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Planning Conditions Hard and Soft Landscape, Biodiversity and Cycle Storage
The information submitted in relation to conditions 6, 8 and 11 are developed from the consented planning application LPA Reference 2011/1944/P. There are no significant changes to the information previously submitted, with the exception of changing the plant containers from stainless steel faced galvanised steel to glass reinforced concrete.

Condition 6 Hard and Soft Landscape
The location and details of the hard and soft landscape are identified on the following drawings:

- IRAL-08-0101-02 Site Plan
- IRAL-08-0401-P00 Landscape Plan
- IRAL-PSK1278A Planting Irrigation (Roof Plan)
- IRAL-98-1001-P00 Planting Plan Level 01
- IRAL-98-1004-P00 Planting Plan Level 04
- IRAL-98-1005-P00 Planting Plan Level 05
- IRAL-90-4051-P00 External Works Pocket Park Levels and Falls
- IRAL-90-5001-P00 External Works Stair 6 South Courtyard Level 00
- IRAL-90-5002-P00 External Works Stair 6 South Courtyard Sections looking west
- IRAL-90-5003-P00 External Works Stair 6 South Courtyard Elevations
- IRAL-90-5032-P00 External Works Workshop & Cycle Storage Sections
- IRAL-90-5051-P00 External Works Pocket Park Detailed Plan
- IRAL-90-5052-P00 External Works Pocket Park Section Grid A Looking East
- IRAL-90-5053-P00 External Works Pocket Park Section Grid 3 Looking South
- IRAL-90-7051-P00 External Works Pocket Park Details

- IRAL-11-7003-P00 Waterproofing Details-Capping Beam Details
- IRAL-26-7210-P00 Typical Cladding Details Level 00 Colonnade details
- IRAL-26-7900-P00 Typical Cladding Details Service Area Sliding Gate
- IRAL-47-7000-P00 Roof Finishes Detail Sheet 1
- IRAL-47-7002-P00 Roof Finishes Detail Sheet 3
- IRAL-47-1099-P00 External Works Section Location Plan Level 00
- IRAL-PSK-1513-P00 UCL Howland Street Site External Works-Section 01
- IRAL-PSK-1515-P00 UCL Howland Street External Works-Section 03
- IRAL-PSK-1520-P00 UCL Howland Street External Works-Section 08
- IRAL-PSK-1525-P00 UCL Howland Street External Works-Section 13

- IRAL-33-7037-P00 Unit Dimensions for Planters L00
- IRAL-33-7023-P00 UCL Metalwork Bench and Support Brackets AM01
- IRAL-33-7030-P00 Low Planting Troughs To Green Wall
- IRAL-33-7038-P00 GRC Tree Planter L00 Southern Courtyard.
- IRAL-33-6010-P00 Metalwork Balustrade HB63 and Planter Level 5 Terrace Typical Details
- IRAL-33-7010-P00 Metalwork Balustrade HB63 and Planter Level 5 Terrace Typical Details

- IRAL-FN_885 External Planting Specification
- IRAL-[Q31]8001-K00 Planting Schedule

The key elements of the hard and soft landscape include: the Yorkstone and granite kerbs to the ground level public footways; the Pocket Park and the Yorkstone paving to the South Courtyard; the stair from upper to lower courtyard; and planters with bamboo to the perimeter of the South Courtyard.

At level L01 there are two biodiverse roofs; one above the Workshop and one above the service area canopy. At level 4 there is a biodiverse roof located at the top of the south plant tower and at level 5 there is a wild flower turf roof garden with a timber boardwalk and Glass Reinforced Concrete planters to the perimeter of the roof with black stem bamboo.

External works at Ground Level
The external works to the footways to Cleveland Street, Howland Street and Charlotte Street are paved in Yorkstone with granite kerbs. Pavement crossings at junctions with Cleveland Street and Charlotte Street are formed with granite drop kerbs and blister type tactile paving. The vehicle entrance is formed with a granite drop kerb and sets to identify and demark the vehicle access and egress point. The details of the external works to the footways have been discussed with L.B Camden Highways and a levels plan has been submitted to L.B. Camden and approved 05.10.12. The area within the colonnade to Howland Street has CCTV coverage and lighting.

Pocket park
The pocket park comprises Yorkstone paving and Petit Granite sets to falls, continuous bench seat with under-seat LED lighting, semi mature trees (Hornbeam) to Howland Street and a green wall. The only minor amendments from the consented planning application are that the access points into the Pocket Park have been widened to allow easier circulation in and around the pocket park. The finish to the seat has been amended from polished black granite to Blue Belgium Limestone (rich dark grey) with stainless steel supports to improve cleanability and anti-skateboard indents have been added. The Petit Granite sets are Blue Belgium Limestone (light grey due to a different surface treatment than the seat). The planter located in front of the green wall is set above the paving with a stainless steel trim with a radiused top edge. We have indicated within the pocket park an information sign concerning the west wall project art. The general arrangement of the Pocket Park is identified on drawing IRAL-90-5051, the falls are described on drawing IRAL-90-4051 and details are located on drawing IRAL-90-7051.

South courtyard
The south courtyard comprises Yorkstone paving throughout, a green wall to the cycle storage area, Glass Reinforced Concrete perimeter planters containing black stem bamboo underplanted with vinca minor, GRC planter containing the semi-mature specimen tree (Japanese Maple). A timber linear bench forms part of the GRC perimeter planter and roof light (lumium) that forms part of the South Courtyard. The external stair between the lower and upper level of the south courtyard is formed as a precast unit set between two insitu-concrete walls. The upper level of the south courtyard is provided with external lighting located beneath the timber bench seat to the perimeter planter and lumium and individual lights located in the perimeter planter.

Level 5 roof terrace.
The perimeter of the level 5 roof is provided with a Glass Reinforced Concrete planter that follows the undulating plan of the north façade. The planter contains black stem bamboo underplanted with vinca minor. The level 5 terrace is provided with a timber board walk adjacent to the building and surrounding the rooflights to the level 4 accommodation. The remaining area of the roof is covered by a wild flower meadow and forms part of the green roof area identified by Ecological Planning & Research Ltd (EPR). External lighting is provided beneath the linear bench seat to the roof light and within the perimeter planter.

Irrigation
An irrigation system complying with BREEAM Credit “Wat6” will be used for the trees in the pocket park, the green wall in the pocket park, the green wall to the south courtyard, the bamboo planters to the south courtyard, the tree to the south courtyard, the wild flower meadow, and the bamboo planters at level 5 (refer drawing IRAL-PSK1278).

Condition 8 Biodiversity
The location and details of biodiverse living roofs and the living wall to the pocket park are identified on the following drawings:

- IRAL-98-1001-P00 Planting Plan Level 01
- IRAL-98-1004-P00 Planting Plan Level 04
- IRAL-98-1005-P00 Planting Plan Level 05
- IRAL-90-5032-P00 External Works Workshop & Cycle Storage Sections
- IRAL-90-5051-P00 External Works Pocket Park Detailed Plan
- IRAL-90-5052-P00 External Works Pocket Park Section Grid A Looking East
- IRAL-90-5053-P00 External Works Pocket Park Section Grid 3 Looking South
- IRAL-26-7900-P00 Typical Cladding Details Service Area Sliding Gate
- IRAL-47-7002-P00 Roof Finishes Detail Sheet 3
- IRAL-47-7000-P00 Roof Finishes Detail Sheet 1

The development of the biodiverse living roofs and walls are guided by advice from Ecological Planning and Research Ltd (EPR) in relation to the existing site conditions, the building proposal and BREEAM issues. The EPR report entitled 'UCL Howland Street BREEAM Stage C Pre-assessment: Ecology', includes output from a search of Greenspace Information for Greater London records. The most recent update of their report is Rev 1D 08.07.2011.

The location of biodiverse living roofs are as identified in the consented planning application. These comprise the following: the roof to the storage area canopy and service area canopy as identified on drawing IRAL-98-1001-P00; the plant tower roof as identified on drawing IRAL-98-1004-P00; and the level 5 roof garden as identified on drawing IRAL-98-1005-P00. The details of the two living walls (one in the pocket park and one in the south courtyard) are identified on drawings IRAL-90-5031-P00, IRAL-90-5032-P00 and IRAL-90-5051-P00, IRAL-90-5052-P00.

The EPR report uses the term "Green Roof" as a general term for a number of different types of conditions. Similarly, our drawings use the term green roof as a general term with the specification notes differentiating the different types of roof and build-up.

<u>The biodiverse living roofs:</u>
These are described in section 4.16 of the EPR report title. We summarise this below:
The two roofs at level 1 to the storage area and service area and the level 4 plant room roof are described as brown/biodiverse roofs with a varied substrate depth of between 50mm and 150mm excluding drainage, filter and other layers. The substrate should vary across the roof with different diameters of particle with the core being low nutrient base aggregate such as crushed brick, expanded clay pelettes supplemented by approximately 10% organic matter. These roofs will have areas of exposed substrate and will receive areas of wildflower turf, the composition of which is based on the "London living roof seed mix". The specified mix is 25% grasses and 75% flowers, composed of 32 different species of plants. The build-up can be seen in drawings IRAL-26-7900 (service area roof) and IRAL-90-5032 (storage area roof). The plant tower has remained a wild flower green roof as can be seen on IRAL-47-7002 (plant tower roof).

The level 5 green roof is designed to be more pedestrian friendly and EPR have recommended sowing as a wild flower garden/meadow with native/non-native species of known value to wildlife which could be mown more often. EPR recommend a deeper build-up (which we have provided). The planting schedule IRAL-[Q31]8001 identifies pre-grown wild flower turf of 50% grasses and 50% flowers, composed of 28 different species of plants including Quaking Grass, Hoary Plantain, Bladder Campion, Pignut and Meadow Cranesbill, supplemented by additional planting of Wild Thyme.

Careful attention has been paid to the specification of the substrate, in order to provide a growing medium that will favour the long-term survival of the specified biodiverse planting. For a list of the different species specified within the wildflower turf, please refer to the planting schedule IRAL-[Q31]8001.

<u>The biodiverse living walls</u>
These are described in section 4.17 of the EPR report. We provide the following extract below:

> *"Various green walls are proposed. These should be planted with climbers such as Honeysuckle (Lonicera periclymenum) and Ivy (Hedera helix) that are of value to wildlife. These species are also shade tolerant and should consequently be happy even in the north facing aspects of the wall."*

The text also suggests that space could be made for other wall growing species identified in Natural England's Technical Advice Note 052; Climbing Hydrangea (Hydrangeapetiolaris) has been added from this list. Please refer to the planting schedule IRAL-[Q31]8001 items 2a,2b and 2c for the pocket park living wall, and 5a,5b and 5c for the South Courtyard living wall.

Condition 11 Cycle Storage
Details of the cycle storage for 120 cycles are identified on the following drawing:

- IRAL 47-1000-P00 External Works Level 00
- IRAL-90-5031-P00 External Works and Cycle storage Plans and Elevations
- IRAL-90-5032-P00 External Works and Cycle storage Sections

The cycle storage is unchanged from the consented planning application LPA Reference 2011/1944/P. The 120 cycle storage spaces are divided into two groups of 60 located in the south courtyard either side of the storage space. One group of 60 spaces is allocated to staff, and the other group of 60 is allocated to visitors. Access to the south courtyard is controlled by the access doors from Charlotte Street and access via the lower courtyard.

Staff enter from Charlotte Street using the access control card reader and visitors contact reception using a video intercom with remote door release.) The cycle storage is therefore secure.

The storage is provided by Josta double stack cycle racks that are located beneath a white translucent polycarbonate canopy as indentified on drawings IRAL-90-5031-P00 and IRAL-90-5032-P00. The racks are permanently fixed in place. This is clearly described in section 01 on drawing IRAL-90-5032-P00. The Josta cycle storage equipment is the same equipment that was illustrated in Appendix “O” of the Transport Assessment forming part of the consented application. Each group of 60 Josta cycle storage racks is subdivided into two groups of 30, located back to back and concealed by the plant screen and wall that forms the west side of the south courtyard. The cycle storage is provided with lighting. The access route between the secure doors from Charlotte Street and the cycle storage is provided with CCTV coverage.

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