

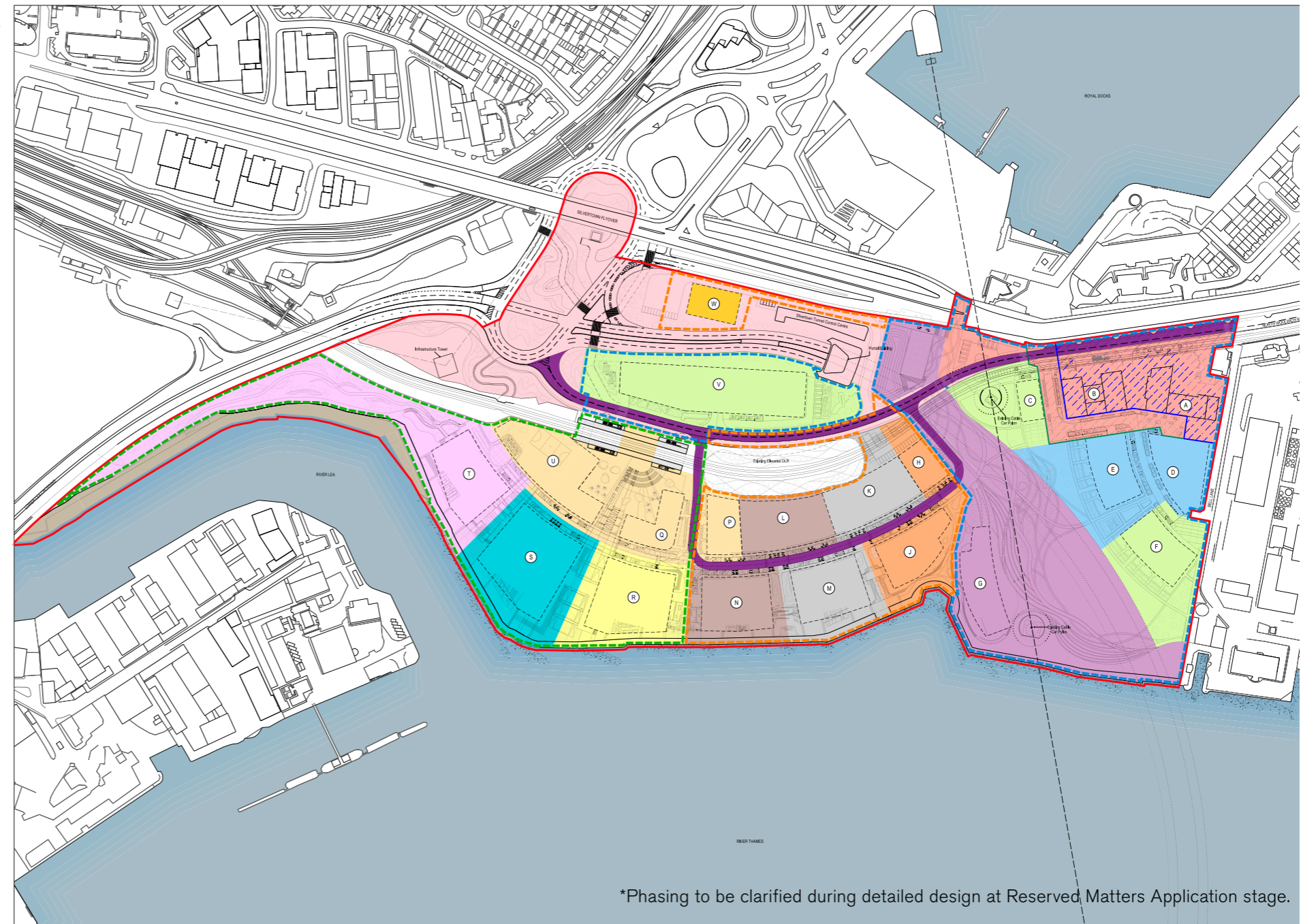


Chapter 8 is a technical dossier that describes specific details of the masterplan and summarises some of the supporting planning documentation. It specifies the environmental performance, safety and security criteria alongside the detailed phasing of the project.


# 8.01 Phasing

## Details of Phasing Plan

Phase	Blocks
Phase 1 • 401 units • 3,608 sqm GEA of industrial (B1b, B1c, B2 (restricted) & B8) • 230 sqm GEA of Retail (A1-A4)	A & B
Phase 2 • 473 units • 833 sqm GEA of industrial (B1b, B1c, B2 (restricted) & B8)	D & E
Phase 3 • 471 units • 15,000 sqm GEA of industrial (B1c, B2, B8)	C, F & V
Phase 4 • 320 units • 1,247 sqm GEA of retail (A1-A4)	G
Phase 5 • 361 units • 414 sqm GEA of retail (A1-A4)	J & H
Phase 6 • 412 units	M & K
Phase 7 • 524 units • 457 sqm GEA of retail (A1-A4)	N & L
Phase 8 • 542 units • 1,084 sqm GEA of retail (A1-A4)	R
Phase 9 • 498 units • 1,272 sqm GEA of retail (A1-A4) • 1,790 sqm of community (D1/D2)	U, Q & P
Phase 10 • 575 units • 2,165 sqm GEA of retail (A1-A4)	S
Phase 11 • 423 units • 499 sqm GEA of retail (A1-A4) • 5,265 sqm of community (D1/D2) (School)	T



Phasing Plan

 Dock Road and Thameside Crescent to be installed by Riverlinx prior to phase 4.

## 8.02 Energy and Sustainability

### Energy Strategy Context and Objectives

The applicant is committed to providing a sustainable development and as such wishes to provide a zero carbon development in line with the GLA definition and approach. As result a Fabric First Approach has been followed. Homes and non-residential areas have been designed to minimise heating demands through efficient design and high performing specification. They have also been designed to provide natural daylight, reduced energy bills and a comfortable internal environment.

Key energy and CO<sup>2</sup> commitments are as follows:

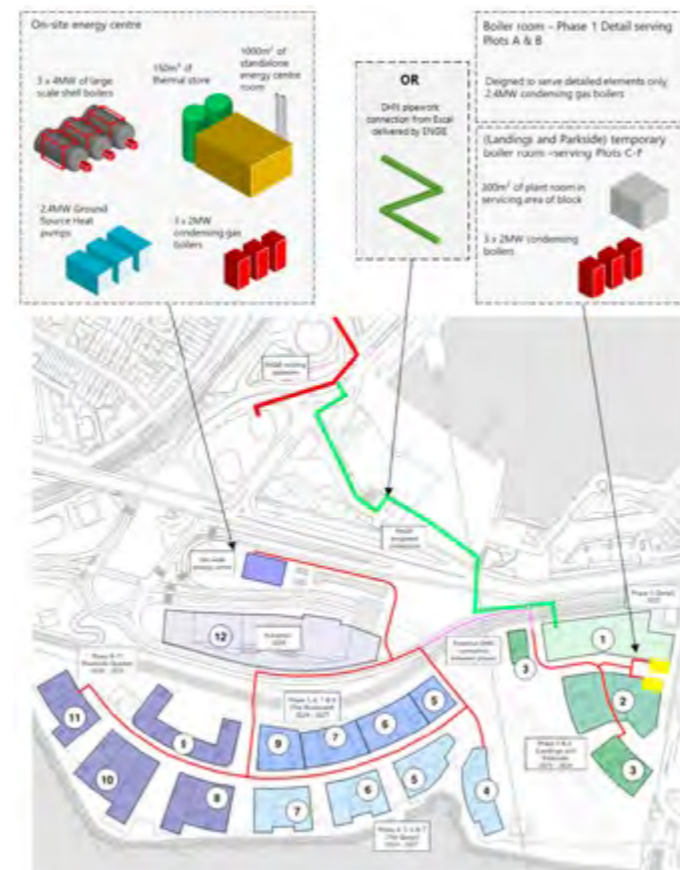
- Buildings will be specified with high energy efficiency fabric and services measures, thereby reducing the energy demand through passive measures as much as possible within viability;
- 'Reasonable endeavours' will be used to review and connect to the ExCeL district heat network (DHN) to provide low carbon heating. For phases 4-12 a low carbon and low NOx on-site energy centre, feed with heat pumps, will produce and provide heat, see figure 1.
- Site-wide regulated CO<sup>2</sup> emissions will be reduced by at least 35% for residential units and non-residential units as compared to GLA Baseline, using energy efficiency measures, connection to an off-site heat network for phases 1-3 and to an on-site energy centre with heat pumps for phases 4-12, as well as solar PV, see figure 2.
- A cash-in-lieu payment and/or retrofit schemes identified in the local area will be made to offset the difference between the savings achieved on-site and the target set by the Zero Carbon Homes Policy of the Greater London Authority, see figure 3.
- The design and specification will reduce overheating risk in highest risk areas using the CIBSE TM59 methodology whilst balancing daylighting and energy demand reduction requirements, see figure 4.
- Non-residential elements will achieve BREEAM 'Very Good' certification under New Construction Shell and Core 2018, with the aspiration of achieving 'Excellent'.

Figure 3 shows that across residential and non-residential elements of the masterplan as a whole, a 37% carbon reduction is expected for domestic and 30% for non-

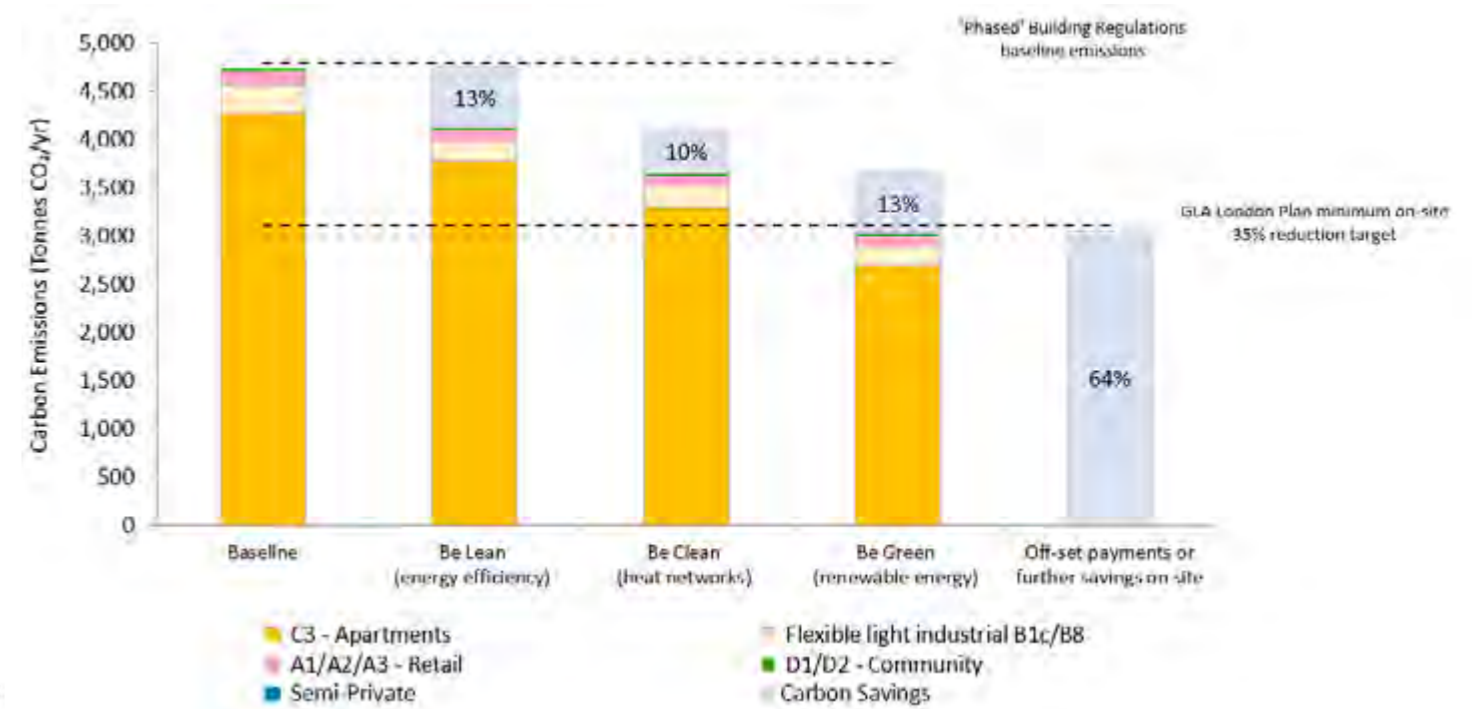
domestic. Resulting in a 36% site wide reduction. These figures have been generated using Part L 2013 carbon factors for Phases 1-3 and future carbon factors for the other phases (namely, SAP 10 for Phases 4-12).

The graph shows the savings from energy efficiency (Be Lean), connection to the ENGIE heat network for phases 1-3 and a site-wide heat network with Ground Source heat pumps as well as solar PV (Be Green) on site for phases 4-11. It also outlines that the resulting 64% of site wide carbon emissions will need to be offset in line with GLA zero carbon policy.

Please note the energy strategy and resultant figures at this stage are purely indicative and are subject to details as set out in the Reserved Matters Application.



Site wide heating strategy (showing Phase 1-3 connection to ExCeL DHN or boilers and a site wide heat network for phases 4-12)



Regulated carbon reduction for the masterplan using phased Part L 2013 building regulations



Solar PV layouts for the masterplan



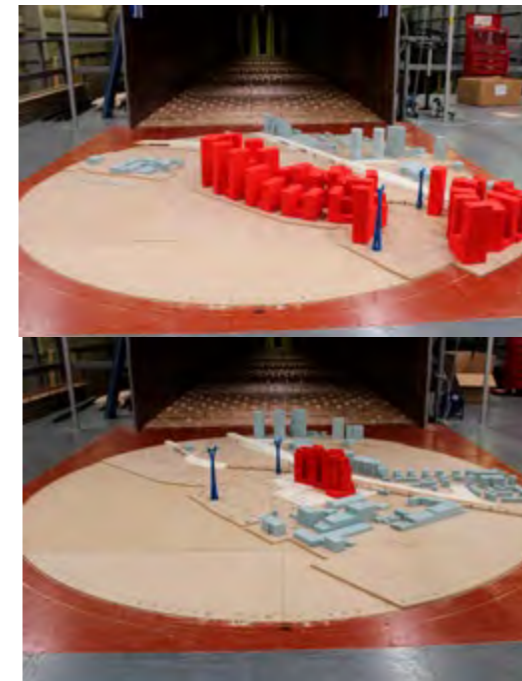
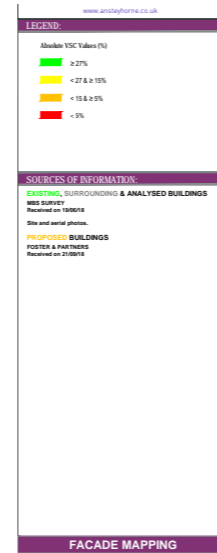
Solar exposure from overheating risk analysis (Red and Orange outlining risk mitigated areas)

## 8.03 Environmental Qualities

### Daylight and Sunlight and Wind Comfort



Visible Sky Component (VSC) facade Map



Wind Tunnel Testing



Wind Tunnel Results

#### Sunlight to Public Realm

One of the key design objectives is to create a pleasant and enjoyable public realm. The intention has been to ensure that the majority of the site is given over to public realm creating significant open spaces of varying scales and types. It is important that these spaces can be enjoyed comfortably and benefit from generous quantities of daylight allowed to penetrate into the landscaped areas. Daylight is a key factor to the success of these spaces.

The masterplan design seeks to maximise area designated as public realm. Anstey Horne have assessed the levels of sunlight that will be received to the public amenity areas.

The two-hour sun-on-ground contour drawings indicate that 19 out of 22 public amenity areas will receive at least 2 hours of sunlight to 50% of their area on 21st March and satisfy the guidelines.

The park situated directly below the Emirates Air Line Cable Car, which is intended to be enjoyed by all residents, will receive excellent levels of sunlight. Each area of the park assessed will receive 2-hours of sunlight on 21st March to 100% of their area, far in excess of the guideline levels.

#### Daylight and Sunlight

The design of the masterplan has considered the potential daylight and sunlight performance within the proposed outline blocks. Anstey Horne have assessed the potential levels of daylight and sunlight by undertaking a façade mapping exercise, whereby a series of test points are applied to all the outline block elevations.

The daylight and sunlight façade study for the outline blocks shows that the majority of the façades demonstrate the potential to receive good levels of daylight and sunlight. It should be borne in mind that the test point analysis is only able to show the likely levels of daylight and sunlight and does not take into account factors such as balcony positions and sizes, or window and room sizes. However, the study assumes maximum parameter massing, and as part of the later detailed design, Anstey Horne will work closely with the project architect to maximise the daylight and sunlight potential for Reserved Matters Application.

#### Wind Comfort

To ensure that the public realm is successful, the wind conditions have been tested through wind modelling. It is important that both visitors and residents of the building can circulate and enjoy the public realm in comfort.

A wind tunnel test has been undertaken which considers a number of scenarios, including Phase 1, all phases and how the development could interact with other nearby proposed developments.

The wind tunnel test results initially indicated a number of comfort and safety exceedances in and around Phase 1 (which is currently being proposed in detail).

The wind assessment (see the Environmental Statement submitted with this planning application) has outlined that a number of further measures which will be required at subsequent stages. This includes some further testing and landscaped mitigation for Phase 1, for one marginal safety exceedance, which can be dealt with as part of a planning condition. Additionally, further wind tunnel testing and mitigation will be developed for the future reserved matters

planning applications (when the final building design is confirmed).

Through the measures outlined in the Environment Statement and further mitigation that may be identified through the reserved matters further testing, it will be required to assure through further testing that wind comfort and safety conditions will be acceptable for the future users. This will require to ensure that wind microclimate is not a constant on the future success of Thameside West.

The areas where the conditions need to be moderated at detailed design will be resolved with the building forms, and wind mitigating elements such as canopies and landscaping.

## 8.04 Flood Risk Strategy

The proposed development is situated in Flood Zone 3, with some areas in Flood Zone 2. The site currently benefits from flood defences with a tidal flood defence of +5.14m AOD to +5.4m AOD provided by the river wall.

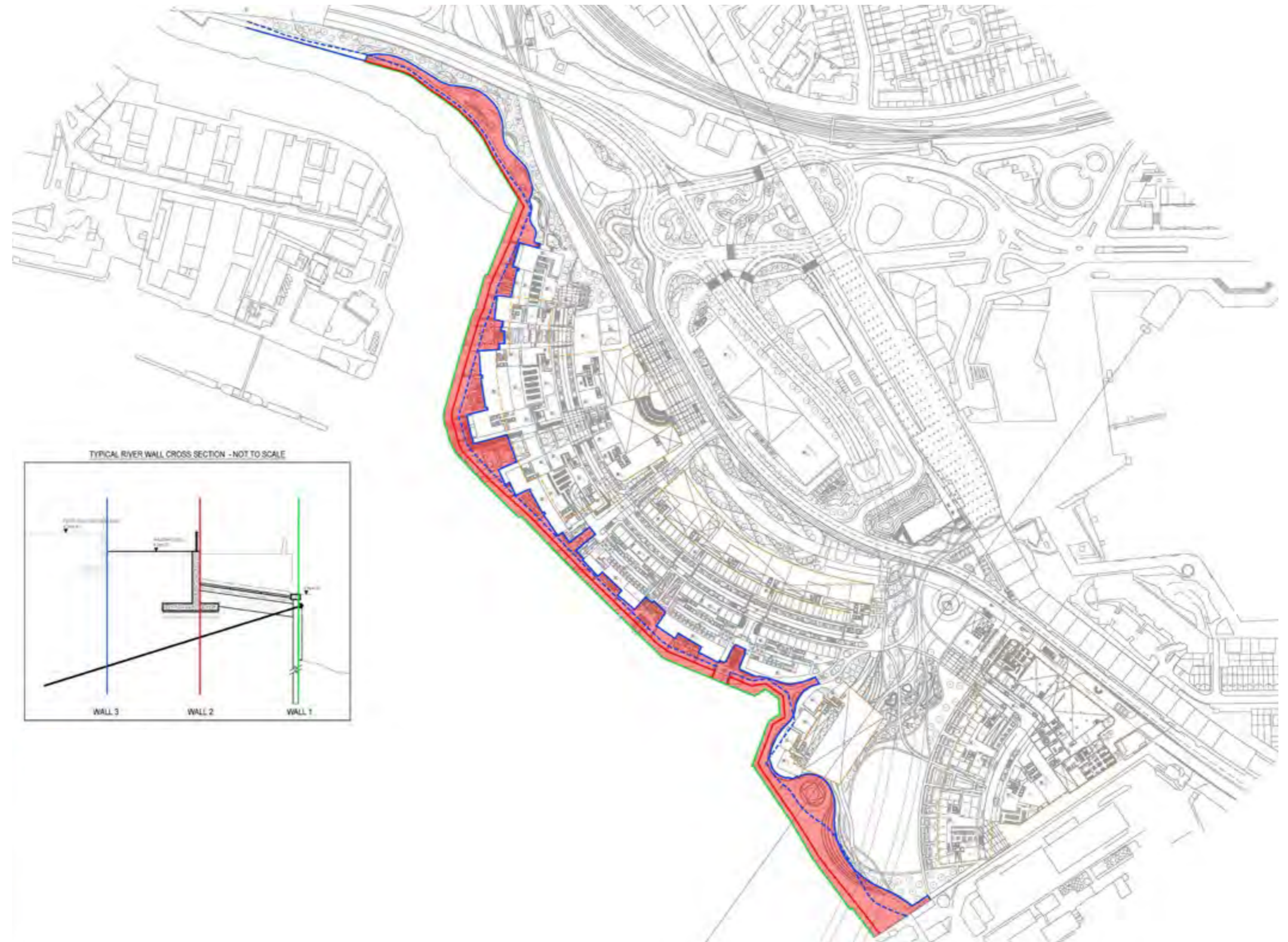
The proposed development includes a new river wall along the 1,080m river frontage, raising the flood defence level to +6.2m AOD, which is the level required by the year 2100 under the EA Thames Estuary 2100 (TE2100) Plan. The proposed alignment of the flood defence provides 14,000m<sup>3</sup> of additional flood storage and approximately 4,500m<sup>2</sup> of inter-tidal, planted habitat. It is proposed that the ground level immediately behind the new river wall is also raised to a level of at least +6.2m AOD. With consideration of the improvements to the defences, and the protection provided by the Thames Barrier, the overall fluvial and tidal flood risk is considered to be low. It should be noted that the proposed river wall provides an additional net gain of 5,000m<sup>3</sup> of flood storage, compared to the river wall approved as part of the Operational Development planning application.

There is a residual risk of a breach in the defences. In the event of a breach, there is a risk that the lower lying areas of the site are flooded. These areas are situated in the north and south east of the proposed development. More vulnerable land uses, including residential units, have been proposed on land raised to at least the +6.2m AOD TE2100 flood defence level.

It is concluded that the proposed Thameside West development is at low risk of flooding and will provide enhanced flood defences in the form of a new river wall that also includes a river walkway and benefits in terms of increased flood storage and planted habitat.

### Key

- Operational Development Flood Defence Alignment
- TE2100 Flood Defence Alignment
- Planting Footpath Edge
- River Edge
- Basement Outline



Flood Defence Line Plan

## 8.05 Safety and Security

### Designing Out Crime

Design for community safety is fundamentally a social issue as well as a physical issue. At heart, Secured by Design is about creating a community that feels secure. A strong community that feels secure will naturally support secure environments, through social mechanisms such as natural surveillance, reporting crimes, raising awareness and so on. The role of design is to enable feelings of security among a community to grow - to give residents and business owners a sense of control and personal responsibility for an area.

In determining a set of criteria to establish how Secured by Design principles apply to our current masterplan, we have undertaken a review of a current legislation and planning guidance in addition to preceding literature. These documents include:

- The National Planning Policy Framework (NPPF 2018)
- Government Issued "Planning Practice Guidance" including specific notes on Design (2014) and Health and Wellbeing (2017)
- Secured by Design New Homes (2014)
- Secured by Design: Homes (2016)
- Secured by Design: Commercial Development (2015)

In developing the scheme the team have met with PC Christine Keen, Designing Out Crime Officer (DOCO), on 23rd April 2018 and 20th August 2018 to discuss initial proposals for the site and gain cohesive understanding of security and crime prevention pitfalls. The DOCO was pleased with the proposal and was happy Secure by Design had been thoughtfully considered.

The DOCO agreed the illustrative masterplan for outline utilised an acceptable approach towards security on the site where key principles have been developed decisively with security in mind.

#### Key

- Planning Application Boundary
- Controlled Car Park Access
- ▲ Controlled Residential Access
- ▲ Controlled School Access
- ▲ Controlled Community Access
- Controlled Cycle Access



Ground Level Access

## 8.06 Safety and Security

### Designing Out Crime : Access

The scheme approach to security has been to deliver an urban design which integrates operational and pragmatic approach to security and crime prevention. The scheme carefully considers the safety and security of users. Issues are addressed through the design to develop a place where users feel a sense of safety and security.

Through SbD consultation with the DOCO the following principles and responses were formed:

#### Access From Street

In developing the scheme, the notion of direct pedestrian desire lines have been carefully considered. All routes in the scheme should be well lit with good sight lines. All pedestrian route should lead to a generous open space such as the river front, public plazas and Dock park.

Through consultation the design was reconsidered to deliver duplexes to street level along Thameside Crescent and Parkside Crescent. This provides residents and visitors of the scheme natural street surveillance. A sense of safety and security is promoted here by offering residents a sense of ownership to the street their fronts doors face onto and helps brings activity to the residential street.

Enhanced pedestrian comfort by separating pedestrian and vehicular traffic is considered with designated areas for black top road areas providing clear separation between pedestrian zones, parking bays and dedicated vehicle and cycle lanes. Areas of shared surface should be controlled for slow moving traffic.

#### Access to Car Parks

The scheme proposes car parking in the lower ground level, which will be secured, using resident access key fobs and barriers upon entering the space.

Provision for 24-hour CCTV surveillance at entrance points should also be considered in detail phasing.

Car parks should demonstrate secure fire escape routes.

#### Access to Bicycle Storage

Cycle access via ramps will not be permitted, however access will be provided to secure long stay cycle stores from grade level via designated cycle lifts, taking users directly to cycle store rooms per plot.

Provision of short term cycle storage will also be provided externally via on street Sheffield stands. The placement of these should be considered in well surveillanced areas.

#### Access to Apartments

Residential access points will be secured using access control key fobs to cores in podiums with shared basements. Shared residential lobbies will also be secured with key fob access or managed concierge desks.

Provision for secure core access to blocks U and Q via public plaza should be considered

Secure access to each level between cores and corridors should be considered

#### Access to Public Realm Areas

The ground floor provides a mix of varied uses to ensure good activation at street level is maintained whilst providing varied surveillance throughout the day, inactive frontages are therefore minimised where possible across the master plan.

The school is in a welcomed location and following advice will have a designated drop off to the north end of Leaside Crescent. This allows the school site to be secured away from main traffic routes.

Fire access arrangements will be agreed and accommodated fully further in detail phasing of the application however it should be noted where fire access is required to pedestrianised areas such as the river walk, a controlled access approach must be taken.

## 8.07 Safety and Security

### SbD Homes 2016 Section 1

#### Layout of Roads and Footpaths

Requirement - Vehicular and pedestrian routes should be designed to ensure that they are visually open, direct, well used and should not undermine the defensible space (Note 8.1 of SbD Homes) of neighbourhoods. Design features can help to identify the acceptable routes through a development, thereby encouraging their use, and in doing so enhance the feeling of safety. Where it is desirable to limit access/use to residents and their legitimate visitors, features such as rumble strips, change of road surface (by colour or texture), pillars, brick piers or narrowing of the carriageway may be used. This helps to define the defensible space, psychologically giving the impression that the area beyond is private

High pedestrian permeability and connectivity promotes an activated public realm with no dead-ends or other areas on non-defensible space. The layout of streets, footpaths, and their links to key arrival points, such as the DLR and destinations has been designed with a view to create a connected movement network. The natural thoroughfare of pedestrians travelling to and from their place of work or home has been tested from an early design stage using IME (Interactive Modelling Environment) tools to detect areas of the public realm that lack activation and provide a suitable design response.

Pedestrianised or controlled street access is clearly demarcated through both the built architectural form and landscape to promote a community sense of ownership of low or zero traffic streets.

#### Footpath Design

Requirement: Provide an integrated network of supervised routes for vehicle, cyclist and pedestrians. Footpaths not to run to rear of dwellings. Footpaths should be straight, wide, well lit, devoid of potential hiding places, overlooked by surrounding buildings and activities and well maintained to encourage surveillance. Provide lockable barriers to emergency access footpaths.

All the through-roads are wide, well lit and appropriately landscaped. The setting of the buildings avoids blind spots and minimizes hiding space at ground level, and the variety of ground floor uses aid in the surveillance of the public realm.

#### Seating Next to a Footpath

Requirement: Careful consideration is necessary regarding the placement of public seating. Seating can be a valuable amenity or a focus for anti-social behaviour.

The masterplan has public seating that is provided in areas which have a high level of natural surveillance. These are areas that serve multiple uses, including eateries and retail, and in which the permanence of people is encouraged. Areas without these characteristics should not encourage permanence or loitering. Public seating is also used as a means to demarcate pedestrian areas from vehicular areas, creating a hierarchy of spaces that promotes community ownership.

#### Communal Areas

Requirement - All areas should allow for supervision from nearby dwellings, with safe routes for users to come and go. Boundaries between public and private spaces to be clearly defined. Communal areas such as seating and play should not immediately abut residential buildings. Adequate mechanisms must be put in place to ensure its satisfactory management.

Communal areas are located in areas of strategic importance for connectivity to establish pedestrian footfall. Retail uses and ground floor commercial or light industrial uses serve to create activation in some of the key communal areas across the masterplan

#### Car Parking

Requirement: Cars should be parked in locked garages or on hard-standing landscaping within the dwelling boundary. Where communal car parking areas are necessary they should be in small groups adjacent to homes. Rear car parking courtyards are discouraged.

The majority of car parking spaces provided for residential occupants are located in secure car parks within each building podium. Additional parking bays are provided at street level within the public realm are well lit and are overlooked by residential and commercial premises.

#### Layout and Orientation of Dwellings

Requirement - Larger schemes should incorporate a mix of dwellings, enabling greater potential for homes to be occupied throughout the day. This increases opportunity for natural surveillance and environmental control.

Blocks are orientated to provide good set back to ensure privacy but still offer good street surveillance. The scheme currently provides 21% of family housing and 20% as large 2 bed dwellings, ensuring a diverse mix of inhabitants with more homes being occupied over the day and evening. One circulation core should serve an average of 8 apartments offering further natural surveillance and sense of micro community at each level.

#### Dwelling Identification

Requirement - Clear naming and/or numbering of properties is essential to assist residents, postal workers and the attendance of emergency services.

Clear signage for identification and navigation to be included; details to be provided via future reserved matters applications

#### Climbing Aids

Requirement - Boundary walls, bins and fuel stores, street furniture, low flat roofs or balconies should be designed so as to remove climbing aids to gain access into the property.

Unauthorised access to properties has been considered via the removal of climbing aids in podiums designed adjacent to the Riverwalk and adjacent to the DLR track. Further details to be provided via future reserved matter applications.

#### Landscape

Landscape has been knitted throughout the scheme to provide an element of calm and invoke feelings of community safety. Different landscape characters are adopted in public spaces, and streets to support an identifiable and legible environment and assist wayfinding. Dense foliage that acts to facilitate antisocial activities should be prohibited.

#### Gable End Walls

Requirement: Avoid creation of windowless elevations. Where unavailable, provide a 1m buffer zone with a 1.2 1.4 railing/gate or 1m high hedge with thorn content.

5m minimum buffer zone provided to the Thameside Crescent podium wall with a 1.2m Hedged planting

#### Through-roads and Cul-de-sacs

Requirement - Limit permeability. Increase overlooking onto public spaces. Shorten cul-de-sacs; remove pedestrian linkage to other cul-de-sacs.

Natural cul-de-sacs form towards the edge of the site where road layouts runs perpendicular to the Thames. The activation of the Thames Path is viewed as an asset in supporting natural surveillance and pedestrian activation of the low-traffic streets throughout the scheme.

#### Lighting

Illumination of public spaces and key routes through site essential for promoting defensible space and fostering a sense of safety among the community at night. Links between key transport nodes such as DLR and main pedestrian routes use unique lighting design to create identifiable paths for residents and visitors alike.

#### Dwelling Boundaries: Front Boundaries

Requirement - Boundaries between public and private spaces to be clearly defined by a fence or a wall or hedge of a maximum height of 1m. Front garden planting is not to obstruct footpaths or the visibility of doors and windows.

Building blocks with private dwellings at street level and that abut public realm, have buffer zones (front gardens) with low fencing, for a clear separation between public and private use. Semi-private space are found in each building. This encourages greater community ownership of shared non-public spaces and fosters a sense of trust between neighbours.

## 8.07 Safety and Security

### Safer Places Check List

#### Crime and Anti-social Behaviour are More Likely to Occur if:

- Key pedestrian routes and desire lines are indirect and poorly lit.
- There are multiple possible routes of escape for potential criminal activity.
- There is poor way-finding and users are easily disorientated.
- Streets and spaces are quiet and unwelcoming and therefore poorly surveilled.

Seven attributes of sustainable communities that are particularly relevant to crime prevention are set out below:

#### Access and Movement

- Have the consequences of the number and nature of all connections been considered? **Y**
- Do all routes lead to somewhere people want to go? **Y**
- Are all routes necessary? **Y**
- Do routes provide potential offenders with ready and unnoticed access to potential targets? **N**
- Are routes for different users segregated when they could be integrated? **Y**
- Will pedestrians, cyclists and drivers be able to understand which routes they should use? **Y**
- Is it easy to understand how to travel through an area? **Y**

#### Structure

- Have the types of building been selected and designed with security in mind? **Y**
- Is the layout of the development appropriate for the identified crime risk, as well as to meet wider planning objectives? **Y**
- Will all uses in an area be compatible and have potential conflicts been thoroughly thought through? **Y**
- Does all public space serve a purpose and support an appropriate level of legitimate activity? **Y**
- Has the remodelling, removal or re-use of buildings and spaces that are vulnerable to crime been considered? **Y**

- Have the potential benefits for crime prevention of restoring historic environments been considered?

#### Surveillance

- Have efforts been made to eliminate 'inactive' frontages and corners? **Y**
- Where appropriate, such as in public buildings, does the design allow for high visibility into the building or site? **Y**
- Are parked cars highly visible but secure? **Y**
- Has lighting been a primary consideration in planning out crime? **Y**
- Is the standard of lighting and its maintenance regime adequate and is it resistant to vandalism and damage? Is it well-designed and well-sited? **N/A**
- Is the CCTV part of a wider package of crime prevention measures? **Y**

#### Physical Protection

- Have the 'target hardening' principles of Secured by Design been addressed? **Y**
- Has the potentially negative visual impact of crime prevention measures been addressed and, where these cannot be ameliorated by good design, have the advantages been weighed against their adverse impacts? **Y**

#### Ownership

- Will it be clear to users - including potential offenders and capable guardians - which space is public, communal, semi-private and private? **Y**
- Are the boundaries between public and private spaces signified in the most appropriate manner, be it a physical barrier or a psychological barrier such as changes in paving, surface texture/colour, landscaping and sign-age? **Y**
- Will the place have an identity of its own? **Y**

#### Activity

- Is there a strategy for encouraging residential population in town centres? **Y**
- Should the evening economy be nurtured, and, if so, is it diverse and inclusive? **Y**
- Are mixed uses successfully integrated with one another? **Y**
- Are all uses in an area compatible and have potential conflicts been thoroughly addressed? **Y**
- Will what attracts people to the public realm uphold its attractiveness? **Y**

#### Management and Maintenance

- Has care been taken to create a good quality public realm? **Y**
- Are appropriate facilities management systems in place? Does the design and layout support these? **Y**






## 8.08 Safety and Security

### Vehicle access control

#### Vehicle access

Vehicle access within the redline application boundary is on a blend of public and private roads; off street parking areas; private service areas; and vehicle accessible landscape for maintenance and emergency only.

The junctions between each of these areas are described below, with varying degrees of access control measures to prevent unwanted vehicle movements.

-  No access control. Signage indicating change of speed limits / road ownership
-  Access control by rising barrier / bollard
-  Access control by rising barrier / bollard
-  Access control by rising barrier / bollard
-  Access control by rising barrier / bollard

Outside of the junction areas, along the length of all public and publicly accessible roads, pedestrian and vehicles will be separated by varying means depending on the speed of vehicle movements and the risk of conflict.

#### Primary through roads

- Permanent fixed bollards, railings and landscaping features to a maximum spacing no greater than 1.2m between obstacles.

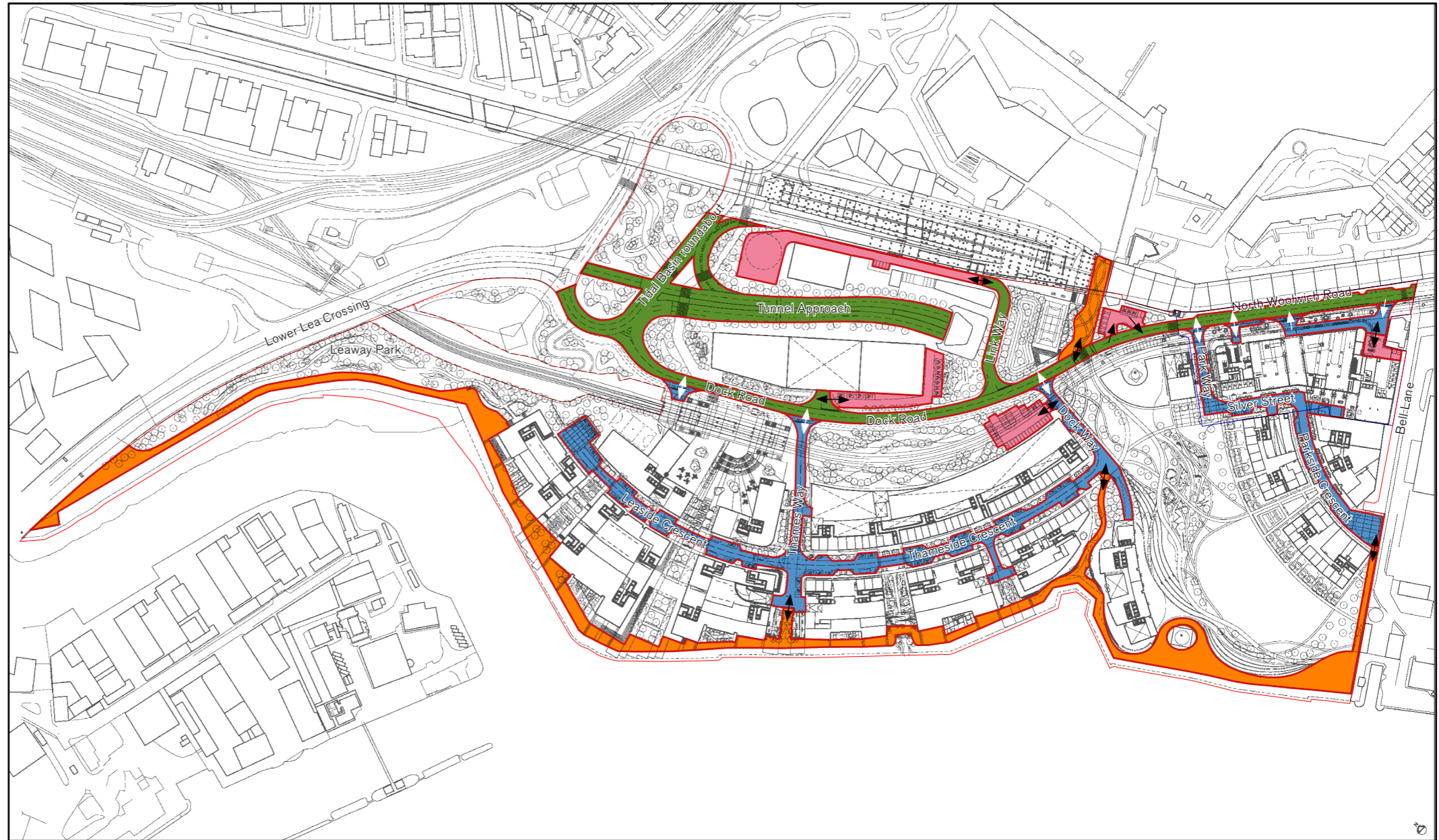
#### Publicly accessible roads

Typical condition:





- Raised kerbs

Secure condition to pedestrian gathering places:

- Permanent fixed bollards, railings and landscaping features to a maximum spacing no greater than 1.2m between obstacles.



Vehicle accessible public realm

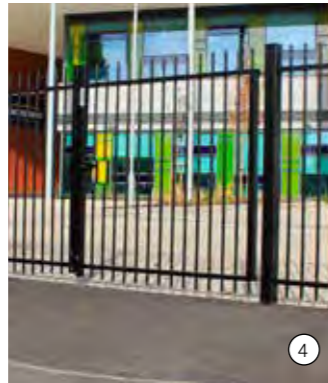
-  Public roads within redline site boundary  
No access control
-  Publicly accessible roads within redline site boundary  
No access control
-  Private roads within redline site boundary  
Access control to private areas
-  Vehicle accessible areas within redline site boundary  
Access control for maintenance and security



Lifting boom barrier



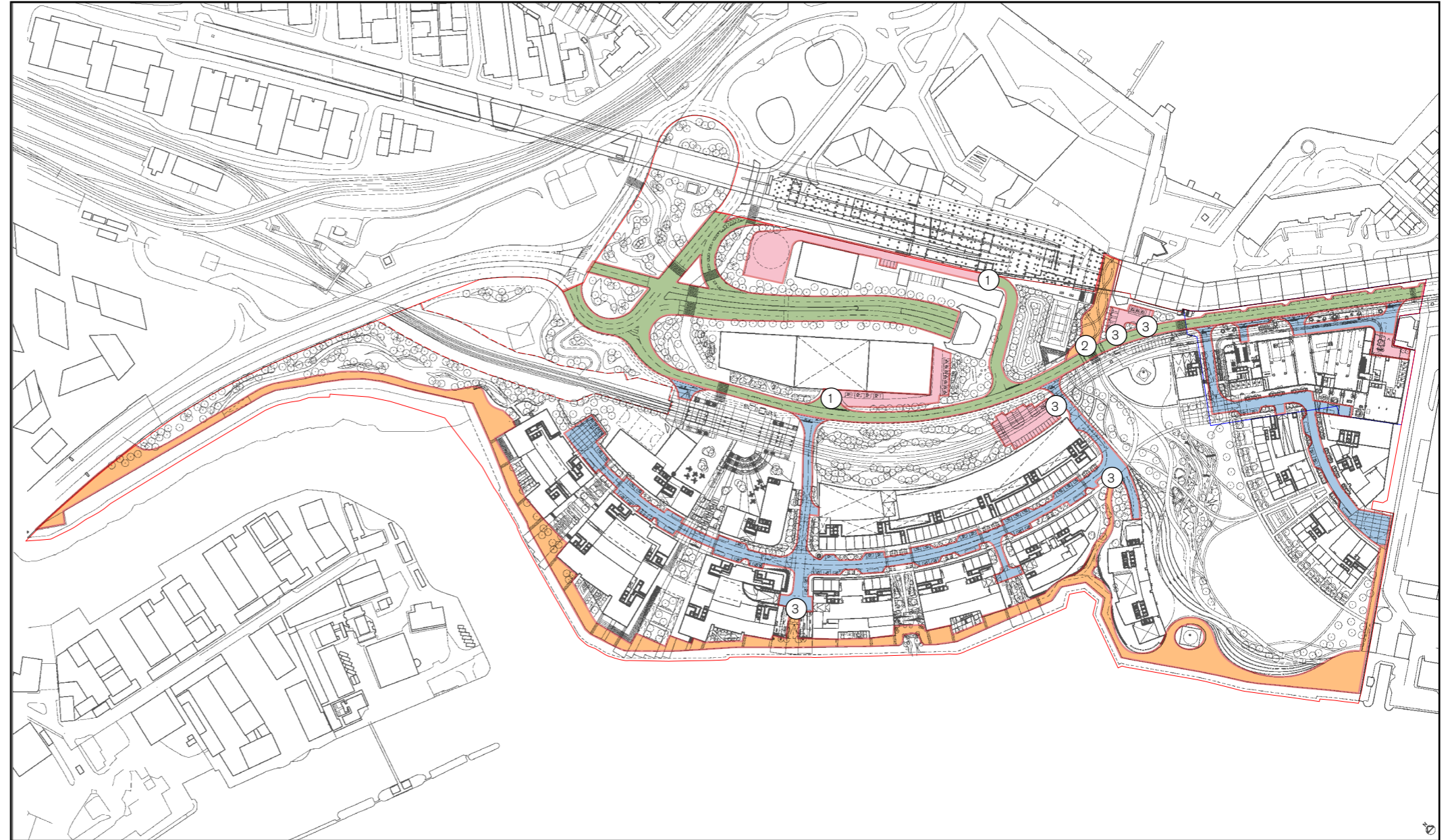
Rising bollard



Side hung gates



Pocket bollard



Controls at thresholds from publicly accessible roads

- ① Lifting boom barrier
- ② Rising bollard
- ③ Pocket bollard
- ④ Side hung gates

FOR FURTHER INFORMATION ON THE PROPOSALS, PLEASE VISIT:  
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