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Client: Watkin Jones Group

Project: Battersea Park Road

Report: Biodiversity Net Gain Assessment

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	March 2023	January 2024
Comments:		Updated January 2024 to recalculate with the Statutory Biodiversity Metric
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Authorised by:	Paul White	Paul White
File Reference:	552268jtMar23DV01_BIA	552268jtJan24FV03_BNGA

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned to undertake a Biodiversity Net Gain Assessment by Watkin Jones Group of a site known as Battersea Park Road in the London Borough of Wandsworth.

This document is a report of this survey and has been produced to support a planning submission for the site which seeks to demolish the existing buildings on site and develop student accommodation and affordable apartments, with associated landscaping and public space.

The assessment aimed to quantify the predicted change in ecological value of the site in light of the proposed developments to assess compliance against local and national planning policy. The BNG mandate set out in the Environment Act 2021, states that a target of 10% net gain in biodiversity should be reached and biodiversity value maximised on site.

The survey area extends to 0.81 hectares and comprises two buildings and associated hardstanding, an area of ruderal vegetation, six mature trees, and small patches of mixed scrub throughout.

Proposed habitat creation includes planting a variety of habitat types at ground and terrace level, biodiverse roofs, new trees and a new native hedgerow.

Under these proposals, and in the absence of additional enhancement measures and habitat creation, the development stands to result in a net gain of **1.99** biodiversity units associated with area-based habitats from pre-development levels, and an additional net gain of **0.07** hedge units. This corresponds to a net increase of **147.56**% in ecological value associated with area-based habitats.

For linear (hedgerow) habitats, the baseline biodiversity value of the site was calculated to be 0.00 biodiversity units (i.e., zero). Therefore, a percentage value for total biodiversity net increase cannot be defined, though a gain has been achieved.

All trading rules are satisfied by the current proposals.

Detail relating to the proposed ecological compensation and enhancement actions in relation to habitat creation and management could be provided within an Ecological Management Plan for the site which could be secured through planning condition. Should these recommendations be adhered to, the proposals stand to be compliant with legislation and current planning policy.

2.0 INTRODUCTION

Greengage was commissioned to undertake a Biodiversity Net Gain Assessment (BNGA) by Watkin Jones Group of a site known as Battersea Park Road in the London Borough of Wandsworth.

This document is a report of this survey and has been produced to support a planning submission for the site which s seeks the demolition of existing buildings and construction of three new buildings, together comprising Residential (Use Class C3) and Student Accommodation (Sui Generis) along with Commercial, Business and Service (Use Class E) and/or Local Community and Learning (Class F) floorspace. Associated works include hard and soft landscaping, car parking and new vehicular access / servicing, and other ancillary works.

The assessment aimed to quantify the predicted change in ecological value of the site in light of the proposed developments to assess compliance against local and national planning policy. The BNG mandate set out in the Environment Act 2021, states that a target of 10% net gain in biodiversity should be reached and biodiversity value maximised on site.

This BNGA has been undertaken in January 2024. Any further changes to the design will impact upon the BNG score and the metric will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. Biodiversity net gain aims to give an accurate reflection of the changes happening on site.

2.1 SITE DESCRIPTION

The survey area extends to approximately 0.8 hectares and is centred on National Grid Reference TQ293772, OS Co-ordinates 529366, 177234.

The site covers 49-59 Battersea Park Road in the London Borough of Wandsworth. The existing usage comprises a wholesale warehouse (Booker), a garage (BMW), and associated hardstanding areas for parking. Additionally, a small area of grassland with mature trees is present between the Booker warehouse and Battersea Park Road.

The area is heavily urbanised, bordered by main roads to the north and east, a rail line to the south, and other commercial properties to the west. The wider area is undergoing significant redevelopment, with the recently reopened Battersea Power Station nearby.

2.2 PROPOSED DEVELOPMENT

The proposed development proposes to deliver new residential units with roof garden space and create a new and enhanced public realm space. These landscaped areas are proposed, carrying the vision to i) develop the network of green links, ii) enhance ecology, biodiversity and greening, and iii) support social wellbeing and the community on site through the following enhancements:

- Retention of existing mature trees supplemented with newly planted trees.
- Woodland floor area featuring perennial, evergreen, and pollinator-friendly species.

- Shade-tolerant area featuring shrubs and groundcover planting of native and non-native species.
- Sensory garden with a focus on flowering perennials and scented plants.
- Mixed native-species hedge to be maintained at 1.2m height.
- Green wall comprised of climbing plants.
- Native shrub planting and habitat creation.
- Climate-resilient and pollinator-friendly terrace planting.
- Biodiverse green roof with sedum plugs and wildflower seed mix.

The design sets to integrate nature and social value, by reimaging the public realm and available rooftop space. The design hopes to provide spaces for play and social activation, improve way finding in the area and create a space for biodiversity to link up with a network of quieter green spaces. The design has incorporated shade loving species into public realm planting that also benefit biodiversity.

3.0 METHODOLOGY

3.1 GOOD PRACTICE PRINCIPLES

To calculate the ecological value of the pre- and post-development site, the Natural England Statutory Metric methodology was utilised, following good practice guidance from Defra[1], and joint guidance from CIEEM, IEMA and CIRIA[2]. The good practice guidelines "provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature while progressing with sustainable development". This framework consists of 10 good practice principles which are outlined in Table 3.1.

Table 3.1 Good Practice Principles and Discussion

Good Practice Principle	Discussion
1. Apply the Mitigation Hierarchy	The existing key habitat of value within the site is the mature trees, which will be retained.
2. Avoid Losing Biodiversity that Cannot be Offset by Gains Elsewhere	No irreplaceable habitats are present on-site pre-development.
3. Be Inclusive and Equitable	Planit I.E have been responsive to ideas from Greengage to enhance biodiversity value on site.
4. Address Risks	Greengage has worked with Planit I.E to improve biodiversity value on site and mitigate risks in the original design.
5. Make a Measurable Net Gain Contribution	The development is likely to achieve a measurable gain in biodiversity through the use of the Statutory Biodiversity Metric. The calculations are based on current proposals and may be subject to change.
6.Achieve the Best Outcomes for Biodiversity	The landscape design for Battersea Park Road improves biodiversity value on site. Habitat compensation is due to be delivered through the provision higher distinctiveness habitats than that of the baseline. The proposed development will also act as a green steppingstone for ecological connectivity within an urban area. The proposed development is due to achieve a biodiversity net gain as discussed in Section 4.
7. Be Additional	The BNG for the proposed development, not only focuses on the site itself, but also aims to link other green spaces in Wandsworth, to create strategic green corridors for people and wildlife. The design also aims to provide other habitat features for our wildlife including invertebrate rope coils at roof level and nesting boxes, which improves the biodiversity value of the site further.

Good Practice Principle	Discussion
8. Create a Net Gain Legacy	The landscaping on site will be designed, where possible, to be climate resilient, including more drought tolerant species and deeper substrate depths for green roofs. The BNG on site will be managed for at least 30 years.
9.Optimise Sustainability	The design for Battersea Park Road has been created with both biodiversity and people in mind. The design, including the provision of green walls, green roofs, and flowering amenity plants will help provide a sustainable space for biodiversity in an urban area. The design will also help improve ecosystem services such as temperature regulation and air quality control, to help create a climate resilient environment, whilst providing open, green space to improve people's wellbeing and mental health.
10. Be Transparent	Watkin Jones Group commissioned Greengage Environmental Ltd to run the BNG calculations and communicate findings in a BIA report. The current edition of the Metric has limitations regarding variety of urban habitat types that can be input. Where there is any ambiguity in translation of proposed habitats into the metric, these have been assigned a lower score to avoid overstatement of gains.

3.2 BIODIVERSITY METRIC

This metric uses Biodiversity Units as a proxy for the ecological value of area of linear based habitats. The areas of each habitat parcel are measured, with each parcel assigned a 'Distinctiveness', 'Condition' and 'Strategic Significance' score. Distinctiveness is a default score for the habitat classification, representing its inherent ecological value, whereas condition refers to the state each parcel is in relative to predetermined set of criteria outlined in the Statutory Biodiversity Metric guidance.

Strategic significance draws upon priorities and objectivise within local plans and strategies, and is measured by providing habitats with a score from low to high as follows:

- High - "area/action formally identified within a local plan, strategy or policy".
- Medium - "location ecologically desirable but area/action not identified in local plan, strategy or policy".
- Low - " area/action not identified in any local plan, strategy or policy; or no local strategy in place".

For post-development habitat areas, additional multipliers are applied considering the time taken to reach maturity and difficulty of creation of the habitats, and whether the habitat creation is in a strategically beneficial location.

An assessment of the predicted change in ecological value is undertaken comparing the Biodiversity Units and assessing percentage change. Changes in broader habitat types (for example, 'Urban',

'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

3.3 BASELINE CALCULATION

To calculate pre-development Biodiversity Units, a combination of satellite imagery and data collected during a Preliminary Ecological Appraisal (PEA) undertaken by Greengage on 17th March 2023 was assessed (doc ref: 552268yaMar20DV01_PEA). The corresponding habitat map was used to determine areas of habitats (Appendix A).

Additionally, to calculate the Biodiversity Units associated with trees on site, data tables and drawings from the BS5837 Tree Survey Report undertaken by Arbtech in October 2021 were assessed (ref: BS5837 - 49-59 Battersea Park Road - Arbtech TS 02 (02)- 08-10-21.pdf). Tree canopy areas are assigned by the Metric based on tree stem diameter.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed both in the field, and retrospectively using site photos.

Strategic significance was assessed by reviewing the following:

- London Borough of Wandsworth Biodiversity Strategy[3];
- Natural England Green Infrastructure Map[4]
- DEFRA's magic maps application[5]; and
- National Character Area Profile 112: Inner London[6].

Aerial maps show that the site is also close, and connected, to urban green features of possible benefit to biodiversity as shown in Table 3.2. The proposed development is likely to help enhance this green network.

Table 3.2 Distance of Site to Other Urban Greening Features

Location Name	Green Feature	Distance from Site (m)	Direction from Site
Savona Estate	Residential estate with gardens and play space provision featuring biodiverse roofs, amenity grassland, introduced shrub, and mature trees	100	West
Patmore Estate	Residential estate with gardens and play space provision featuring amenity grassland, introduced shrub, and mature trees	145	South
Riverlight Quay	Mixed used development featuring biodiverse roofs, amenity grassland, and newly planted trees.	170m	North-east

Due to the above evidence the site is thought to be with a strategically significant area and therefore, all habitats pre and post development have been assigned a high strategic significance.

3.4 PROPOSED DEVELOPMENT CALCULATIONS

The proposed development seeks the demolition of existing buildings and construction of new student accommodation and affordable rental units, with complementary soft landscaping for the public realm, and at roof level. Landscaping habitat types were provided by Planit IE and then translated into the relevant UKHAB and Statutory metric habitats (Appendix A).

Targeted condition scores were assigned by Greengage, using the Statutory metric habitat condition criteria and species provided by Planit IE, whilst considering the likely future use of each area.

Due to no direct translation of some urban habitats into the Statutory metric, introduced shrub has been assigned to planting habitats.

3.5 COMPENTENCIES

James Thornton, who undertook the assessment and wrote this report, has a Bachelors degree in Ecology and Wildlife Conservation (BSc Hons) and a Masters degree in Computing (MSc). James has three years' experience in ecological consultancy across a variety of protected species surveys and ecological assessments.

Paul White, who reviewed this report, has a Bachelors degree in Marine Biology (BSc Hons), a Natural England Great Crested Newt Licence (2018-38559-CLS-CLS) and Dormouse Licence (2020-44691-CLS-CLS), and is an Associate member of CIEEM. Paul has over 15 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

This report was written by James Thornton and reviewed and verified by Paul White who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice.
- Reports and recommends correctly, truthfully, and objectively.
- Is appropriate given the local site conditions and scope of works proposed.
- Avoids invalid, biased, and exaggerated statements.

3.6 CONSTRAINTS

The assessment methodology does not incorporate ecological features beyond area and linear based habitats. The potential for the site to support protected species, for example, is not captured by this assessment. As such this report should be read in conjunction with all other ecological reports for the site. The mitigation hierarchy in relation to protected and notable habitats and species much be followed. This report should accordingly be read in conjunction with the PEA and any other appropriate protected species surveys.

To ensure delivery of BNG, requirements outlined within this report must be adhered to, and a rigorous programme of monitoring and maintenance must be implemented.

4.0 RESULTS

4.1 BASELINE CONDITIONS

The baseline biodiversity value of the site is calculated to be 1.35 biodiversity units. There were no linear, nor river habitats on site and therefore, no corresponding biodiversity units. A breakdown of this calculation is provided in Table 4.1:

Table 4.1 Baseline Biodiversity Units

Broad Habitat	Habitat Type	Area (Ha)	Distinctiveness	Condition	Biodiversity Units
Urban	Developed land; sealed surface	0.3115	V.Low	N/A - Other	0.00
Urban	Developed land; sealed surface	0.1336	V.Low	N/A - Other	0.00
Urban	Developed land; sealed surface	0.3208	V.Low	N/A - Other	0.00
Grassland	Modified grassland	0.0364	Low	Poor	0.07
Individual trees	Urban tree	0.1384	Medium	Moderate	1.27
***Urban trees are not included in the total site area to avoid double counting**				TOTAL	1.35

In accordance with metric guidance, '**Developed land; sealed surface**' has no condition assessment.

'**Modified grassland**' has been assigned a condition score of poor. A range of species was present including nettle (Urtica dioica), common mallow (Malva sylvestris), sweet violet (Viola odorata), creeping cinquefoil (Potentilla reptans), annual mercury (Mercurialis annua), creeping buttercup (Ranunculus repens), bluegrass (Poa sp.) and green alkanet (Pentaglottis sempervirens). However, there were large patches containing predominantly nettle, green alkanet, and sweet violet; therefore, the grassland cannot achieve moderate condition due to the lack of 6-8 species per m2. Additionally, there were large patches of worn / bare ground and evidence of mowing and damage.

'**Urban Trees**' have been given a habitat condition of moderate. Six trees are present on site including non-native London Plane (Platanus x acerifolia) and native lime (Tilia x europaea). Based on descriptions in the Arbtech arboricultural report and the Greengage PEA, trees achieve moderate condition, scoring

on criteria B (continuous tree canopy), C (trees are mature), D (little or no evidence of adverse impact from anthropogenic activities), and F (tree canopy oversailing vegetation beneath).

4.2 PROPOSED SITE LAYOUT

Based on masterplan drawings, the proposed development is predicted to provide 3.33 biodiversity units as shown in Table 4.2. This includes the 1.27 units of retained trees.

Table 4.2 Post-Development Area-Based Biodiversity Units

Broad Habitat	Habitat Type	Area (Ha)	Distinctiveness	Condition	Biodiversity Units
Urban	Developed land; sealed surface	0.0623	V.Low	N/A - Other	0.00
Urban	Developed land; sealed surface	0.0731	V.Low	N/A - Other	0.00
Urban	Developed land; sealed surface	0.177	V.Low	N/A - Other	0.00
Grassland	Modified grassland	0.0164	Low	Poor	0.03
Urban	Introduced shrub	0.0592	Low	N/A	0.11
Urban	Introduced shrub	0.0277	Low	N/A	0.05
Urban	Introduced shrub	0.023	Low	N/A	0.04
Urban	Introduced shrub	0.035	Low	N/A	0.07
Urban	Introduced shrub	0.0109	Low	N/A	0.02
Urban	Introduced shrub	0.029	Low	N/A	0.06
Urban	Introduced shrub	0.0047	Low	N/A	0.01
Urban	Artificial unvegetated, unsealed surface	0.0054	V.Low	N/A - Other	0.00
Urban	Ground based green wall	0.0008	Low	Poor	0.00
Urban	Introduced shrub	0.015	Low	N/A	0.03
Urban	Biodiverse green roof	0.1244	Medium	Good	0.70
Urban	Artificial unvegetated, unsealed surface	0.148	V.Low	N/A - Other	0.00
Individual trees	Urban tree	0.2606	Medium	Poor	0.93

Broad Habitat	Habitat Type	Area (Ha)	Distinctiveness	Condition	Biodiversity Units
Individual trees (retained)	Urban tree	0.1384	Medium	Moderate	1.27
***Urban trees and green walls are not included in the total site area to avoid double counting**				TOTAL	3.33

The metric calculation assumes that no habitats on site are being retained, other than the existing trees.

'Developed land; sealed surface' relates to all areas of hardstanding, building and impermeable surfaces within the proposed development design. The habitat has a pre-set condition within the statutory metric and does not contribute any biodiversity units to the calculation.

'Biodiverse green roofing' is proposed. Greengage have worked with Planit IE on the design and specification of the green roof to ensure this habitat can achieve good condition. The roof will feature a mix of substrate types with a variable depth, seed and plug planting, and additional habitat features such as log piles and sandy piles. The full specification guidance is in included in Appendix D and this has been incorporated into the Planting Strategy (doc ref: 3082-PLA-XX-XX-DR-L00-2000).

Vertical greening is proposed for the site, which under Statutory Metric is listed as a **'ground-based green wall'**. The landscape strategy describes this as an instant green screen with climbing plants. Currently, no detailed specification is provided for the proposed green wall, therefore condition is assessed as poor as a precaution to avoid overstatement. Recommendations are provided below on how good condition can be achieved.

'Introduced shrub' is assigned to a variety of different planting palettes used across the landscape strategy. Planting will include mixes of native and non-native shrubs and perennials, shade-tolerant species, sensory areas, pollinator-friendly species, and draught-tolerant species. Currently, exact species mixes are not provided for each palette. As such, each are considered introduced shrub and have no condition assessment.

Based on the landscape strategy, approximately 71 new **'Urban trees'** will be planted throughout the site, with 60 on the ground floor throughout the public realm and 11 on the terraces. In accordance with the Metric guidance, these have been assigned a size of 'small'. Both non-native and native blocks have been assigned an assumed condition of poor and are expected to pass two out of six criteria respectively. All trees are likely to over sail vegetation beneath, however, are assumed to be subject to a pruning regime due to their locations within public spaces and at podium level.

Table 4.3 Post-Development Linear Biodiversity Units

Habitat Type	Length (km)	Distinctiveness	Condition	Biodiversity Units
Native Hedgerow	0.035	Low	Poor	0.07
			TOTAL	0.07

The landscape strategy includes a linear feature of approximately 35m in length, described as a mixed native species hedge, which has been classified as 'Native Hedgerow'. Currently, no detailed specification is provided for the hedgerow, therefore condition is assessed as 'poor' as a precaution to avoid overstatement.

5.0 EVALUATION AND DISCUSSION

Under these proposals, the development stands to result in a net gain of **1.99** biodiversity units associated with area-based habitats from pre-development levels, and an additional net gain of **0.07** hedge units. This corresponds to a net increase of **147.6**% in ecological value associated with area-based habitats.

For linear habitats, the baseline biodiversity value of the site was calculated to be 0.00 biodiversity units (i.e., zero). Therefore, a percentage value for total biodiversity net increase cannot be defined, however a gain has been achieved.

All trading rules are satisfied by the current proposals.

The proposals are therefore in compliance with local and national planning policy, as well as the BNG Mandate which seeks a 10% uplift in biodiversity units (see Appendix F).

As referenced to in the PEA report, further qualitative ecological enhancement should also be targeted on site through the provision of invertebrate habitat features (such as pollinator posts or bee bricks), bird boxes (such as for swifts, black redstarts, and garden birds) and bat boxes, to help protect nationally and locally important species, including those specified in the London Borough of Wandsworth biodiversity action plan.

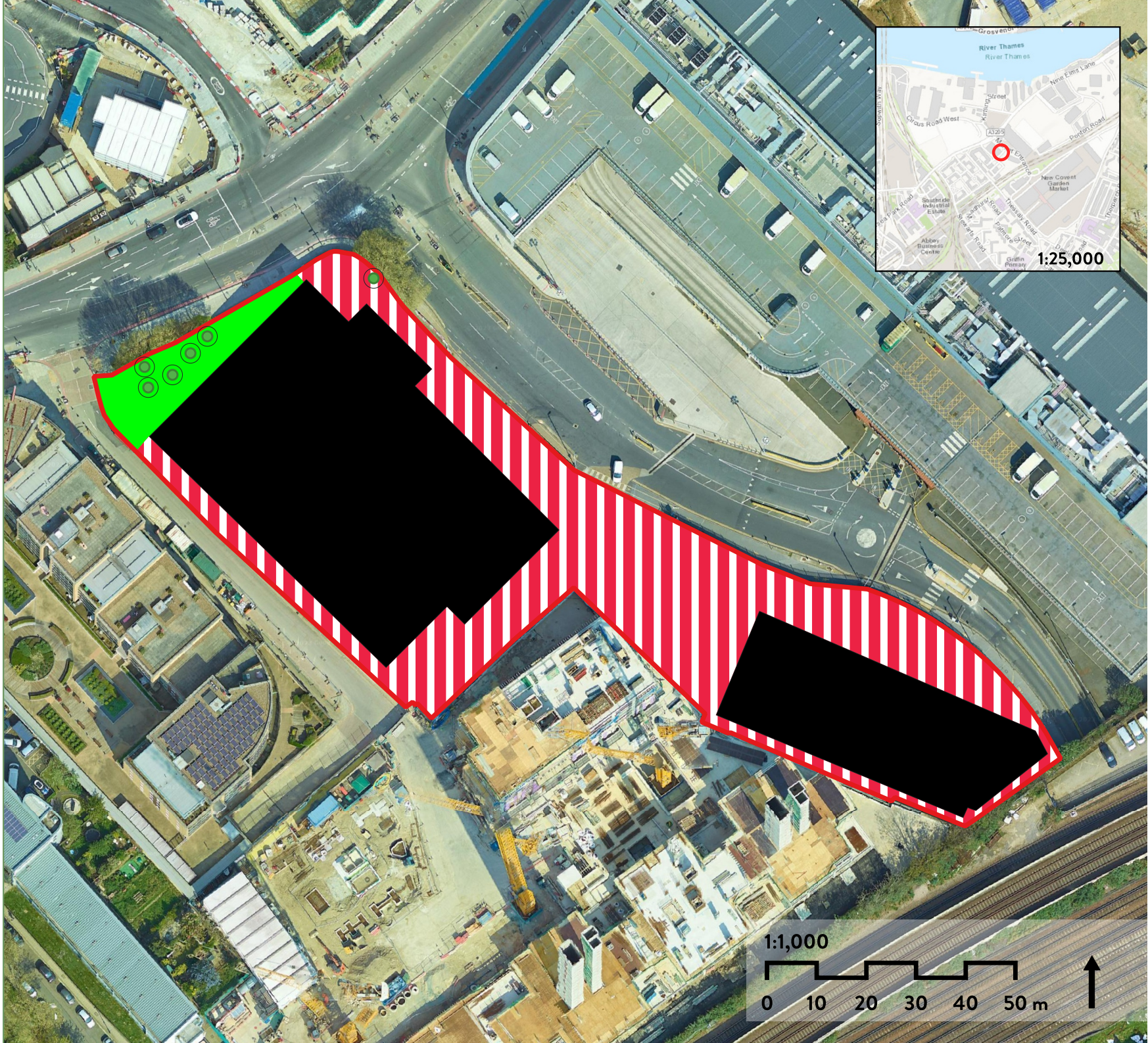
Details on habitat enhancement and management to ensure delivery of BNG should be outlined in an Ecological Management Plan (EMP) and detailed landscaping plans, which could be secured through planning condition.

The EMP should provide description of how habitats are to be created and managed for a period of at least 30 years.

APPENDIX A SITE PLAN AND HABITAT MAP

BATTERSEA PARK ROAD

- Red Line Boundary
- Tree
- Developed land; sealed surface
- Modified grassland
- Buildings



Title: Figure A.1 Site Plan and Habitat Map

Drawn by: JT
Date: 28/03/2023

Reviewed by: PW
Date: 28/03/2023

Project number: 552268
Sources: ESRI World Topo, Google Satellite

Greengage

APPENDIX B LANDSCAPE PLANS


DRAFT
Watkin Jones & Son Limited
Battersea Park Road
Landscape General Arrangement Plan
Sheet 01 of 02
1:200
A1
PLANNING
3082-PLA-XX-XX-DR-L-0001
S1
P01


DRAFT
Watkin Jones & Son Limited
Battersea Park Road
Landscape General Arrangement Plan
Sheet 02 of 02
1:200
A1
PLANNING
3082-PLA-XX-XX-DR-L-0002
S1
P01


DRAFT
Planit I.E. Limited
Watkin Jones & Son Limited
Battersea Park Road
Landscape General Arrangement Plan
Level 01
1:200
A1
PLANNING
3082-PLA-XX-XX-DR-L-0101
S1
P01

APPENDIX C LANDSCAPE TO UKHAB/METRIC TRANSLATION

Landscaping Habitat		Statutory metric
Lawn	Lawn Amenity turf	Modified grassland
Softworks Type 1	Woodland floor, perennial planting to include evergreen and pollinator species	Introduced shrub
Softworks Type 2	Shade mix. Shrubs and groundcover planting: native and non-native mix	Introduced shrub
Softworks Type 3	Sensory mix with a focus on flowering perennials and scented plants	Introduced shrub
Softworks Type 3A	Sensory mix with a focus on shrubs and scented plants	Introduced shrub
Softworks Type 5	Native shrub and groundcover planting	Introduced shrub
Softworks Type 6	Shrub and groundcover planting, native and non-native mix	Introduced shrub
Softworks Type 7 (Wildlife Border)	Native hedgerow mix to include evergreen and pollinator species	Introduced shrub
Softworks Type 8	Mixed native species hedging to be maintained at 1.2 height. Represented as Hedgerow creation, so area replaced by hard surfacing	Introduced shrub
Softworks Type 9	Instant green screen. To include climbing plants	Ground based green wall
Softworks Type 10	Shrub and groundcover planting with a focus on robust climate resilient species and year-round interest	Introduced shrub
Softworks Type 11	Sedum plugs and wildflower seed mix green roof	Biodiverse green roof

APPENDIX D BIODIVERSE GREEN ROOF SPECIFICATIONS

Good condition can be achieved should the following biodiverse green roof specification be followed.

Substrate

A total of three substrate types will be used to improve habitat heterogeneity and increase ecological niche provision:

- A biodiverse substrate designed for extensive living roofs, composed of recycled crushed brick, expanded clay shale, and recycled organic content (for example, Bauder Biodiverse Substrate[7]).
- A mixture containing the above substrate type and 30-100mm Scottish beach cobbles.
- A sandy substrate consisting of builder's sand, ranging in size from 125-250µm.

Using a variety of substrate types will produce habitat mosaics, resulting in greater habitat diversity for invertebrates.

Substrate depth will vary between 100mm and 200m when settled (15-30% settlement depths should be allowed for when laying substrate). Depths should average 150mm, with 25% of the total area being 175-200mm.

Species Mixes

Suitable seed mixes can be procured from a variety of retailers that contain species tailored for exposed, low-nutrient conditions on roof tops, for example: Emorsgate Seeds Wildflowers for Green Roofs ER1F[8]. Seed mixes should contain most of the species outlined below.

Seeds will be sown at a rate of 1g/m2, bulbs will be added to deeper areas of substrate at a rate of 3 bulbs/m2 and plug plants at a rate of 25 plugs/m2.

Table 5.1 Species mix for biodiverse roofs

Common name	Scientific name
Agrimony	Agrimonia sp.
Betony	Stachys officinalis
Bird's foot trefoil	Lotus corniculatus
Black medic	Medicago lupulina
Bladder companion	Silene vulgaris
Brown top bent	Agrostis capillaris
Catsear	Hypochaeris radicata
Cluster bellflower	Campanula glomerata
Common poppy	Papaver rhoeas
Common quaking grass	Briza media
Common sorrel	Rumex acetosa

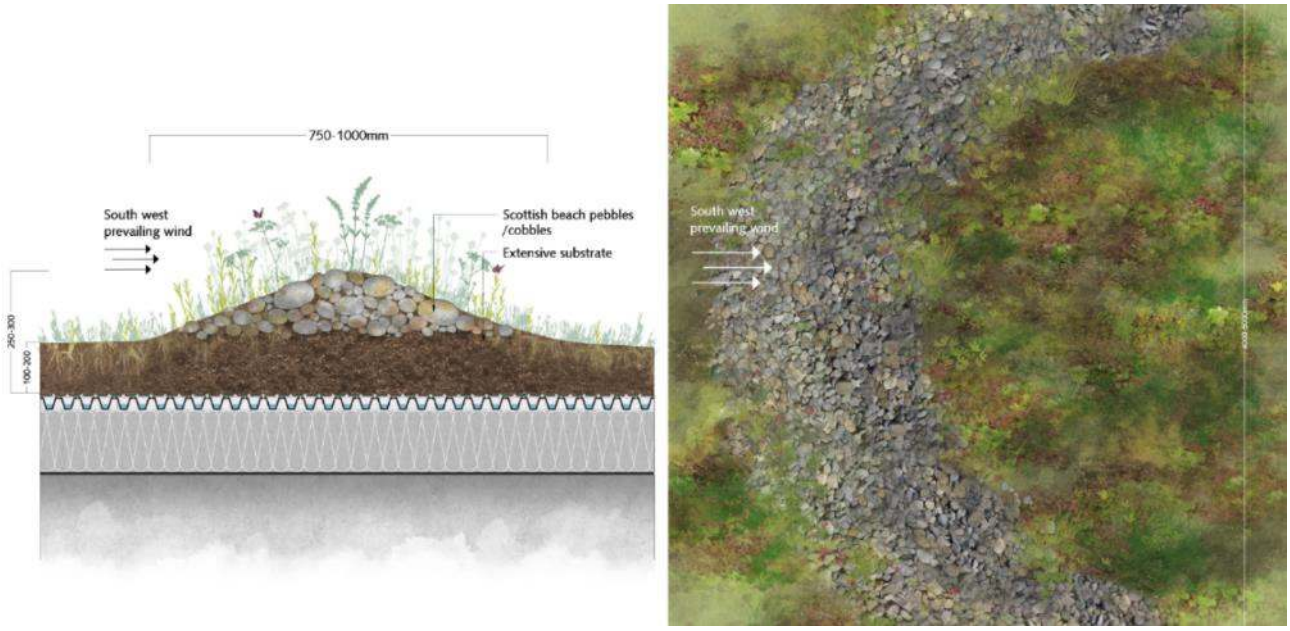
Common name	Scientific name
Common toadflax	Linaria vulgaris
Corn marigold	Glebionis segetum
Cornflower	Centaurea cyanus
Cowslip	Primula veris
Crested dog's tail	Cynosurus cristatus
Field scabious	Knautia arvensis
Harebell	C.rotundifolia
Hoary plantain	Plantago media
Kidney vetch	Anthyllis vulneraria
Lady's bedstraw	Galium verum
Lesser knapweed	Centaurea nigra
Meadow buttercup	Ranunculus acris
Ox-eye daisy	Leucanthemum vulgare
Perforate St John's wort	Hypericum perforatum
Red campion	Silene dioica
Red clover	Trifolium pratense
Red fescue	Festuca rubra
Rough hawkbit	Leontodon hispidus
Salad burnet	Sanguisorba minor
Self-heal	Prunella vulgaris
Small scabious	Scabiosa columbaria
Sweet vernal grass	Anthoxanthum odoratum
Thyme	Thymus sp.
Viper's bugloss	Echium vulgare
Wild marjoram	Origanum vulgare
Yarrow	Achillea millefolium
Yellow rattle	Rhinanthus minor

Additional Roof Enhancement Features

Cobble Mounds

Scottish beach cobbles should be used to create 'half-moon' scallop shaped mounds, orientated north to south to create microclimatic variability. Each mound should be 4-6m in length, 75-100cm wide, and located on deeper areas of substrate to create depths of 250-300mm overall.

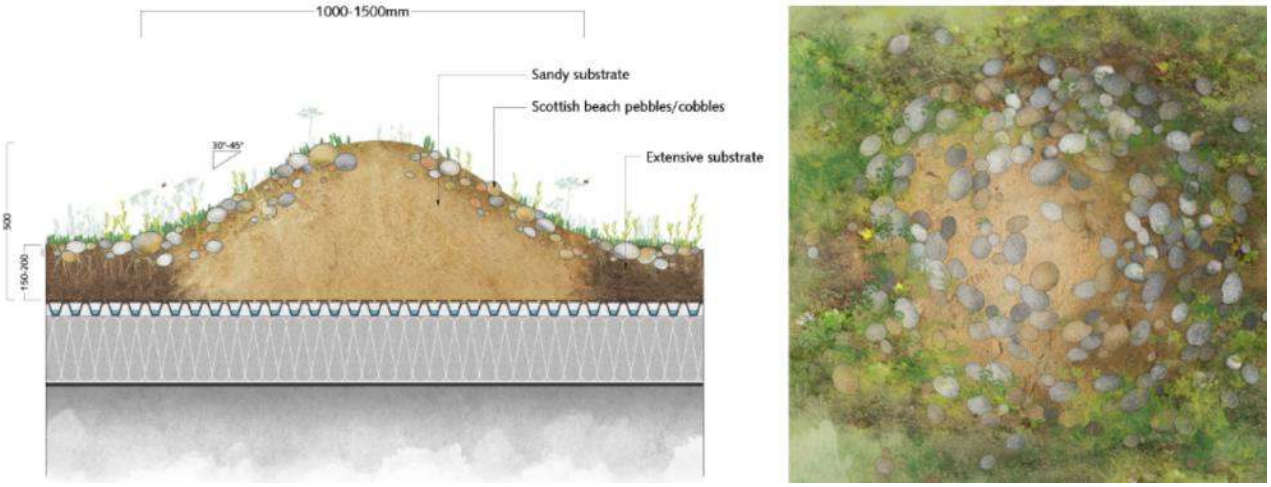
Figure 5.1 Cobble mound design specification from Green Roof Design Guide [9]



Sandy Piles

Many species of burrowing solitary bees and wasps require sandy areas to burrow and nest. Sandy piles should be compacted to from a firm mound approximately 50cm high over an area of at least 1.5m2. Rocks and stones may be placed atop the mound to increase stability.

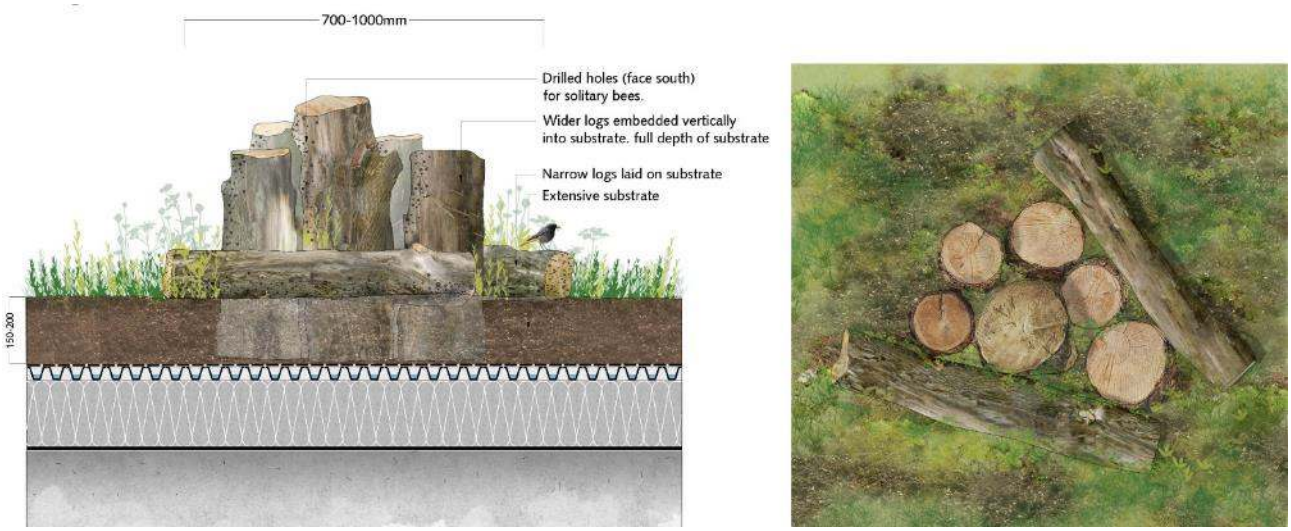
Figure 5.2 Sandy pile design specification from Green Roof Design Guide



Log Piles

Deadwood from broadleaved trees sourced locally or from site should be used. Logs should be 10-30cm diameter, 70-100cm long, with bark retained. Logs should be laid both horizontally and vertically, with vertical logs containing drilled holes of 2-8mm diameter and 100mm depth along their length to provide nesting holes for solitary bees.

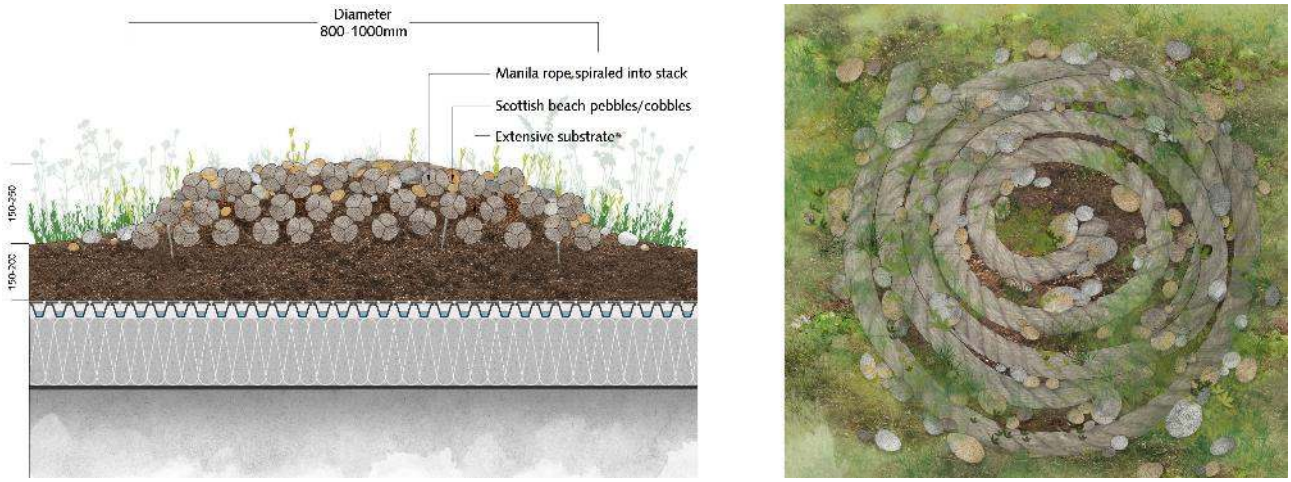
Figure 5.3 Log pile design specification from Green Roof Design Guide



Rope Coils

Ropes from made natural fibres such as Manila rope should be coiled into a loose spiral shape, covering an area of at least 1m2. Rope should be 75-100mm diameter and in lengths of 25m. The coil may be stabilised by Scottish beach cobbles or pinned to the substrate.

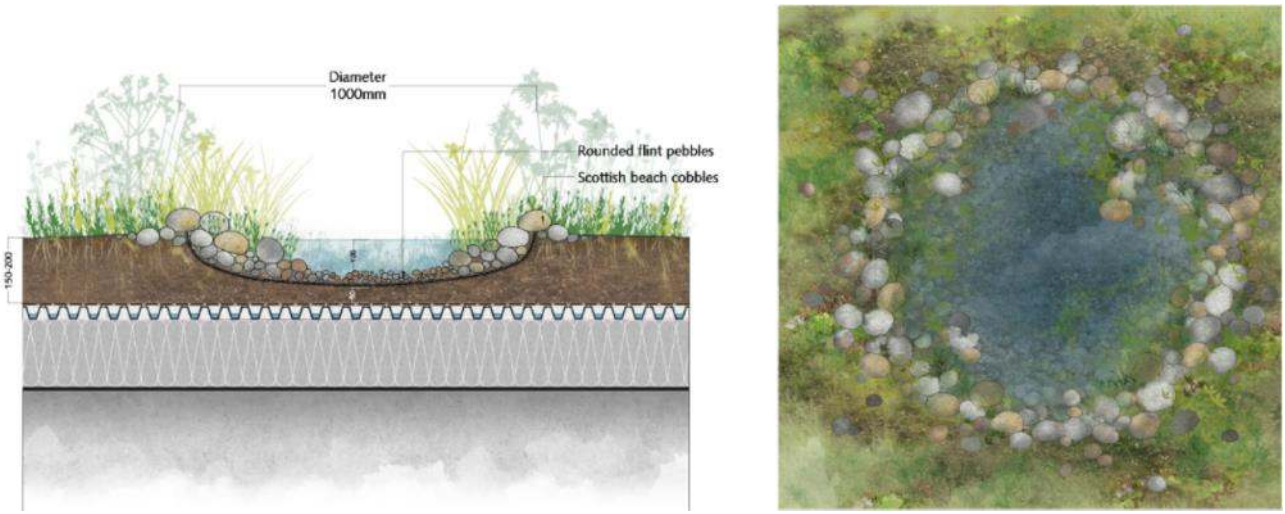
Figure 5.4 Rope coil design specification from Green Roof Design Guide



Ephemeral Water Pool

Ephemeral pools will be created using Rubber EPDM 1mm thick liner, moulded to form a shallow pool. This will be sunk 100mm deep into substrate areas of at least 150mm depth. The liner will be protected by two layers of 300g/sq.m non-woven geotextile, one on each side, and stabilised by 20-40mm rounded flint pebbles and 30-100mm Scottish beach cobbles.

Figure 5.5 Ephemeral water pool design specification from Green Roof Design Guide



APPENDIX E CONDITION ASSESSMENT SHEETS

Condition Assessment Criteria for Urban Habitats

A. Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.

B. The habitat parcel contains different plant species that are beneficial to wildlife, for example flowering species providing nectar sources for a range of invertebrates.at different times of the year.

C. Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).

ADDITIONAL CRITERION - only applicable to green roof habitat types

F Intensive green roofs – have a minimum of 50% native and non-native wildflowers - 70% of the roof area is soil and vegetation (including water features)

G Biodiverse green roofs - have a varied depth of 80 - 150mm at least 50% is at 150mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. To achieve Good condition some additional habitat, such as sand piles, logs etc should be present.

Assessment Criteria	Condition
Passes 3 of 3 core criteria; AND Meets the requirements for good condition within criteria 2 and 3; AND Passes additional criterion 4c1 or 4c2	Good
Passes 2 of 3 of 4 criteria; OR Passes 4 of 4 criteria but does not meet the requirements for good condition within criteria 2 and 3	Moderate
Passes 0 or 1 of 4 core criteria	Poor

Results for Green Roof Habitat Types:

Assessment Criteria	Condition
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).	Good
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.	Moderate
• Passes 0 or 1 of 4 criteria.	Poor

Footnote 2: For Criterion C – For green roof habitat types only - Buddleja davidii should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not be planted and seeded correctly in sub-sequent years.

Condition Assessment Criteria for Urban Trees

A. The tree is a native species (or at least 70% within the block are native species).

B. The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).

C. The tree is mature (or more than 50% within the block are mature)1.

D. There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.

E. Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.

F. More than 20% of the tree canopy area is oversailing vegetation beneath.

Condition	Assessment Criteria
Good	• Passes 5 or 6 of 6 criteria
Moderate	• Passes 3 or 4 of 6 criteria
Poor	• Passes 2 or fewer criteria

Condition Assessment Criteria for Grassland (Low)

A. There are 6-8 vascular plant species per m2 present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.

Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet. "

B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.

C. Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble Rubus fruticosus agg. may be present).

Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type."

D. Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.

E. Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).

F. Cover of bracken Pteridium aquilinum is less than 20%.

G. There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).

Condition	Assessment Criteria
Good	• Passes 6 or 7 of 7 criteria including passing essential criterion A
Moderate	• Passes 4 or 5 of 7 criteria including passing essential criterion A
Poor	• Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)

APPENDIX F LEGISLATION AND POLICY

F.1 LEGISLATION

The Environment Act, 2021[10]

The Environment Act, 2021 mandates the requirement for new development in England to deliver a minimum 10% biodiversity net gain (BNG), as measured by the agreed metric (the current relevant version being the Natural England Metric 3.0), secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of offsite biodiversity unit offsets, or the purchase of biodiversity credits.

The Act introduces the condition that no development may begin unless a biodiversity net gain plan has been submitted and approved by the local planning authority (LPA).

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

F.2 POLICY

National

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2023[11] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

The London Plan[12]

Policy G1 Green infrastructure

1. London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.

2. Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.
3. Development Plans and Opportunity Area Planning Frameworks should:
    1. identify key green infrastructure assets, their function and their potential function
    2. identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.
4. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G5 Urban greening

1. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.
2. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development. (excluding B2 and B8 uses).
3. Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and access to nature

4. Sites of Importance for Nature Conservation (SINCs) should be protected.
5. Boroughs, in developing Development Plans, should:
    a. use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks
    b. identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them
    c. support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans
    d. seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context

e. ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.

6. Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:
   a. avoid damaging the significant ecological features of the site
   b. minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site
   c. deliver off-site compensation of better biodiversity value.
7. Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
8. Proposals which reduce deficiencies in access to nature should be considered positively.

Policy G7 Trees and woodlands

1. London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
2. In their Development Plans, boroughs should:
   a. Protect 'veteran' trees and ancient woodland where these are not already part of a protected site
   b. Identify opportunities for tree planting in strategic locations
3. Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

London Environment Strategy 2018[13]

The Mayor's Environment Strategy was published in May 2018. This document sets out the strategic vision for the environment throughout London. Although not primarily a planning guidance document, it does set strategic objectives, policies and proposals that are of relevance to the delivery of new development in a planning context, including:

Objective 5.1 Make more than half of London green by 2050

Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now.

This policy states:

"New development proposals should avoid reducing the overall amount of green cover and, where possible, seek to enhance the wider green infrastructure network to increase the benefits this provides. […] New developments should aim to avoid fragmentation of existing green space, reduce storm water run-off rates by using sustainable drainage, and include new tree planting, wildlife-friendly landscaping, or features such as green roofs to mitigate any unavoidable loss".

This supports the 'environmental net gain' approach promoted by government in the 25 Year Environment Plan.

Proposal 5.1.1.d The London Plan includes policies to green streets and buildings, including increasing the extent of green roofs, green walls and sustainable drainage.

Objective 5.2 conserving and enhancement wildlife and natural habitats

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

This policy requires new development to include new wildlife habitat, nesting and roosting sites, and ecologically appropriate landscaping will provide more resources for wildlife and help to strengthen ecological corridors. It states:

"Opportunities should be sought to create or restore priority habitats (previously known as UK Biodiversity Action Plan habitats) that have been identified as conservation priorities in London [and] all land managers and landowners should take BAP priority species into account".

F.3 LOCAL

Wandsworth Local Plan 2023-2038[14]

The new Wandsworth Local Plan was adopted in July 2023, and contains policies specific to biodiversity and urban greening.

LP55- Biodiversity

A. The Council will protect and, where appropriate, secure the enhancement of the borough's priority species, priority habitats and protected sites as well as the connectivity between such sites. This includes but is not limited to Special Areas of Conservation, Sites of Special Scientific Interest, Local Nature Reserves, Local Wildlife Sites and Sites of Importance to Nature Conservation.

B. Development proposals will be required to protect and enhance biodiversity, through:

- Ensuring that it would not have an adverse effect on the borough's designated sites of habitat and species of importance, as well as other existing species, wildlife, habitats and features of biodiversity value;

- The incorporation and creation of new habitats or biodiversity features on development sites including through the design of buildings and use of Sustainable Drainage Systems where appropriate. Developments will be required to deliver a net gain in biodiversity, through the incorporation of ecological enhancements;
- Ensuring that new biodiversity features or habitats connect to the existing ecological and green and blue infrastructure networks and complement surrounding habitats;
- Enhancing wildlife corridors for the movement of species, including river, road and rail corridors, where opportunities arise; and
- Maximising the provision of ecologically functional habitats within soft landscaping.
- C. Development which would have an impact on priority species or priority habitat(s) will only be permitted in exceptional circumstances where:
- 1. It has been demonstrated that there is no alternative site layout or site that would have a less harmful impacts; and
- 2. The impact has been adequately mitigated either through on or off-site measures
-

LP56 Tree Management and Landscaping

A. The Council will require the retention and protection of existing trees and landscape features, including veteran trees.

B. Where appropriate, planning applications must be supported by sufficient evidence to demonstrate that provision has been made for the incorporation of new trees, shrubs and other vegetation of landscape significance that complement existing, or create new, high-quality green areas, which deliver amenity, environmental, and biodiversity benefits.

C. To ensure development protects, respects, contributes to and enhances trees and landscapes, the Council, when assessing development proposals, will:

Trees and Woodlands

1. Resist development that would result in the damage or loss of trees, including veteran trees and trees considered to be of townscape or amenity value, unless the tree is dead, dying or dangerous; or the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value and it is not possible to retain the tree as part of the development; or felling is for reasons of good arboricultural practice;

2. Consent for works to protected trees (Tree Preservation Orders and trees in Conservation Areas) will only be granted where;

- proposed works of pruning are in accordance with good arboricultural practice;
- proposals for felling are properly justified through a detailed arboricultural and/or structural engineer's report; and

- adequate replacement planting is proposed.

3. Require, where practicable, an appropriate replacement on-site for any tree that is felled; where not practical, a financial contribution to the provision for an off-site tree in line with the monetary value of the existing tree to be felled will be required in line with the 'Capital Asset Value for Amenity Trees' (CAVAT);

4. Resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland;

5. The Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees;

6. Require the maintenance and suitability of new trees to be bespoke and considered from the beginning of the design process;

7. Require new trees to be of a suitable species for the location in terms of height and root spread, taking account of space required for trees to mature; the use of native species will be encouraged where appropriate; and

8. Require that trees are adequately protected throughout the course of development, in accordance with British Standard 5837 (Trees in relation to design, demolition and construction). D. The Council will serve a Tree Preservation Order or attach planning conditions which protect any trees considered to be of value to the townscape and amenity in order to secure their retention.

Landscape

E. The Council will:

1. Require the retention of important existing landscape features;

2. Require landscape design and materials to be of a high quality and be compatible with the surrounding landscape and character; and

3. Require the provision of planting, including new trees, shrubs and other significant vegetation where appropriate.

LP57 Urban Greening Factor

A. All development proposals should contribute to the greening of Wandsworth borough by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

B. Development proposals will be required to:

1. Follow the guidance on the Urban Greening Factor (UGF) in the London Plan for calculating the minimum amount of urban greening required as well as for the thresholds different types of development will be required to meet;

2. Incorporate as much soft landscaping and permeable surfaces as possible; and

3. Take into consideration the vulnerability and importance of local ecological resources (such as water quality and biodiversity) when applying the principles of the UGF.

C. In exceptional circumstances, if it can be clearly demonstrated that meeting the thresholds would not be feasible, a financial contribution may be acceptable to provide for the improvement of biodiversity and green and blue infrastructure assets within the locality.

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