movement, the St Frideswide's Mission House opened in 1893. Devoted to a girl's and mother's group, the western part of the building housed nuns within an oratory. A further building was added at the present 18 Follett Street in 1900 and later became the hostel of the Poplar Association for Befriending Girls. The three buildings are set within an urban environment of low-rise, post-war social housing close to the A13 and East India Dock Road gyratory.

Other Non-Designated Heritage Assets

St Nicholas Church, Aberfeldy Street E14

3.66 Situated on the Aberfeldy Estate, the church was designed by the firm of Seely and Paget, a noted architectural practice of

the inter-war years. Built in 1955, it was closed for worship by 1969 becoming a vinyl record warehouse and then, by the 1990s, a community centre. The church was re-dedicated as an Anglican place of worship in 2000. The building has communal value as post-war estate church set within Aberfeldy Village and, although modest and utilitarian in appearance, has some architectural interest; the building instanced an early use of aluminium prefabrication for a church steeple, being pre-assembled in a workshop before installation on site. [54]

Langdon Park School LSB building

3.67 Now part of the modern Langdon Park School campus, this London School Board School of 1907 (originally Byron Street School) is a survival from the early period of state school provision. The architectural treatment of the school is similar to London School Board schools surviving throughout London and so is not special to this location.

Former Poplar Bus Depot, Leven Road, E14

3.68 This former bus garage opened as a tram depot in December 1906, with trolleybus operation taking over in June 1940. It was the last of London's tram depots to be converted for use by trolleybuses. The trolleybuses themselves were replaced by new Routemaster buses in November 1959, with these buses finally disappearing from this garage in 1984. The garage was closed in November 1985 with buses transferred to nearby garages. Since then, the premises has been used as a storage facility.

3.69 Comprising of a collection of low-rise brick buildings - two single-storey large warehouses and a three storey office building - the southern end of the warehouses are characterised by tall arches that at one time would have allowed trams or buses in and out. These have since been blocked-up but form a striking elevation onto Levan Road.

Other designations

3.70 The Proposed Development is not considered to affect the setting of any World Heritage Site or Registered Park or Garden.

[54] Their post-war work included the restoration of scores of bomb-damaged buildings (including the Little Cloister (Westminster Abbey), the London Charterhouse and the church of St John Clerkenwell). English Heritage, 'The Partners: Seeley and Paget', Online: www.english-heritage.org.uk/learn/histories/lgbtq-history/seely-and-paget-at-eltham-palace

Assessing heritage significance: concepts and terminology

3.71 The conservation areas and statutorily listed buildings in the vicinity of the site are 'designated heritage assets', as defined by the National Planning Policy Framework (the NPPF). Locally listed buildings are considered as 'non-designated' heritage assets.

3.72 'Significance' is defined in the NPPF as '*the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic'*. The Historic England 'Historic Environment Good Practice Advice in Planning Note 2' puts it slightly differently – as '*the sum of its architectural, historic, artistic or archaeological interest'*.

3.73 'Conservation principles, policies and guidance for the sustainable management of the historic environment' (English Heritage, April 2008) describes a number of 'heritage values' that may be present in a 'significant place'. These are evidential, historical, aesthetic and communal value.

3.74 In assessing heritage significance we seek to follow what we understand the purpose and intention of policy and guidance to be – the identification or acknowledgement of specific and identifiable heritage-related features and phenomena that align with the concepts summarised above. In doing this we do not allocate significance to everything.

Heritage significance: general comments

'Evidential value' 'Historic interest' or 'Historical value'

3.75 In terms of Historic England's 'Conservation Principles', the Aberfeldy Village area and its surroundings provide us with 'evidence about past human activity'. The site, the listed and other structures in its vicinity, and their relationship to one another collectively illustrate the development of this part of London over an extended period. The surrounding building stock by means of fabric, design and appearance are a record of social and economic change and lifestyles in this part of London.

3.76 Alteration, demolition and redevelopment has not entirely removed the ability of 'historic' buildings in the vicinity of the site to communicate these values, and they and the nearby conservation areas retain sufficient historic character and appearance to convey their historical ethos.

3.77 The story told by both Aberfeldy Village, and Poplar generally, is one of radical and repeated urban change that, despite being at various times planned to varying degrees - whether the industrial and suburban development of the 19th century or post-war reconstruction - has resulted in a highly heterogenous landscape in heritage and townscape terms. This provides highly valuable evidence of the past and direct access to understanding the economic and social evolution of this part of Tower Hamlets. This evidential value or historic interest is linked to but separate from aesthetic or architectural matters, discussed below.

'Architectural interest', 'artistic interest' or 'aesthetic value'

3.78 The NPPF describes how a building may have 'architectural' and 'artistic interest' (NPPF) or 'aesthetic value' ('Conservation Principles') in varying degrees.

3.79 In respect of design, 'Conservation Principles' says that 'design value… embraces composition (form, proportions, massing, silhouette, views and vistas, circulation) and usually materials or planting, decoration or detailing, and craftsmanship'.

3.80 The highly heterogenous built environment referred to above may well possess considerable evidential value, but in aesthetic, architectural and urban design terms it now presents a piecemeal and fragmented setting for the various designated and non-designated heritage assets in the vicinity of the Aberfeldy site. This historical interest of the overlaying of various phases of development in Poplar has given rise to a built environment that is not characterised by one period, style, scale or grain. The older, largely 19th century, city survives in pockets, but is also perceived in the context of subsequent renewal from various periods which departed radically from the pattern and character of the older city.

3.81 This, firstly, takes the form of the new housing of the immediate post-war period such as the 'Festival of Britain' Lansbury Estate, then the later housing development characterised by Balfron Tower and the Brownfield Estate (1965-67), followed in turn by areas such as the Aberfeldy triangle. In recent years, estate regeneration of these places has resulted in yet further development and, quite often, greater scale – the area south of Balfron Tower in and around the Robin Hood Gardens estate (1972, now under development), is an example. To the east of Aberfeldy Village, the former gas works site will be redeveloped with a large residential project.

3.82 Alongside residential-led change in the area since the 1950s, commercial development has had a significant effect on its layout and appearance – the redevelopment of East India Dock and the former (now Grade II*) Financial Times print works are two examples. The setting of Poplar, as an entire district, when viewed from the north, is dominated by the considerable scale of Canary Wharf and the Isle of Dogs.

3.83 Finally, transport has had and continues to have a very significant influence on the grain and interconnectedness of the area. Canals, railways, and in particular roads have altered it repeatedly over time. The East India Dock Road was, in a sense, a precursor of the A12/Blackwall Tunnel Approach in the scale of its effect, though the latter has had a much larger effect on Poplar. While East India Dock Road created the opportunity for urban form, the A12 sliced through the urban form that was thus created, and gave rise to, in urban terms, a significant north-south fissure. It fundamentally separates the area to its east from the rest of Poplar, something compounded by the challenge to north-south connectivity created by the A13.

Communal value

3.84 A powerful generator of the character and appearance of Poplar was its experience in the Second World War and, even at a distance of 75 years, that experience still resonates in the popular consciousness. The sense of endurance in the face of adversity felt by many at the time was only amplified by the hope and optimism embodied in, say, the Festival of Britain and the Lansbury and Brownfield Estates and other post-war redevelopment as manifested for real people in a new post-war world. The area, including Aberfeldy Village, has been home to generations of people, who not just lived there but who were educated and worshipped, played and worked there. The gradual passing of industry from Poplar is another significant aspect of the communal value that the area possesses.

4 Legislation, policy and guidance

Introduction

4.1 This section of the report briefly sets out the range of national and local policy and guidance relevant to the consideration of change in the historic built environment, as well as describing the legislation governing designated heritage assets.

The Planning (Listed Buildings and Conservation Areas) Act 1990

4.2 The legislation governing listed buildings and conservation areas is the Planning (Listed Buildings and Conservation Areas) Act 1990 ('the Act'). Section 66(1) of the Act requires decision makers to 'have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses" when determining applications which affect a listed building or its setting. Section 72(1) of the Act requires decision makers with respect to any buildings or other land in a conservation area to pay 'special attention… to the desirability of preserving or enhancing the character or appearance of that area'.

The National Planning Policy Framework

4.3 The National Planning Policy Framework (NPPF) was first published in 2012 with the most recent update being published on 20 July 2021. [55]

4.4 Chapter 12. of the National Planning Policy Framework 'Achieving well-designed places' deals with design: It begins:

'The creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between

[55] First published on 27 March 2012 and updated on 24 July 2018, 19 February 2019 and 20 July 2021. Ministry of Housing, Communities & Local Government (2021) Revised National Planning Policy Framework. Online: www.gov.uk/guidance/national-planning-policy-framework

applicants, communities, local planning authorities and other interests throughout the process' (paragraph 126).

4.5 Paragraph 130 advises that 'planning policies and decisions should ensure that developments:

> a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
>
> b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
>
> c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
>
> d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;
>
> e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and
>
> f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.

4.6 Chapter 16 'Conserving and enhancing the historic environment' deals with Heritage Assets describing them as 'an irreplaceable resource' that 'should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations' (paragraph 189). [56]

4.7 Paragraph 190 discusses the responsibilities of the local authority towards plan making and the historic environment and says that: 'Plans should set out a positive strategy for the conservation and enjoyment of the historic environment,

[56] The policies set out in this chapter relate, as applicable, to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Buildings and Conservation Areas) Act 1990, as well as to plan-making and decision-making.

including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:

> (a) the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;
>
> (b) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
>
> (c) the desirability of new development making a positive contribution to local character and distinctiveness; and
>
> (d) opportunities to draw on the contribution made by the historic environment to the character of a place.'

4.8 Paragraph 191 advises that 'when considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.'

4.9 In order to help assess significance of heritage assets, paragraph 192 says that local planning authorities 'should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:

> (a) assess the significance of heritage assets and the contribution they make to their environment; and
>
> (b) predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.'

4.10 Further such 'information about the historic environment, gathered as part of policy-making or development management' should be made 'publicly accessible' (paragraph 193).

Proposals affecting heritage assets

4.11 'In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using

appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation' (paragraph 194).

4.12 'Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal' (paragraph 195).

4.13 'Where there is evidence of deliberate neglect of, or damage to, a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision' (paragraph 196).

4.14 'In determining applications, local planning authorities should take account of:

(a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;

(b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

(c) the desirability of new development making a positive contribution to local character and distinctiveness' (paragraph 197).

4.15 'In considering any applications to remove or alter a historic statue, plaque, memorial or monument (whether listed or not), local planning authorities should have regard to the importance of their retention in situ and, where appropriate, of explaining their historic and social context rather than removal' (paragraph 198).

Considering potential impacts

4.16 Paragraph 199 advises local authorities that 'When considering the impact of a Proposed Development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether

any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.'

4.17 Paragraph 200 continues, 'Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

a) Grade II listed buildings, or Grade II registered parks or gardens, should be exceptional;

b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, Grade I and II* listed buildings, Grade I and II* Registered Parks And Gardens, and World Heritage Sites, should be wholly exceptional.' [57]

4.18 In terms of proposed development that will lead to substantial harm to (or total loss of significance of) a designated heritage asset, paragraph 201 states that 'local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

a) the nature of the heritage asset prevents all reasonable uses of the site; and

b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and

c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and

d) the harm or loss is outweighed by the benefit of bringing the site back into use'.

4.19 It continues 'where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use' (paragraph 202).

4.20 In considering the effect of an application on the significance of a non-designated heritage asset, either directly or indirectly,

[57] Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

the local authority should employ a 'balanced judgement' in regard to 'the scale of any harm or loss and the significance of the heritage asset' (paragraph 203).

4.21 Paragraph 204 requires that 'Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

4.22 Where a heritage asset is to be lost, the developer will be required to 'record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible' (paragraph 205).[58]

4.23 In terms of development within the setting of heritage assets, paragraph 206, advises that 'local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.

4.24 It goes on however that 'Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 200 or less than substantial harm under paragraph 201, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole (paragraph 207).

4.25 Finally, paragraph 208 requires that the onus will be on local planning authorities to 'assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies'.

4.26 The setting of a heritage asset is defined in the NPPF as:

> *The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral*[59].

[58] Copies of evidence should be deposited with the relevant historic environment record, and any archives with a local museum or other public depository.

Planning Practice Guidance

4.27 Planning Practice Guidance[60] provides streamlined guidance for the National Planning Policy Framework and the planning system. It includes guidance on matters relating to protecting the historic environment in the section entitled 'Conserving and Enhancing the Historic Environment'. It is subdivided into sections giving specific advice in the following areas:

- Overview: historic environment
- Plan making: historic environment
- Decision-taking: historic environment
- Designated heritage assets
- Non-designated heritage assets
- Heritage Consent Processes and
- Consultation and notification requirements for heritage related applications.

4.28 PPG discusses the setting of heritage assets as follows:

> 'The setting of a heritage asset is defined in the Glossary of the National Planning Policy Framework.
>
> All heritage assets have a setting, irrespective of the form in which they survive and whether they are designated or not. The setting of a heritage asset and the asset's curtilage may not have the same extent.
>
> The extent and importance of setting is often expressed by reference to the visual relationship between the asset and the Proposed Development and associated visual/physical considerations. Although views of or from an asset will play an important part in the assessment of impacts on setting, the way in which we experience an asset in its setting is also influenced by other environmental factors such as noise, dust, smell and vibration from other land uses in the vicinity, and by our understanding of the historic relationship

[59] https://www.gov.uk/guidance/national-planning-policy-framework/annex-2-glossary
[60] Ministry of Housing, Communities and Local Government, last update July 2019, online: www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment

between places. For example, buildings that are in close proximity but are not visible from each other may have a historic or aesthetic connection that amplifies the experience of the significance of each.

The contribution that setting makes to the significance of the heritage asset does not depend on there being public rights of way or an ability to otherwise access or experience that setting. The contribution may vary over time.

When assessing any application which may affect the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change. They may also need to consider the fact that developments which materially detract from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its ongoing conservation.'[61]

4.29 In respect of substantial harm, PPG says that:

'In general terms, substantial harm is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special architectural or historic interest. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed. The harm may arise from works to the asset or from development within its setting.

While the impact of total destruction is obvious, partial destruction is likely to have a considerable impact but, depending on the circumstances, it may still be less than substantial harm or conceivably not harmful at all, for example, when removing later inappropriate additions to historic buildings which harm their significance. Similarly, works that are moderate or minor in scale are likely to cause less than substantial harm or no harm at all. However, even minor works have the potential to cause substantial harm.

[61] Paragraph: 013 Reference ID: 18a-013-20190723

Policy on substantial harm to designated heritage assets is set out in paragraph 201 of the National Planning Policy Framework'.[62]

4.30 In respect of harm to conservation areas, PPG says:

'An unlisted building that makes a positive contribution to a conservation area is individually of lesser importance than a listed building. If the building is important or integral to the character or appearance of the conservation area then its demolition is more likely to amount to substantial harm to the conservation area, engaging the tests in paragraph 201 of the National Planning Policy Framework. However, the justification for its demolition will still be proportionate to the relative significance of the building and its contribution to the significance of the conservation area as a whole.'[63]

4.31 PPG continues:

'A clear understanding of the significance of a heritage asset and its setting is necessary to develop proposals which avoid or minimise harm. Early appraisals, a conservation plan or targeted specialist investigation can help to identify constraints and opportunities arising from the asset at an early stage. Such studies can reveal alternative development options, for example more sensitive designs or different orientations, that will deliver public benefits in a more sustainable and appropriate way.'[64]

Historic England guidance

Good Practice Advice

4.32 Historic England provide guidance and 'information on good practice to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the National Planning Policy Framework (NPPF) and the related guidance given in the National Planning Practice Guide (PPG)'.[65]

4.33 These notes include:

- GPA 1: The Historic Environment in Local Plans (2015);

[62] Paragraph: 017 Reference ID: 18a-017-20140306
[63] Paragraph: 018 Reference ID: 18a-018-20140306
[64] Paragraph: 019 Reference ID: 18a-019-20140306
[65] Historic England Advice Notes: historicengland.org.uk/advice/planning/planning-system

- GPA 2: Managing Significance in Decision-Taking in the Historic Environment (2015);
- GPA 3: The Setting of Heritage Assets (2nd ed., 2017);
- GPA 4: Enabling development and heritage assets (2020).

GPA 3: Historic England guidance on the setting of heritage assets

4.34 This note provides guidance regarding the setting of heritage assets and how to assess the effect of change on that setting.

4.35 The guidance echoes the definition of 'setting' in the NPPF as:

'the surroundings in which [the asset] is experienced' and continues: 'its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral'.

4.36 The guidance provides, at Paragraph 12, a step-by-step methodology for identifying setting, its contribution to the significance of a heritage asset, and the assessment of the effect of Proposed Development on that significance:

- Step 1: identify which heritage assets and their settings are affected;
- Step 2: assess whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s);
- Step 3: assess the effects of the Proposed Development, whether beneficial or harmful, on that significance;
- Step 4: explore the way to maximise enhancement and avoid or minimise harm;
- Step 5: make and document the decision and monitor outcomes.

4.37 The document then sets out how the step-by-step methodology is used and considers each step in more detail.

Historic England Advice Notes

4.38 These advice notes cover various planning topics in more detail and at a more practical level.[66] The documents most relevant to the proposed works are:

- HEAN 1 - Conservation Areas;
- HEAN 4 – Tall Buildings;
- HEAN 10 - Listed Buildings and Curtilage;
- HEAN 12: Statements of Heritage Significance: Analysing Significance in Heritage Assets.

Conservation principles, policies and guidance for the sustainable management of the historic environment

4.39 This document[67] is referred to in Section 3 of this report. It sets out the following six high-level principles:

- The historic environment is a shared resource;
- Everyone should be able to participate in sustaining the historic environment;
- Understanding the significance of places is vital;
- Significant places should be managed to sustain their values;
- Decisions about change must be reasonable, transparent and consistent; and
- Documenting and learning from decisions is essential.

The London Plan

4.40 The new London Plan was adopted on 2 March 2021.

4.41 Chapter 3 'Design' deals with overarching themes in relation to design in the built environment and provides a range of policies concerning the design of new development in London.

4.42 Among these, Policy D3 'Optimising site capacity through the design-led approach' directs that all development must be of

[66] Historic England Advice Notes: historicengland.org.uk/advice/planning/planning-system

[67] Historic England (2008) *Conservation Principles, Policies and Guidance for the sustainable management of the historic environment* historicengland.org.uk/advice/constructive-conservation/conservation-principles

the most appropriate form and land use for the site ‘based on an evaluation of the site’s attributes, its surrounding context and its capacity for growth to determine the appropriate form of development for that site’ and that development should ‘respond to the existing character of a place by identifying the special and valued features and characteristics that are unique to the locality and respect, enhance and utilise the heritage assets and architectural features that contribute towards the local character’.

4.43 Policy D9 deals with ‘Tall Buildings’ and how their impacts should be assessed and addressed including visual impacts and views of buildings from different distances. In all cases the development should make a 'positive contribution to the existing and emerging skyline and not adversely affect local or strategic views'. Further, tall buildings should 'reinforce the spatial hierarchy of the local and wider context and aid legibility and wayfinding'. Importantly, 'proposals should take account of, and avoid harm to, the significance of London’s heritage assets and their settings' as well as 'positively contribute to the character of the area'.

4.44 The policies relevant to heritage assets are contained within Chapter 7 ‘Heritage and Culture’. This defines ‘Heritage significance’ (para 7.1.7) as

‘the archaeological, architectural, artistic or historic interest of a heritage asset. This may be represented in many ways, in an asset’s visual attributes, such as - form, scale, materials, and architectural detail, design and setting, as well as through historic associations between people and a place, and, where relevant, the historic relationships between heritage assets.’ It goes on to say that ‘development that affects heritage assets and their settings should respond positively to the assets’ significance, local context and character to protect the contribution that settings make to the assets’ significance. In particular, consideration will need to be given to mitigating impacts from development that is not sympathetic in terms of scale, materials, details and form’.

4.45 Policy HC1 Heritage Conservation and Growth

A. Boroughs should, in consultation with Historic England, local communities and other statutory and relevant organisations, develop evidence that demonstrates a clear understanding of London’s historic environment. This evidence should be used for identifying, understanding, conserving, and enhancing the historic environment and heritage assets, and improving access

to, and interpretation of, the heritage assets, landscapes and archaeology within their area.

B. Development Plans and strategies should demonstrate a clear understanding of the historic environment and the heritage values of sites or areas and their relationship with their surroundings.

C. Development proposals affecting heritage assets, and their settings, should conserve their significance, by being sympathetic to the assets’ significance and appreciation within their surroundings. The cumulative impacts of incremental change from development on heritage assets and their settings should also be actively managed. Development proposals should avoid harm and identify enhancement opportunities by integrating heritage considerations early on in the design process.

D. Development proposals should identify assets of archaeological significance and use this information to avoid harm or minimise it through design and appropriate mitigation. Where applicable, development should make provision for the protection of significant archaeological assets and landscapes. The protection of undesignated heritage assets of archaeological interest equivalent to a scheduled monument should be given equivalent weight to designated heritage assets.

E. Where heritage assets have been identified as being At Risk, boroughs should identify specific opportunities for them to contribute to regeneration and place-making, and they should set out strategies for their repair and re-use.

Policy HC2 World Heritage Sites

4.46 The first part of the policy deals with how boroughs with or in the influence of World Heritage Sites, should include policies in their Development Plans that conserve, promote, actively protect and interpret the Outstanding Universal Value of World Heritage Sites. Further that in considering planning applications, appropriate weight should be given to implementing the provisions of the World Heritage Site Management Plan.

4.47 In terms of development proposals with the potential to affect World Heritage Sites or their settings, the policy requires that these be supported by a Heritage Impact Assessment. This includes cases where such proposals may contribute to a cumulative impact on a World Heritage Site or its setting.

4.48 Detailed guidance is provided in the form of 'London's World Heritage Sites: Guidance on Settings – Supplementary Planning Guidance'.

Policy HC3 Strategic and Local Views

4.49 This policy describes how The Mayor has designated a list of Strategic Views (set-out in the Plan) that will be kept under review and requires that 'development proposals must be assessed for their impact on a designated view if they fall within the foreground, middle ground or background of that view.'

4.50 In order to further protect 'Strategically-Important Landmarks in the view' the Mayor will designate 'landmark viewing corridors and wider setting consultation areas. These elements together form a Protected Vista. Each element of the vista will require a level of management appropriate to its potential impact on the viewer's ability to recognise and appreciate the Strategically-Important Landmark. These and other views are also subject to wider assessment beyond the Protected Vista.'

Policy HC4 London View Management Framework

4.51 This builds upon Policy HC3 and advises that

A. Development proposals should not harm, and should seek to make a positive contribution to, the characteristics and composition of Strategic Views and their landmark elements. They should also preserve and where possible enhance viewers' ability to recognise and to appreciate Strategically-Important Landmarks in these views and, where appropriate, protect the silhouette of landmark elements of World Heritage Sites as seen from designated viewing places.

B. Development in the foreground, middle ground and background of a designated view should not be intrusive, unsightly or prominent to the detriment of the view.

C.Development proposals and external illumination of structures in the background of a view should give context to landmarks and not harm the composition of the view as a whole. Where a silhouette of a World Heritage Site is identified by the Mayor as prominent in a designated view, and well-preserved within its setting with clear sky behind, it should not be altered by new development appearing in its background. Assessment of the impact of development in the foreground, middle ground or background of the view or the setting of a Strategically-Important Landmark should take into account the effects of distance and atmospheric or seasonal changes.

Section D gives further advice on compliance with 'London Panoramas', 'River Prospects' and 'Townscape and Linear Views'. Section E advises on 'Viewing Places' and F on strategies where there is a 'Protected Vista'.

4.52 Detailed guidance is provided in the form of the London View Management Framework Supplementary Planning Guidance.[68]

Policy HC7 Protecting public houses

4.53 In this new policy, boroughs are advised to protect public houses where they have a heritage, economic, social or cultural value to local communities, or where they contribute to wider policy objectives for town centres.

4.54 Applications that propose the loss of public houses with the above attributes should be refused unless there is authoritative evidence that demonstrates that there is no realistic prospect of the building being used as a pub in the foreseeable future. Further proposals for redevelopment of associated accommodation, facilities or development within the curtilage of the public house that would compromise the operation or viability of the public house use should be resisted.

The Tower Hamlets Local Plan

4.55 The Tower Hamlets' 'Local Plan 2031: Managing Growth and Sharing Benefits' was adopted on 15 January 2020.

4.56 The policies that are relevant to heritage assets are contained with Policy S.DH3 Heritage and the historic environment'. This sets out that:

4.57 1. Proposals must preserve or, where appropriate, enhance the borough's designated and non-designated heritage assets in a manner appropriate to their significance as key and distinctive elements of the borough's 24 places.

4.58 2. Proposals to alter, extend or change the use of a heritage asset or proposals that would affect the setting of a heritage asset will only be permitted where:

a. they safeguard the significance of the heritage asset, including its setting, character, fabric or identity

b. they are appropriate in terms of design, height, scale, form, detailing and materials in their local context

[68] Mayor of London/GLA (2012) *London View Management Framework - Supplementary Planning Guidance.* Online: www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance-and-spgs/london-view-management

c. they enhance or better reveal the significance of assets or their settings

d. they preserve strategic and locally important views and landmarks, as defined in Policy D.DH4, and

e. in the case of a change of use from a use for which the building was originally designed, a thorough assessment of the practicability of retaining its existing use has been carried out outlining the wider public benefits of the proposed alternative use.

4.59 3. Applications affecting the significance of a heritage asset will be required to provide sufficient information to demonstrate how the proposal would contribute to the asset's conservation. Any harm to the significance of a heritage asset must be justified having regard to the public benefits of the proposal: whether it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long-term use of the asset. Factors that will be considered can include:

a. The significance of the asset, architecturally, historically and contextually

b. The adequacy of efforts made to retain the asset in use, and

c. The merits of any alternative proposal for the site.

4.60 4. Substantial harm to or the total loss of significance of a designated heritage asset will only be supported where it is necessary to achieve substantial public benefits that outweigh that harm or loss, or the following criteria can be satisfied:

a. The nature of the heritage asset prevents all reasonable uses of the site

b. No viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation

c. Conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible

d. The harm or loss is outweighed by the benefit of bringing the site back into use.

4.61 5. Alterations, extensions or changes of use, or development in the vicinity of listed buildings (as shown on the Policies Map)

will be expected to have no adverse impact on those elements which contribute to their special architectural or historic interest, including their settings.

4.62 6. Significant weight will be given to the protection and enhancement of the borough's conservation areas (as shown on the Policies Map), including their setting. Development within a conservation area will be expected to preserve or, where appropriate, enhance those elements which contribute to their special character or appearance. There will be a presumption in favour of the retention of unlisted buildings that make a positive contribution to the character and appearance of a conservation area. Planning applications should explore opportunities from new development within conservation areas and their setting to enhance or better reveal their significance.

4.63 7. Significant weight will be given to the protection and enhancement of scheduled monuments (as shown on the Policies Map) and other archaeological sites of equivalent importance. Any harm to their significance must be justified having regard to the public benefits of the proposal: whether it has been demonstrated that all reasonable efforts have been made to mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to sustain the asset.

4.64 8. Applications affecting the significance of the archaeology will be required to provide sufficient information to demonstrate how the proposal would contribute to the asset's conservation. Where the development includes or has the potential to include heritage assets with archaeological interest, an appropriate desk-based assessment and, where necessary, field evaluation will be required. Where harm can be fully justified, we will require archaeological excavation and/or recording as appropriate, followed by analysis and publication of the results.

4.65 9. Development that lies in or adjacent to archaeological priority areas (as shown on the Policies Map) will be required to include an archaeological evaluation report and will require any nationally important remains to be preserved permanently in situ, subject to consultation with Historic England.

4.66 10. We will seek to ensure the protection and appropriate enhancement of the borough's historic parks and gardens (as shown on the Policies Map). Development proposals should therefore safeguard those features which form an integral part of the special character or appearance of the park or garden

and ensure they do not detract from the enjoyment, layout, design, character, appearance or setting of the park or garden, key views into and out of the park, or prejudice its future restoration. Where development is likely to affect a historic park and garden or its setting, applications should include a heritage impact assessment setting out the likely impact which it would have upon its significance and the means by which any harm might be mitigated.

5 The Proposed Development and its effect

Introduction

5.1 This section of the report describes the proposed scheme in terms of its effect on the heritage significance of the site and its context, described and analysed earlier in this report.

5.2 The proposed scheme is described in full in the materials submitted with the application.

The Proposed Development

5.3 The Proposed Development comprises the comprehensive redevelopment of the Site. It will provide new retail and workspace floorspace along with residential dwellings and the pedestrianisation of the A12 Abbott Road vehicular underpass to create a new east to west route. The Development will also provide significant, high quality public realm, including a new Town Square, a new High Street and a public park.

5.4 The Proposed Development is part of the masterplan for the Aberfeldy and Nairn Street Estates to create a strengthened and cohesive neighbourhood with an identifiable character which celebrates its rich heritage and diverse community. The original Aberfeldy Village masterplan received outline planning consent in 2012. Phases 1, 2 and 3a of this have been completed and are now occupied. Phase 3b is currently on site.

5.5 The new masterplan is divided into four phases: A-D. It aims bring about a substantial range of social, economic and environmental benefits. These benefits can be summarised as (but are not limited to):

- a substantial number of new homes: up to approximately 1,628 new homes of different sizes and tenures, helping to create a mixed and balanced community including new affordable housing;
- optimisation of the potential of this well-located site to deliver homes, jobs and shops within a vibrant, diverse and inclusive place.
- improved accessibility and permeability including the re-purposing the existing vehicular underpass as a new pedestrian and cycle route across the A12 and two new north-south routes: Community Lane and Enterprise Yard, and the upgrading of the existing north-south route that is Aberfeldy Street. East-West permeability

has been improved by reinstating the Victorian street pattern of Dee Street, Ettrick Street and Blair Street.

- substantial upgrades to existing open spaces including Leven Road Open Space, and Braithwaite Park as well as creating Highland Place, a new public park at the heart of the Aberfeldy Masterplan.

5.6 Tall buildings can play an important role in estate regeneration, particularly within opportunity areas such as Aberfeldy Village, where growth and development are actively and emphatically encouraged. The massing and tall buildings strategy has been developed through a number of consultations with LBTH. A townscape and placemaking study and strategy has informed the principles of the building heights for the masterplan and significant changes have been made to minimise any impact on heritage assets and to achieve variation in building heights which responds to the scale of the existing site context and also strives to adding diversity and interest to the roofscape and streetscape.

5.7 The location of tall buildings at Highland Place – the tallest of which will be 28 storeys - marks a central gateway to the Site, where a new public space - Highland Place. Integral to the placemaking strategy is the preservation of sky-space around Balfron Tower and the protection of key Borough Designated views.

5.8 The aim of Highland Place is to consolidate height and density away from Balfron Tower so as not to undermine its impact and imposing scale. In order to ensure that the Proposed Development and the Listed buildings within the Balfron Tower Conservation Area continue to read as separate and distinct from one another, buildings in their vicinity will be lower to preserve the 'sky-space' around them. The buildings which will sit directly across the A12 from Balfron Tower are horizontal in form and their architectural expression will emphasise this horizontality. Vertical elements which would break the building line and interfere with the silhouette of Balfron are avoided. Building heights step down significantly at the edge of the Proposed Development, ensuring that the cluster of three buildings at Highland Place is clearly defined and that other tall buildings within the development are positioned in such a way as to avoid breaking the silhouette the cluster when seen from the southern bank of the Thames river front.

The effect of the Proposed Development on heritage significance

5.9 The Site does not contain any heritage assets. All consideration of effects is directed towards the surrounding heritage assets identified and described in Section 2 of this report.

5.10 Balfron Tower (GII*), together with Carradale House (GII) and Glenkerry House (GII), form a highly significant grouping of late 20th century housing along with the other buildings of the Brownfield Estate. Their heritage significance is recognised, by three individual building listings and by the Balfron Conservation Area designation. While other heritage assets will be affected by the Aberfeldy Village development, the potential for greatest effect is on Balfron Tower and its surroundings.

The significance of Balfron Tower

5.11 It is not the purpose of this report, nor necessary, to discuss Balfron, its designer and its history at great length.[69] The significance of Balfron Tower, the two other listed towers and the conservation area has a number of key aspects. These are summarised as follows:

- The Brownfield Estate and its buildings are significant as examples of post-war regeneration in London's East End undertaken by the LCC, the GLC and the London Borough of Tower Hamlets;

- Ernö Goldfinger is a highly significant modern architect, seen as one of Brutalism's pre-eminent figures and whose work was highly influential;

- Goldfinger's architecture is dramatic, muscular and powerful. As at Trellick, Balfron and Carradale have detached slim towers containing vertical circulation and community spaces, linked at every other floor to the main slab block by walkways;

- The sculptural and compositional quality of Goldfinger's work is carried through from the overall massing of the buildings into the use of concrete and in elevational design, and the detail appearance of the buildings is intrinsic to their architectural significance; and

[69] The full List description of Balfron Tower is included as Appendix A

- The plan form of the buildings and the quality of their accommodation is a key component of the significance of the Brownfield Estate buildings.

5.12 Though the estate and its buildings possess heritage significance throughout, Balfron Tower is clearly the most important and iconic element of the overall group notwithstanding the designations allocated to the estate and to Carradale House and Glenkerry. It is visible from many directions, and this is noted in the conservation area appraisal.

The nature of Balfron's Tower's setting

5.13 However, the story of the development of the Brownfield Estate and its buildings is one where it formed part of an ongoing and wider process of large-scale regeneration. It was not intended as an isolated set-piece. Other tall buildings were anticipated as part of a general approach to housing provision in the area.

5.14 There is no evidence at all that Balfron Tower was intended as a focal point – such thinking did not form any part of the planning of the Brownfield Estate, the design of its taller elements or of a masterplanning exercise for Poplar that might have created the specific location of Balfron Tower as an urban focus. For example, the low density of the Aberfeldy Triangle has nothing to do with the presence of Balfron Tower as a landmark building. There is no evidence whatsoever that the Aberfeldy triangle was developed at the scale it was out of a desire to remain low in scale in relation to the height of Balfron.

5.15 Notwithstanding its landmark status as designated by the local planning authority and as noted above, the present setting of Balfron Tower contains many tall buildings – notably those of south Poplar and the Isle of Dogs, a relatively short distance from the Tower. Its heritage significance is not harmed by this.

5.16 The very architectural qualities that contribute to its heritage significance will allow Balfron Tower that significance to be preserved in the context of new development. Its power and strength as a striking and characterful tall building will not be harmed by new development, and that development should not be constrained by over-stating the sensitivity of Balfron and the other buildings of the Brownfield Estate to change.

5.17 We contend that there is, in fact, a legitimate and conceptually robust position that derives from a creative and enabling approach to urban design. This suggests that development in the context of Balfron – possibly to a greater scale than exists – could help create a more coherent, responsive and attractive

setting and thus enhance the significance of Balfron Tower and its estate.

5.18 Finally, the regeneration of Aberfeldy Village creates the opportunity to link to and enhance the ongoing regeneration of Balfron Tower, and in particular creates an opportunity to link the ground plane of Balfron Tower into the new public realm of the Aberfeldy Village project by means of the existing underpass. This, in turn, would assist in facilitating a greater appreciation of Balfron's significance.

The contribution of Balfron's Tower's setting to its heritage significance

5.19 The NPPF definition and PPG explanation of 'setting' is provided in Section 4.

5.20 It is clear that the setting of Balfron Tower, the other two listed towers and the Balfron Conservation Area makes, in physical terms, very little contribution to the significance of these heritage assets. Their relative isolation from a meaningful, connected context or a coherent urban scene with a common grain can be said to harm their significance. The presence and impermeability of the A12 is a wholly negative factor in their setting and detracts from their significance. Nothing could be further from Goldfinger's humane vision for contemporary living than the presence of a multi-lane highway at the foot of such a carefully designed residential building.

Historic England guidance on the setting of heritage assets

5.21 Historic England, in Part 1 of its guidance[70], discusses concepts of curtilage, character and context. The matter of the curtilage of Balfron Tower and the two other listed towers is irrelevant in relation to the proposed Aberfeldy redevelopment project; no part of it would occur within the curtilage of the listed buildings, although the potential for public realm work at Balfron's base, responding to a potential new linking underpass beneath the A12, exists as a potential enhancement of the tower and improvement in its connectivity with its surroundings.

5.22 The Balfron Tower Conservation Area has, by definition and by virtue of being designated in a manner consistent with proper designation practice, 'character and appearance'. That character and appearance is delineated by the boundary of the

[70] Historic England, GPA 3: The Setting of Heritage Assets (2nd ed., 2017)

conservation area; its character and appearance, logically, does not extend into areas of different character and appearance, such as Aberfeldy Village. The character and appearance of the Balfron Tower Conservation Area is self-evidently very different from its surrounding context and this is clear from the historical account and the empirical evidence derived from experiencing the built environment around Balfron.

5.23 The Lansbury Estate differs from the Brownfield Estate which in turn is different from both Aberfeldy Village and, say, the All Saints Church Conservation Area. Balfron Tower and its surroundings – regardless of being 'post-war' – does not share architectural or urban design qualities with the Aberfeldy Village quarter.

5.24 Historic England says that '*Character is a broad concept, often used in relation to entire historic areas and landscapes, to which heritage assets and their settings may contribute'*. This statement cannot be realistically applied to an area extending beyond the Brownfield Estate, and this assessment is consistent with HE's subsequent (in GPA 3) regarding 'extent of setting' (see below) .

5.25 The Historic England discussion of 'context' is somewhat opaque, but it is clear that Balfron Tower and its estate do not share '*any relationship between it and other heritage assets, which is relevant to its significance, including cultural, intellectual, spatial or functional*' – with the singular exception of Trellick Tower in west London (and possibly other work elsewhere by Goldfinger).

5.26 In respect of Historic England's discussion of the extent of setting, the specific nature of Balfron and its estate permits a two level assessment of that extent. Firstly, a clear extent is provided by the boundaries of the estate as forming an architectural and geographical extent to setting. Secondly, and beyond that boundary, setting must be considered only in terms of vicinity and visibility. There is no connection at all between Balfron and its estate and other areas such as Aberfeldy, beyond intervisibility. They are not connected by design or an intended, designed commonality.

5.27 In discussing 'Setting and the significance of heritage assets', the Historic England guidance talks of '*settings which have changed may also themselves enhance significance, for instance where townscape character has been shaped by cycles of change over the long term*'. This may well be so, but it is hard to see how the present nature and condition of Aberfeldy Village

enhances Balfron's significance. It is worth repeating that there is no evidence that the Aberfeldy triangle was developed at the scale it was in response to the height of Balfron. The setting of Balfron – beyond the estate - is most certainly not an instance of 'Designed settings' as discussed in Historic England guidance.

5.28 Historic England continues:

> *'…the numbers and proximity of heritage assets in urban areas mean that the protection and enhancement of setting is intimately linked to townscape and urban design considerations. These include the degree of conscious design or fortuitous beauty and the consequent visual harmony or congruity of development, and often relates to townscape attributes such as enclosure, definition of streets and spaces and spatial qualities as well as lighting, trees, and verges, or the treatments of boundaries or street surfaces'*

5.29 There is little, if anything, by way of '*conscious design or fortuitous beauty and the consequent visual harmony or congruity of development*' that occurs in the vicinity of Balfron, or at least any that is actually linked to Balfron in a discernible way. '*Enclosure, definition of streets and spaces and spatial qualities'* that actually relate to Balfron do not exist in its context.

5.30 For instance, if Balfron Tower were indeed a focal point in Poplar, one would expect the urban grain and the orientation of streets and views to relate to it. They do not. Visibility of Balfron Tower is, from many points of the compass, is essentially coincidental. The presence of other tall development in these views does not automatically reduce or even actually affect the significance of Balfron Tower.

5.31 Historic England continues to discuss 'Views and settings' and talks about views as '*a purely visual impression of an asset or place which can be static or dynamic, long, short or of lateral spread, and include a variety of views of, from, across, or including that asset'*. It gives five examples of 'Views which contribute more to understanding the significance of a heritage asset'; none apply to Balfron or its setting. Balfron is not one of the four examples of '*Assets, whether contemporaneous or otherwise, which were intended to be seen from one another for aesthetic, functional, ceremonial or religious reasons'*.

Other heritage assets

5.32 This section of the report focusses on Balfron Tower and the Balfron Tower Conservation Area as the closest and most significant heritage assets affected by the proposed Aberfeldy Village development. Other assets will, of course, be affected, and the relevant heritage assets are identified earlier. Of these, two merit particular mention.

5.33 The Grade II* former Financial Times print works on East India Dock Road (to the south of Aberfeldy Village) is one of a few listed buildings designed by Sir Nicholas Grimshaw. Its interior is explicitly excluded from the listing. The building is in marked contrast to Balfron Tower – it is a non-public industrial building (now in an entirely different use) occupying its site in a rational but wholly utilitarian fashion. It has even less relationship to its surroundings than Balfron, and represents a phase in the redevelopment of East India Dock and its environs. The one feature of the building with a direct relationship to its context – the large, curtain-walled print hall – was eliminated prior to listing.

5.34 The former Bromley Hall School (GII) is similar to the former FT building in being inward-looking and very much isolated from its context. Its heritage significance does not rely on its setting and therefore what is important to its significance will not be altered by introducing new built form into its vicinity. However, its present setting amongst abandoned brownfield sites and scrub is a wholly negative factor in its setting and detracts from its significance.

5.35 We do not consider that other heritage assets further afield will be affected by the proposed development to a significant degree. The site does not contribute to their heritage significance and they exist already in a varied townscape, which includes taller contemporary development, while retaining their significance. Individual effects on other heritage assets are considered in the Environmental Statement (Chapter 12, 'Built Heritage').

Conclusion

5.36 Visibility does not automatically equate to harm; such a concept or rule does not form any part of the planning system, whether in respect of heritage assets or otherwise. The absence of a meaningful, designed, fortuitous, desirable or even inoffensive context for Balfron Tower means that development in its setting is an opportunity for enhancement rather than a

risk of harm to significance. There is little beyond the Brownfield Estate boundaries – apart from Trellick Tower in North Kensington – that has any specific relationship to Balfron's heritage significance. The opportunity lies in designing development so as to respond to Balfron's significance and to create connections with Balfron from its hinterland. These connections can be visual and physical.

5.37 Designed to sit within an urban landscape of competing architectural expression, the individual heritage assets - listed and locally listed buildings and other non-designated heritage assets - are robust when it comes to absorbing change, and therefore a change in their setting which introduces new built form into the surrounding environment – in most cases at some distance away - is not enough of a change to diminish their special interest as expressed through their architectural or historical significance.

5.38 We conclude that the proposed development will preserve and enhance the setting of designated and non-designated heritage assets. While their settings will be changed, this will be in a highly positive and regenerative fashion

6 Compliance with policy and guidance

6.1 This report has provided a detailed description and analysis of the heritage significance of Aberfeldy Village and its heritage context, as required by Paragraph 189 of the National Planning Policy Framework. In addition, the report also describes (in Section 5 'The Proposed Development and its effect') how the proposed scheme will affect that heritage significance. The effect is positive, and for that reason, the scheme complies with policy and guidance. This section should be read with Section 3.

The Planning (Listed Buildings and Conservation Areas) Act 1990

6.2 The conclusion of our assessment, contained in previous sections in this report, is that the proposed scheme preserves the surrounding listed buildings interest as well as the character and appearance of the surrounding conservation areas. The proposed scheme thus complies with S.66(1) and S.72(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990. It does not lead to 'substantial' harm or any level of 'less than substantial' harm to any heritage assets.

The level of 'harm' caused by the proposed scheme

6.3 As outlined in Section 3, the NPPF identifies two levels of potential 'harm' that might be caused to a heritage asset by a development: 'substantial harm…or total loss of significance' or 'less than substantial'. Both levels of harm must be caused to a *designated* heritage asset – in this instance listed buildings or conservation areas.

6.4 The proposed scheme does not lead to 'substantial' harm or any level of 'less than substantial' harm to the designated heritage assets in question. As has been explained earlier, the proposal does very evidently *not* result in the 'total loss of significance' of any listed structure or conservation area.

6.5 The only potential for 'substantial' harm would be if the proposed works at Aberfeldy Village caused the loss of a significant component of the special interest of a heritage asset. There is nothing about the proposal that would give rise to this level of harm.

The balance of 'harm' versus benefit

6.6 The cumulative effect of the scheme – when all of its elements are considered - will be highly positive. The Emerging Masterplan delivers considerable social, economic and environmental regeneration benefits. These can be summarised, but are not limited, to: a substantial number of new homes; affordable housing delivery; optimisation of site potential and density; and the creation of a vibrant, diverse and inclusive place.

6.7 The Proposed Development will not affect the core architectural or historic interest of any heritage asset to any degree that would alter its special interest but will certainly preserve that interest.

The National Planning Policy Framework

6.8 This report has provided a detailed description and analysis of the significance of Aberfeldy Village and its heritage context, as required by Paragraph 194 of the National Planning Policy Framework.

6.9 The proposed scheme complies with Paragraphs 199 to 202 in that it conserves the heritage assets in question and does not contribute to any level of harm or loss of significance of a heritage asset.

6.10 The Proposed Development certainly enhances and reveals the setting of heritage assets and preserves those elements of the setting that make a positive contribution to the asset as required by paragraph 206.

London Plan

6.11 The proposed scheme is consistent with the London Plan and fully complies with its Design (Chapter 3) and Heritage (Chapter 7) policies.

6.12 The proposed scheme is of the highest architectural quality and responds to Policy D3 '*Optimising site capacity through the design-led approach' by positively responding to local distinctiveness and successfully responding to the existing character of the place and in that respects, enhances and utilises the heritage assets and architectural features that contribute towards the local character*.'

6.13 It is also consistent with Policy HC1 'Heritage Conservation and Growth', in that the applicants have sought to identify, understand and conserve the historic environment and the

proposals clearly conserve the significance of nearby heritage assets, and their settings, by being '*sympathetic to their significance and appreciation within their surroundings*'.

Tower Hamlets Local Plan

6.14 In positively addressing the requirements of the National Planning Policy Framework, the Proposed Development also meets the policy requirements of the Tower Hamlets Local Plan relevant to heritage assets. The proposals preserve and enhance the borough's designated and non-designated heritage assets in a manner appropriate to their significance.

7 Summary and conclusions

7.1 The purpose of the report is to identify heritage assets that may be affected by the proposed Aberfeldy Village development project and analyse their heritage significance and any effect that the Proposed Development might have on that significance.

7.2 The Site itself does not contain any designated or non-designated heritage assets. The report, therefore, focusses on the significance of one of the closest sets of heritage assets - the Balfron Conservation Area and the Balfron Tower - in order to understand the nature of their setting and the contribution of that setting to their heritage significance.

7.3 Balfron Tower is far from being the only heritage asset potentially affected by the Proposed Development, nor the only heritage asset of notable heritage significance, however, its status at Grade II*, its physical prominence and its proximity to the site, causes it to figure centrally in considerations regarding the heritage effects of the scheme.

7.4 Section 3 is an analysis of heritage significance of the relevant assets. This can be summarised as follows:

- The story told by both Aberfeldy Village and Poplar generally is one of radical and repeated urban change that, despite being at various times planned to varying degrees (whether the commercial development of the 19th century or post-war reconstruction), has resulted in a highly heterogenous landscape in heritage and townscape terms. This provides highly valuable evidence of the past and direct access to understanding the economic and social evolution of this part of Tower Hamlets. This evidential value or historic interest is linked to but separate from aesthetic or architectural matters;

- This highly heterogenous built environment may well possess considerable evidential value, but in aesthetic, architectural and urban design terms it now presents a piecemeal and fragmented setting for the various designated and non-designated heritage assets in the vicinity of the Aberfeldy site. This historical interest of the overlaying of various phases of development in Poplar has given rise to a built environment that is not characterised by one period, style, scale or grain.

- The Poplar area possesses communal value in connection with its redevelopment after the war;
- The Brownfield Estate and its buildings are significant as examples of post-war regeneration in London's East End undertaken by the LCC, the GLC and the London Borough of Tower Hamlets;
- Ernö Goldfinger is a highly significant modern architect, seen as one of Brutalism's pre-eminent figures and whose work was highly influential;
- Goldfinger's architecture is dramatic, muscular and powerful. As at his Trellick Tower (GII*) in Kensington, Balfron and Carradale have detached slim towers containing vertical circulation and community spaces, linked at every other floor to the main slab block by walkways;
- The sculptural and compositional quality of Goldfinger's work is carried through from the overall massing of the buildings into the use of concrete and in elevational design, and the detail appearance of the buildings is intrinsic to their architectural significance; and
- The plan form of the buildings and the quality of their accommodation is a key component of the significance of the Brownfield Estate buildings.

7.5 The report considers the setting of Balfron Tower and the contribution of its setting to its significance using Historic England's guidance on setting (GPA3). It is clear from this guidance, that the setting of Balfron Tower, and indeed the other elements of the Balfron Conservation Area, makes, in physical terms, very little contribution to the significance of these heritage assets. Indeed, their surroundings (notably the A12) can reasonably be said to harm their significance.

7.6 This analysis concludes that:

- There is no evidence at all that Balfron Tower was intended as a focal point – such thinking did not form any part of the planning of the Brownfield Estate, the design of its taller elements or of a masterplanning exercise for Poplar that might have created the specific location of Balfron Tower as an urban focus;
- The very architectural qualities that contribute to its heritage significance will allow Balfron Tower that

significance to be preserved in the context of new development. Its power and strength as a striking and characterful tall building will not be harmed by new development, and that development should not be constrained by over-stating the sensitivity of Balfron and the other buildings of the Brownfield Estate to change;

- Development in the context of Balfron – possibly to a greater scale than exists – could help create a more coherent, responsive and attractive setting and thus enhance the significance of Balfron Tower and its estate.

7.7 The Proposed Development will not affect the architectural or historical interest of any building to a degree that would alter its special interest in any significant way and will certainly preserve that interest. The setting of nearby listed buildings, and the character and appearance of the nearby conservation areas will be preserved by the proposed works.

7.8 For these reasons, the Proposed Development will comply with the law, and national and local policies and guidance for urban design and the historic built environment.

Appendix A: Balfron Tower List Description

Balfron Tower

Grade: II*

List Entry Number: 1334931

Date first listed: 14-Mar-1996 / Date of most recent amendment: 15-Oct-2015

Statutory Address: Balfron Tower, St Leonard's Road, Poplar, London, E14

Summary

High-rise block of flats and maisonettes, 1965-7 by Ernö Goldfinger, built as phase 1 of the London County Council (later Greater London Council -GLC) Brownfield Estate.

Mixed development public housing scheme, approved for development by the LCC in 1959 and designed by Ernö Goldfinger from 1963. Built in three phases: Balfron Tower, old people's housing and shop in St Leonard's Road, 1965-7; Carradale House, 1967-8; Glenkerry House (1972-5), 2-24, 26-46 and 48-94 Burcham Street and Burcham Street Centre, 1972 onwards. The community centre/nursery in St Leonard's Road was designed as part of phase 2 and built in phase 3.

Reasons For Designation

Balfron Tower, built 1965-7, by the eminent modernist architect Ernö Goldfinger is listed at Grade II* for the following principal reasons:

- Authorship: designed and planned by Ernö Goldfinger, a major exponent of the European Modern Movement in Britain and an architect of international standing;
- Architectural interest: strikingly sculptural, it is the precursor and model for Goldfinger's modernist high-rise

towers, and a manifestation of the architect's rigorous approach to design and of his socialist architectural principles;
- Materials and construction: concrete aggregate, exceptionally fine bush-hammered concrete finishes and precise joinery, establishing a consistency in planning, palette of materials and aesthetic applied across the estate;
- Planning interest: Corbusian-inspired interlocking arrangement of flats and maisonettes, three per bay, served by enclosed access galleries at every third floor, linked to a separate service tower which included community facilities, sports and hobby rooms;
- Degree of survival: a little-altered building that demonstrates le Corbusier's views on spatial planning, where Balfron Tower has a particularly strong planning, visual and aesthetic relationship with Carradale House and Glenkerry House;
- Social and historic interest: phase one of an LCC mixed development, principally of high rise blocks, designed to re-house a local community within a carefully planned integrated landscape;
- Group value: Balfron Tower has strong group value with the low-rise and high-rise elements of the estate, most notably with Carradale House, and the space within which it stands.

History

The Brownfield estate, or Rowlett Street estate as it was known at the time, was developed by the London County Council (LCC) who, short of in-house capacity, approached the architect Ernö Goldfinger.

In 1951 Poplar Borough Council approved a programme to build 300 dwellings on the Tetley Street site to the south and west of Rowlett Street. Before the first block (Langdon House) was

completed, the LCC assumed responsibility for developing the area as an eastern extension to the Lansbury estate and part of the wider Stepney and Poplar Reconstruction Area and in May 1955 approved designs by the Architect's Department for a low-rise development of 354 dwellings at a density of 142 persons to the acre (ppa). It consisted of a mixture of 2-storey terraces, 4-storey maisonette blocks and 2/3-storey blocks of flats. Construction commenced in early 1957 and was substantially complete by 1961. The site was named the Brownfield Estate in July 1958 after an existing road, itself named after a local doctor.

Evolution Of The Scheme

Rowlett Street Stage I The LCC in May 1959 approved an estimate of £50,400 for the acquisition, clearance and partial redevelopment of the first of three extensions to the Brownfield Estate, prompted by clearance and the construction of the Blackwall Tunnel approach; the site was developed in stages to facilitate site acquisition and the rehousing of residents. The density was to be increased from 170ppa to compensate for land take for the Blackwall Tunnel.

Having approached Goldfinger in October 1962, the following month the LCC produced a sketch layout of three 15-storey point blocks as an indication of the type of scheme they anticipated, including the potential for some low buildings for the elderly. When Goldfinger's scheme was presented to the LCC in June 1963 the LCC architect described Balfron Tower as a 'landmark' building and commented that 'a high sense of visual drama would be achieved while emerging from the Blackwall Tunnel'. Detailed Stage I proposals received approval in February 1964; the contract started on site in June 1965 and was completed in October 1967, with a topping out ceremony on Balfron Tower on 22 February 1968.

Rowlett Street Stage II Goldfinger was briefed about a future site extension as early as February 1963 and at the outset prepared

sketches for the complete site [i.e. phases 1 and 2]. Thus the first two phases were planned as a whole, to be executed in two halves, and densities and dwelling types were calculated in aggregate. Although delay had been anticipated, phase 2 was however held back by the LCC's decision to rehouse in Balfron Tower residents who had been displaced by the site clearance. The LCC authorised the acquisition of the Stage II site in November 1964; Goldfinger received a formal commission in December 1965, and in July 1967 his proposals for Carradale House were accepted.

Rowlett Street Stage III The LCC reported in December 1966 that the land south of Burcham Street would be redeveloped to provide 129 new dwellings. At 2.89 acres gross, stage III was the largest site but was developed less intensively than the preceding phases (174 ppa compared with 216 for phase 1 and 205 for phase 2). Additionally it was subject to economies imposed by the new Housing Cost Yardstick (government policy introduced to control public sector housing costs). A drawing from December 1969 (RSHIII/109) shows the rudimentary Glenkerry House, three low-rise blocks, community building and car park block to the west in relation to the existing Balfron Tower and Carradale House. Perspective drawings of early 1970 depict Glenkerry House and the low rise blocks fronting Burcham Street. Glenkerry House was built between 1972 and 1975, and the project was complete or nearing completion by 1976. The relatively long development period was characteristic of the 1970s.

Ernö Goldfinger A Hungarian émigré, born in Budapest, Ernö Goldfinger (1902-1987) moved to Paris in 1920 and to London in 1934. He stands out as one of the only architects trained under Auguste Perret at the École des Beaux-Arts in Paris in the 1920s, and who was closely involved in the early years of the Modern Movement on the Continent, to find acceptance in Britain. He is held in high regard as a major exponent of these ideas in England in the post-war period. Firmly rooted in Perret's Structural-Rationalism, he was strongly influenced by Le Corbusier's social idealist views and architecture, embodied in the slogan 'Soleil,

Espace, Verdure' (sun, space, greenery). The Brownfield estate epitomises these ideas and the Balfron Tower in particular is one of the closest parallels to European modernism to be built in this country. Having first produced designs for housing in 1929 in Algiers, Goldfinger went on to develop ideas for high-rise housing, culminating at that time in a scheme for a 24-storey communal housing scheme, again unbuilt, but exhibited at the CIAM (Les Congrès Internationaux d'Architecture Moderne) conference in Athens in 1933.

In designs for mixed development housing schemes at Abbotts Langley, Herts of 1956-8, comprising a thirteen-storey slab (unbuilt) and three and four-storey blocks and terraces of maisonettes and flats, approached by detached stair towers, Goldfinger explored the Corbusian inspired 'rue interieure' formula for tall blocks of flats and maisonettes served by an internal gallery. His solution created an interlocking section whereby three floors of flats per bay were served by an enclosed gallery, thus providing greater opportunity for social interaction. These principles were fundamental to his later schemes, influencing both the Brownfield estate and the slightly later Cheltenham estate, LB Kensington and Chelsea (Trellick Tower, 1968-72, Grade II*, low rise housing, Cheltenham estate, 1969-73, Grade II).

Balfron Tower

Balfron Tower is the earliest component of the two large blocks of flats and maisonettes that were arguably the most important commissions of his career and has a distinctive profile that sets it apart from other tall blocks. More importantly, it proved that such blocks could be well planned and beautifully finished, revealing Goldfinger as a master in the production of finely textured and long-lasting concrete masses.

Balfron Tower was designed as a social entity to re-house a community, according with Goldfinger's socialist thinking. Families

were re-housed street by street, former neighbours sharing common access galleries. Access to enclosed galleries was secure, stair wells were well lit. As well as services and the boiler the circulation tower included a launderette, a table tennis or billiards room and jazz/pop room for teenagers and a hobby room. Ground floor maisonettes had small gardens and a playground was built on the hard surface above the garages. Phase 1 of the scheme for the estate also included old people's housing, a shop and a community centre and nursery was added later. On completion in 1968, Goldfinger and his wife Ursula received attention for living in one of the flats for eight weeks, giving him the opportunity to document aspects of living there, which formed a report to the GLC and was later published by the Twentieth Century Society.

Details

High-rise block of flats and maisonettes, 1965-7 by Ernö Goldfinger, built as phase 1 of the LCC Brownfield Estate

Structure And Materials: reinforced concrete, with timber cladding to balconies, and an asphalt flat roof. Bush hammered concrete is well detailed, with fair margins and radiused (rounded) corners and executed to a high standard. There are marble linings to the hall, and sapele hardwood doors.

Plan: 136 one- and two-bedroomed flats and ten maisonettes arranged on 26 storeys, with six units per floor and five maisonettes on floors 1 and 2 and 15 and 16 - the latter forming a distinctive break in the pattern of the fenestration and balconies. The units are served at every third floor by enclosed corridors or access galleries linking them to an otherwise detached service tower containing lifts, rubbish chutes, laundry rooms and former games, music and hobby rooms, and topped by a boiler tower with a stepped profile and chimneys. One bedroom flats open directly onto the access gallery; above and below, accessed by internal stairs, are dual aspect flats. At the southern end of the building there is a secondary stair.

Exterior: the west facing elevation, to St Leonard's Road, has balconies to every flat, those to the maisonettes set on the upper floor are cuboid in form, projecting from the centre of the unit and forming a distinctive pattern. The west elevation has the original rectangular timber windows with a thick profile that serve as a vertical contrast to the horizontal rhythm of the balcony fronts. On the rear, east, elevation access corridors are expressed at every third floor by a continuous band. Window units (replaced but not to Goldfinger's original specification) are in groups of three with a full height central light. Originally the block was topped by a thick cornice which was removed some years ago. The iconic service tower is lit by vertical slit lights, arranged in groups of five, ten or fifteen on the west face in three or five on the other faces. The boiler house and chimneys were altered early on, assuming their current profile, to provide capacity for Carradale House when it was built. The main, west entrance, approached by a concrete walkway and bridge with a tiled surface, is in a projecting pod and has a hardwood door with vertical glazed panels (replacing the original plate glass screens). There is a similar but isolated projection on the east face that originally connected to an east walkway, providing a throughway, which was later removed, probably when the Blackwall Tunnel approach road was widened.

Interior: the hard finishes of these interiors are unusually well thought out and flats are generously proportioned, light and airy. The entrance hall is marble lined, though part replaced in green tiles. Doorways in lift lobbies have robust concrete shouldered frames, and doors to common areas are of hardwood with vertical glazed panels and full height moulded handles. Stair wells within the service tower are enclosed, generously proportioned, lit by ranks of slit windows and have steel balustrades allowing sight up and down. In the access galleries the concrete frame and wall panels, in different aggregates, are exposed. Inner walls are clad in brightly coloured glazed tiles, different colours distinguishing the different levels; floors are quarry tiled. A number of un-renovated

flats have original flush panel entrance doors and fittings and retain their original plan and fixtures and fittings including interlocking stairs, some with horizontal timber balustrades. Flush panel doors have slender architraves and some retain Goldfinger's integral light switches.

Legal

Pursuant to s.1 (5A) of the Planning (Listed Buildings and Conservation Areas) Act 1990 (‘the Act’) it is declared that all plant and services are not of special architectural or historic interest and are excluded from the List entry.

Sources

Dunnett, J. & Stamp, G. (1983) Ernö Goldfinger

https://historicengland.org.uk/listing/the-list/list-entry/1334931

KMHeritage

72 Pymer's Mead
London SE21 8NJ

mail@kmheritage.com
www.kmheritage.com

© 2021



ECOWORLD
LONDON
CREATING TOMORROW & BEYOND

POPLAR HARCA

ABEREELDY VILLAGE MASTERPLAN