

2. Site Description & Amended Scheme

Appendix 2.1

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (OCEMP)

5 KINGDOM STREET

Proposed Mixed Use Development

Outline Construction Environmental Management Plan

July 2020

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OUTLINE

1. Introduction

OVERVIEW & PURPOSE OF THIS DOCUMENT

A full planning application for a proposed mixed-use development at 5 Kingdom Street, Paddington Central, was submitted by British Land ('The Applicant') to Westminster City Council ('WCC') in May 2019 (received and validated by WCC on 14 May 2019 (WCC Planning Reference 19/03673/FULL)). The application was supported by an Environmental Statement (ES) (CBRE, April 2019) that described and assessed the effects of the construction and operation of the proposed development on the environment.

The planning application was considered at WCC Planning Committee on 7 January 2020 and the Committee resolved to refuse planning. The planning application has since been "called in" by the Mayor of London for determination (under article 7 of the Mayor of London Order and the powers conferred by Section 2A of the 1990 Town and Country Planning Act) (Greater London Authority (GLA) reference: 4925).

Following consultations with the GLA, a number of amendments have been made to the original proposals set out in the original planning application.

This Outline Construction Environmental Management Plan (OCEMP) has been developed to provide the management framework required for the planning and implementation of construction activities on site. It reflects the mitigation measures to be implemented during demolition and construction works (herein collectively referred to as the 'construction phase') that will mean that environmental effects are avoided, minimised or mitigated such that the effects are as assessed and presented within the ES. This document was originally prepared to support the May 2019 planning application and has subsequently been updated to take account of the recent 2020 scheme amendments.

It is an outline report from which the Construction Environmental Management Plan (CEMP) will be developed. The final CEMP will be secured by condition on any planning permission and is likely to be completed by the principal contractor (once selected). The CEMP will also address any requirements of other planning conditions imposed by WCC.

Note: whilst the mitigation measures set out in the OCEMP will not change in the CEMP, other aspects might, e.g. roles and responsibilities.

SITE DESCRIPTION

The application site is centred on National Grid Reference (NGR) TQ 26140 81602. It is bounded by Harrow Road to the north, Harrow Road and Westbourne Bridge to the west, the railway lines running into and out of Paddington station to the south and other plots within the Paddington Central campus to the east. The site comprises three levels: ground level ('track level'), with Harrow Road level above and Kingdom Street level further above this. The extent of the red line boundary varies between the three levels and, as such, three red line boundary plans have been submitted alongside the planning application. The application site area at each level is shown in **Table 1.1** below. The application site red line boundary plans are provided in **Figures 1.1-1.3**.

Table 1.1
Application Site Area at Each Level

LEVEL	SITE AREA (HECTARES)	FIGURE NO.
Kingdom Street Level	0.43	1.3
Harrow Road Level	0.90	1.2

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LEVEL	SITE AREA (HECTARES)	FIGURE NO.
Track Level	1.26	1.1

The surface at track level within the main body of the site is hard standing. A series of columns are present, supporting a podium structure above. This area beneath the podium has been utilised, primarily for storage, in the Crossrail construction process and is referred to as the ‘Crossrail Box’. The Crossrail Box extends eastwards under the existing 4 Kingdom Street, Hotel Novotel London Paddington (3 Kingdom Street) and 1 Kingdom Street buildings above.

A temporary, two storey building, providing 353 sq. m. (GIA) of restaurant/bar floorspace (Uses A3 and A4) (‘Pergola’), related to the temporary planning consent described in the previous section (Ref 16/12331/FULL), is located on the podium structure above. The podium and first storey of the Pergola building lie at Harrow Road level, while the second storey of the building lies at Kingdom Street level. The main entrance to the building lies at this second storey level and it allows access to and from Kingdom Street to the east. At this level, the red line boundary does not extend as far eastwards as the levels below.

To the north of the main body of the site, an access ramp that links a roundabout at track level to Harrow Road and the Paddington Central Campus above, as well as a portion of the pavement around the junction between Harrow Road and Westbourne Terrace Road, fall within the site boundary. An existing car park for both 4 and 5 Kingdom Street, lying at Harrow Road level, also falls within the site.

The Westway (A40) crosses the site from east to west. At this location, the road comprises a dual carriageway elevated above Kingdom Street level.

The site supports a limited amount of vegetation, comprising a small street tree in the pavement adjacent to the junction between Harrow Road and Westbourne Terrace Road, some ornamental shrubs and plants on the decked terrace area of the Pergola building and adjacent to the building entrance on Kingdom Street, and occasional ruderal plants at track level.

NATURE OF THE PROPOSALS

The proposals comprise a new building of ground (Kingdom Street) + mezzanine + 18 storeys + roof terrace/office ancillary floorspace/plant space, with three levels below Kingdom Street level.

The naming of the levels of the proposed building and how these accord with the existing levels at the site is shown in **Table 1.2**.

Table 1.2
Relationship between Existing and Proposed Levels

EXISTING LEVELS	PROPOSED BUILDING LEVELS
-	Level 01-19
-	Mezzanine
Kingdom Street level	Ground Floor Level
Harrow Road level	Lower Ground Floor Level
-	Upper Box Level
Track level	Lower Box Level

1. Introduction

The building footprint is relatively consistent between Lower Ground Floor Level and the levels above. However, at the levels below (Upper Box Level and Lower Box Level), the development footprint extends eastwards under the 4 Kingdom Street, Hotel Novotel London Paddington (3 Kingdom Street) and 1 Kingdom Street buildings. This part of the site is referred to as 'the Box'.

The proposed uses within the building are described in **Table 1.3** below.

Table 1.3
Use/Floorspace Summary Schedule

USE	LOCATION	TOTAL FLOORSPACE (SQ.M. GIA)
Outdoor office amenity terrace	Level 19	795
Outdoor office amenity terrace	Level 01	78
Outdoor office amenity terrace	Mezzanine	129
Office use (B1(a)) (including internal ancillary space)	Ground Floor Level, Mezzanine & Level 1 – 19	48,264
Flexible retail uses (A1, A3)	Lower Ground Floor Level	265 Maximum floorspace per use: 100% of total floorspace
Flexible retail/office uses (A1, A3, B1(a))	Lower Ground Floor Level, Ground Floor Level & Mezzanine	723 Maximum floorspace per use: 100% of total floorspace
'The Garden' (internal space) inc. café/bar (sui generis)	Upper Box Level, Lower Ground Floor Level, Ground Floor Level	1,635
Flexible commercial/leisure/cultural uses: <ul style="list-style-type: none"> ▪ Restaurant (A3); ▪ Market hall (sui generis) ▪ Conference / exhibition space (D1/sui generis); ▪ Cinema (D2); and ▪ Gym / sports (D2). 	Lower Box and Upper Box Levels	3,490 The maximum proportion of the total floorspace that could be provided by each use is as follows: <ul style="list-style-type: none"> ▪ Restaurant (A3) / Market hall (sui generis): combined, will make up up to a maximum of 100% of total area; ▪ Conference / exhibition space (D1): will make up up to a maximum of 100% of total area; ▪ Cinema (D2): will make up no more than 50% of total area; and ▪ Gym / sports (D2): will make up no more than 50% of total area.
Affordable Workspace (B1(a))	Lower Box and Upper Box Levels	3,900
Auditorium (sui generis):	Lower Box and Upper Box Levels	738

1. Introduction

USE	LOCATION	TOTAL FLOORSPACE (SQ.M. GIA)
Mixed use ancillary	Lower Box, Upper Box Levels and Lower Ground Floor Level	6,913

OUTLINE

2. Roles, Responsibilities and Key Contacts

ROLES & RESPONSIBILITIES

Applicant

The Applicant is committed to ensuring that mitigation measures are put in place to prevent any impacts on the environment and that good management is used to maintain it.

The site and its constituent construction works will be registered with the Considerate Constructors Scheme (CCS), which is an independent inspecting authority aimed at improving the image of the construction industry and subsequently improving relationships between sites and the local community. Headline items for consideration include appearance, community, environment, safety and workforce.

For further information on the scheme and its positive approach, visit: www.ccscheme.org.uk.

Site Registration Number: [TBC in final CEMP]

The Applicant will ensure that responsibilities are appropriately allocated, and relevant personnel are suitably empowered to discharge their responsibilities.

The chain of command will be agreed in due course and confirmed in the final CEMP. An indicative chain of command is provided below:

- Project Director
- Project Manager
- Site Manager
- Assistant Site Manager
- Divisional Safety, Health and Environment (SHE) Manager
- Site Foreman

KEY CONTACTS

This section within the final CEMP will provide details of the key project contacts. It will be the responsibility of the Site Manager to maintain up-to-date details for the key contacts throughout the lifetime of the project. An indicative format is provided below.

PROJECT DIRECTOR	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]
PROJECT MANAGER	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

2. Roles, Responsibilities and Key Contacts

SITE MANAGER	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

DIVISIONAL SHE MANAGER	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

LEAD PLANNING OFFICER – WCC	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

ENVIRONMENTAL HEALTH OFFICER – WCC	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

TECHNICAL OFFICER – ENVIRONMENT AGENCY	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

24HR HELPLINE – ENVIRONMENT AGENCY	
NAME:	[TBC]
TELEPHONE:	[TBC]
EMAIL:	[TBC]

3. Construction Methodology

SUMMARY OF ANTICIPATED WORKS

The proposed development comprises the demolition of part of the existing podium structure and the construction of a new building providing a variety of proposed uses. The demolition and construction works will be undertaken in a single phase. There will be separate contracts in the future to undertake tenants fit-out of commercial, community, cultural and/or leisure floorspace when these areas are let. At this stage, it has been assumed that tenant fit-out will begin during the period in which core installations and finishes works are taking place in the wider building and then will extend several months after this period.

CONSTRUCTION PHASE PROGRAMME

For the purposes of the ES, it has been assumed that the 'opening year' for all development within the site is 2025, with construction anticipated to commence in Q3 2021.

The anticipated construction programme is shown in **Table 3.1**. Throughout this document, reference to the 'construction phase' is considered to include the demolition works.

The current expectation is that the demolition, construction and fit-out works would take approximately 48 months to complete. This programme includes all enabling work, required to allow efficient access to the site, and an allowance for tenant fitting out. The programme is considered to be based on reasonable assumptions in terms of the sequencing of works and site logistics and is considered to be reasonable and achievable.

Table 3.1

Indicative programme of construction works

PHASE	START DATE	FINISH DATE	DURATION
Site Establishment	06/09/2021	14/11/2021	10 weeks
Demolition	20/09/2021	18/02/2022	21 weeks, 4 days
Substructure and Lower Floors	04/03/2022	19/01/2023	45 weeks
Steelwork	04/12/2022	01/11/2023	44 weeks, 4 days
Planks and Topping	17/03/2023	17/04/2024	54 weeks
Unitised Curtain Wall	28/04/2024	25/06/2024	57 weeks
Cladding and Roof Finishes	22/01/2022	03/05/2024	62 weeks
Core Installations and Finishes	22/01/2022	17/01/2024	98 weeks
Tenant Fit-out	06/05/2024	12/08/2025	62 weeks, 4 days
Total			48 months

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PHASE	START DATE	FINISH DATE	DURATION
Site Establishment	06/07/2020	14/09/2020	10 weeks
Demolition	20/07/2020	18/12/2020	21 weeks, 4 days
Substructure and Lower Floors	04/01/2021	19/11/2021	45 weeks
Steelwork	04/10/2021	01/09/2022	44 weeks, 4 days
Planks and Topping	17/01/2022	17/02/2023	54 weeks
Unitised Curtain Wall	28/02/2022	25/04/2023	57 weeks
Cladding and Roof Finishes	22/11/2021	03/03/2023	62 weeks
Core Installations and Finishes	22/11/2021	17/11/2023	98 weeks
Tenant Fit-out	06/03/2023	12/06/2024	62 weeks, 4 days
Total			48 months

Source: Blue Sky Building

PRE-CONSTRUCTION ENABLING WORKS

The principle purpose of the enabling works will be to prepare the site area to allow construction to start whilst maintaining existing facilities and amenities. The key to the approach to construction is to use the existing track level space as the logistics hub for the works. Originally constructed for potential use as Crossrail sidings, there is sufficient head height and space to allow construction vehicles to enter and manoeuvre below the podium structure above. The area is accessed directly from the existing service entrance to Paddington Central from Harrow Road.

Early enabling works will include hoardings and barriers to separate the site area from public spaces and estate service roads.

Surveys and investigations will need to be undertaken prior to the commencement of works on site, as identified below, although it is likely that some of the surveys and investigations will need to be undertaken once the construction site is fully established to facilitate ease of access to the site for exploratory purposes. The following surveys and investigations are envisaged:

- Condition survey of the existing structure;
- Condition survey of boundary walls and fences;
- Condition survey of neighbouring properties;
- Spatial and condition surveys of existing highways; and
- Existing statutory services.

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All statutory WCC consents and licences required to commence any on site activity will also be obtained ahead of the works commencing and give the appropriate notice period. WCC's Code of Construction Practice ('CoCP')¹ categorises construction sites according to scale, as Level 1, 2, or 3; Level 1 being the largest category, designating 'major developments'. This site is a Level 1 site as defined under WCC CoCP. Applications will include but not necessarily be limited to:

- Notices for works on the highway in accordance with the Highways Act 1980 and Road Traffic Act 1998;
- Hoarding and scaffold licences for works on the perimeter boundary;
- Agreements with Network Rail regarding working methods and possessions for temporary works;
- Temporary Traffic Order (TTO) for any alterations to road junctions, if found necessary;
- Construction notices;
- Section 80 Demolition Notice;
- Section 61 (noise) prior agreement application;
- Connections to existing statutory services and main sewers;
- Licence for discharge of water from the site into the public sewer; and
- Approval of the final Construction Environmental Management Plan (CEMP), CMS, DMS, Site Waste Management Plan (SWMP) and any other supporting documents and plans.

SITE ESTABLISHMENT

One of the first activities will be to establish the area as a construction site. The working areas will be secured, and the general public will be separated from the works, prior to works commencement, with the use of solid and well maintained, 2.4m high hoardings and screening where required. Secure access points with wheel cleaning facilities will be established at all site access and egress locations. Pedestrian access points will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided.

Hoardings will be erected to segregate vehicles using the Paddington Central service roads from the working areas as part of the site establishment works. Vehicle access will be maintained to the 4 Kingdom Street Car Park and Novotel throughout the works. Works to safely segregate this access and signposting will be installed early in the programme. The vehicle exit via Westbourne Terrace Road will be closed and internal diversions arranged for any residual centre traffic.

Temporary works to the railway elevation will include the erection of a protective scaffold or cantilevered fan (a projecting crashdeck) before any demolition or structural works are undertaken to the existing podium structure. Discussions will be held with National Rail & London Underground in detail regarding the extent of protection required but it is possible that night-time track possessions and night working will be required for the erection of the scaffolding.

¹ Westminster, City of. Code of Construction Practice. July 2016

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The construction project offices and associated welfare facilities for the demolition and construction workforce will initially be located in cabins at track level within the site. As works proceed site accommodation will be relocated to temporary accommodation inside the new building. The locations will be identified in advance and agreed with WCC as part of the detailed construction and demolition logistics programming.

Three tower cranes and platform hoists are proposed, as shown on **Figure 3.1**. Cranes will be erected after demolition of the podium slab.

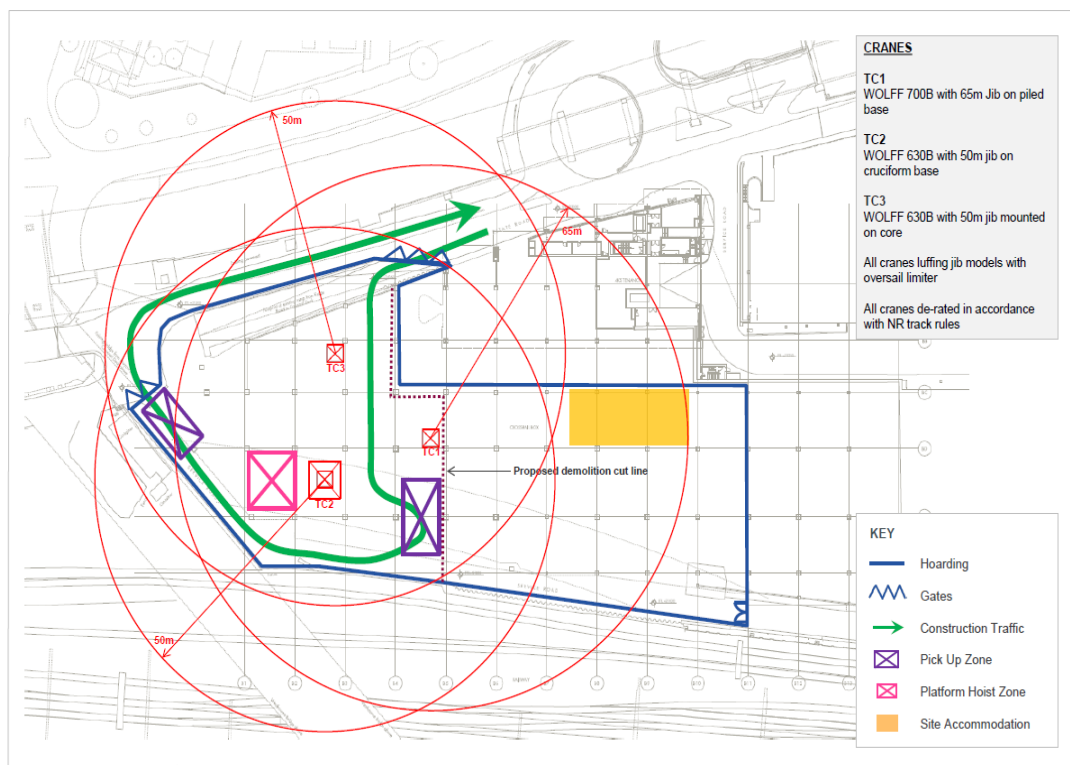
One tower crane (TC1) will be founded at track level on temporary piles, outside the footprint of the proposed building. A second tower crane (TC2) will be founded at track level on a cruciform kentledge base (because it will be over the Crossrail Tunnel zone), utilising the “soft” areas of floorplate through the building. The third tower crane (TC3) will be erected on the concrete core once it is built.

Tower cranes will be luffing jib models with oversailing limiters, designed and erected in accordance with National Rail & London Underground specific rules for working adjacent to railways.

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Figure 3.1

Proposed Crane Locations



DEMOLITION WORKS

Demolition comprises the removal of part of the existing podium structure, originally constructed to form the “Crossrail Box” and its access ramp and bridge link to Westbourne Terrace Road. The first operation will be to isolate any live services to working zones.

The existing space is mostly bare structure, however there are elements of “soft strip” to be undertaken to clear the area. Soft strip is the removal of all non-structural elements so far as is reasonably practicable, e.g. furniture, floor coverings, fixtures, fittings, non-masonry walls, partitions, suspended ceilings, windows etc. and would normally include the safe removal of hazardous materials within the existing building by a specialist contractor. Asbestos is not expected to be present given the age of the structure. Site investigations will check for other hazardous materials following a desktop study of previous uses of the space.

Once any hazardous materials have been removed and any live services terminated and confirmed as such, the soft strip of all fixtures and fittings within the existing space will be carried out. Stripping will be carried out by trained operatives using hand-held tools and small machines in a continuous stripping exercise. The works will be accessed from the existing floor level, Mechanical Elevated Working Platforms (MEWPs), or from aluminium towers.

Combustible materials will be removed first, before ceiling hangers, trunking, conduit, pipework and other non-structural metalwork are cut out using oxygen/propane burning equipment, angle grinders or mechanical dismantling. A 'Hot-Works' permit to work system will be enforced when any works of this nature are undertaken, and fire extinguishers will be prominent. Hot works will cease two hours before the end of a working shift and the

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area thoroughly checked prior to breaks or to leaving site. Oxygen and Propane bottles will be stored upright in a lockable cage.

By regularly removing the accumulated debris, the potential fire risk that loose combustible material creates is minimised / removed. Rubbish arising from the soft strip will be segregated into recyclable streams and deposited into skips / container lorries within the basement loading areas for removal.

Once fixtures and fittings have been removed, a crash deck will be erected for hard demolition. The podium slab will be saw cut at the designed cut line and will be demolished onto the crash deck using 360 degree excavators fitted with crusher jaws. Steel members will then be cut into manageable sections for dismantling by excavator and small mobile crane.

Waste will be segregated into recyclable streams on site and removed by skip or tipper lorry. Fine water spray will be employed to limit dust emissions.

Areas of basement slab will be saw cut and broken out in areas to suit the proposed new pile layout. As the slab is removed pile probing will be undertaken to remove below ground obstructions in readiness for new piling. Consideration will be given to crushing concrete debris on site to provide material for construction of a temporary piling platform, subject to the quantity and quality of material produced.

PILING AND SUBSTRUCTURE WORKS

The proposed substructure design makes use of existing foundations as far as possible and respects the location and protection zone of the Crossrail tunnels below the site. New piles are to be introduced over part of the site area, and foundations are to be added to with a mixture of new pile caps and extensions to existing caps and ground beams. A single piling rig is likely to be employed, operating in accordance with National Rail & London Underground rules and approvals. A telescopic mobile or crawler crane will provide service to piling operations.

At track level, under the existing Paddington Central buildings in the eastern portion of the site, limited structural alterations are required. Specialist piling rigs may need to be used to accommodate the headroom limitations, either open bore (Martello rigs or similar) or Segmental Flight Auger (SFA) systems.

The new substructure comprises a combination of deep steel box girders and concrete cross walls to transfer loads across new and existing foundations whilst bridging over the Crossrail tunnels. Steel girders will be large, heavy components, delivered in large sections by special transport and possibly including on site assembly and welding. Heavy cranes will be used, and lifting plans of crane locations will be agreed in advance with Crossrail, National Rail & London Underground.

The concrete "cassette" of load bearing cross walls will be constructed using traditional formwork techniques. TC 1 will be in place to provide lifting service and TC2 will also be erected at this stage.

SUPERSTRUCTURE

The structural design of the building is steel framed with a reinforced concrete core. Floors are likely to be precast concrete planks and in-situ toppings, although other structural options are under consideration at this stage. Some bays of floor area will be of a lighter

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construction to form “soft” areas that can be removed for potential future circulation stairs to be added.

The concrete core will be slip formed from Upper Box Level once the concrete “cassette” is in place. Once it reaches full height the third tower crane will be erected on top of it.

The steel frame to the central area will be completed from Lower Box Level (track level) to Level 02, as the slip formed core continues to rise. The central area is vertical and once in place the large raking columns that form the perimeter bays at those levels will be erected. The structural works to reform the bridge link to Westbourne Terrace Road will be undertaken at this stage.

Above Level 02, the steel is more conventional, although the perimeter columns follow an offset staggered pattern to coordinate with the visual effect of the façade. Steel will continue floor by floor, erected by tower cranes.

When steel is lined and levelled and sufficiently advanced, safety nets will be erected and plank floors will follow 5-6 floors behind steel. In-situ concrete toppings will be placed using pumped concrete, placed using a placement boom.

Further consideration will be given in the detailed construction planning to the use of pre-fabricated staircases, which may be steel or precast concrete or could be in-situ concrete on permanent formwork such as “Stairmaster”.

BUILDING ENVELOPE

The external envelope design will comprise a metal and glass unitised curtain wall with terracotta features. The envelope to the upper commercial office floors features large units of up to 3m wide and smaller units between and forming the spandrel panels at floor edges.

Large units will be delivered to site on A frame stillages in pairs. They will be lifted and placed by tower crane. Smaller units will be delivered in larger batches, offloaded at track/Lower Box level for delivery to floors by platform hoist or by crane – loading to “Preston” platforms clamped to floor edges. Once loaded out to floors they will be erected using floor mounted lifting equipment such as mini cranes or mono-rails.

Cladding to the lower floors housing public spaces and building reception will be of similar appearance but erected using stick and panel systems where needed to achieve the taller, multi floor glazing.

CRANEAGE & HOISTING

Three fixed tower cranes will be used to service construction of the superstructure and cladding as previously described. Cranes will be designed and erected in accordance with National Rail & London Underground rules for working alongside the railway asset, including de-rating of maximum load. Cranes will be luffing job models with out of service radii set out to avoid oversailing the railway tracks.

Platform hoists will be erected inside the building, sharing the “soft” floor areas alongside TC3. Hoists are likely to include a large footprint heavy duty hoist capable of transporting cladding panels plus a pair of goods/ passenger hoists for fit out materials.

Consideration will be given to installing the permanent lifts as “jump lifts”. This is a method of installing permanent lifts in the core shafts as work proceeds. It provides an early

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opportunity to move men and small materials to the workforce while the building is still growing in height.

Concrete will be placed by static concrete pumps and placing booms, with most concrete arriving by ready mixed truck to track level.

Larger cladding units will be lifted onto the building frame by tower crane. The smaller aluminium unitised sections will be placed in their final location by floor mounted manipulators or mono-rails. The pre-fabricated panels will be placed on the floors via internal hoists.

Brickwork to the lower floors will be added from a traditional scaffold or mast climber platform.

Once the envelope works are nearing completion, TC3 and the larger platform hoist will be dismantled to allow the temporary openings through floors to be closed in.

Goods/passenger hoists will remain in position to service the fit-out trades, until permanent enough permanent lifts become available. TC2 will finish the cladding, roofing, plant placement and BMU and be the next to be dismantled. TC 1 will be the last crane to be removed – after roof finishes and plant are complete.

Tenant fitting out contractors will have use of the permanent lifts in the building.

ACCESS AND EDGE PROTECTION

Access and edge protection for the superstructure construction will be incorporated in the design of the steelwork which will include pre-fixed rails and guarding to contain construction operations for the upper floors. Protective fans and traditional scaffolds will be designed and erected up to Ground Floor Level to provide added protection to the railway elevation and serve the cladding works at those levels.

Cladding erection of the upper floors will be designed to be installed with internal access only. Final access for checking and snagging the completed elevations will utilise the permanent Building Maintenance Unit (BMU) in the closing stages of the construction programme.

The lifting and access 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 final CEMP, a lifting strategy will be developed and prepared in accordance with the detailed design and statutory obligations. WCC, National Rail and TfL 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. crane permits and over sailing licenses 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.

FIT-OUT

New operational plant to be housed on the Lower Box and Upper Box levels will be delivered and installed at an early stage in the programme. Roof plant will be placed by tower crane as previously noted.

Mechanical & electrical installations in risers and common areas would commence as soon as the roofs and risers can be made watertight, with temporary water proofing added to mid-height floors to allow earlier progress. Finishes and services fit out of all floors to the

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buildings will progress once a level of temporary or permanent water tightness has been achieved across the floors, working from the lower floors upwards.

Toilets are likely to be designed and installed as pre-manufactured pods as whole toilets or in sections. They will be delivered during the envelope programme and distributed by tower crane and “Preston platforms” prior to sealing the building. The use of pods will reduce both the potential number of deliveries to site and the on-site workforce.

Fit out materials generally will be delivered and distributed by good/ passenger hoists until such time as they are removed, and the envelope sealed. Final deliveries would utilise the permanent lift installation.

EXTERNAL/LANDSCAPING

Externally, hard and soft landscaping in accordance with the landscape design will be constructed. The podium slab will be infilled when TC1 is removed to allow the landscaping above and below to be completed.

As the works come to an end, temporary site accommodation and hoardings will be cleared, and final landscaping completed. The public routes and links through Westbourne Terrace Road will be reopened when works complete.

4. General Site Management

HOURS OF OPERATION

Working hours will be in accordance with the CoCP. Works will be limited to between 08:00 and 18:00 Mondays to Fridays and between 08:00 and 13:00 on Saturdays, unless written consent is obtained from WCC. No work is to be undertaken on Sundays or Public Holidays, unless written consent is obtained from WCC.

All 'noisy activities' (as defined within the CoCP, and which includes all demolition and concrete-breaking works) must be carried out within the following 'restricted hours':

- 08:00 to 18:00 Mondays to Fridays; and
- At no time during Saturdays, Sundays or Public Holidays.

Discussions will be undertaken with National Rail and TfL but it is expected that certain key activities in close proximity to the National Rail & London Underground boundary and the Westway will need to be carried out during engineering hours and require night time possessions. Details will be agreed in due course and WCC will be included in negotiations.

The contractor will apply for a Section 61 prior working agreement, or dispensation, in accordance with the CoCP.

COMPETENCY

An evaluation procedure will be carried out prior to the commencement of works to ensure that competent contractors are appointed. A review will be undertaken of the following:

- Safety policies and strategies;
- Safety history;
- Technical capability;
- Previous project experience;
- Relevant insurances;
- Training records for operatives on site; and
- Machinery/equipment certification.

The Principal Contractor will review the documentation and only compliant sub-contractors will be engaged. During the works, the principal contractor will undertake the following:

- Provide induction training;
- Have regular site meetings to review progress and compliance; and
- Ensure regular communication between all parties occurs daily.

Employees must have a current CSCS card (Construction Skills Certification Scheme) and any other relevant CSCS Approved cards to operate construction site machines etc.

SITE INDUCTIONS

All operatives working on site will be inducted. Refresher inductions will be given every 12 months, though updated inductions will be carried out more frequently if/when there are major changes to the site environment.

All operatives will be made aware of the site requirements on the use of Personal Protective Equipment (PPE).

4. General Site Management

All operatives on site will have the following PPE:

- Hard hat – BS EN 397
- Hi-Vis Vest / coat - BS EN 471
- Safety boots - BS EN 345 (Steel Toe Caps)
- Gloves - BS EN 388
- Safety glasses – BS EN 166

The following will also be available for task specific working:

- Ear Defenders
- Dust Masks

Operatives will be briefed at their induction on the control measures and Spill Kit Emergency Procedure will be available on site.

All workers will be made aware of the requirements of the CEMP and other relevant documents (e.g. Demolition Method Statement (DMS) and Construction Method Statements (CMS)).

ENVIRONMENTAL TRAINING

To ensure that environmental issues are communicated and properly addressed and controlled during the construction works, the CEMP and its contents will be communicated to all site personnel, including management staff and operatives, using the following methods:

- Site induction to highlight:
 - environmental and ecological sensitivities of the application site and its surroundings;
 - restrictions on hours and methods of works; and
 - actions to be taken to reduce potential effects.
- Posters displaying relevant literature; and
- Toolbox talks to highlight particularly sensitive environmental issues and steps to take.

SITE SCREENING, HOARDING AND SAFETY

All hoarding will be erected as per the methodology described in Section 3 of this document.

The Site Manager will carry out weekly inspections to ensure the hoarding meets required standards for safety and will repair any damages where required. Site hoarding will be checked every six months by a qualified engineer.

Edge protection, site screening and hoarding will be used to prevent tools, materials or debris from disturbing the operation of the adjacent railway. Specific measures will be discussed and agreed with Network Rail / London Underground.

Screening and hoarding will be appropriately secured to prevent vandalism and fly tipping. CCTV will also be used to improve site security.

4. General Site Management

WASTE MANAGEMENT

In accordance with the principles of the UK Government's 'Waste Strategy 2010', a principal aim during demolition and construction will be to reduce the amount of waste generated and exported from the site. The proposed approach will comply 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.

The Contractors will carry out the works in such a way that, as far as is reasonably practicable, the amount of spoil and waste to be disposed of is minimised.

Any waste arising from the site will be properly categorised and dealt with in accordance with appropriate legislation. Opportunities for minimising and reducing waste generation will be explored and implemented wherever possible. Measures that will be investigated will include:

- 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 or hardstandings off site; re-use of excavated sub-soil for fill or 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);
- Identification and use of online reuse platforms that support reuse of materials in their highest value; and
- Identification of overall recycling rates, reuse targets and overall landfill diversion rates.

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.

A Site Waste Management Plan (SWMP) will be provided within the final CEMP in due course.

Predicted Waste Arisings

In estimating the waste generation during construction works (sub and superstructure), consideration has been given to the guidance and indicators developed by the BRE. These performance indicators (PI) and benchmark, as shown in **Table 4.1**, have been developed based on data entered into the SMARTStart system, which relies on companies supplying

4. General Site Management

waste data. The PIs are quantifiable metrics that provide businesses with a tool for measurement. The indicators used in this calculation are the Environmental Performance Indicators (EPI), which are provided in **Table 4.2**.

Table 4.1
Predicted Construction Waste Arisings

USE	FLOOR AREA	EPI (CU.M./100SQ.M.)	WASTE ARISING EPI (CU.M.)
Office use (B1(a)) (including ancillary)	47,694	19.80	9,443
Flexible retail uses (A1, A3)	318	20.90	66
Flexible retail / office uses (A1, A3, B1(a))	575	20.90	120
'The Garden' (internal space) inc. café/bar (sui generis)	1,506	20.90	315
Flexible commercial / leisure / cultural uses	7,916	17.40	1,377
Auditorium (sui generis)	730	17.40	127
Education space (D1)	100	20.70	21
Mixed use ancillary	5,580	17.40	971
Total	64,419		12,441

Note: Figures rounded to nearest whole number.

Source: Blue Sky Building

Table 4.2
SMARTStart Environmental Performance Indicators (EPI)

PROJECT TYPE	EPI (CU.M./100SQ.M.)
Residential	18.10
Public Buildings	20.90
Leisure	14.40
Industrial Buildings	13.00
Healthcare	19.10
Education	20.70
Commercial Other	17.40
Commercial Offices	19.80
Commercial Retail	20.90

TRANSPORTATION OF MATERIALS

The number of Heavy Goods Vehicles (HGVs) and Light Goods Vehicles (LGVs) deliveries per day has been forecast for each month during the construction phase. This is presented in **Figure 4.1**.

The maximum number of daily 2-way HGV and LGV movements during the construction phase is 62 movements total, which is expected to occur in three months during the third year of construction; of these 2-way movements, 44 are expected to be made by HGVs.

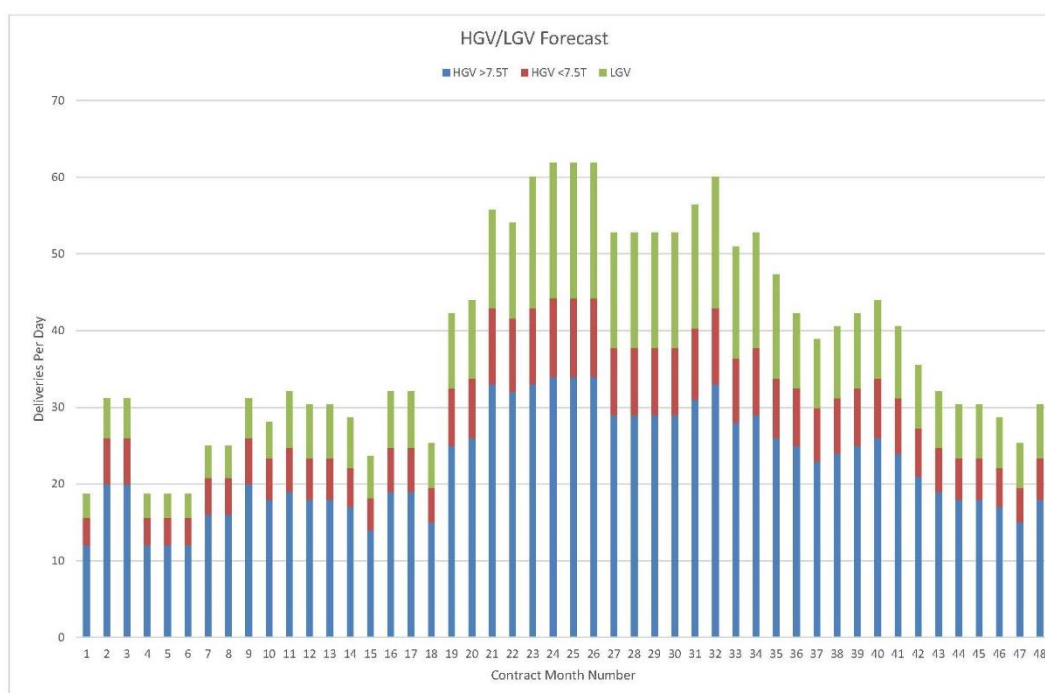
4. General Site Management

Deliveries will be carefully scheduled to avoid multiple vehicles arriving at the site simultaneously, resulting in vehicles having to wait at the site entrance.

The site is accessible directly from the strategic road network. Vehicles can approach from the east or west bound carriageway and the A40 Western Avenue by joining the A404 Harrow Road and entering site using the existing Paddington Central service road entrance.

Figure 4.1

Heavy Goods Vehicles and Light Goods Vehicles Deliveries Per Day Forecast During Construction Phase



HEALTH & SAFETY

Signage

Safety and information signage will be erected on the external and internal hoarding, along with other Health & Safety notices. Notice Boards will be erected by the pedestrian site entrances showing the latest News Letters and Site Manager's contact details.

Site Safety

Operatives and visitors to the site will be required to wear high visibility vests, boots, helmets and carry valid CSCS cards when entering the work area.

Method Statements and Risk Assessments

All subcontractors and specialist personnel carrying out works on site, throughout all phases, will be expected to create a risk assessment and method statement.

4. General Site Management

Fall Prevention

Managing work at height follows a hierarchy of controls – avoid, prevent, arrest – as such fall restraints and safety netting should only be considered as a last resort if other safety equipment cannot be used.

COMMUNITY

Considerate Constructors Scheme

The site will be registered with the Considerate Constructors Scheme, which is an independent inspecting authority aimed at improving the image of the construction industry and subsequently improve relationships between sites and the local community.

For further information on the scheme and its positive approach please visit www.ccscheme.org.uk.

Site Registration Number: [TBC]

Liaison, Consultation & Publicity Arrangements

The Applicant will, via local residents' meetings, notices and local updates, liaise with residents, local counsellors and WCC to ensure that all interested parties are well informed about works being undertaken to areas impacting residents.

The Principal Contractor's details will be displayed on site hoarding via a notice board to encourage people to call should they have any concerns. The notice board will also contain monthly updates on information regarding works to be undertaken and updates on progress.

Employment Opportunities

The Applicant will develop a construction phase Employment, Training, Skills and Local Procurement strategy, in consultation with WCC and the main contractor, which will set out:

- How the Applicant will target 20% of jobs for people living in Westminster, including an employment and skills manager during the construction period;
- Targets for apprentices on site and within the supply chain; and
- How the Applicant will target 20% of the supply chain by value going to local businesses, including preparing a local supplier database and hosting 'meet the buyer' events.

The Applicant will work with local schools and further education colleges to deliver a programme of activities, as part of our wider community investment programme, to secure opportunities for young people in the construction industry.

The construction phase Employment, Training, Skills and Local Procurement strategy will be submitted to WCC for approval 3 months prior to commencement of construction.

Complaints Procedures

All complaints will be responded to within 3 working days.

5. Environmental Protection Measures

The measures listed below are proposed to minimise environmental effects during the construction phase.

AIR QUALITY (INCLUDING DUST)

Site Management

- Develop and implement a Stakeholder Communications Plan that includes community engagement before work commences on site
- Develop a Dust Management Plan
- Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary
- Display the head or regional office contact information
- Record and respond to all dust and air quality pollutant emissions complaints
- Make a complaints log available to the local authority when asked
- Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the local authority when asked
- Increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions and dust are being carried out, and during prolonged dry or windy conditions
- Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and the action taken to resolve the situation is recorded in the log book
- 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.

Preparing and Maintaining the Site

- Plan site layout: machinery and dust causing activities should be located away from receptors
- Erect solid screens or barriers around dust activities or the site boundary that are, at least, as high as any stockpiles on site
- Fully enclosure site or specific operations where there is a high potential for dust production and the site is active for an extensive period
- Avoid site runoff of water or mud
- Keep site fencing, barriers and scaffolding clean using wet methods
- Remove materials from site as soon as possible
- Cover, seed or fence stockpiles to prevent wind whipping
- Carry out regular dust soiling checks of buildings within 100m of site boundary and cleaning to be provided if necessary
- Agree monitoring locations with the Local Authority

5. Environmental Protection Measures

- Where possible, commence baseline monitoring at least three months before phase begins
- Put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly.

Operating Vehicle/Machinery and Sustainable Travel

- Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone
- Ensure all non-road mobile machinery (NRMM) comply with the standards set within the guidance
- 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 possible
- Impose and signpost a maximum-speed-limit of 10mph on surfaced haul routes and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate)
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)

Operations

- 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 mitigation (using recycled water where possible)
- Use enclosed chutes, conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate
- 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

Waste Management

- Reuse and recycle waste to reduce dust from waste materials
- Avoid bonfires and burning of waste materials

5. Environmental Protection Measures

Measures Specific to Demolition

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust)
- Ensure water suppression is used during demolition operation
- Avoid explosive blasting, using appropriate manual or mechanical alternatives
- Bag and remove any biological debris or damp down such material before demolition
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil
- Only remove secure covers in small areas during work and not all at once

Measures Specific to Construction

- 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 powder materials ensure bags are sealed after use and stored appropriately to prevent dust
- Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site
- Avoid dry sweeping of large areas
- Ensure vehicles entering and leaving sites are securely covered to prevent escape of materials during transport
- Record all inspections of haul routes and any subsequent action in a site log book
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems and regularly cleaned
- Inspect haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable)
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits
- Access gates to be located at least 10m from receptors where possible
- Apply dust suppressants to locations where a large volume of vehicles enter and exit the construction site

5. Environmental Protection Measures

- Any additional mitigation measures detailed in Sections 7.3 to 7.7 of the CoCP that are not included above will also be adhered to.

NOISE & VIBRATION

Construction Noise

- All vehicles and mechanical plant will be fitted with effective exhaust silencers and will be maintained in good efficient order
- Inherently quiet plant should be used where appropriate – all major compressors and generators will be ‘sound reduced’ models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers
- Machines in intermittent use will be shut down in the intervening periods between use or throttled down to a minimum
- All ancillary plant such as generators and pumps will be positioned so as to cause minimum noise disturbance, and where necessary, acoustic enclosures will be provided
- All ‘noisy activities’ (as defined within the CoCP, and which includes all demolition and concrete-breaking works) must be carried out within the following ‘restricted hours’: 08:00 to 18:00 Mondays to Fridays
- Channels of communication will be established between the contractor / developer, local authority and residents
- A site representative will be appointed to be responsible for matters relating to noise
- Localised noise barriers will be erected as necessary around plant items such as generators or high duty compressors
- Construction compounds will be laid out so as to minimise noise impacts to neighbouring noise sensitive receptors, by locating noisy operations well away from receptors and using on-site structures and materials to screen noise where practicable and necessary
- People are generally more tolerant of higher noise levels if they know that they are only going to be of a short duration. Therefore, it is important to maintain good communication with the local residents
- In accordance with the CoCP:
 - Background baseline noise surveys will be undertaken prior to construction in order to formulate acceptable construction noise limits
 - The contractor will apply to WCC for formal consents in accordance with s.61 of the COPA
 - Sound levels will be monitored according to the methods set out in BS 5228. All measures will be made on sound level meters complying with BS EN 61672:2003. Levels will be monitored during the course of the works and compared with the agreed noise trigger and action levels. WCC will be

5. Environmental Protection Measures

given access to all noise readings, if required, as soon as they become available.

- All personnel undertaking noise monitoring will be sufficiently competent. As a minimum, such personnel will be a full or associate member of the Institute of Acoustics or experienced in managing construction noise and vibration, demonstrated by a summary of training and competence in environmental noise monitoring unless otherwise agreed with WCC in writing.
- The detailed noise control provisions (selection and use of equipment) prescribed in Section 6.4 of the CoCP will also be adhered to.

Vibration

- Where vibration from stationary plant (e.g. generators, pumps, compressors) may cause disturbance to nearby sensitive receptors, equipment should be relocated or isolated using resilient mountings, where possible
- Generally, vibrating equipment will be located as far from sensitive receptors as possible
- All reasonably practicable means should be employed to protect sensitive receptors from the detrimental effects of vibration generated by construction operations. The means employed will include vibration reducing measures for individual plant and machinery and reducing the duration of operation for specific items of plant.
- In accordance with the CoCP:
 - The contractor will comply with BS 6472:2008
 - Demolition and construction activities will be carried out in such a way that vibrations arising will not cause significant damage to adjacent structures. The contractor will comply with BS 5228, Part 2, 2014.
 - Vibration monitoring will be undertaken to help reassure neighbours and assist in demonstrating that levels do not exceed those which may cause structural damage to adjoining buildings.
 - All personnel undertaking vibration monitoring will be sufficiently competent. As a minimum, such personnel will be a full or associate member of the Institute of Acoustics unless otherwise agreed with WCC in writing.

ECOLOGY

- As a precaution, prior to the commencement of site works, all site personnel will be briefed on the identification of Japanese knotweed and other relevant non-native invasive plants. This briefing will be delivered through a Toolbox Talk
- If Japanese knotweed, or any other plant listed on Schedule 9 of the Wildlife and Countryside Act, is discovered on-site prior to or during construction works, all works within 7m of the plant(s) will cease immediately and a suitably experienced specialist will be contacted for advice

5. Environmental Protection Measures

- Prior to the commencement of construction works, a precautionary check for nesting birds will be undertaken by a suitably experienced ecologist. If any active nests are discovered, these will be retained and protected in situ until they are no longer in use by nesting birds
- External lighting will be minimised, where possible, across the entire site, this is subject to relevant highways and public health and safety considerations.
- Only the minimum level of lighting required for site security / health and safety will be installed on-site. Use of narrow spectrum lighting with no UV content, or 'warm white' LED lighting (ideally <2700 Kelvin, with peak wavelengths higher than 550nm) is recommended.
- All lighting will be directed to ground and light spill will be minimised through use of hoods, shields and/or cowls to maintain an upward light ratio of 0%.
- Subject to health and safety and safe-by-design considerations, motion sensors and/or timers will be used to limit the duration of nocturnal lighting (ideally to short illuminance periods of 1 minute or less). Tall lighting columns will generally be avoided. Low-level external lighting (if any is required) would help to minimise site illumination.
- In general, lighting will follow the principles outlined in Section 3 of the Bat Conservation Trust and Institution of Lighting Professionals Guidance Note 08/18: Bats and artificial lighting in the UK (BCT and ILP, 2018), and should only be used where necessary
- In the event a bat is found on-site prior to or during works, all site works will cease immediately and a suitably qualified ecologist will be contacted for advice.

CONTAMINATION

- Where soft landscaping is proposed at track level, any impacted soil(s) will be excavated and/or a capping layer of certified "clean" soils will be installed
- Imported and/or site won soil to be used on site in soft landscaping areas will be subject to chemical validation testing to ensure it is suitable for use. Documentary evidence will be provided in the form of a validation/site completion report
- Where below ground works are undertaken, a watching brief will be undertaken by an environmental consultant to confirm the absence of contamination. In the event that contamination is identified, the risks to building materials/site users can be reduced through the correct selection of construction materials
- Risks from ground contamination (if any) to construction workers and users of neighbouring premises will be mitigated through the use of appropriate health and safety measures and personal protection equipment (PPE).

TOWNSCAPE, HERITAGE & VISUAL

- Use of appropriate hoarding and following industry best practice construction standards.
- Site lighting will be designed to illuminate the site while minimising light pollution in the surrounding areas by selecting light sources of the minimum

5. Environmental Protection Measures

intensity required for site illumination and evaluating the lighting design to ensure that light is used only where needed.

OUTLINE