Scheme Description

1.3

Figure 37: Illustrative axonometric view of the Gardens Character Area, as seen from the air

The Gardens

The character area named as the 'Gardens' sits at Level 10 and provides amenity and recreation space covering approximately 800m².

The Gardens character areas is predominantly a green space offering tranquil sheltered spaces for staff to relax and congregate, as well as providing space for small events on the lawn (see precedent images in Figure 47).

Based on the principles of an English walled garden, the Gardens character areas is contained on three sides by high planter boxes, this is to the west, east and to the south with a lawn area created at its heart. A collection of trees to the western edge flanks the ramp that connects the Garden to the Field above, as shown in Figure 46. Long seats are provided using the planter elevations where possible. The gently sloped lawn (1:30 gradient) is bordered by a large planted bed that will provide year round interest with a rich planting mix.

The Gardens is connected to the Fields above by a set of steps and a step-free ramp at a gradient of 1:15. It sits above the Wellness and Fitness Centre, and the swimming pool, and can be accessed from the upper floor of the MUGA.

The Garden also includes a series of storage and maintenance rooms under sloped structures. These will be used by the maintenance team and the gardeners to store equipment, bulk material and plants.

Key plan

TIMBER SEATED AMPHITHEATER SPACE

ANIMATION AT NIGHT

OUTDOOR TALKS AND EVENTS

CONGREGATION

Figure 38: Illustrative section showing the Headland Character Area to the south of the building (top) and precedent Images showing the envisaged uses of the Headland Character Area

Scheme Description

1.3

Figure 39: Illustrative axonometric view of the Plateau Character Area, as seen from the air

The Headland

The Headland character area is split into two levels: the upper side sits at Level 8 with direct access to and from the Fitness and Wellness Centre; whilst the lower side sits on Level 7, and can be accessed from the Flexible Meeting area previously described in this section.

The Headland is a predominantly hard landscaped space which opens up to the south with extraordinary views of the London skyline and across the King's Cross area. On the eighth floor a level deck provides a spill-out space from the Fitness and Wellness Centre. The lowest level, at the seventh floor is a timber amphitheatre offering space to congregate or for small events.

A series of wide seating steps unfold from seventh and eighth floors while stepped access is provided on both sides. Step-free access is possible by reaching the top (Level 8) or lower level (Level 7) of the Headland area from the inside.

As indicated on Figures 47 and 48, a line of trees along one side of the amphitheatre helps mitigate the prevailing south-western winds.

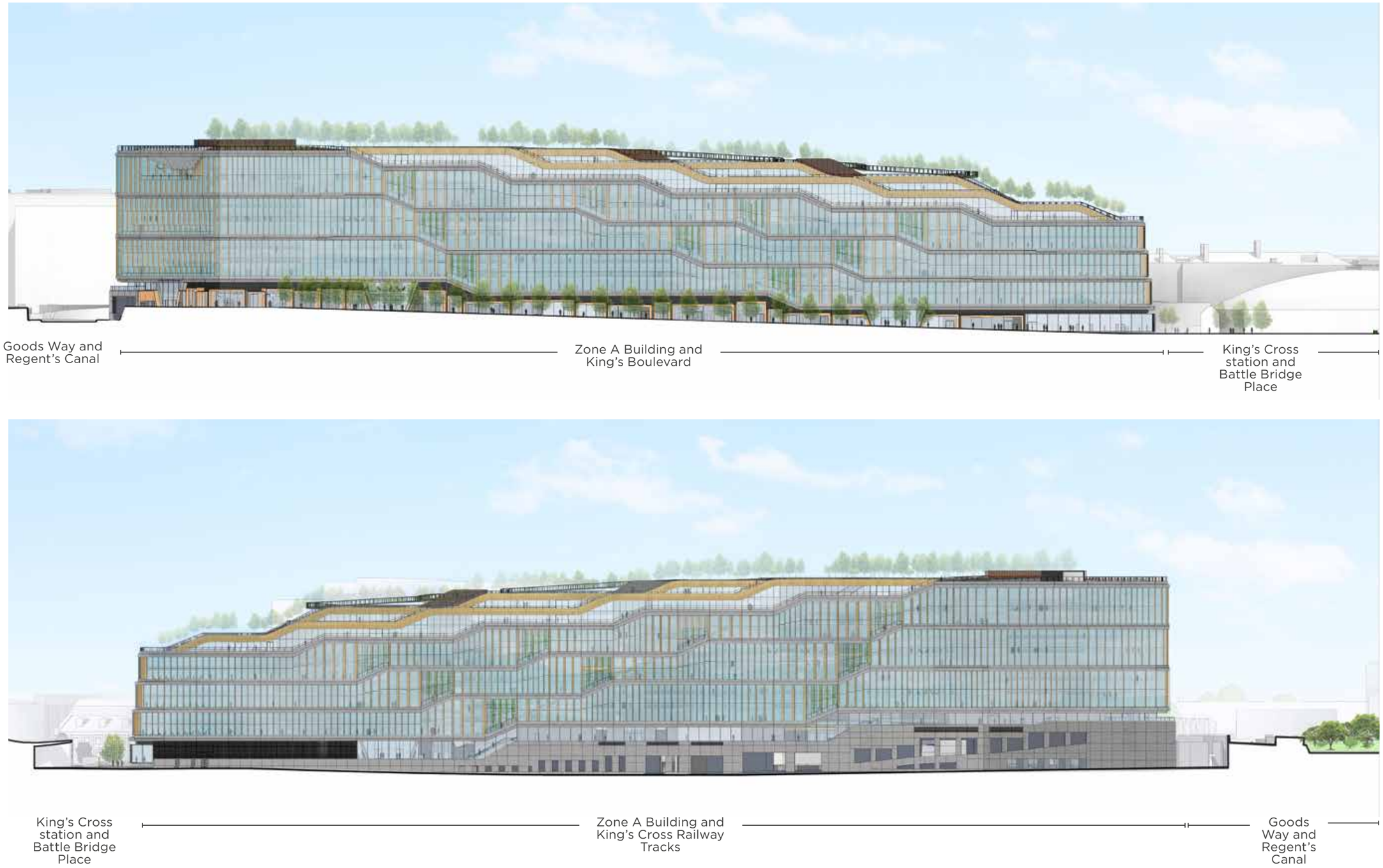


Figure 40: *Proposed west elevation (top) and east elevation (bottom)*

Scheme Description

1.3

Figure 41: Proposed north and south elevation (top and bottom respectively)

Elevation and Façade Design

Exposed and prominent on all four sides, the façade design of the Zone A Building responds to its orientation and the buildings and public realm which surrounds it. The proposed elevational composition seeks to break down the massing to create visual interest and human scale as one moves up or down the street, particularly the long elevations along King's Boulevard or York Way.

The overall architectural language of the building delineates a tripartite structure to the built form: that of an active ground plane; an articulated middle of office bays, interrupted by the double and triple height solid timber mullion and sawtooth glazing profile (the 'Workplace Volume'); and the appearance of a 'floating' roof tray, set back to reduce the scale, particularly when viewed at close range.

The concepts that underpin the tripartite design of the building are expressed in their own way within the composition:

- Base: The column free ground plane has a different language to the workplace floors above;
- Middle: The workplace has the structure in-board creating the double and triple height spaces, freeing the façade to allow daylight deep inside and giving good views out, the 'fins' changing with the context;
- Top: the setback 'trays' have their own façade treatment, but of a family with the workplace.
- Stepped massing: The facade responds to the sloping site with a series of folded horizontal spandrel panels. These break up the horizontal nature of the building and provide a direct relationship with the internal floorplates and the range of single, double and triple height internal spaces directly behind the facades.

The building has been designed as a piece, with the architectural language adapted to respond to the different viewpoints from which it is seen, both from its frontages from north, south and east, and obliquely from the west. The facades, shown in Figures 50 and 51 opposite, are described in detail below, while the response to context and views is discussed in relation to the Design Guidelines in Section 2.0.

Figure 42: Precedent images of approach to materials

Scheme Description

1.3

Figure 43: Proposed materials palette

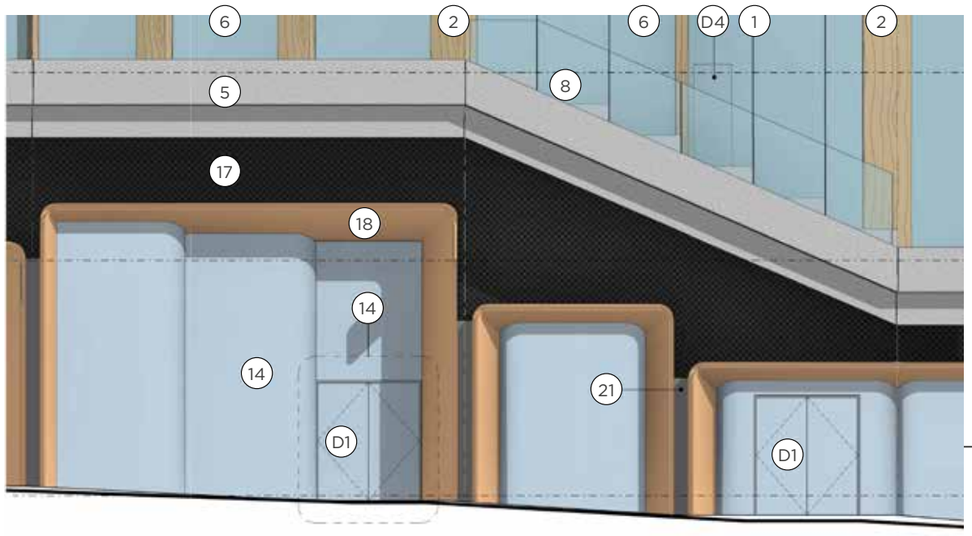
Materials

The KXC site was the former location of the largest gas works built in the Victorian times. Beyond their functionality, these cast iron structures were built as show pieces for the St Pancras gasworks, comprising a great deal of detailing. Additionally, both railway stations have large roofs using cast and wrought iron and the tracks of the Eurostar terminal rests on historic cast iron columns. Brick and stonework are prevalent, resulting in a mostly subdued colour palette of muted reds, browns and greys. Structural honesty is evident in exposed industrial arches and bracing, especially within the two listed stations to the south and east of Zone A.

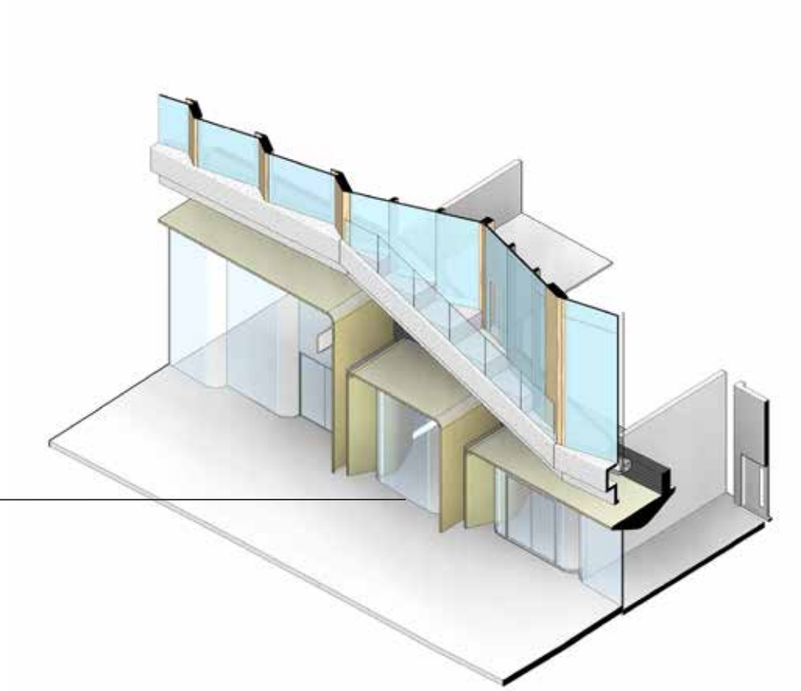
Drawing influence from the rich context around the building, a number of materials have been explored, resulting in a principal external material palette of timber, glass and concrete as shown on Figure 53. The heavy mass of the horizontal spandrel panels, formed of pre-cast concrete or GRC are representative of the masonry and brick of the stations and the German Gym, for example; the sawtooth glazing is picked up as the glazed barrel vaults of King's Cross and St. Pancras. The large timber fins, which measure up to 390mm wide, 700mm deep and between 6.3m and 10m tall, give a strong rhythm reminiscent of the repetitive brick and stone bays – setting up a powerful pattern of solid and glass. Here the change in orientation (for various reasons) also creates differing light textures and tones on the wood, initially, but more so as time goes on and the timber weathers and changes colour.

At the ground floor the stone paving of the King's Boulevard and Battle Bridge Place is brought in to form the flooring of the main entrance lobbies. A series of bronze coloured metal shop front portals and curved glass glazing differentiate the retail units from the offices, creating a contemporary take on traditional shop fronts seen across London (Figure 54 overleaf).

High quality, dark grey metal louvre panels separate the shop fronts from the concrete spandrels and provide a continuous high level screen behind which services and ducts can be hidden. These are interrupted only by the entrances where the concrete spandrel comes to ground.

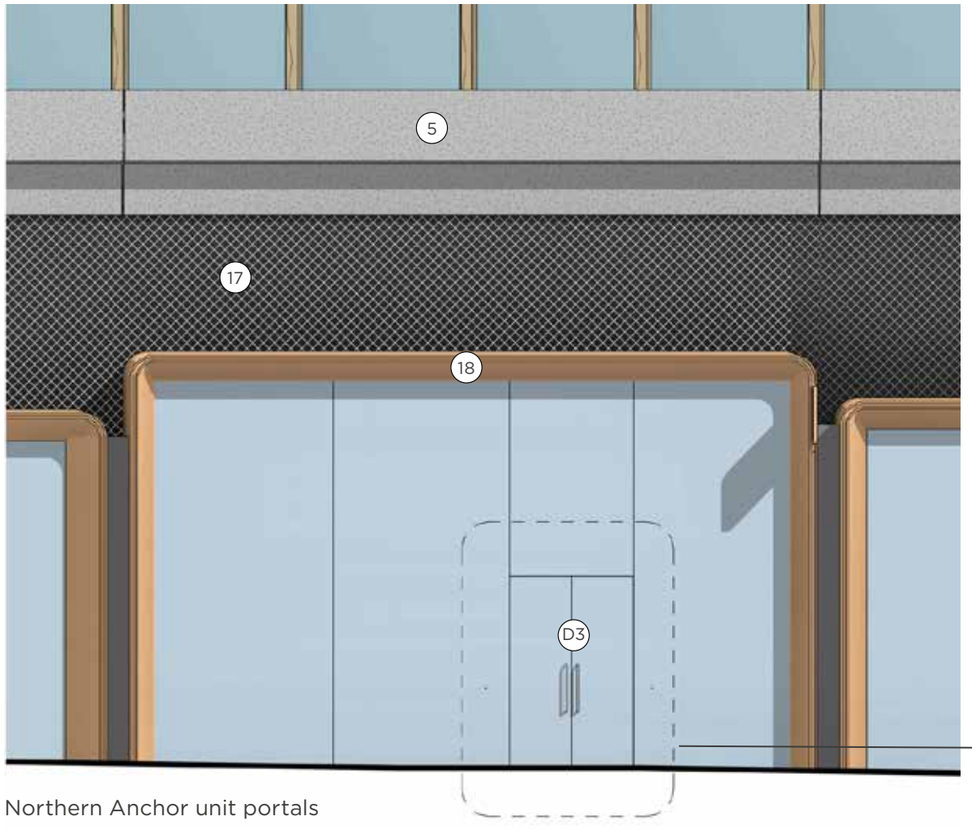


Typical retail portals

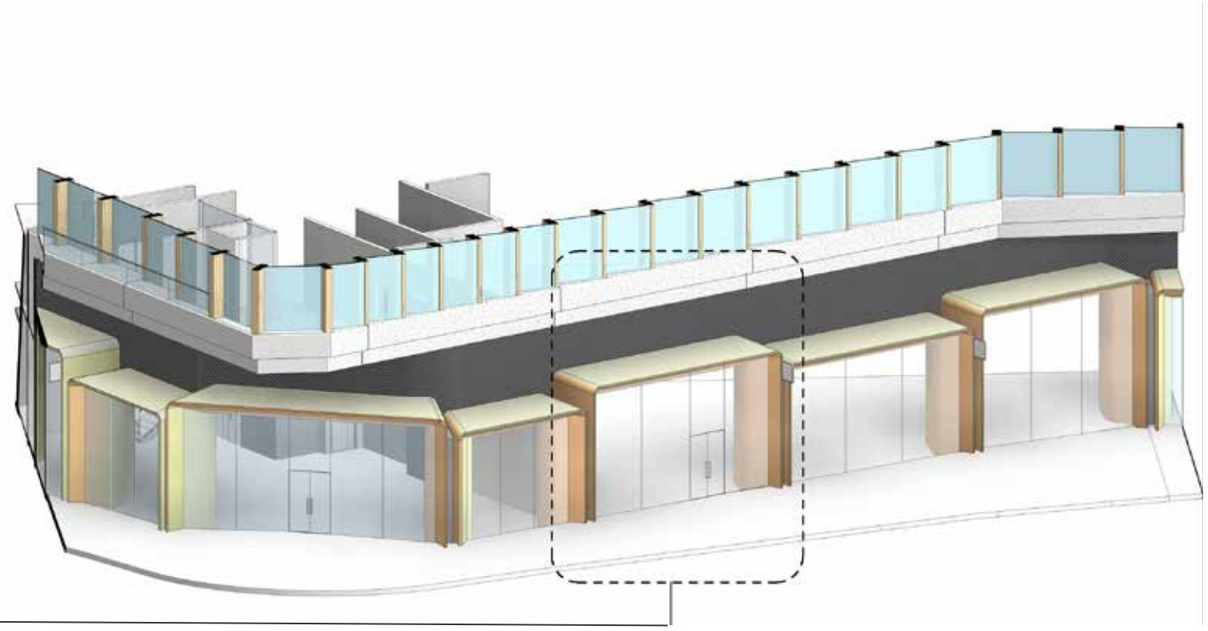


Key

1	Steel Mullion
2	Timber Mullion
5	Pre-cast Concrete Spandrel
6	Upper Floor Glazing
7	Black Painted Dark Grey Glass Panel
8	Metal Mesh Balustrade
14	Ground Floor Glazing
17	Dark Grey Expanded Metal Mesh
18	Bronze Colour Metal Cladding Shop Front Portal
21	Dark Grey Metal Shop Front Divider
D1	Glass Sliding Door
D3	Glass Hinged Door
D6	Dark Grey Back Painted Glass Door

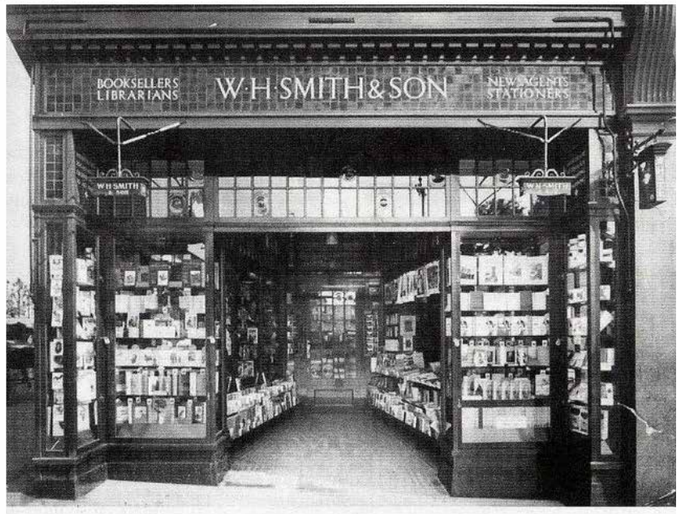


Northern Anchor unit portals



Scheme Description

1.3




Regent Street


Guildford High Street

Figure 44: Precedent images of shopfront typologies and retail streets which have inspired the retail frontage on the Zone A Building

Figure 45: Left - Bay studies of proposed typical retail frontage and proposed North Anchor unit

Ground Plane

As noted previoulsy in this section, the ground plane comprises: retail along King's Boulevard; Office Entrances; North and South Anchor units, and the Access Ramp/ promenade along the East Façade. The architectrual expression of these functions are described in more detail in the following paragraphs.

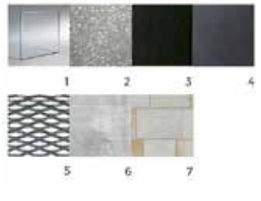
Retail Frontage

The retail areas are distinguished from the other elements of the ground plane by the use of a bronze-coloured metal clad, curved cornered frame system, shown in Figure 55. The frame enclosure of each bay allows for entrance doors between flanking display windows (where required) and incorporates a signage zone, as well as a standardised design for projecting signage. The shopfront frames adjust in size from 6m to 10m wide and between 2.5m to 6m in height as one moves along the King's Boulevard, in order to address the upward slope of the site and maintain a consistent horizontal line separating the ground and first floors.

Within the frames sit the glazed retail bays themselves. Designed to maximise display area, the curved shop front window bays draw inspiration from traditional British shop fronts including Regent's Street, Oxford Street and Guildford High Street, shown in Figure 54.

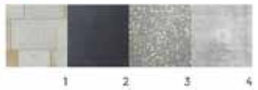
The metal louvre screen above the retail frame conceals the service zone for air intake and exhaust, resulting in a clean street elevation, separating it visually and physically from the workplace floors above.

BASE BUILD FINISHES



1 Laminated Glass Sliding Doors with Anodised Black Steel frame
2 Exposed aggregate GRC Panel
3 Steel Column with intumescent paint, RAL colour TBD
4 Black Steel/Inox (Canopy and Soffit)
5 Black Anodised Steel Mesh with black aluminium louvres behind
6 GRC or similar Panels
7 York Stone Paving

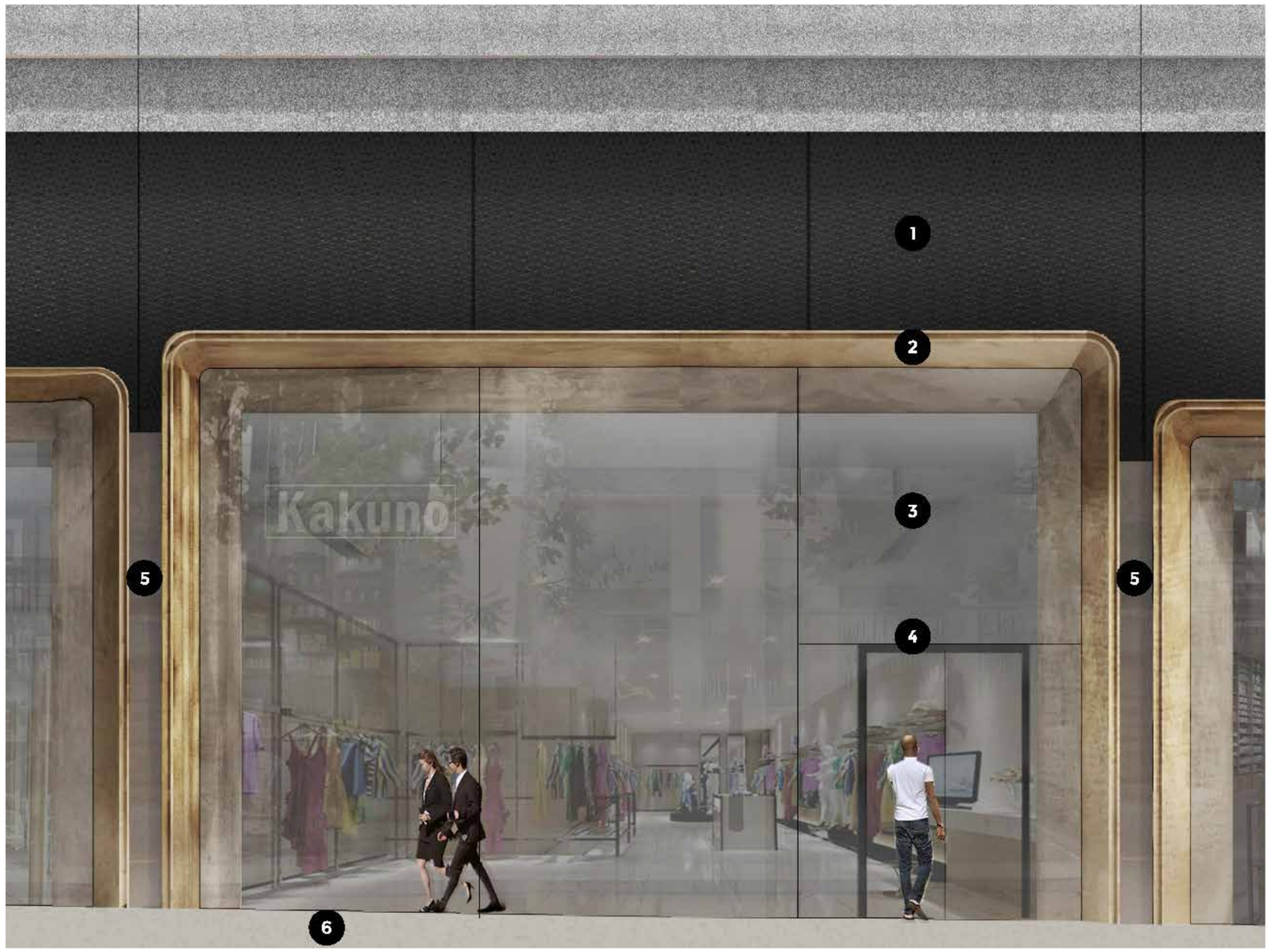
FIT-OUT (MATERIAL INTENT)



1 York Stone Paving
2 Black Steel/Inox
3 Exposed aggregate GRC Panels
4 GRC Panels or similar

Figure 46: Illustrative views of the South Anchor Unit with the glazing open and closed. Key shows proposed materials for base build and intended materials for fit-out (the latter are outside the scope of this submission)

Scheme Description



1 Black Anodised Steel Mesh with black painted louvres behind
2 Steel Cladding (Type 01)
3 Low Iron IGU Glazing Unit
4 Black Stainless Steel Door Frame
5 Steel Cladding (Type 02)
6 York Stone Paving

Figure 47: Illustrative view of the North Anchor Unit

The rhythm of retail units is modified at the north end, where a large double-height retail space addresses the junction of Granary Square and the King's Boulevard. Here, the same language applied to the retail units along the King's Boulevard is used, but appropriately scaled to mark the start/end of the retail street. The North Anchor has double height glazing set into the retail portal frame with box mullions that are capable of being divided into two units, if the need arises (see Figure 57).

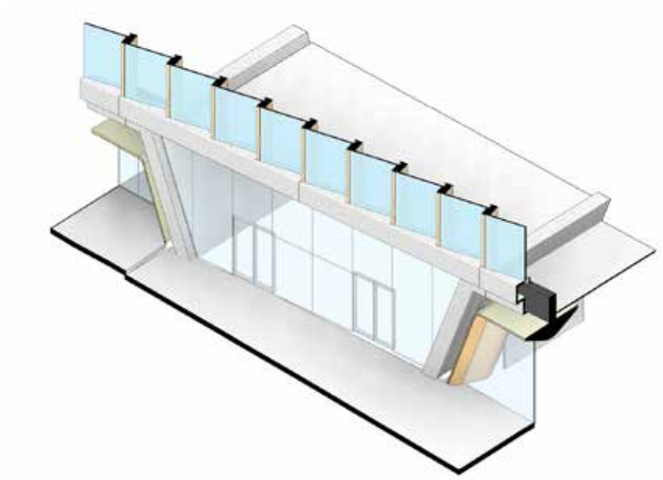
Consistent with the North Anchor unit and the retail street along the west facade, the detailing of the South Anchor continues the retail frontage of the King's Boulevard around the corner to Battle Bridge Place. The South Anchor is designed to address the public realm in a different, and engaging way. Its enclosure is formed by large glazed panels and doors that slide to enable the internal space to be fully opened up to Battle Bridge Place, as shown in Figure 56. This is to create an inside/outside space, that engages with users and passersby alike. Its function of retail and display supports this openness. By being fully glazed, even when closed the walls and doors are see-through – blurring the boundary between the inside and out, making the interior highly visible and engaging. The façade line of the entrance is setback by approximately one metre at ground floor exposing the structural steelwork which would otherwise sit behind the façade.

The hard landscaping around this southern end is raised to create a slightly physically separate, but visually connected urban public realm space, lifted from the remainder of Battle Bridge Place. Its gently curved, undulating perimeter and integration of benches and planting complements those already found on the western side of the King's Boulevard.

Figure 48: Verified view showing the position of the Main Entrance in the context of the retail street on King's Boulevard

Scheme Description

1.3



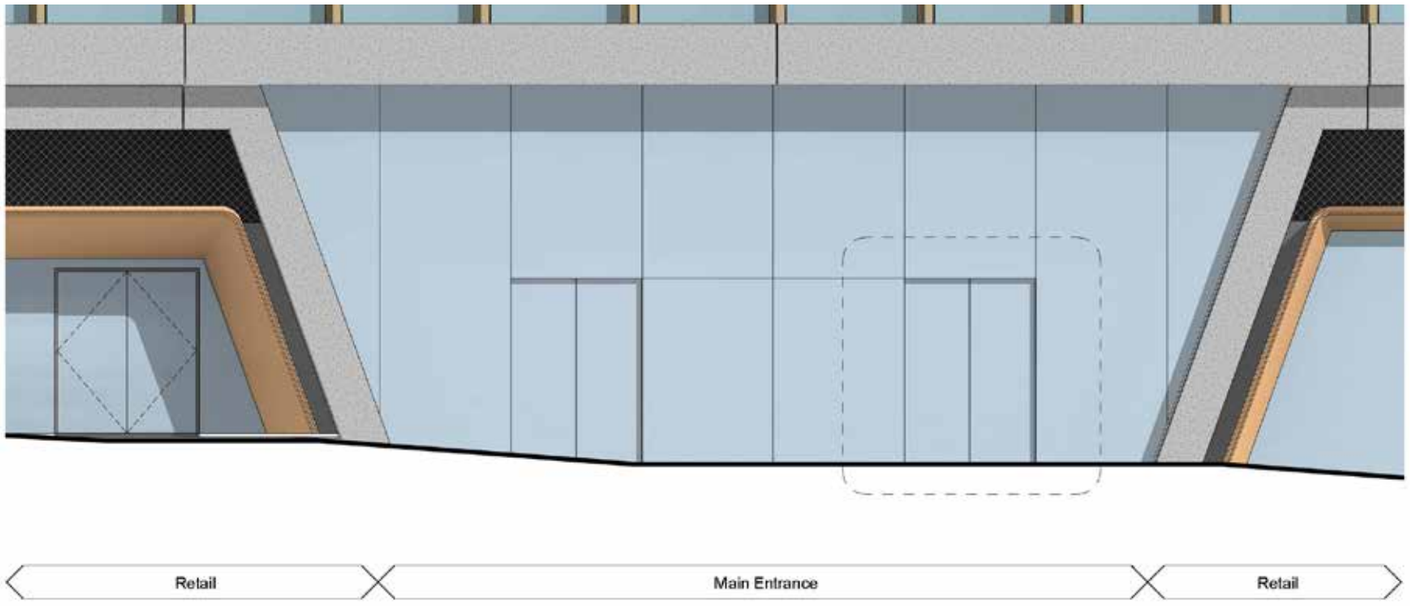


Figure 49: Bay study and illustrative view of the main entrance as seen from the King's Boulevard

Office and Events Centre Entrances

The Main Entrance and the entrance to the Events Centre are distributed along the west façade, whilst the North Entrance is located on Goods Way.

All of these entrances are clearly distinguishable by bringing the architectural language of the workplace volume above, down to the ground floor. The same concrete framing, angled to resemble to the stepping massing changes in the workplace levels above, and clear glazing infill and doors, set the entrances apart from the metal, curved framing of the retail uses between them.

The concrete frame is heavy and pronounced, visible as one approaches the building entrances from Battle Bridge Place, along Goods Way or from the routes between Buildings B2, B4 and B6. Additionally, this heavy frame is then filled by a set back, clear frameless glazing with sliding glazed doors. This allows high levels of visibility deep into the entrances, but especially the main reception of the Zone A, and is shown as Figure 59.

Figure 60: *Elevation showing the entrances to the cycle store and access ramp*

Scheme Description

1.3

Figure 50: Illustrative view showing the east elevation, where base is clad with dark metal grey metal louvre screen and glass reinforced concrete panel

Cycle Store and Access Ramp Entrances

The north façade comprises the entrances to the cycle store and to the existing Access Ramp, which will be entirely enveloped by the Zone A Building. Overall, the design of the building's north façade has been developed to ensure that it reads as an integral part of the building.

This single storey office bay wraps around the north-east corner of the building onto the east façade, reaching the top of the Access Ramp plinth, which is clad in a profiled glass reinforced concrete (GRC) cladding.

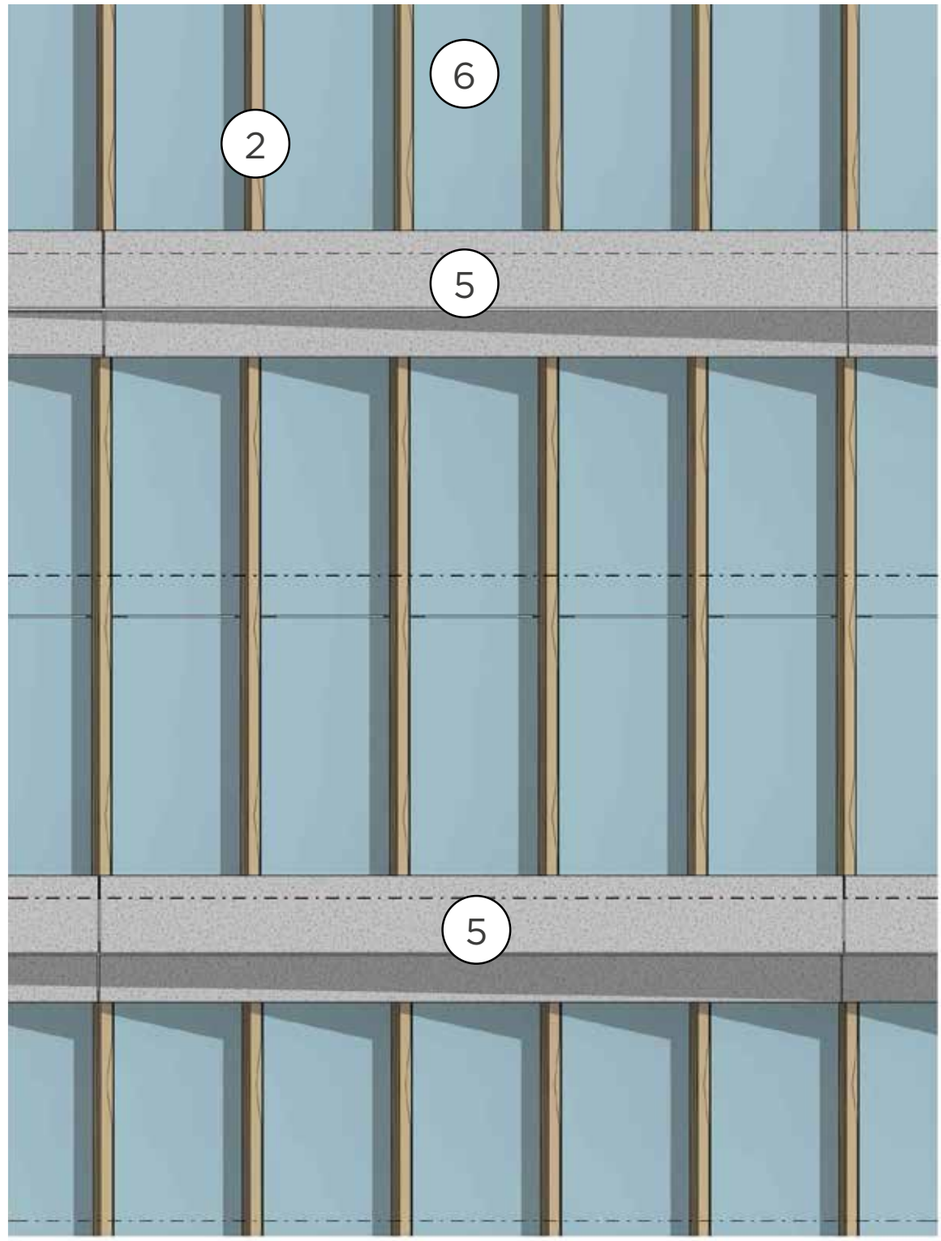
The treatment of the Access Ramp on the east elevation, shown on Figure 60, allows for the incorporation of concealed vents and ventilation to the ramp and basement areas, and addresses the marked level changes from the north to south in a consistent manner. GRC cladding is continued onto the north façade and into the ramp entrance, providing a consistent, high quality finish to the entrance reveals when viewed at oblique angles along Goods Way and embedding it into the façade.

Sitting between the concrete spandrel to the North Entrance and GRC panels to the Access Ramp, the cycle entrance adopts a combined aesthetic of the retail frontage and other entrances. The entrance is framed by a bronze coloured metal portal, with bronze louvres above the doors, as shown in Figure 60.

East Façade

The base of the building's east façade is defined by the basement and the existing Access Ramp, which are set at a lower level than the public realm along the other building facades.

The occupied zone above the access ramp where it is visible from the east is clad with dark grey metal louvre screens and GRC panel systems, shown on the Figure 61, opposite. These panels will be supported at their bases so a soft connection can be easily detailed at the top.



Key

2	Timber mullion
5	Pre-cast concrete spandrel
6	Glazing panel

Figure 51: Photograph of model and bay study showing Workspace Volume facade

Scheme Description

1.3

Workplace Volume

The workplace volume starts at the first floor above the ground plane and subsequently steps up the building by following the natural slope of the site. The façade is expressed through the use of three primary materials: timber and glass vertically, and concrete horizontally. As noted earlier, the façade is a reflection of the concepts that sit behind the design. These elements are characterised firstly by the orientation of timber mullions, then by glass position, and finally by colour and depth within the recessed balconies.

The logic that underpins how the three elements interact is largely indicated by the 'gradient map' in Figure 63. It shows the kit of parts that was used to determine the design of the façade: the degree of solar exposure, the buildings' context, and the interior functions. Each part creates a different response, and in turn each response is adjusted in relation to the other two.

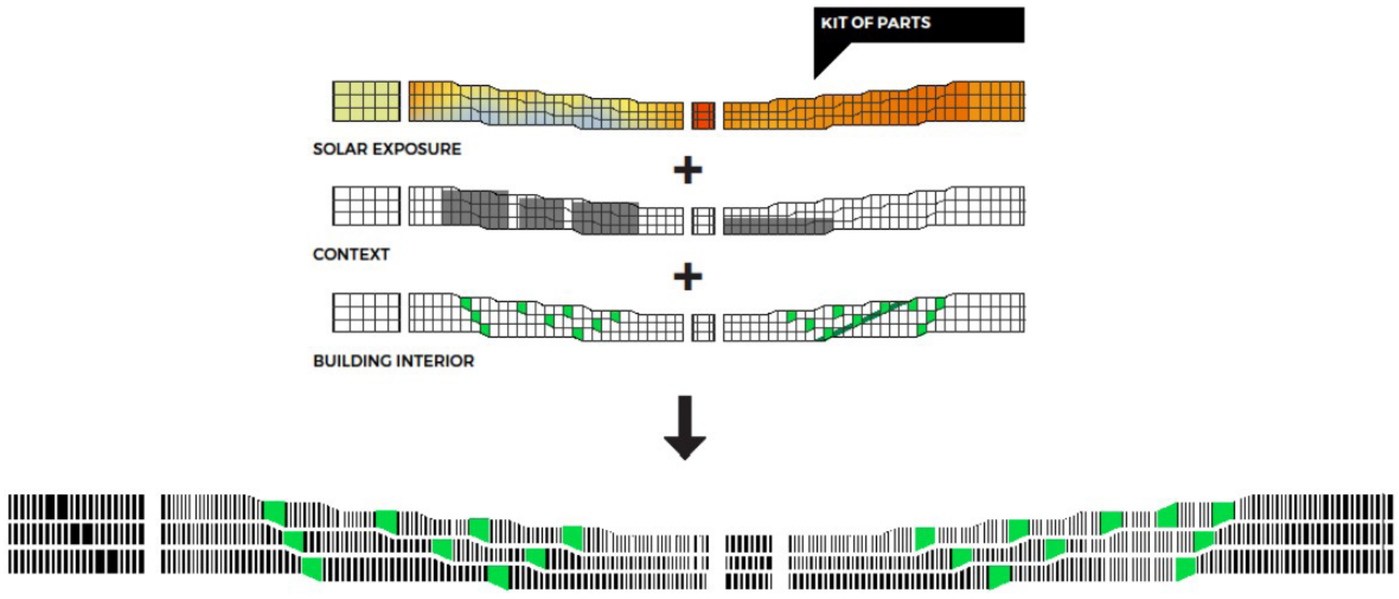


Figure 52: Diagram of the 'Gradient Map'

By manipulating the angle of the simple system of timber mullions, across the different facades, the solar exposure is reduced. The fins are turned to block the majority of the solar exposure, but then adjusted to take into account of the surrounding built context and the need to get daylight in and views out. This has led to a great variety of timber fin and glass panel orientations, as you travel around the building.

At each change in level as the building steps, the internal volumes shift from two to three storeys. The west and east facades are punctuated at these points with a series of nine recessed, planted balconies of varying sizes helping to break down the building's massing. These balconies are typically 1.5 metres at their widest point in the façade and are designed to incorporate a series of tall climbing frames or structures providing a canvas for climbers or cascading planting, creating visual interest and variety to the west façade, and serving to break up the street elevation along the King's Boulevard. On the east side, three of the balconies coincide with three internal social spaces located along the diagonal staircase. Given the proximity and restrictions imposed by Network Rail on planting close to the railway tracks, stainless steel mesh has been incorporated for the balconies on the east elevation to prevent leaves from falling onto the tracks.

The arrangement of the internal and external terraces can be seen from the elevational plans shown as Figure 62 on the previous page.

The layers of the workplace floors are expressed externally by the concrete spandrel panels. They indicate the main workplace floors, from which the suspended intermediate floors are suspended. Starting at the southern end, they are two storeys apart, rising (via the stepping, angled elements) to three storeys at the north. This approach creates a horizontality which responds to the bases of Buildings B2, B4 and B6, emphasises the north-south grain of King's Boulevard, and creates visual interest along the eastern and western elevations.

Figure 53: Illustrative view of the north elevation, as seen from Granary Square

Scheme Description

1.3

Figure 54: Verified view of the south facade looking north across Battle Bridge Place

The north and south ends of the building are expressed in a subtly different way again, giving additional layers of detail and interest. Both have the added concept of 'end grain' and are distinguishable from the west and east facades by virtue of their interpretation of the façade composition and changes in scale. For both, this end grain means expressing the inner floor levels and spaces directly on the façade – as though the building has been 'sliced off' at the north and south. Additionally, effort has been made to ensure there is substantial depth and articulation.

End grain is shown at the north and south by the floor plates being expressed not only by the concrete spandrels, but by dark grey/ black spandrel panels in the glazing, where the hung intermediate floorplates meet the façade.

At the northern end, depth is created through the use of balconies and stepping the intermediate floor glazing into the building. To create a significant top to the elevation, the very top of the north facade has a large, deep, almost full length balcony at level 10. It exposes the structural trusses that form the roof plant space and from which the remainder of the building is hung, hinting at how the building works inside. These are shown in Figure 64, opposite.

Each of the floor levels below this main balcony are also recessed, on a floor by floor basis but in their groups of three. In each group, the upper most is set back slightly, and the preceding ones slightly further, until a main workplace floor is hit, whereupon the process starts again. To make this gradual recessing more apparent, the timber fins are also cut at each floor, and step in with the glazing line. This gives a clear expression to the stepping in, and creates a good degree of variety and richness when viewed along Goods Way or from Granary Square without becoming cluttered.

Consistent with the rest of the facades, the south elevation uses double height glazing and timber mullions. At the south, the end grain is expressed in a similar manner with regard to the glazing, but the workplace floors, expressed as the concrete spandrels, project forward by over a metre from the façade line, creating balconies at every second floor. Furthermore the timber fins are separated out from the cladding and given space to create shadow and depth in the façade. This is a 'nod' to the context, for example the steel columned balconies of Building B2. By making the fins free-standing on the balconies, these two storey timber fins can also be dynamic, turning create a shading response particular to the passage of the sun. The moving timber fins will not only act as responsive solar shading, but can also be used to create interest and animation at times of the day when their functional requirements are not needed.

Figure 55: Illustrative view of the Zone A Building roof plane looking south towards the city

Scheme Description

1.3

Figure 56: Illustraive view of facade at levels 10 and 11

Roof Plane

As explained previously, the 8m level change across the site as one moves from the north to south along the King's Boulevard results in the massing of the building as a series of stepped elements. As a result, the roof plane is staggered with its highest level at the north end and its lowest at the south.

In response to the parameter plans and light cone considerations, these upper floors are set back on both the east and the west sides, to emphasise the 'top' to the building. The design language is also slightly different to that of the Workplace Volume. The design of the façade of the roof levels of the building, i.e. Levels 7 to 11, is expressed as a glazed facade with timber wall cladding. Typically, the external timber framed balconies express the floor levels inside. The glazing system of the façade between is designed using minimal frames and mullions with no visible structure on the façade. The timber slats form a soffit and wrap upwards at the facade to form a parapet. These repeat along the east and west elevations following the cascading massing of the roof as shown in Figure 66.

The 1.5m high metal balustrade will be formed of steel with webnet wire mesh panels, with railings spaced sufficiently apart to maximise transparency, when viewed externally, but also maintain safety for the user, as shown in Figure 67.

Figure 57: Photo of King's Boulevard (as existing), looking north (left) and illustrative view of King's Boulevard looking south (right)

Scheme Description

1.3

Public Realm

As well as the Zone A Building, this Reserved Matters submission includes some landscaping around the north, west and south of the building, covering parts of Goods Way, King's Boulevard and Canal Square, and Battle Bridge Place, respectively. Public realm works for King's Boulevard and Battle Bridge Place have already been largely completed pursuant to an earlier Reserved Matters approval with reference to 2008/3731/P. King's Boulevard is shown as existing and as proposed in Figure 68. The current proposals bring forward new details for a granite edging around the building on King's Boulevard and Goods Way, as well as revised details of cycle parking along the eastern footpath of King's Boulevard. The submission also includes a small area of Battle Bridge Place to the south of the building. This area which was originally identified under the Outline Planning Permission and associated parameter plans as the southern end of the Zone A Building (ie Building A1). However, the current proposals do not fill the footprint of Zone A and therefore create additional public realm adjacent to the South Anchor unit and Battle Bridge Place. This area also needs to address the level difference between Battle Bridge Place and the new South Anchor Unit, which sits at a higher level than the public realm.

Development Zone A sits within the southern part of the wider King's Cross Central Masterplan. Consequently, the ground floor of the Zone A Building has to meet and integrate into a well-established public realm. The public realm design itself must also make a seamless transition with the wider public realm across the KXC site, in particular, tying in with the clear pattern and language that defines the new streets and squares which bind the development together.

Figure 58: Proposed public realm proposals within the existing and approved context

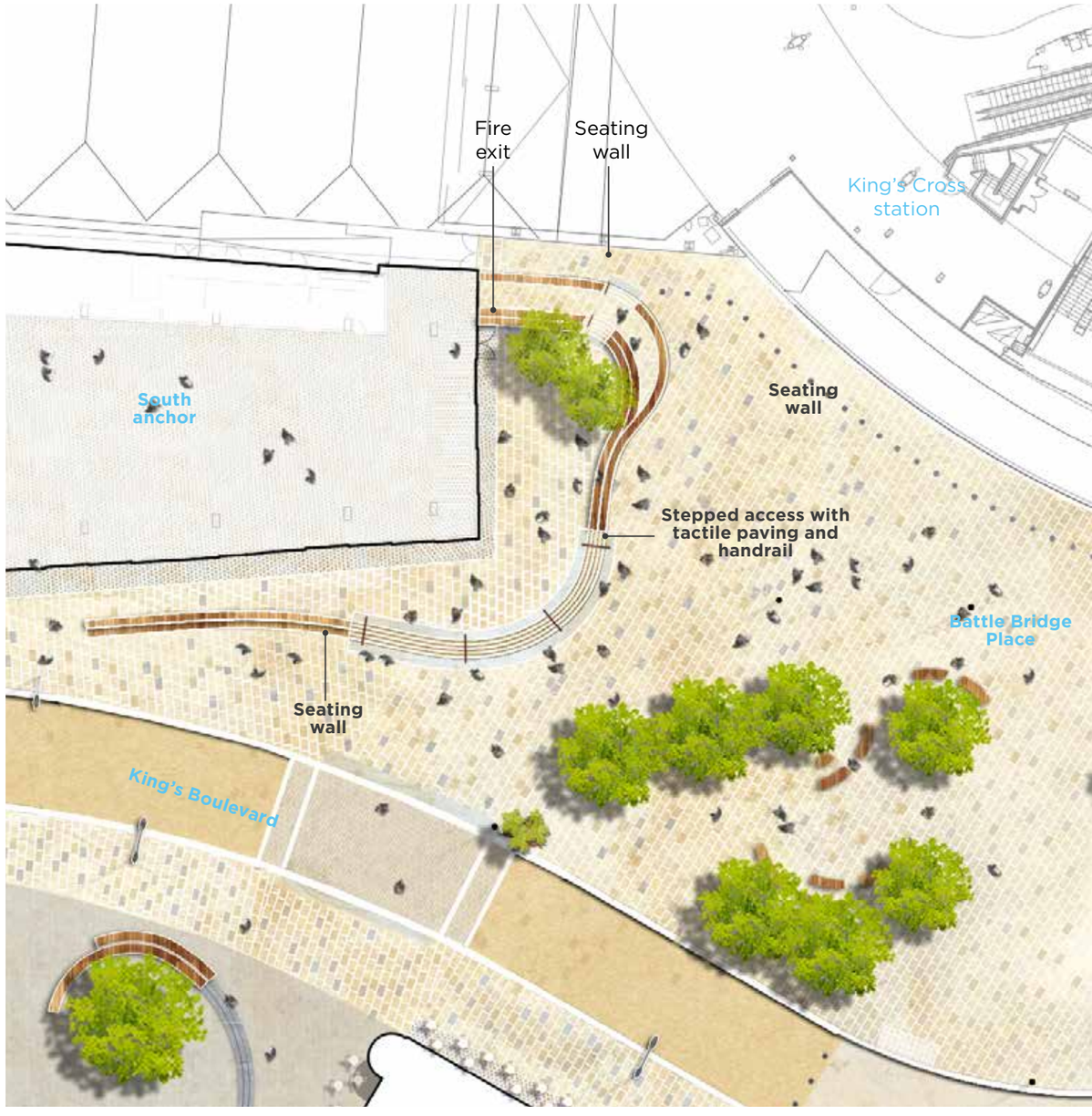


Figure 59: Verified view of Battle Bridge Place looking north towards the Zone A Building and illustrative plan showing public realm proposals at Battle Bridge Place

Scheme Description

1.3

Figure 60: Photographs of proposed materials, as applied across the KXC site

The approach to the ground level public realm has been to provide a setting for the building that complements the powerful forms expressed in the architecture as well as grounding the retail edges and making the entrance ways clearly legible and accessible. Due to the 8m level changes from the south to the north end of Development Zone A, entrances are taken up by subtle folds in the paving to ensure the surface flowing around and beneath the building is maintained.

To the north of the building which runs along Goods Way, the plot meets the existing carriageway and the newly opened Canal Square. On King's Boulevard, works are now complete, with final finishes applied to the western footpath. The road and eastern footpath remain finished in a temporary bonded gravel, pending completion of Zone A and a decision on whether the route should be open to traffic or pedetrianised. Trees have already been planted on both sides of King's Boulevard. However, in order to protect those on the east side of the street during construction, it is anticipated that 20 trees along the eastern footpath with be carefully removed and replanted off-site site until the Zone A Building is complete, at which point they will be returned to their original positions.

Finished site levels in the public realm around the building were established by parameter plan KXC 012 and have informed the proposed public realm design and the approach at ground floor level of the building..

In terms of the proposed surface finishes, sandstone paving is proposed on Kings Boulevard and to Battle Bridge Place/ Goods Way to match existing finishes. The paving will slope up King's Boulevard in increments, with the existing kerb alignment remaining at a 1:30 gradient to avoid the need for large steps and enable level access to the retail units and office entrances along this facade.

Battle Bridge Place will have a series of steps rising up to meet the South Anchor unit to provide level access to the entrance, as illustrated in Figure 70. The resulting space outside the unit will sit approximately 1m above the adjacent public realm of Battle Bridge Place providing a suitable area for events such as market stalls or for the offer within the South Anchor to spill out.

The lower level will neatly merge with the existing public realm that runs in front of King's Cross Station. The level transition will comprise long steps on the corner of the building that addresses the main desire lines from the two stations and will allow users to easily access the South Anchor. The steps will be made up of Sandstone steps with tactile paving and handrails with integrated lighting. Either side of the steps will be a seating wall which will comprise of granite cladding with a timber top providing an opportunity for outdoor seating outside the South Anchor unit overlooking Battle Bridge Place. The seating wall to the west of the building will also enclose a ramp to the South Anchor unit, providing a gradient of at least 1:21.

The proposed paving across all three spaces will use a mixture of high quality sandstone slabs with a trim of Sandstone setts along the building edge, which is consistent with the approved paving patterns and materials of surrounding public realm areas. Precedent photos of the proposed materials and finishes are provided as Figure 71.

A total of 25 stainless steel 'Sheffield' cycle stands providing 50 spaces in total which will be nestled between the approved trees along the granite kerb, on the eastern side of the King's Boulevard. Following the language across the rest of the KXC site, both the cycle stands and the trees will site in surrounds created from reclaimed granite setts.

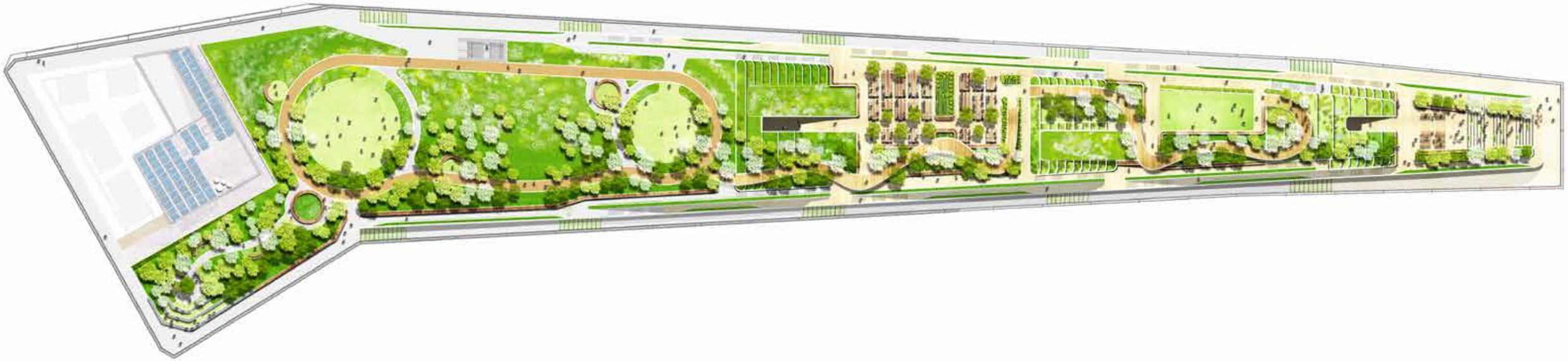


Figure 61: Illustrative plan of the roof level of the Zone A Building and precent images of some of the proposed planting types and bidiversity features

Environmental Performance

1.4

Environmental Sustainability

The Zone A Building has been designed to meet the highest standards of environmental sustainability for a major office development. Consequently a holistic approach has been adopted throughout the design process, which sees a combination of complementary passive and active design features and connection to the low carbon energy system on the KXC development to deliver an overall carbon reduction in excess of 22% against Part L of the current Building Regulations (2013) targets.

The BREEAM pre-assessment indicates that the Zone A Building is on target to achieve at least a rating of 'Excellent' but with credits identified could see an improvement to BREEAM rating 'Outstanding'.

Although, not a requirement by the KXC Outline Planning Permission, the design team has also undertaken an internationally recognised certification programme for green buildings, similar to BREEAM. The LEED Assessment suggests that the proposed Zone A Building will achieve a 'Gold' rating.

An Environmental Sustainability Plan (ESP) is included within this submission in response to Condition 17 of the Outline Planning Permission and explains this in depth. In summary, the target rating of 'Excellent' will be achieved through:

- A holistic approach towards sustainability, which is fully integrated into the design of the Zone A Building as explained in the supporting ESP;
- Carefully considered façade design, which responds to building orientation and places great emphasis on daylight optimisation. The full height glazing at the perimeter of the building provides for deep natural daylight penetration;
- Opportunity to exploit thermal mass from the proposed cross laminate timber floor levels;
- High levels of control of solar gain through the use of timber mullions. Mullions on the south facade are capable of moving to track the sun's path throughout the day;
- High efficiency and intelligent lighting systems to reduce energy demand;
- High efficiency plant;
- Construction materials with low environmental impact will be used wherever possible;
- Flexible layout and building design, able to cope with adaptation and changes to working practices throughout the life of the building;
- Incorporation of photovoltaic arrays with an annual output of 19,800 kWh at the northern end of the building at roof level (see Figure X);
- Automatic monitoring of heating, cooling and ventilation by incorporating a Building Management System;
- Rainwater harvesting and grey water recycling systems which will reduce demand or treated mains water;
- The use of 'low flow' fittings and water efficient sanitary ware to further reduce water consumption; and
- Facilities for the storage and separation of different waste materials in the basement for refuse store, as part of a comprehensive site-wide recycling strategy.
- Extensive green roof at levels 7 to 11 and at roof level, and planted balconies to the east and west facades.

Further details are provided in the separate Environmental Sustainability Plan which forms part of this submission.

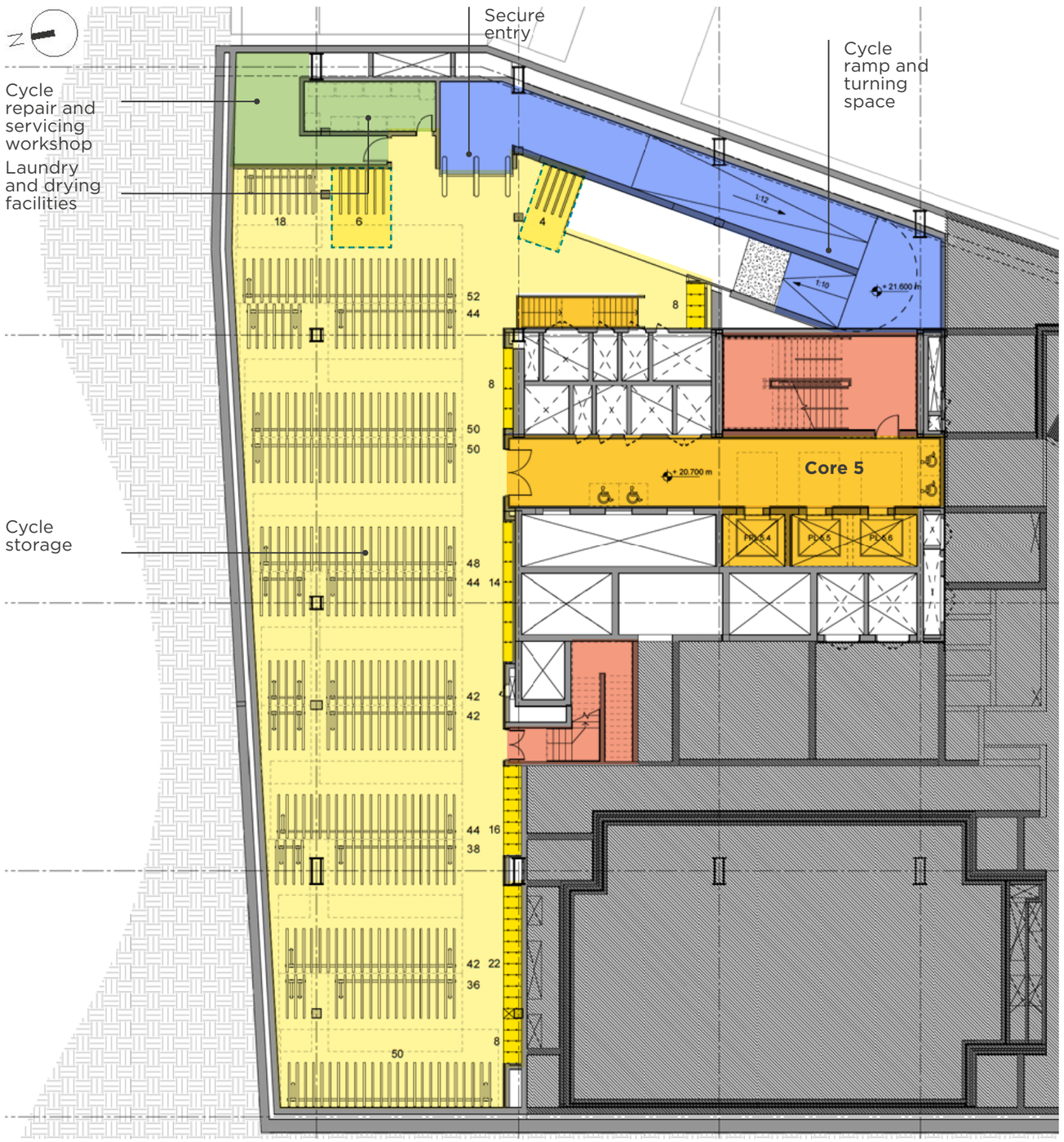
Ecology

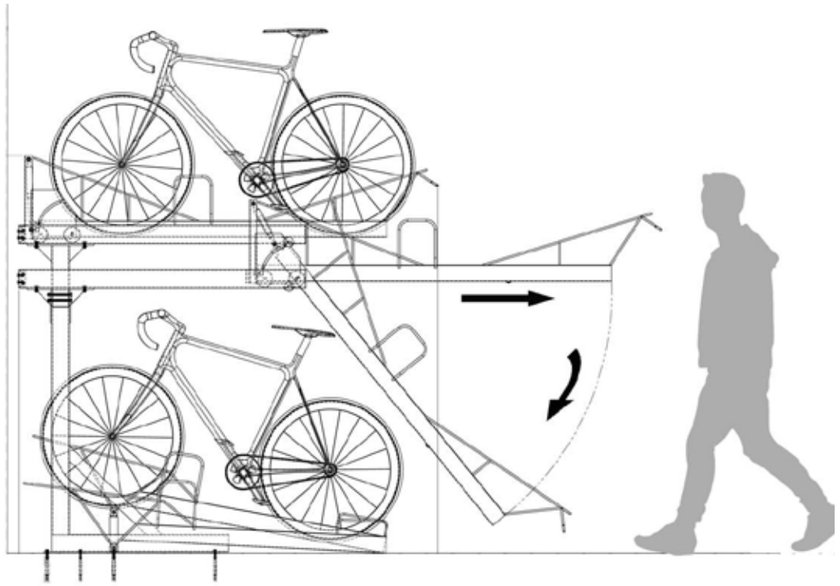
It is proposed that planted roof terraces will be provided at roof level, occupying approximately 40% of the roof area of the building and creating 3,779m^2 of rich landscaped habitat. Further details regarding the design of these spaces are provided in Sections 1.3 and 2.8 of this UDR.

As well as providing visual amenity and recreation space for members of staff, the ecology of the roof terraces has played a strong role in their landscaping and design. The space will be separated into different areas, to reflect the orientation and intended level of activity. These will be appropriately planted with native flowering species and trees to attract insects and birds.

The occupier is also exploring the potential to incorporate bee-hives in areas which are inaccessible to workers, offering further opportunities for ecological enhancement.

Rainwater collected on the roof areas will be attenuated, stored in tanks located in the basement and then made available for reuse within the building for flushing toilets and irrigating the gardens.





Key

- Double stack spaces
- Spaces for larger bikes as single stack
- Spaces for foldable bikes on double height shelf
- Cycle parking space
- Cycle ramp
- Repair and Servicing
- Internal Circulation
- Shower and changing facilities

Figure 62: Floor plan showing the layout of the cycle storage on the lower ground mezzanine floor and diagram of double stacking system

Cycle and Vehicle Parking

1.5

Cycle Parking

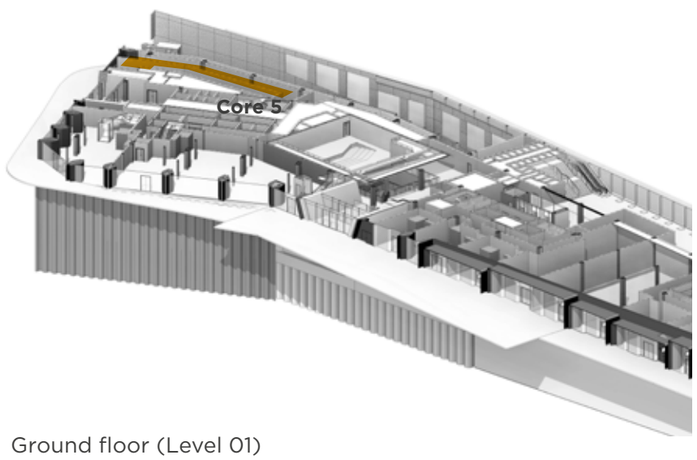
A total of 686no. cycle spaces are provided for Google staff and their visitors at lower ground floor mezzanine level (level 00M) using a combination of 3no. Josta Parker single tier (6 spaces) and 340no. two-tier racks. Authorised visitors to the office element of the building will also be able to utilise this store after checking-in at the North Entrance. The number proposed significantly exceeds the 314no. spaces required by the standards for office (B1) use referred to in Condition 51 of the Outline Planning Permission, and similarly BREEAM.

Although not specifically referred to by Condition 51, the proposals also include dedicated space for 7 powered assisted wheelchairs with associated charging points, and for 3 tricycles at ground floor (Level 01) which can be accessed via the cycle entrance or through the north reception area. Changing facilities for wheelchair users are also provided at the same level.

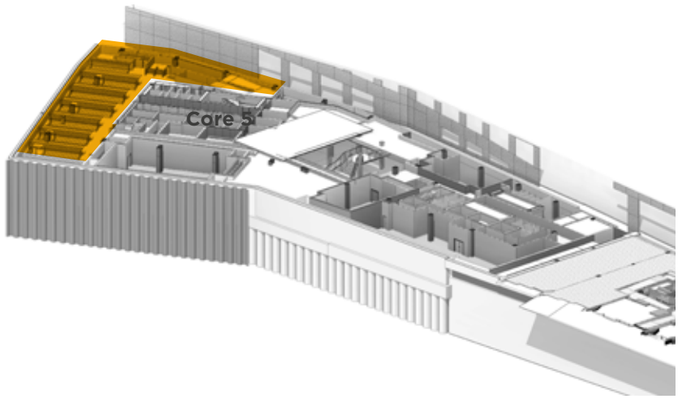
The proposed cycle parking, together with toilets, lockers and showers, are provided at the northern end of the building primarily across two floors; lower ground floor mezzanine level, and lower ground floor (also referred to as Level 00M and Level 00, respectively). The cycle parking, shown in Figure 73, is located entirely at lower ground floor mezzanine level (Level 00M), with changing faciliites located on the level below at lower ground floor (Level 00). The cycle store further provides space for a repair and servicing workshop, laundry and drying rooms for staff, also on the lower ground floor. The relationship between these facilities is illustrated by Figure 74.

The cycle store is accessed via a dedicated entrance on Goods Way that sits adjacent to, but separate from, the Access Ramp to the basement and SSY. This entrance provides access down to the secure storage area at Level 00M using a ramp which in turn, leads to security gates controlled by a key fob or similar. The ramp is set at a gradient of 1:10 from the entrance, becoming 1:12 as it turns 180 degrees to enter the security gates, reflecting the gradient of the roof of the access ramp below,

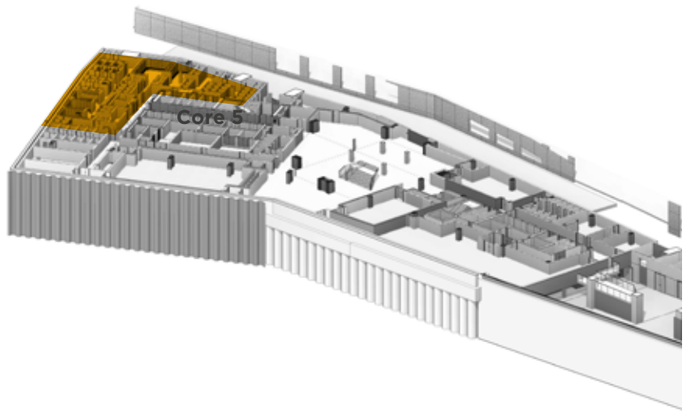
All of the cycle facilities are directly connected to the North Reception area and the rest of the offices at the upper levels via either one of three lifts or by stairs, located in Core 5.



Ground floor (Level 01)



Lower ground mezzanine level (Level 00M)



Lower ground floor (Level 00)

Figure 63: Axonometric diagrams showing the arrange of the ground, lower ground and lower ground mezzanine level

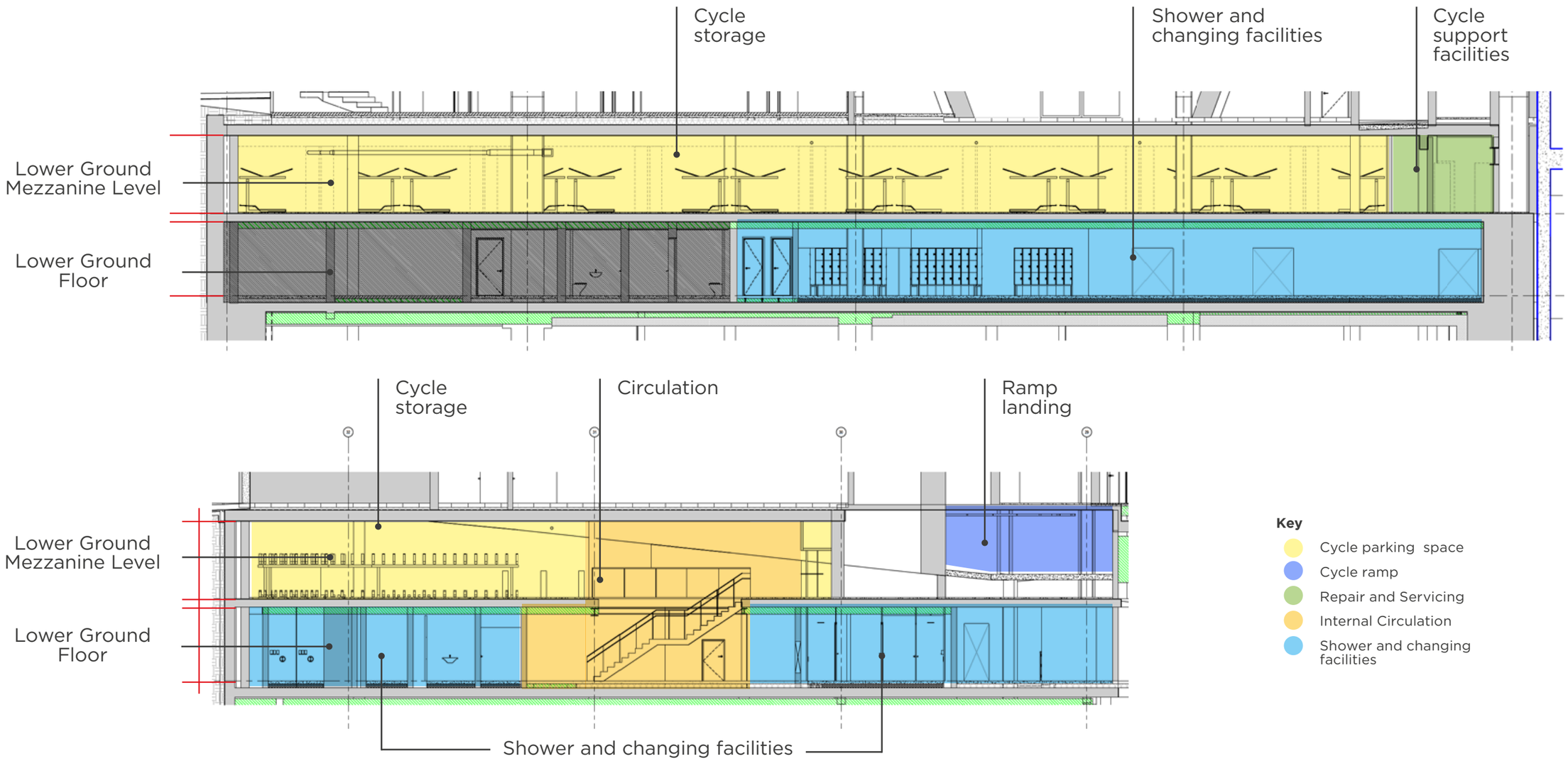


Figure 64: Sections showing cycle storage and changing facilities on the lower ground floors

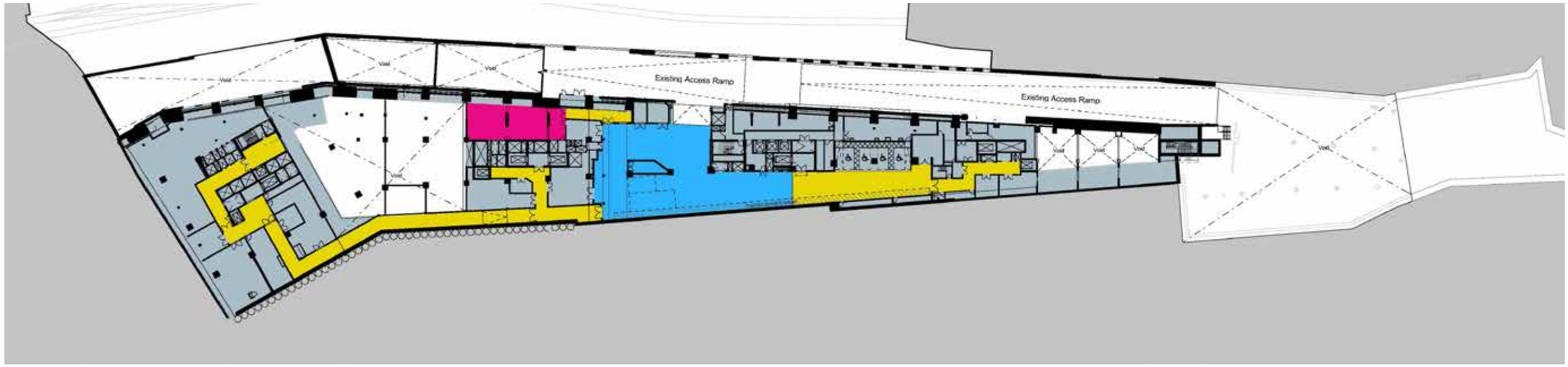
Cycle and Vehicle Parking

1.5

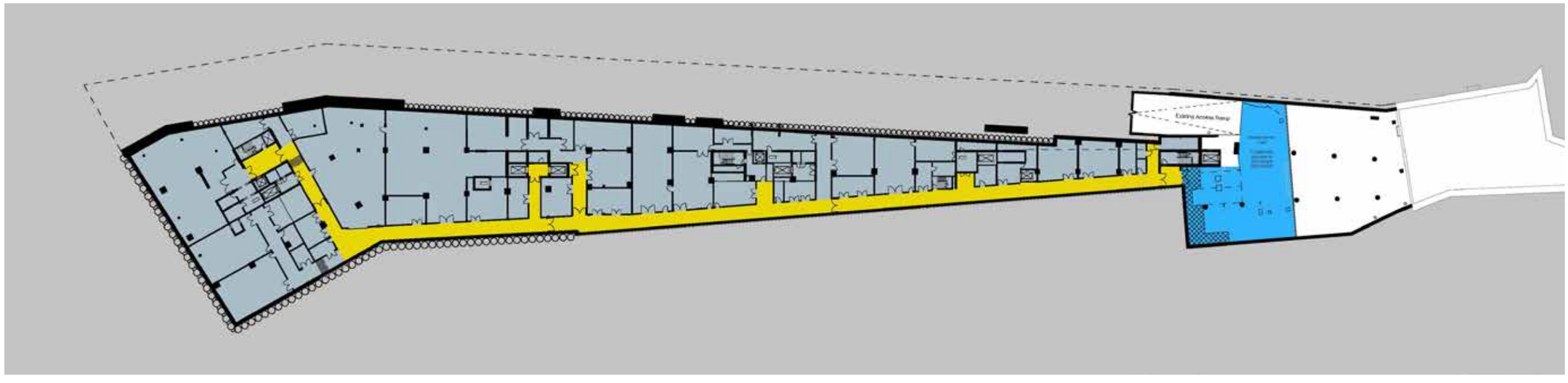
Figure 65: Proposed visitor and retail cycle parking within public realm, shown in blue, each with 5 racks (10 spaces)

Cycle Parking

In addition, 50 spaces will be provided within the public realm for staff and visitors to the retail units at ground floor, as indicated on Figure 76. It is anticipated that some units may also provide their own facilities within the unit. However, this will depend on the nature of the end use and individual tenant's fit-out, and therefore to provide some certainty, the applicants have sought to provide for all of these users on King's Boulevard. This provision exceeds the 45 spaces for retail staff and visitors based on the proposed retail floorspace of 4376m^2 GEA and the standards set out in Condition 51 of the Outline Planning Permission for A1-A5 uses (ie 1 per 250m^2 for each type of user).



Upper Basement Floor Plan



Lower Basement Floor Plan

Figure 77: Floor plans showing location of loading bays (blue)(, refuse stores (magenta) and back of house corridors linking all four cores of the building (yellow)

Cycle and Vehicle Parking

1.5

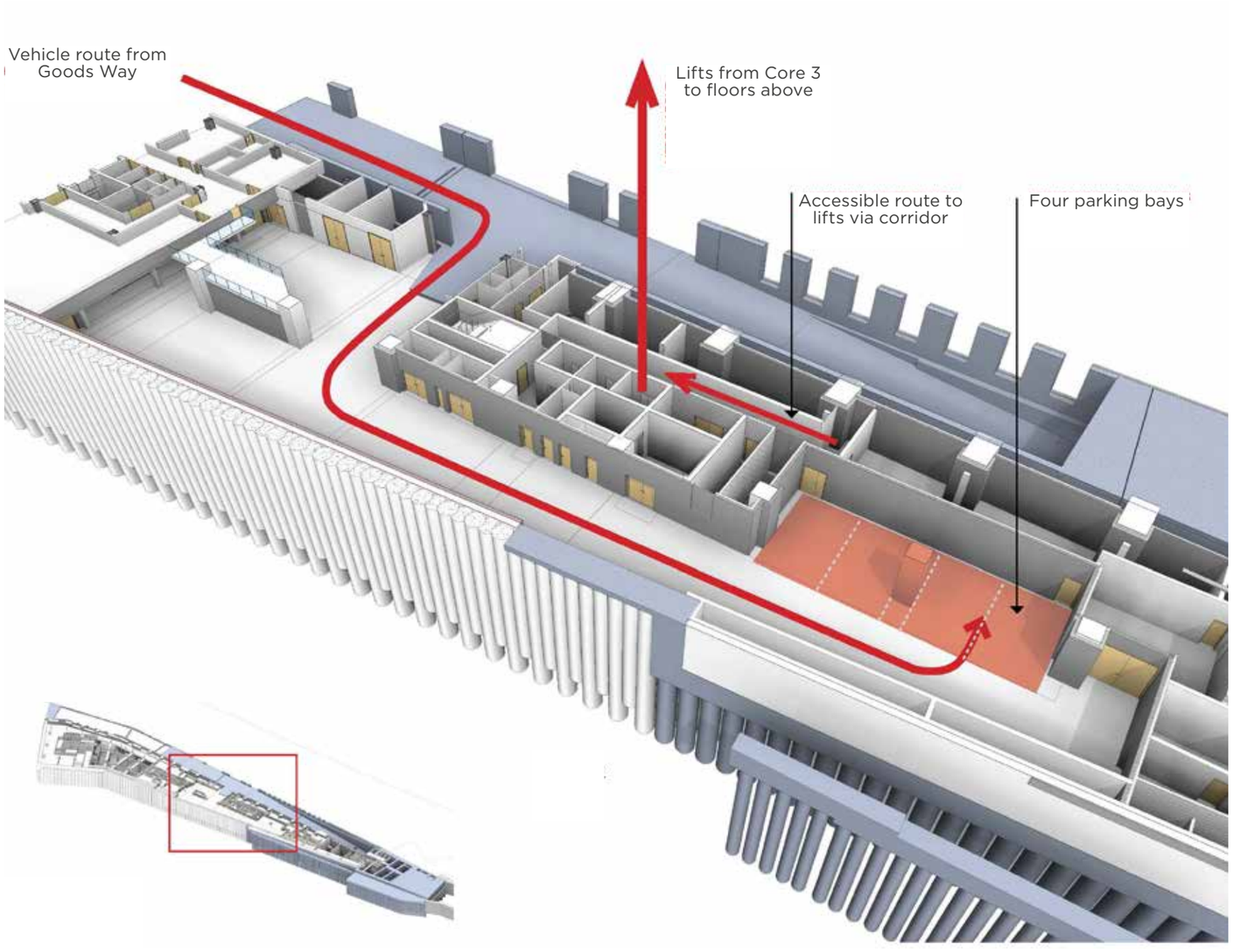


Figure 78: Diagram showing parking facilities and the pedestrian flow to Core 3 (top) and key sectional diagram indicating location within the building

Car Parking

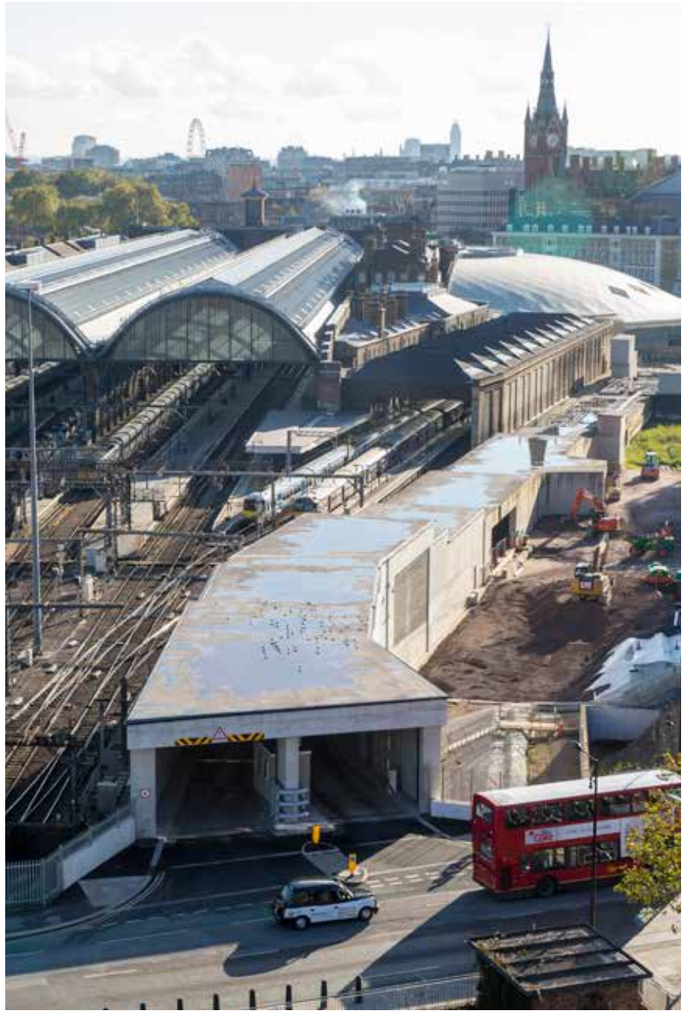
It is envisaged that most building users and members of staff will arrive via public transport as a result of the close connection to the King's Cross/St Pancras transport hub and local transport infrastructure, or by bicycle using the facilities as described above.

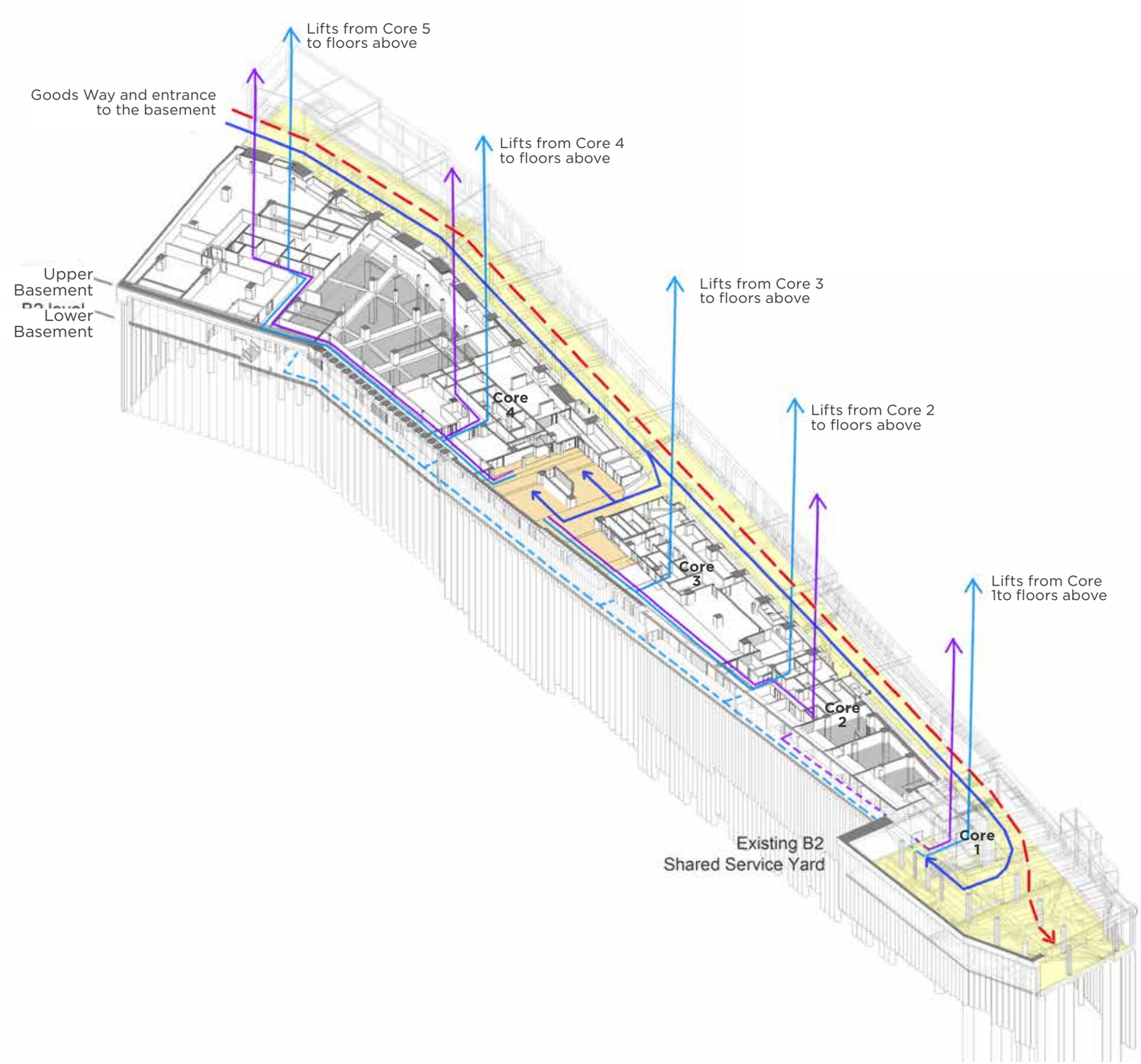
Nonetheless a total of 4 accessible car parking bays will be provided in the basement of the Zone A Building for use by staff and authorised visitors with disabilities. These spaces comply with Part M and British Standard requirements. The location of these bays in the context of the basement is shown highlighted in red on Figure 77, in an area away from delivery vehicles and other servicing functions.

The route to the spaces will be defined via wayfinding following instructions from a manned security post at the top of the access ramp entrance.

Access to parking at basement levels will be off Goods Way via the Access Ramp Entrance, as indicated on Figure 99. Vehicles will pass through a manned security barrier and once cleared, will follow the shared service route to the allocated spaces for the Zone A Building. The parking bays will be clearly demarcated with floor markings.

A secure route from the spaces to the lifts located in Core 3 will lead users to the main reception area and offices above, as shown in Figure 78.





Network Rail vehicular route

Google retail vehicular route

Google delivery route lower basement

Google delivery route upper basement

Retail delivery route lower basement

Retail delivery route upper basement

Lower basement service area

Existing Shared Service Ramp

Figure 66: Diagram showing the routes and key features of the access and loading strategy (left) and floorplan of the North Reception area showing servicing features

Servicing, Waste and Refuse Strategy

1.6

Servicing

The southern and northern parts of the Access Ramp to the Zone A Building's proposed basement service areas, known as the AR(S) and AR(N), respectively, and the SSY are already completed pursuant to Enabling Works Approvals 2007/3284/P, 2009/0208/P, 2010/2078/P, 2012/4385/P and 2013/0510/P. Plans and sections of the approved Access Ramp are shown in the earlier parts of this UDR.

The proposed servicing arrangements, including for waste and refuse, are set out below.

All servicing for the Zone A Building including that of the office occupier, retailers and third party contractors will be undertaken via the basement, which is spread across two levels. Delivery vehicles will access the basement from the Zone A Access Ramp at the northern end of the building, off Goods Way via a manned security control point at the top of the ramp. This arrangement is in line with Parameter Plan KXC 017, which envisaged the service frontage on Goods Way.

A traffic management system will direct vehicles via the Access Ramp either to the Zone A 'upper basement' or the SSY. The upper basement is a dedicated and secure Zone A Building loading, service and parking area. The SSY, located at the end of the Access Ramp, is designated as a shared service area for use by King's Cross Station alongside Zone A. The arrangement is shown on Figure 79, opposite. There are six loading bays distributed across two service areas – four within the upper basement level and two within the SSY.

Zone A users and retail vehicles will be allocated one of six servicing bays depending on the size of the vehicle, the proximity of the bay to the servicing destination, and the availability of the bay. The six servicing bays accommodate:

- Two 10.0m vehicles
- Two 6.0m vehicles
- Two 8.0m vehicles

The upper basement area provides designated offloading areas with good access to service cores 4 and 5 goods and retail goods lifts. Associated rooms have been provided for food storage, a decant area, general shipping and receiving, refuse store and baler. A food to waste storage tank above the dock master's office allows for reduced refuse storage floor space and goods access for servicing.

The existing SSY will continue to serve Network Rail/King's Cross Station as well as allow access for Zone A office related vehicles via two dedicated loading bays.

From a security perspective, both the office element and retailers will have requirements to use the two service areas for accepting goods and deliveries then distributing them throughout the building on a daily basis. A dock master office has been included in the centre of the the upper basement service yard where the majority of daily deliveries will take place. Security will be controlled at access points to lifts, stairs, rooms and corridors by way of a key fob system or similar. Office staff will have access from the service areas to each of the goods lifts and all respective areas/corridors within the basement.

Retail tenants will have controlled access to the corridors necessary to reach the retail goods lifts, for example using key fobs. These have been provided at cores 4 and 5 from the upper basement level and a further retail goods lift has been provided at core 2.

Vehicular Scheduling

The Zone A Facilities Management (FM) team will use a Delivery Management System (DMS) to schedule all vehicle trips to the building. The pre-arrival information will be coordinated through the DMS which will allow them to manage (e.g. accept, deny, restrict or postpone) all service vehicle trips. For example, the FM team may choose to limit vehicle arrivals during peak hours to avoid bottlenecks at the entrance or in the service areas. The DMS will interface with the building's own integrated communications system to ensure that different members of staff in the various organisations are coordinated. It will also assign arrival slots for vehicles and alert both the supplier and the receiver that their activity has been scheduled. The basement service areas will be operational 24/7 therefore, under normal circumstances, vehicles can be scheduled at all times.

Courier and drop off

The North Reception, located on Goods Way, incorporates a concierge office for courier/package drop off and scanning facilities. Couriers arriving at the other entrances will be directed to use the North Entrance. Similarly, employees and suppliers will be asked to ensure packages are labelled to state the North Entrance.

Given the number of courier deliveries anticipated to the building from Goods Way, the applicant is exploring the possibility of a courier drop-off layby near the north end of the Zone A building where the. The location of this is currently being developed in conjunction with Camden's Planning, Highways and Transport divisions and consequently, it falls outside the scope of the current submission.

Photo of the complete SSY

Servicing, Waste and Refuse Strategy

1.6

Waste and Refuse Strategy

The FM team will transport waste from the receptacle to the central waste room. This combined waste room will be used by office and retailer tenants. A variety of bin types will be stored to accommodate different streams and facilitate effective material segregation.

The central waste room located adjacent to Core 4 has been designed to minimise the waste storage footprint. It is expected that collections will be made daily, although two days' waste storage is provided in case of disruption the the service. Prior to the waste collection vehicle arriving on-site, the FM team will take the bins out of the central waste room and temporarily leave them in the upper basement service area's marshalling zone. The waste contractors will park and then load the waste in the vehicle.

Waste will be stored in euro bins and roll cages in the waste room and will remain un-compacted and unprocessed during business as usual. The following equipment will be available for use in the central waste room:

- Bin compactor;
- Baler for cardboard and paper; and
- Food waste vacuum system to manage the transport and storage of food waste.

Typical operations will not require the use of the bin compactor. However, it can be utilised in peak periods of waste generation or following missed waste collections for resilience purposes. As the 1,100 litre eurobins are filled, they can be compacted to reduce the volume of the waste or recyclables, enabling more material to be deposited. A baler will be used to compact cardboard and paper for efficient storage and collection. The need for FM or food services to manually transport food waste will be reduced through use of a food waste vacuum system. Access to the system will be provided in the:

- Central waste room; and
- Kitchen area on the ground floor.

Food waste will be piped from the areas mentioned above to a collection tank located above the dock master's office in the upper basement service area. The tank will be sized to store up to one week of waste and will be emptied by a tanker from the upper basement loading area. Cleaning and maintenance access to the food waste vacuum tank will be provided by a gantry from ground floor. Food waste collection vehicles will be driven to the upper basement service area and contractors will connect the vehicle to the food waste tank and remove the food waste.

Response to Design Guidelines

2.0

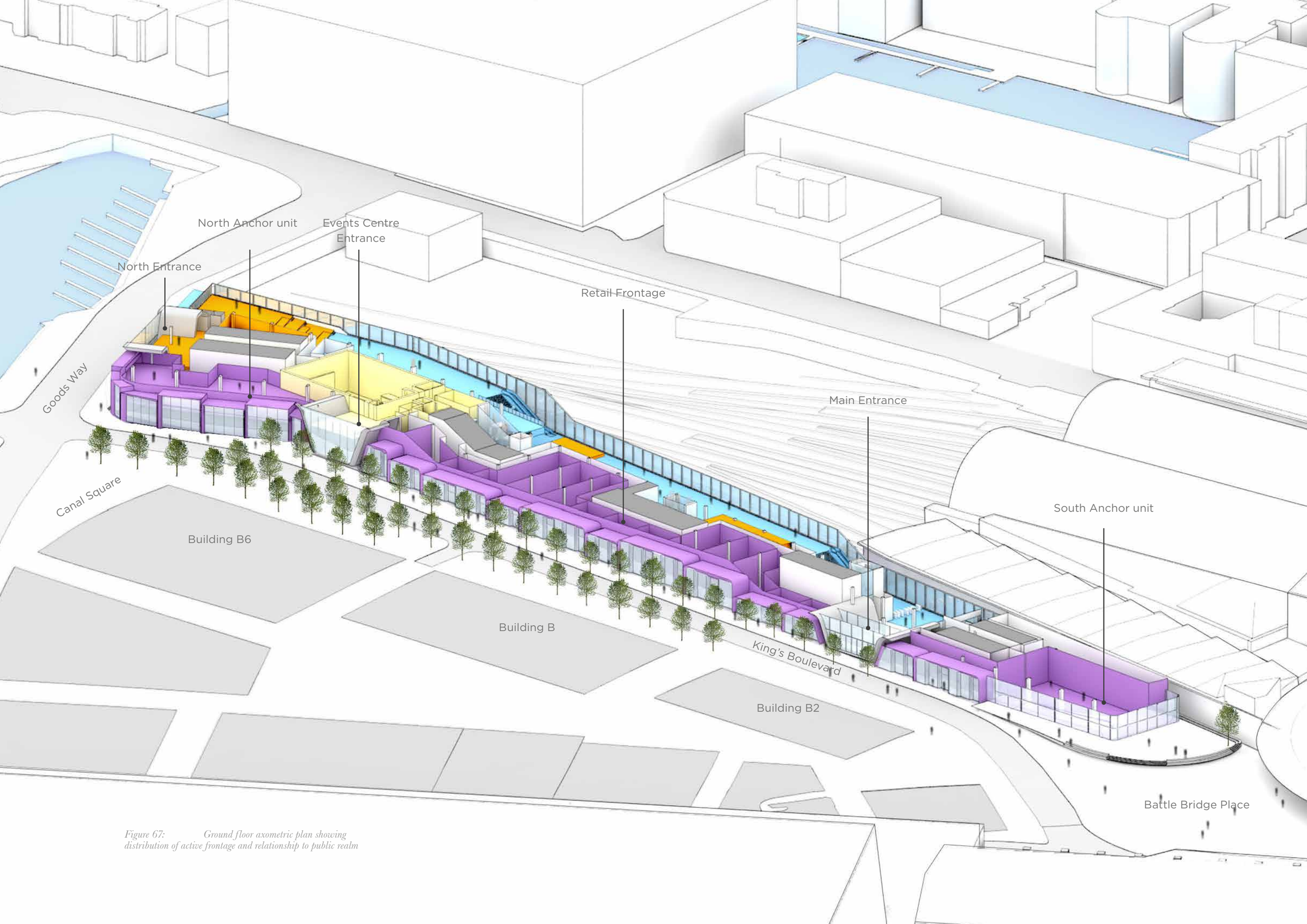


Figure 67: Ground floor axometric plan showing distribution of active frontage and relationship to public realm

General 1 : Façade Design and Public Realm

2.1

General 1

How the detailed design of the façades, particularly at ground level, integrates with the design and function of adjacent public realm and contributes to the vitality and safety of the streets, providing a human scale, through for example, entrances, scale of elements, articulation, special features and choice of materials.

The relationship between the Zone A Building and the public realm at the ground level, has been considered throughout the development of the design. Care has been taken with the orientation of the building and the organisation of the plan to respond to the character of neighbouring spaces, namely:

- **Battle Bridge Place** – a pedestrian square at the southern end of the building, acting as a place of arrival from both King's Cross and St Pancras stations, as well as forming the gateway to King's Boulevard and to the rest of the King's Cross Central site;
- **King's Boulevard** – combining the characteristics of both a wide city street and a long square, it is a place for pedestrians to move along and to linger in. Extending the length of the west façade of the Zone A building, and open at each end, it interlocks with adjacent spaces which connect north and south;
- **Canal Square** – a significant public space at the northern end of King's Boulevard at the junction with Goods Way. It is located opposite the north-west corner of the Zone A Building, adjacent to Building B6; and
- **Goods Way** – an existing, busy vehicular thoroughfare that runs alongside the Regent's Canal and forms the northern boundary to Development Zones A and B. Goods Way has been subject to works to improve the pedestrian and canal-side environment as part of the King's Cross Central development.

Beyond Goods Way, the proposed Zone A Building also addresses the Eastern Goods Yard, including the Granary Building and Granary Square to the north and the Regent's Canal. The location of these spaces is shown on Figure 103, opposite.

As mentioned previously, the placement of the building's cores in the centre of the building allows for active uses to be placed around the perimeter, both at the ground and upper floors. The Zone A Building has been designed to incorporate high quality office space on the upper floors with a mixture of retail at the ground floor facing the public realm, which are flexible sub-dividable spaces.

The complex topography described previously in Section 1.3 results in entrances and frontages on both ground and upper ground floor plans, which ensures that the building connects with the desire lines of pedestrians, occupiers and visitors.

Figure 81 shows the majority of the ground floor as varied to create a continuous active frontage, which promote activity and vitality to the adjacent public realm and distribute entrances across the length of the building to spread the focus of activity. As shown on the same Figure, the Main Entrance and entrance to the Events Centre is on the King's Boulevard, while on the north, there are two user entrances side by side: the North Entrance for those approaching from the east, along Goods Way and the cycle entrance. The latter allows cyclists to cycle up to and into the building. Next to this, on the north westward corner, is the main vehicular access and service route of the Access Ramp, which is described in Section 1.5 of this UDR.

The expression of these elements and their relationship with the public realm is explained in more detail in the following paragraphs, with reference to Goods Way to the north, the King's Boulevard to the west, and Battle Bridge Place to the south.

The east façade does not directly address any public realm and therefore is not considered in any detail in response to General Guideline 1. However, its relationship with the wider townscape, in particular to York Way, is explained later in our response to Townscape in Section 2.4. The intention is to make all facades of the Zone A Building responsive to the surrounding environment.

Figure 68: Verified view of north-west corner of the building