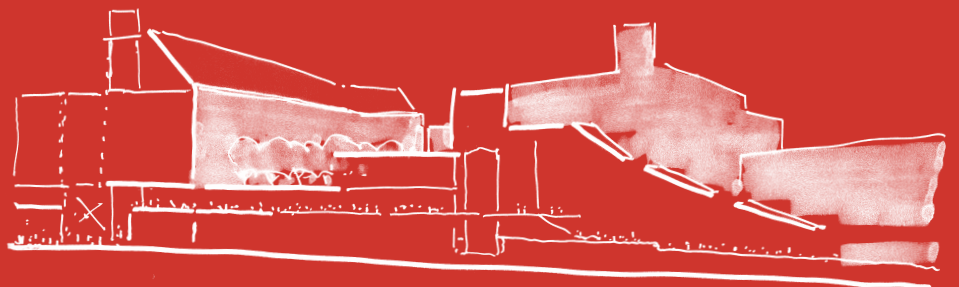


The British Library Extension

Urban Greening Factor Assessment



British Library

British Library

Urban Greening Factor Report

Reference: Issue

3 | 30 June 2022

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 249622-12

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Contents

1.	Introduction	1
2.	Results	2
3.	Conclusion	3

Tables

Table 1 Post Construction UGF Results	3
---------------------------------------	---

Figures

Figure 1 All areas within the red line boundary have been incorporated into the UGF calculations	1
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Drawings

No table of figures entries found.

Pictures

No table of figures entries found.

Photographs

No table of figures entries found.

Attachments

No table of figures entries found.

Appendices

Appendix A	A-1
Ground Level Landscaping	A-1
A.1 Appendix Level 1	A-2
Appendix B	B-1
Roof Level Landscaping	B-1
B.1 Appendix Level 1	B-2

1. Introduction

The London Plan contains a metric to measure green space improvements within new developments within Policy G5; the Urban Greening Factor (UGF)¹. Major developments must calculate a score which is a combination of a defined score for green space type and extent within the pre and post construction development area; the final score providing a measurement of total green space gains, or losses. A score of 0.3 should be achieved for predominantly commercial developments, and 0.4 for predominantly residential developments.

The pre-development UGF has been calculated for the site (shown in Figure 1). Taking into consideration the existing urban allotment², amenity grassland, introduced shrub and scattered trees recorded on site in the Preliminary Ecological Appraisal (PEA)³ (areas), there is a pre-development score of 0.24 for the site.

Figure 1 All areas within the red line boundary have been incorporated into the UGF calculations



¹ Greater London Authority (GLA) (2021), *The London Plan 2021* Available from: <https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/london-plan-2021>

² This urban allotment has been assumed to be 25% 'sealed surfaces' and 75% 'flower-rich perennial planting' following review of the Preliminary Ecological Appraisal and based upon the precautionary principle.

³ Ove Arup and Partners (2020), *British Library Extension, Preliminary Ecological Assessment and Site Evaluation*.

2. Results

Using the latest landscape designs, as assessed in the Biodiversity Net-Gain Assessment⁴ and BREEAM 2018 Ecology Report⁵, the Proposed Development will score up to 0.25.

At ground level, this score has been maximised by incorporating (see Appendix A):

- Areas of woodland and shaded planting, as well as a number of ground level planters. Planting will include species of known benefit to biodiversity, and will be designed to be multifunctional, delivering ecological and social benefits in line with the London Plan. Therefore, where groups of trees associated with areas of ground cover will be created, the UGF habitat type has been selected as ‘Standard trees planted in connected tree pits’ surface cover type, and where ground level planters will be created the UGF habitat type has been selected as ‘Flower-Rich Perennial Planting’ surface cover type with a UGF co-efficient of 0.8 and 0.7 respectively; and
- Rain garden planting, which will attenuate water and slow its progress to drainage in line with the London Plan Policy SI 13 on sustainable drainage¹. Therefore, these areas have been assigned as “Rain gardens and other vegetated sustainable drainage elements” surface cover type to reflect this, with a UGF co-efficient of 0.7.

In addition to landscape elements at ground level, the score has been maximised by incorporating areas of indicative external landscaping into the new buildings at roof level (see Appendix B):

- Species rich grassland on Level 1 with a settled substrate depth of 150-300mm which meets the requirements of the GRO Code 2014⁶. As such, it has been assigned as ‘Intensive Green Roof’, with a UGF co-efficient of 0.8;
- Terraces on Level 2 that, where accessible, will incorporate planters with a 600-1100mm settled substrate depth, and ornamental planting with specimen shrubs. Where inaccessible, terraces will incorporate species rich grassland with a 150-300mm settled substrate depth and will comprise entirely of native species. In addition, these areas will meet the requirements of GRO Code 2014⁶; therefore, they have been assigned as ‘Intensive Green Roof’, with a UGF co-efficient of 0.8;
- Wetland blue roof on Level 10 which will contain a number of wetland areas with fluctuating water levels. A settled substrate depth of 300 - 600mm will allow native riparian plant species to establish and key areas of standing water to be maintained throughout the year in order to provide habitat for biodiversity. Therefore, this area has been assigned ‘Wetland or open water (semi-natural; not chlorinated)’ surface cover type to reflect this, with a UGF co-efficient of 1.0;
- Species rich grassland and woodland edge planting on Level 11. These areas will have a settled substrate depth of 150-300mm and 150-450mm respectively and meet the requirements of the GRO Code 2014⁶. As such, they have been assigned as ‘Intensive Green Roof’ to reflect this, with a UGF co-efficient of 0.8; and
- A green roof where Building Maintenance Unit (BMU) tracks limit the designs on Level 11. Currently this area will incorporate a settled substrate depth of 150mm; however, as the area will be accessed for external building maintenance and designed as a lightweight system, it has been assigned a UGF co-efficient of 0.3.

⁴ Ove Arup and Partners (2022), *British Library Extension, Biodiversity Net-Gain Assessment*

⁵ Ove Arup and Partners (2022), *British Library Extension, BREEAM 2018 Ecology Report*

⁶ Green Roof Organisation (GRO) (2014), *The GRO Green Roof Code* Available from: <https://livingroofs.org/wp-content/uploads/2016/03/grocode2014.pdf>

The exact design and quantum of these green spaces will be subject to adjustment during detailed design, but they will be maximised to ensure the building's users benefit from access to biodiversity-rich green spaces, and to ensure that landscaped areas remain flexible in their use.

Table 1 Post Construction UGF Results

Habitat type	UGF Habitat	UGF Score	Area	Score
Green roof (Level 10)	Wetland	1.00	0.07	0.07
Green roof (Level 2 & 11)	Intensive green roof	0.80	0.19	0.15
Green roof (Level 1)	Intensive green roof	0.80	0.02	0.02
Green roof (Level 11)	Sedum green roof	0.30	0.10	0.03
Public realm	Flower rich perennial planting	0.70	0.11	0.07
Public realm	Vegetated sustainable drainage	0.70	0.03	0.02
Public Realm	Standard trees planted in connected tree pits	0.80	0.06	0.05
Hard standing	Sealed surfaces	0.00	1.11	0.00
Total Area			1.70	
Total UGF Score				0.25

3. Conclusion

Whilst the score of up to 0.25 is below the target of 0.3 for predominantly commercial developments contained within the London Plan, there is limited scope to improve the ecological functionality of green space enhancements as reported in the Biodiversity Net-Gain Assessment⁴. Therefore, despite not achieving a policy compliant UGF score of 0.3, the plans provide benefits for biodiversity in the local area, as well as opportunities for increasing interactions between residents/tenants and nature.

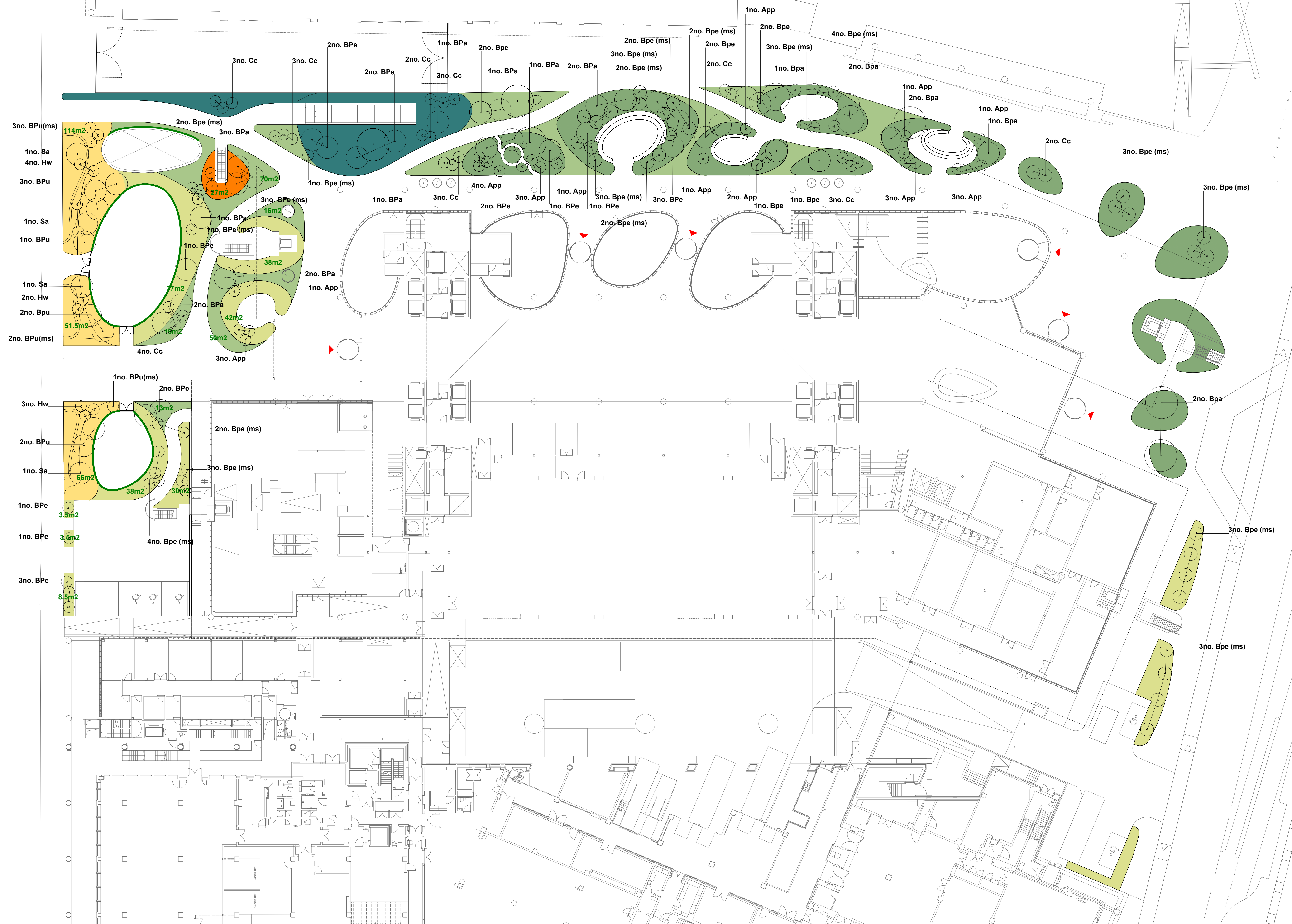
Given the historic nature of the building, and the limited space surrounding the new extension, it has been extremely difficult to increase the areas of green space. Nevertheless, the designs have strived to provision high impact, aesthetic habitats which also are also equitably accessible and distinctive for the geographical location of the site. The design affords textural landscape opportunities which provide access to nature whilst also providing opportunities for biodiversity. In addition, alternative design development options have been identified and captured within the 'Biodiversity Net Gain Alternative Design Scenarios' document, to ensure opportunities to maximise both the UGF and Biodiversity Net Gain scores are realised through design development in line with our ecological ambitions. Furthermore, a commitment post-planning to create an ecological framework to inform the community garden design, subject to meeting community aspirations for the garden, is recommended to ensure further enhancement of the UGF score.

Finally, the scores achieved are in line with other similar central London urban developments, reflecting the challenge of achieving the London-wide target of 0.3. The London Plan recommends that each Borough should develop their own UGF, so as to be tailored to local circumstances; however, London Borough of Camden has not yet published their recommended scoring, which may take into account local constraints.

Appendix A

Ground Level Landscaping

A.1 Appendix Level 1



Soft Landscape



Proposed Planting Mix 1: Shade/Partial



Proposed Planting Mix 2: Sun



Proposed Planting Mix 3: SUDs planting



Proposed Planting Mix 4: Climbers



Proposed Planting Mix 5: Ground cover



Proposed Planting Mix 6: Ground cover



Proposed Planting Mix 7: Species Rich Grassland



Single Stem Tree



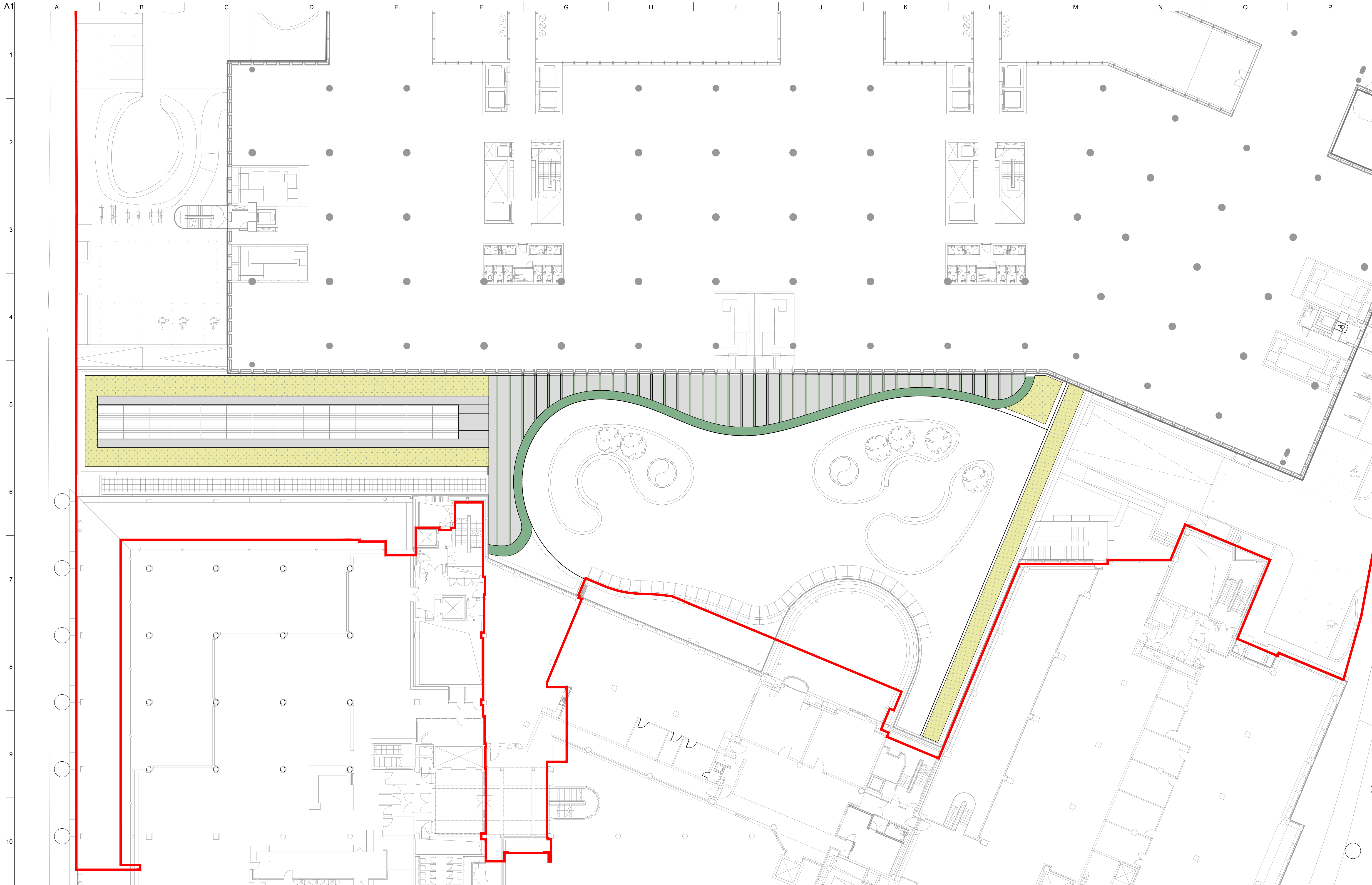
Multi Stem Tree

Refer to Landscape Schedule 60.001 for details of planting mix and trees

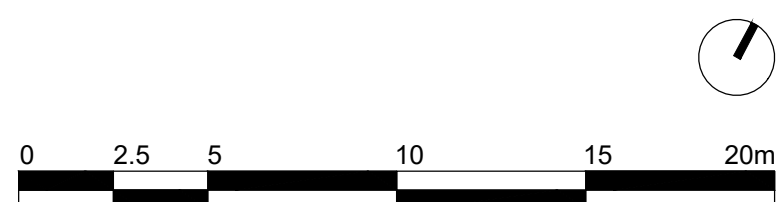
Appendix B

Roof Level Landscaping

B.1 Appendix Level 1



- LEGEND**
- Structural edge planting
 - Raised planter
 - Species-rich grassland planting
 - High-quality paving with banding
 - Site-won pavers
 - Site Boundary



04	23/09/21	SPE	SG	SG
03	26/08/21	SPE	RC	RC
02	19/08/21	SPE	RC	RC
01	06/08/21	SPE	RC	RC
Issue	Date	By	Chkd	Appd

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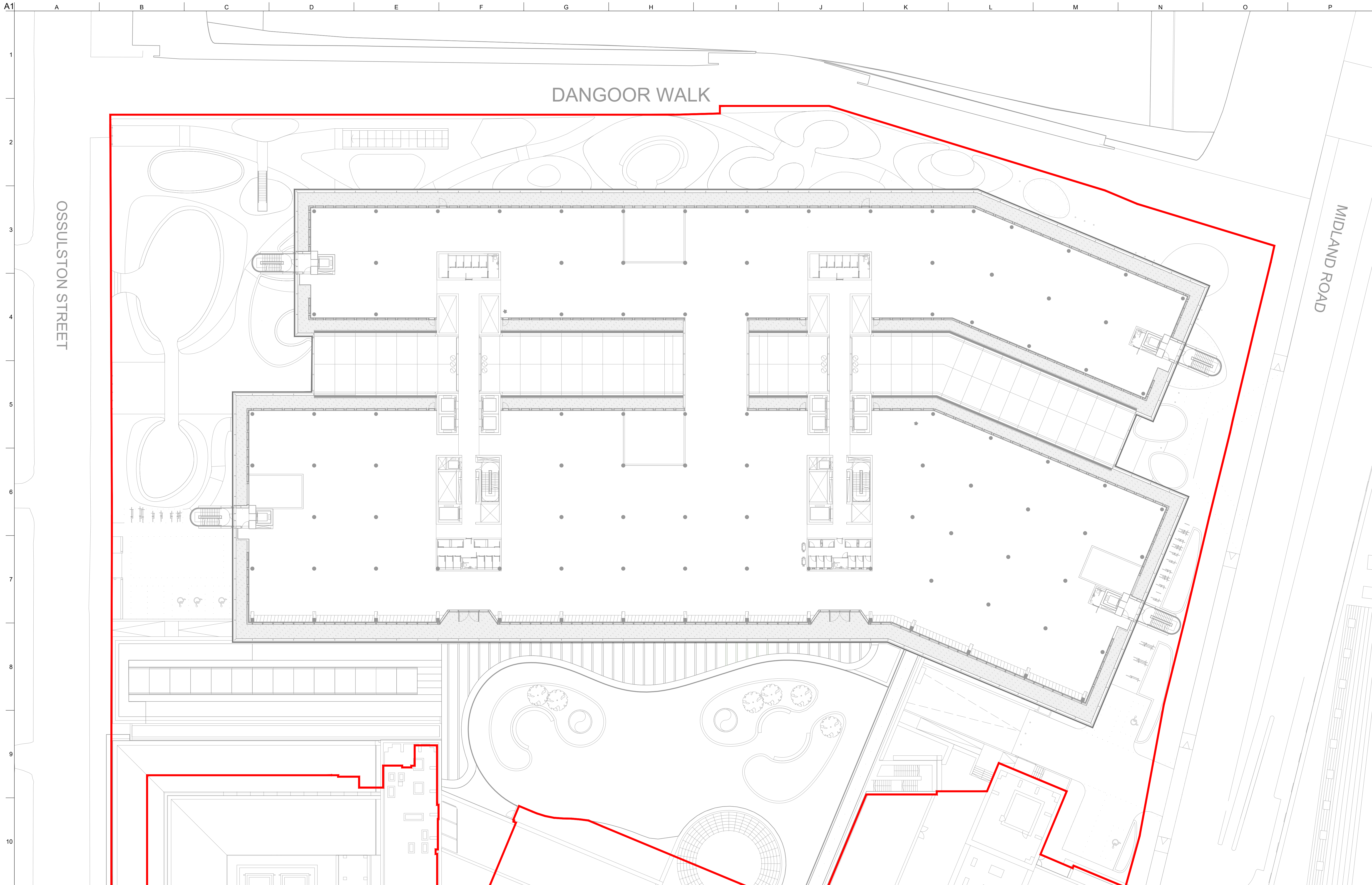
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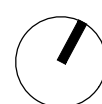
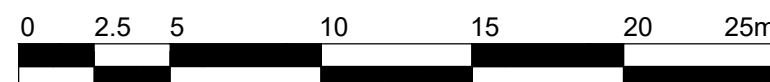
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Level 2

Scale at A1 1:200
Discipline Landscape Architecture
Job No 249622
Drawing Status For Planning
Drawing No BL-ARUP-ZZ-02-DR-L-000101
Issue 04



LEGEND

- High-quality paving
- Site Boundary



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02	19/08/21	SPE	RC	RC
01	06/08/21	SPE	RC	RC
Issue	Date	By	Chkd	Appd

ARUP

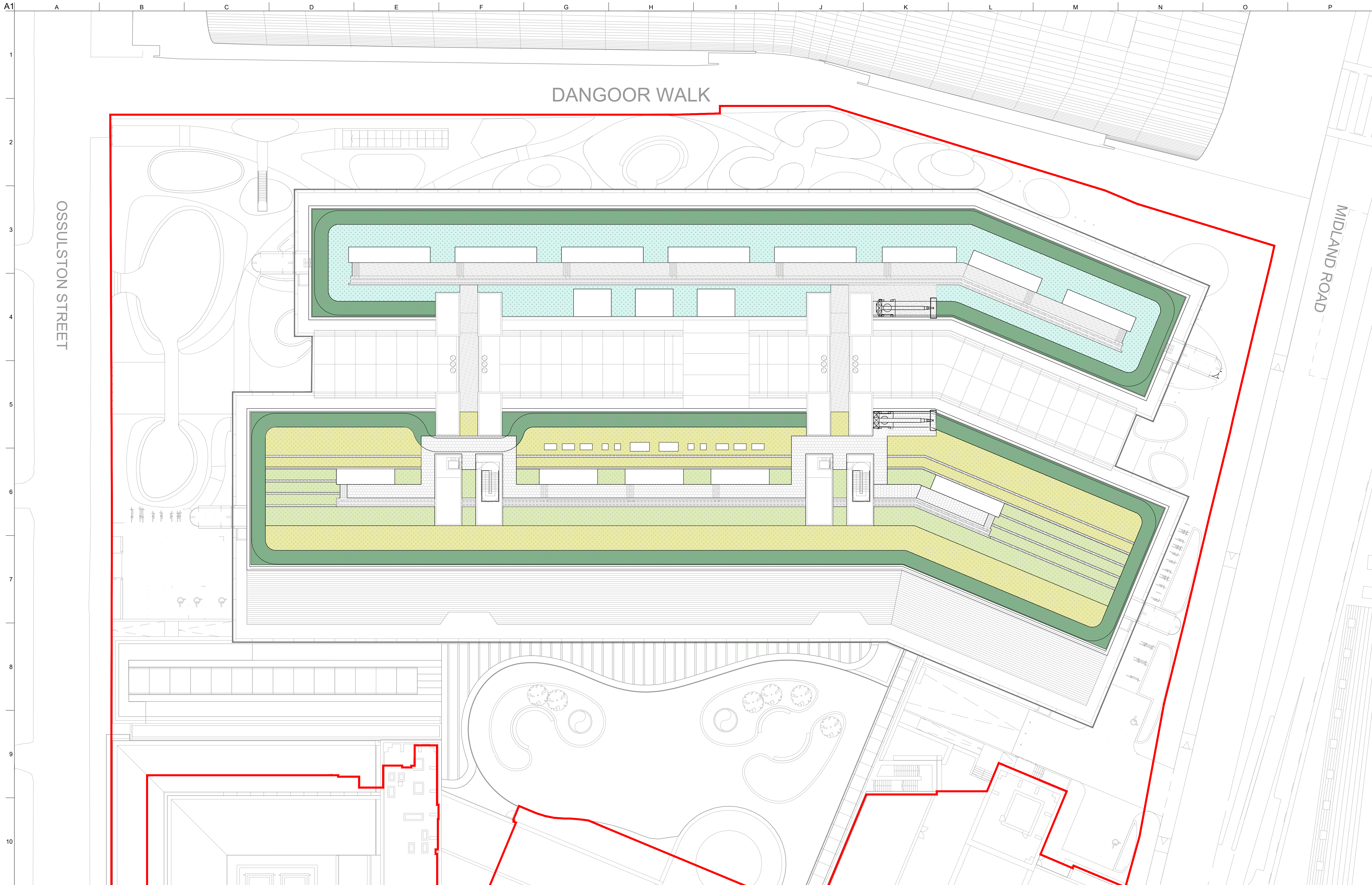
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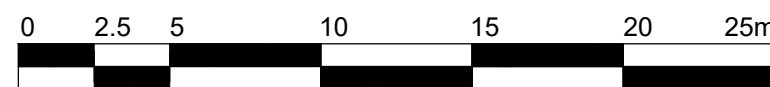
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Level 8

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Discipline Landscape Architecture
Job No 249622
Drawing No BL-ARUP-ZZ-08-DR-L-000102
Issue 04
Drawing Status For Planning



LEGEND

- Wetland planting
- Species-rich grassland planting
- Woodland edge planting
- BMU planting
- Decking (Plant/BMU access)
- Site-won pavers (Plant/BMU access)
- Gravel
- Site Boundary



04	23/09/21	SPE	SG	SG
03	26/08/21	SPE	RC	RC
02	19/08/21	SPE	RC	RC
01	06/08/21	SPE	RC	RC
Issue	Date	By	Chkd	Appd

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Job Title
British Library Extension (BLE)

Drawing Title
General Arrangement
Roof Level

Scale at A1 1:250
Discipline Landscape Architecture
Job No 249622
Drawing No BL-ARUP-ZZ-RF-DR-L-000103
Issue 04
For Planning

