

Urban Greening Factor

Greater London Authority

March 2026

ARUP

How to use this document

This in an interactive document. Please use the features highlighted below to navigate the document when viewing on-screen.

A solid circle represents the current Chapter.

Contents

Executive summary..... iii

Introduction..... 1

Methodology..... 4

Data analysis..... 8

Case studies.....10

Workshop.....43

Questionnaire.....47

Summary and recommendations.....60

1 Main contents page

○ — ○ — ○ — ● — ○ — ○

Case studies

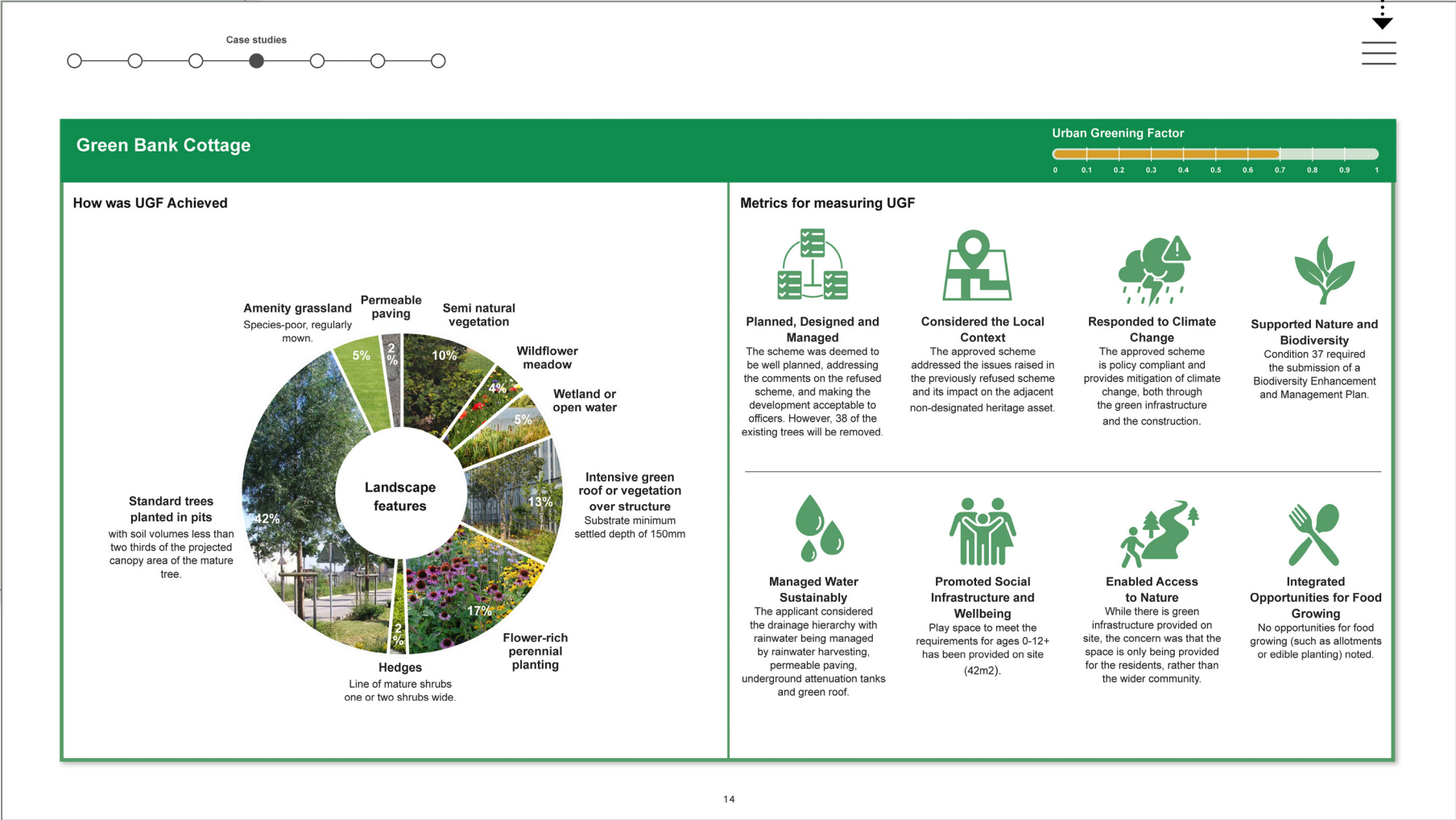
Case studies

Case studies

2 Chapter divider

Click here to go to the Main contents page (1).

Click here to go to the divider page for any Chapter (2).



3 Regular page



Contents

Introduction1

Methodology4

Data analysis8

Case studies10

Workshop.....43

Questionnaire47

Summary and recommendations.....60



Executive summary

This document provides an evidence base and recommendations to inform the development of urban greening policy for the next London Plan.

The study explores how the UGF policy is working so far; whether it is justified and viable in its current format; whether there is scope to extend requirements or be more ambitious; and any other potential changes needed to improve the effectiveness of the policy.

Research took the form of a workshop with attendees from local planning authorities, consultants and developers; an online questionnaire; review of case studies; and review of relevant Planning London Datahub information.

The UGF is a deliberately simple tool and should remain so, therefore this research seeks to identify opportunities for strengthening the policy without over-complicating it.

Summary of research findings

- Broad support for the UGF policy with research findings noting that the policy supports the delivery of green infrastructure in London.

- Target scores are seen as reasonable, although at times competing sustainability requirements (e.g. provision of photovoltaics or carbon reduction) make delivering green infrastructure a challenge.
- The inclusion of a score for industrial uses is generally supported, though recommended to be lower than those for commercial and residential.
- Alignment with Biodiversity Net Gain (BNG) between UGF and BNG can be challenging, and further guidance to demonstrate the synergies between the two policies is sought.
- Concerns for the long-term management and maintenance of green infrastructure has been raised.
- Safety issues such as fire risk and safe roof access to enable maintenance are a concern for the provision of green roofs and walls - more guidance and research is sought to support the safe delivery of these types of green infrastructure.

The UGF is a deliberately simple tool and should remain so, therefore this research seeks to identify opportunities for strengthening the policy without over-complicating it.





Summary of recommendations

Recommended policy updates include:

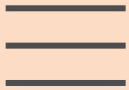
- Removing requirements for boroughs to create own UGF scores and amending the wording to encourage boroughs to review prioritisation of UGF against other sustainability objectives, on a case-by-case basis.
- Require applicants to provide evidence that UGF has been addressed and include an example diagram of a green-blue masterplan illustrating combined UGF and BNG.
- Inclusion of industrial uses with a score of 0.2.
- Explanation that in unison, UGF can provide the 'land use & function' and BNG can provide the 'character & diversity' and inclusion of a diagram in the UGF policy that sets out the synergies between UGF and BNG.
- Review of scoring matrix in respect of social value opportunities related to greening and against Natural England's guidance on

the Urban Greening Factor and consider inclusion of relevant typologies, still to be discussed.

Additional recommendations include:

- Support better understanding of UGF through additional guidance on how to provide UGF on site and case studies of how it has successfully been achieved.
- A long-term watching brief to provide feedback to DEFRA on BNG policy when under review to seek better relationships between the two policies.
- Provide guidance / signposting to best practice urban green infrastructure.
- Further work to highlight good practice examples of integrating UGF with other sustainability requirements once sufficient schemes have been delivered, to support learning and consistent application.





Introduction



Scope of research and background

The GLA has appointed Arup to undertake a review of policy in the London Plan relating to green infrastructure in new developments. Specifically, this research focuses on the Urban Greening Factor (UGF) requirements of Policy G5 introduced in the March 2021 London Plan.

Scope of research

This document provides an evidence base and recommendations to inform the development of policy proposals for the next London Plan.

The study explores how the UGF policy is working so far; whether it is justified and viable in its current format; whether there is scope to extend requirements or be more ambitious; and any other potential changes needed to improve the effectiveness of the policy.

Other areas of the research consider the integration with the BNG requirements; language around the setting of local targets; and the sensitivities or challenges around delivering UGF.

Background

London Plan Policy G5 requires major development to contribute to the greening of London by demonstrating achievement of target UGF scores at application stage (0.4 for developments that are predominately residential and 0.3 for developments that are predominately commercial).

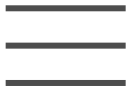
The policy describes these as ‘interim’ targets, additionally stating that Boroughs ‘should’ develop appropriate local targets. The [UGF London Plan Guidance](#) (LPG), published in February 2023, additionally suggests that Boroughs should also consider introducing targets for smaller scales of development (see paragraphs 4.1.14 and 4.1.25-26).

The UGF approach was innovative for the UK at the point of introduction in the London Plan 2021 but has since been incorporated into Natural England’s voluntary Green Infrastructure (GI) Framework standards and other UK Local Plans. UGF approaches have been used for longer in some parts of Europe and North America.

The UGF policy was originally intended to cover industrial uses as well, but this element was removed at the 2021 London Plan Examination in Public after industry pushback regarding the costs of implementation (see paragraph 451 of the Inspector’s Report).

Policy G5 Urban greening

- 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.
- 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).
- 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.



Early review of UGF

Initial GLA experience of implementing the UGF indicates that the policy has been broadly successful. It has fulfilled its aims of being a useful tool to aide discussion of appropriate levels of greening throughout application stage.

In general, data shared by the Planning London Datahub shows targets are being met at application stage. However, the GLA has also received anecdotal feedback through the Planning for London Programme that there is an issue with targets being met at application stage but not built-out. This research aims to gather a broad evidence base to seek further clarity on these early findings and suggestions.

As confirmed by Natural England’s GI Framework, UGF has a continuing role even though mandatory BNG is now in place, and the measures are complementary. The UGF will secure a minimum level of greening even where existing baseline biodiversity is low. The UGF is a deliberately simple tool and should remain so, therefore this research seeks to identify opportunities for strengthening the policy without over-complicating it.

Final research questions

To understand the effectiveness of the existing policy and identify recommendations, this research focused on the following key questions:

- Are there performance trends across typologies?
- Which typologies experience challenges in meeting the targets or offer opportunities to go beyond the minimum?
- What influences design decisions with regard to the UGF policy? Does this differ across typologies? Is UGF afforded more importance across some typologies?
- How does UGF interact with other policy requirements (e.g., BNG, SuDS), and what guidance is needed to reconcile competing priorities?
- Is the UGF score stated in planning applications achieved when schemes are built out? Is this implementation monitored and should/ could it be?
- Could UGF requirements be applied to other uses (particularly B2, B8, and smaller-scale development)?

Table 1. Surface cover types and factor scores

SURFACE COVER TYPE	FACTOR
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1
Wetland or open water (semi-natural; not chlorinated maintained or established on site	1
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm – see livingroofs.org for descriptions.	0.8
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree – see Trees in Hard Landscapes for overview.	0.8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.	0.7
Flower-rich perennial planting – see RHS perennial plants for guidance.	0.7
Rain gardens and other vegetated sustainable drainage elements – See CIRIA for case-studies.	0.7
Hedges (line of mature shrubs one or two shrubs wide) – see RHS for guidance.	0.6
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6
Green wall –modular system or climbers rooted in soil – see NBS Guide to Façade Greening for overview.	0.6
Groundcover planting – see RHS Groundcover Plants for overview.	0.5
Amenity grassland (species-poor, regularly mown lawn).	0.4
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3
Water features (chlorinated) or unplanted detention basins.	0.2
Permeable paving – see CIRIA for overview.	0.1
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0

Methodology



Methodology

To comprehensively evaluate the UGF policy, we employed a multi-faceted research methodology including quantitative analysis, qualitative insights, and case studies. This approach enabled us to gather a diverse range of data and perspectives, ensuring a thorough understanding of the policy's impact and effectiveness.

Quantitative analysis

We utilised data from the Planning London Datahub which covered the period 15/07/2022 to 04/04/2025. This data set includes planning applications submitted during this timeframe, along with their stated UGF scores. After cleaning and coding the data into our identified typologies (slide 11), 494 applications across the 32 London boroughs were left for further analysis. Applications that were still pending decisions, were 'minor' or which did not fit into the selected typologies were excluded. We also reviewed the LLDC's 'UGF x High Density' 2024 research paper, as the aims of this research were similar to those of this study.

Qualitative analysis

- Case Studies: We examined how UGF was implemented on 10 sites of varying typologies across inner and outer London. Our goal was to identify trends in UGF delivery and to determine whether the schemes faced challenges in meeting requirements or achieved them with ease.

- Workshop: In mid-July 2025, we conducted a workshop with participants from the private sector and local authorities, who had experience of working with the UGF policy. The workshop facilitated discussions, allowing attendees to share and build on each other's views and past experiences.
- Questionnaire: We designed two questionnaires and shared them via LinkedIn targeting two distinct groups: the private sector (developers and built environment consultants) and Local Planning Authorities. Although the questionnaire content was identical for each group, the posts were tailored to each audience to maximise engagement.





Typologies

The following building typologies were identified for the purposes of data analysis and case study selection. These typologies align broadly with those used within wider London Plan review workstreams, allowing integration across various evidence base documents under preparation. The typologies identified were:

- Residential block (C3) 4-12 storeys
- Residential tower (C3) 13+ storeys
- Student and co-living tower
- Commercial (Class E)
- Industrial (Class B2 and B8)
- Mixed use, predominantly residential

Identifying these typologies allows us to track trends across London (comparing across inner and outer Boroughs) and across various types of developments. This will aid in making recommendations on the effectiveness of the UGF policy and whether adjustments are needed to alter UGF requirements.

The typologies are considered to be representative of the main classes of 'major' development within London.



Literature review

Urban Greening Factor x High Density

The LLDC’s [‘UGF x High Density’](#) 2024 research paper, produced by MICA for the London Legacy Development Corporation, examines how best to deliver urban greening in high-density, residential-led developments.

Overall, the research paper concluded positively about the UGF policy, stating that ‘the impact will only really begin to be felt in the next few years as permitted schemes are built out. However, the built examples in the study show the promise of what is to come’.

The study analyses and reviews 10 projects in London and 9 from across the world. The main conclusions of the study are:

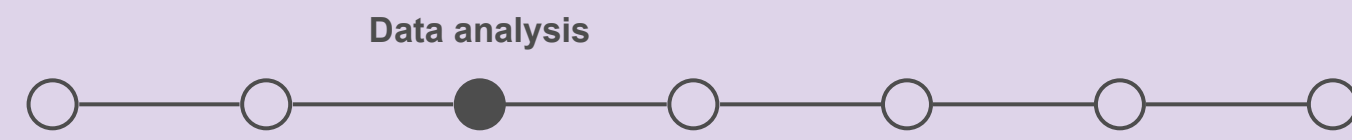
- UGF often pushes schemes to have a flat roof, which may not always be appropriate in the local context or where hard landscaping would be more suitable than soft landscaping.

- Areas with a lack of green space could be encouraged to achieve a higher UGF score.
- UGF does not consider site constraints, which can make it harder to achieve a higher score.
- Design teams may be pushed to provide inappropriate landscape schemes for the area in order to achieve a higher UGF score.
- It can lead spaces to focusing solely on providing landscaping to meet UGF requirements, rather than creating play spaces.
- Permeable paving, used as part of drainage strategies, has a score of 0 not taking into account the additional benefits it provides.
- UGF requires each phase of development to meet UGF independently, without considering the wider site provision.

Biodiversity Net Gain

Biodiversity Net Gain is closely linked to UGF, and therefore it is important to understand their relationship. To illustrate the practical application of BNG principles, the following diagrams provide a visual summary of key processes and considerations. The first infographic ([BNG ENG EIA Infographic v3.5](#)) outlines how BNG requirements interconnect with ‘Environmental Net Gain’ within the wider context of Environmental Impact Assessments, highlighting where biodiversity enhancements can be embedded.

The second infographic ([BNG ENG Infographic v3](#)) presents an overview of the core BNG framework, including its objectives, metrics and implementation steps. Together, these visuals help to clarify the relationship between policy requirements and project delivery, offering a concise reference for practitioners and stakeholders.



Data analysis

Planning London DataHub Analysis

Planning London DataHub

Data range: 15/07/2022 to 04/04/2025

- This data has been gathered from planning applications using the information submitted by applicants and has not been validated.
- Outer London leads slightly in all three metrics, suggesting greener developments on average.
- Inner London has a slightly lower mean and median, possibly due to denser urban form and more constrained sites.
- The most common score across all areas of the city is 0.40. This consistency suggests that many applicants may be aiming to meet the minimum target rather than reflecting their actual performance, meaning the figure might not represent true ability.

- Residential typologies (both block and tower) consistently show higher UGF scores than industrial developments, which is to be expected given the application of targets only to residential and commercial use.
- Student and co-living towers in Inner London have a lower mean (0.30) compared to Outer London (0.40).
- Industrial developments have the lowest UGF score, especially in Inner London (mean 0.22), however this is to be expected as there is no policy requirement for them to meet a specific UGF target.
- Mixed use developments are relatively consistent across inner and outer Boroughs, with a mean around 0.37–0.40.

Table 2. Summary statistics (mean, median and mode) of Urban Greening Factor (UGF) scores across six development typologies, comparing Inner London, Outer London and London-wide performance.

TYPOLOGY	COUNT	MEAN	MEDIAN	MODE
Inner London Boroughs				
Low density residential	0	0	0	0
Residential block (C3) – 4-12 Storeys	69	0.43	0.4	0.40
Residential tower (C3) – 13+ storeys	35	0.4	0.4	0.4
Student and co-living tower	22	0.3	0.32	0.4
Commercial (Class E)	70	0.3	0.3	0.3
Industrial (Class B2 and B8)	11	0.2	0.16	0.38
Mixed use	56	0.37	0.4	0.4
Total	263	0.36	0.38	0.4
Outer London Boroughs				
Low density residential	6	0.46	0.4	0.4
Residential block (C3) – 4-12 Storeys	102	0.42	0.41	0.4
Residential tower (C3) – 13+ storeys	26	0.42	0.4	0.4
Student and co-living tower	15	0.4	0.4	0.4
Commercial (Class E)	13	0.29	0.3	0.3
Industrial (Class B2 and B8)	20	0.23	0.21	0.1
Mixed use	49	0.37	0.4	0.4
Total	231	0.39	0.4	0.4
All London Boroughs				
Low density residential	6	0.46	0.4	0.4
Residential block (C3) – 4-12 Storeys	171	0.42	0.4	0.4
Residential tower (C3) – 13+ storeys	61	0.41	0.4	0.4
Student and co-living tower	37	0.43	0.38	0.4
Commercial (Class E)	83	0.29	0.3	0.3
Industrial (Class B2 and B8)	31	0.22	0.2	0.1
Mixed use	105	0.37	0.4	0.4
Total	494	0.37	0.4	0.4

Case studies

Case studies

This study assessed ten case studies to evaluate their compliance with the Urban Greening Factor (UGF) policy. The analysis focused on whether the developments met the policy requirements, how they achieved compliance, and what documentation was submitted with the planning applications to demonstrate adherence to the UGF policy.

The case studies were chosen to cover a range of development types across inner and outer London.

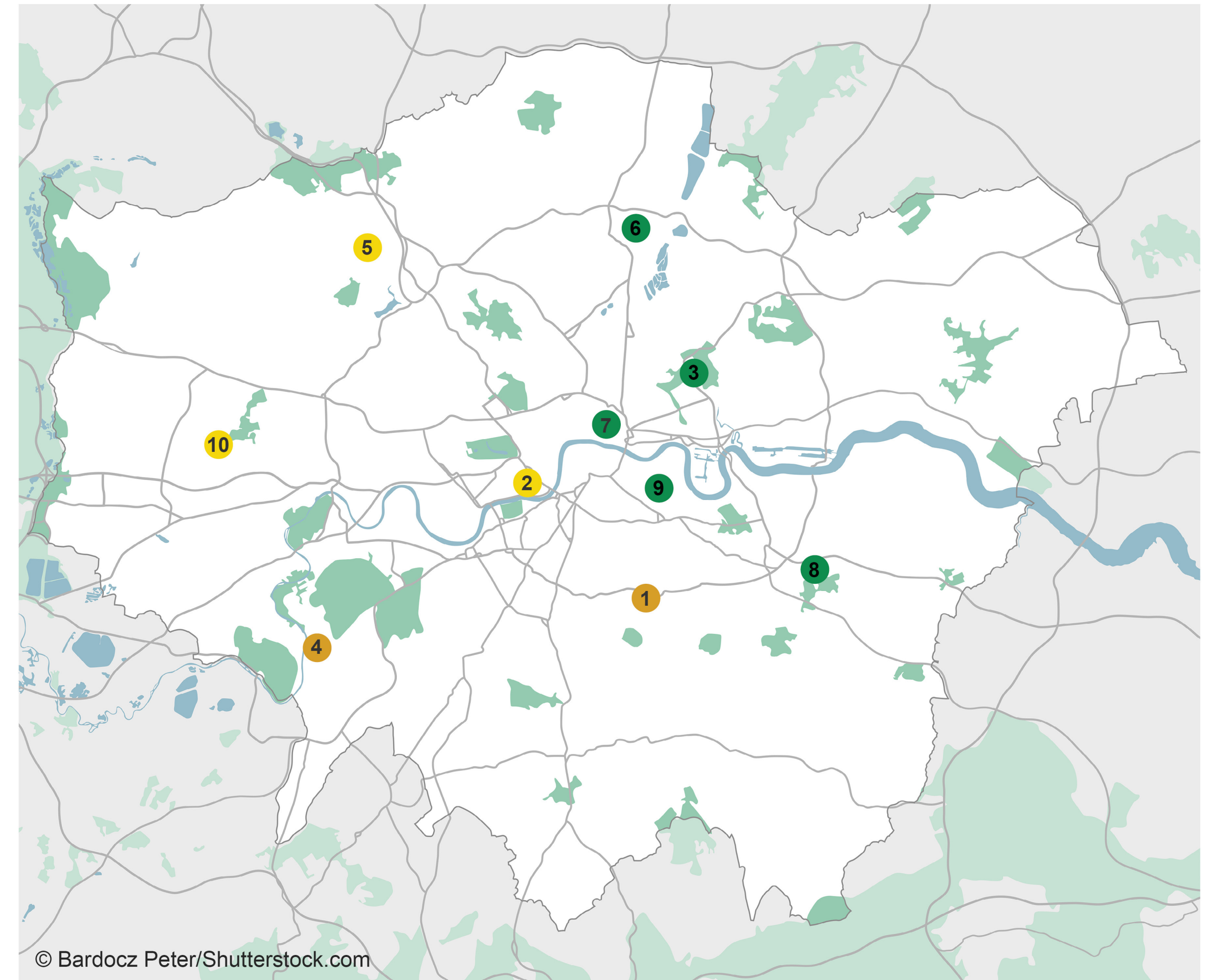
The case studies selected are:

- 1 Green Bank Cottage
- 2 Ebury Bridge
- 3 Wick Park
- 4 Former Service Station Coombe Road
- 5 Symal House
- 6 Printworks
- 7 85 Gracechurch
- 8 Messeter Place
- 9 Bermondsey Heights
- 10 Middlesex Business Centre

The following categories indicate how the identified case studies perform against Urban Greening Factor (UGF) policy requirements:

Key

- **Gold:** *Above and beyond / Best practice*
 - UGF over 0.50 (above policy requirement).
 - Exceeds policy requirements significantly; demonstrates innovation, integration, and long term stewardship.
- **Green:** *Meets policy requirements*
 - UGF of 0.40 to 0.49 (meeting or exceeding policy; 0.30 for commercial and industrial).
 - Complies fully with UGF or green space policies; well-integrated into design and delivery.
- **Yellow:** *Considered but incomplete*
 - UGF of 0.30 to 0.39 (not quite meeting policy).
 - UGF or green space is acknowledged in the development, but either doesn't meet policy or lacks sufficient detail to confirm compliance.





Green Bank Cottage

Project description

Demolition of the 2 existing dwellings and the construction of a 4-storey building with roof terrace above to provide 16 self-contained flats at (Greenbank Cottage and Taymount Lodge) Taymount Rise SE23, together with the provision of accessible parking spaces, cycle and bin storage and associated amenity space, play area and landscaping.



Link to application:
[DC/22/127431](#)

Site address:
Green Bank Cottage, Taymount Rise, London, SE23 3UL

LPA:
Lewisham

Inner/outer London:
Inner

Type of application:
Detailed

Decision:
Granted (09/06/2023)

Status:
Completed

Developer:
Hambridge Homes

Building class(es):
Residential (C3)

Typology:
4-12 Storeys

Density:
Policy compliant density confirmed by officers

Green Bank Cottage

Urban Greening Factor

00.10.20.30.40.50.60.70.80.91

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- Landscape strategy submitted to support the application, which included detail on UGF.

- Council’s Ecology Officer reviewed the UGF calculation but provided no comments.
- No comments from the GLA on UGF were received as part of the application.

- The applicant proposed to exceed the minimum requirements, which was looked upon favourably by officers.
- Note that the hardstanding has been reduced from a previously refused scheme (DC/21/124859).

- Condition 34 was required for additional information on the living roof, and was approved by officers.

- No subsequent applications have been submitted to reduce the UGF figure.

Interaction with other Policies

- No affordable housing is included as part of the application. The application was supported by a Viability Assessment.
- Requirements of London Plan SI 2 can be achieved in terms of providing a minimum 35% reduction beyond Building Regulations through energy efficiency measures and renewable energy technology (including solar PV and heat pumps). At least 10% of the reduction is achieved through energy efficiency measures alone. Condition 33a required further information to be submitted for PV panels.
- The application was submitted ahead of the statutory 10% BNG requirement. A condition was added to require the applicant to submit a Biodiversity Enhancement and Management Plan (BEMP).

Key

Gold: Above and beyond / Best practice

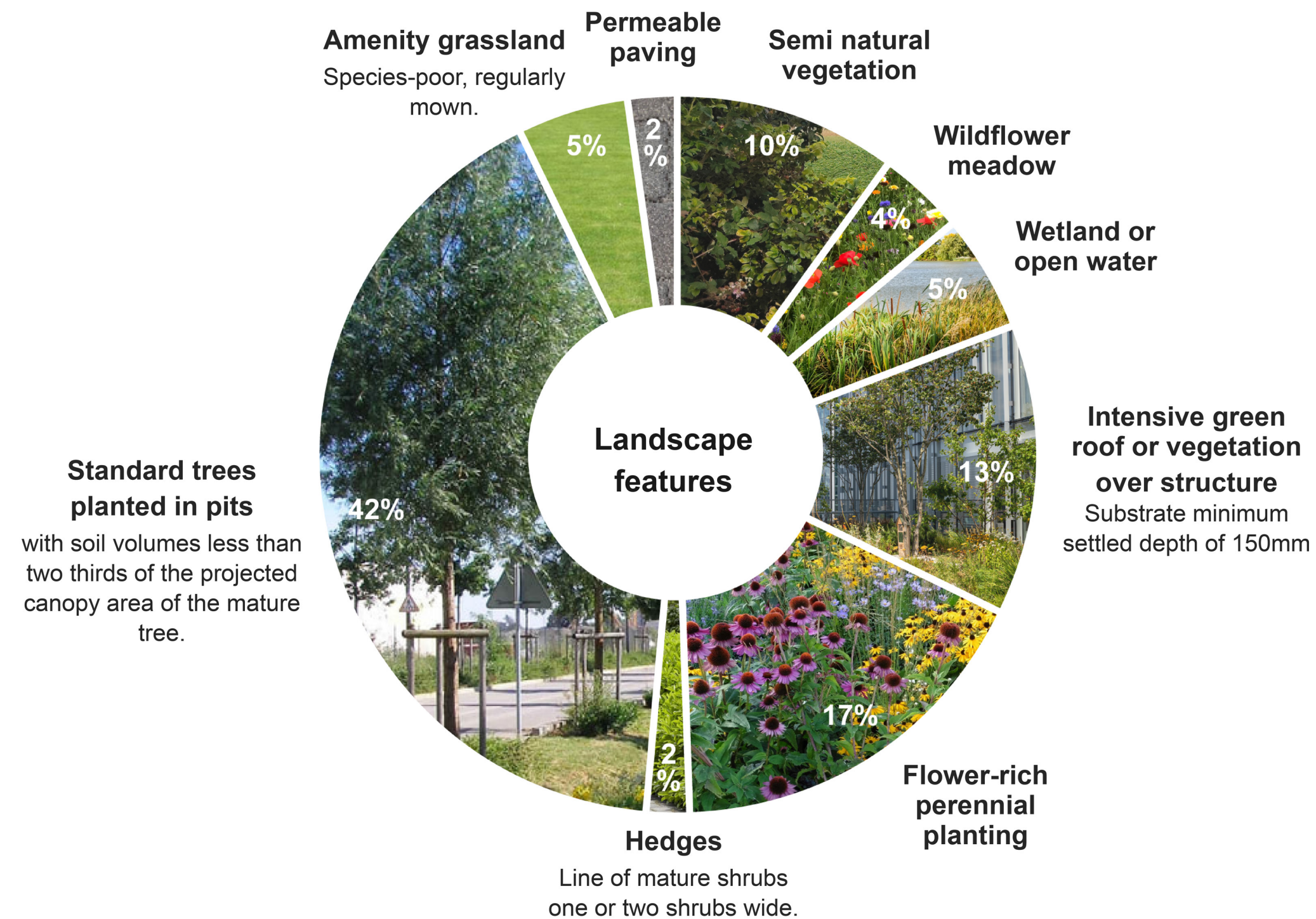
- UGF over 0.50 (above policy requirement)
- Exceeds policy requirements significantly; demonstrates innovation, integration, and long term stewardship.

Green Bank Cottage

Urban Greening Factor



How was UGF Achieved



Metrics for measuring UGF



Planned, Designed and Managed

The scheme was deemed to be well planned, addressing the comments on the refused scheme, and making the development acceptable to officers. However, 38 of the existing trees will be removed.



Considered the Local Context

The approved scheme addressed the issues raised in the previously refused scheme and its impact on the adjacent non-designated heritage asset.



Responded to Climate Change

The approved scheme is policy compliant and provides mitigation of climate change, both through the green infrastructure and the construction.



Supported Nature and Biodiversity

Condition 37 required the submission of a Biodiversity Enhancement and Management Plan.



Managed Water Sustainably

The applicant considered the drainage hierarchy with rainwater being managed by rainwater harvesting, permeable paving, underground attenuation tanks and green roof.



Promoted Social Infrastructure and Wellbeing

Play space to meet the requirements for ages 0-12+ has been provided on site (42m²).



Enabled Access to Nature

While there is green infrastructure provided on site, the concern was that the space is only being provided for the residents, rather than the wider community.



Integrated Opportunities for Food Growing

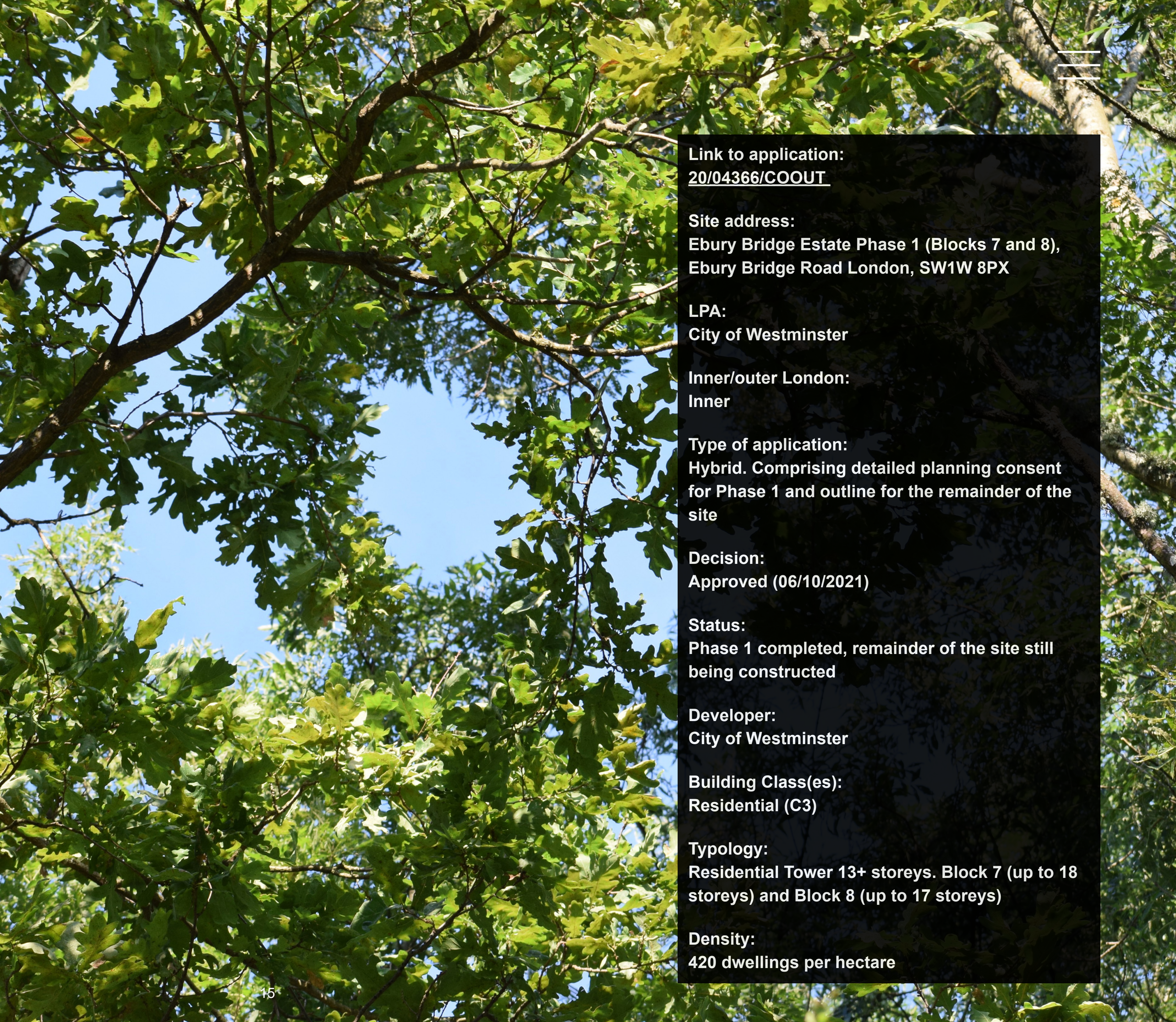
No opportunities for food growing (such as allotments or edible planting) noted.



Ebury Bridge

Project description

A mixed use development in outline for residential floorspace and ancillary residential facilities (Class C3) non-residential floorspace comprising flexible retail (Classes A1 - A4), community (Class D1), leisure (Class D2) and workspace (Class B1) floorspace; provision of basement; new pedestrian and vehicular access; and associated amenity space, open space, plant, landscaping, car and cycle parking, refuse storage, servicing area, and other associated infrastructure works; and detailed planning consent for Blocks 7 and 8 comprising residential floorspace and ancillary residential facilities (Class C3); provision of a basement; new pedestrian and vehicular access; and associated amenity space landscaping, car and cycle parking, refuse storage, servicing area, and other associated infrastructure works.



Link to application:
[20/04366/COOUT](#)

Site address:
Ebury Bridge Estate Phase 1 (Blocks 7 and 8),
Ebury Bridge Road London, SW1W 8PX

LPA:
City of Westminster

Inner/outer London:
Inner

Type of application:
Hybrid. Comprising detailed planning consent for Phase 1 and outline for the remainder of the site

Decision:
Approved (06/10/2021)

Status:
Phase 1 completed, remainder of the site still being constructed

Developer:
City of Westminster

Building Class(es):
Residential (C3)

Typology:
Residential Tower 13+ storeys. Block 7 (up to 18 storeys) and Block 8 (up to 17 storeys)

Density:
420 dwellings per hectare

Ebury Bridge

Urban Greening Factor

00.10.20.30.40.50.60.70.80.901

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- UGF was included in the Design and Access Statement and accompanying landscape drawings.
- Application set out that site constraints, such as vehicular access, underground utilities and ground conditions limited the potential for UGF.

- Reduction in UGF was accepted ‘in place shaping terms’ due to the overall biodiversity and ecological net gain, enhanced connectivity to the north and south and 50% affordable housing.
- Noted that, following a design review, the applicant should look to improve the UGF score, if possible. This does not seem to have been done.

- No planning condition was added to the permission.

- The applicant proposed to exceed the minimum requirements, which was look upon favourably by officers.
- Note that the hardstanding has been reduced from a previously refused scheme.

- Reserved Matters application (24/01665/RESMAT, approved: 31 July 2024) submitted for Phase 2, which achieves a UGF for 0.29. The Planning Statement states that the 0.3 UGF, which was agreed as part of the hybrid application, can still be met across the site.
- NMA: 21/07651/NMA approved 05/01/2022 made some minor amendments to the landscaping, but no detail on the UGF was included.

Interaction with other Policies

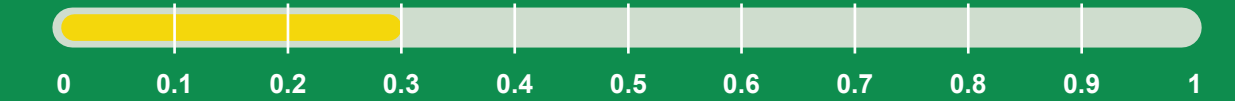
- There is an overall shortfall in the provision of play space – due to the 570sqm and 639sqm shortfall of 5-11yrs and 12-17yrs respectively
- The carbon reductions achieved through energy efficiency measures is 17% for residential development and 16% from non-residential development which exceeds the respective 10% and 15% improvement sought by London Plan policy.
- PV panels are not being proposed for Blocks 7 and 8, but they will be provided as part of the wider site.
- This application was not subject to statutory BNG.

Key

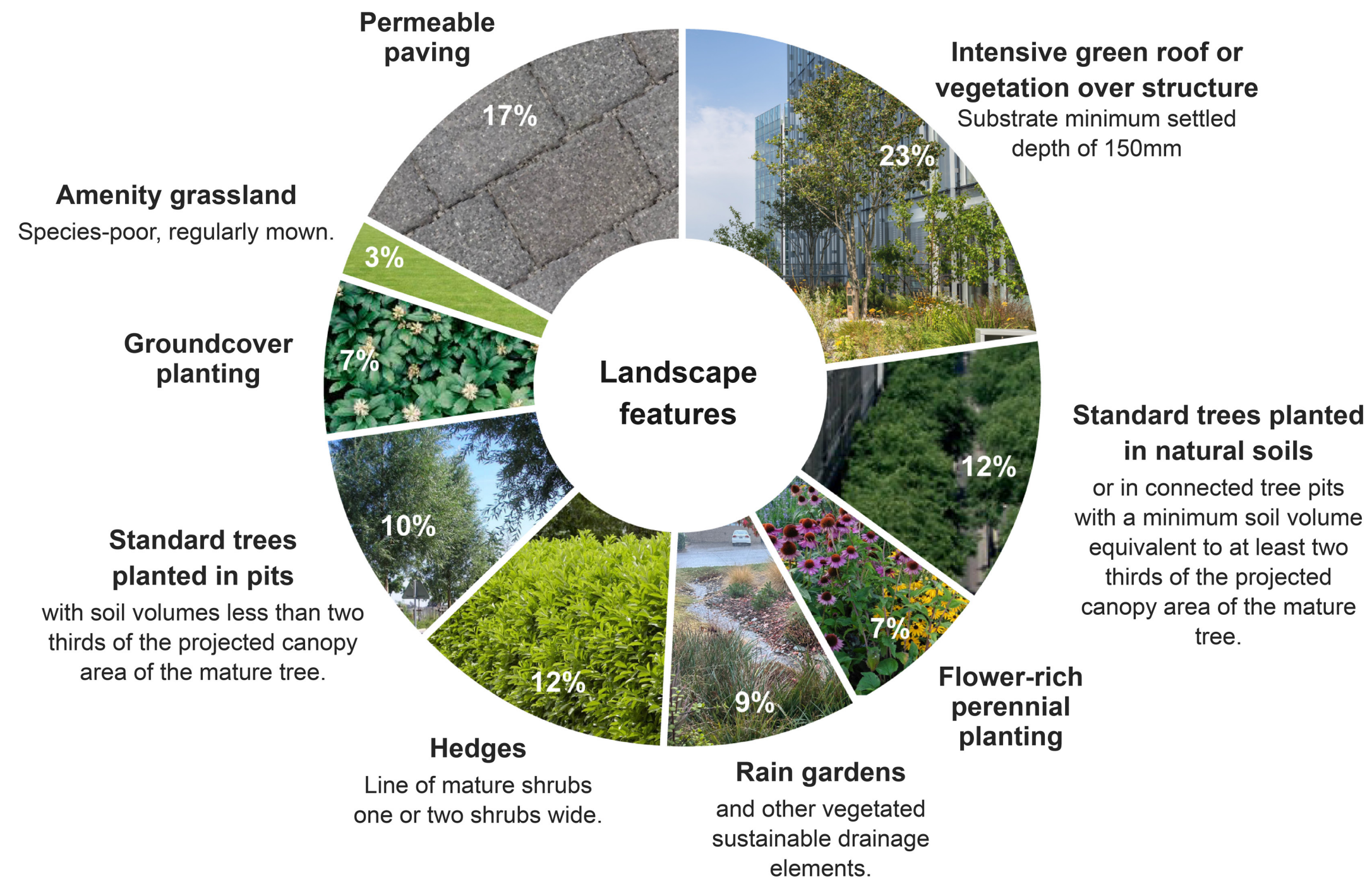
Yellow: Considered but incomplete

- UGF of 0.30 to 0.39 (not quite meeting policy
- UGF or green space is acknowledged in the development, but either doesn't meet policy or lacks sufficient detail to confirm compliance.

Urban Greening Factor



Metrics for measuring UGF



Planned, Designed and Managed

Considered at the early stages of the design process. Maximises the space available, using podiums, balconies, public space and private amenity areas. However, not all buildings have green/brown roofs. Cycle route planned throughout the development.



Considered the Local Context

Opening up access routes to the public. Public spaces provided throughout the development.



Responded to Climate Change

Promotion of more sustainable modes of travel.



Supported Nature and Biodiversity

Biodiverse planting to create a diverse and balanced ecosystem.



Managed Water Sustainably

Drainage features, such as rain gardens have been included.



Promoted Social Infrastructure and Wellbeing

Play spaces for a range on age groups. Inclusion of cycle route through the site.



Enabled Access to Nature

A range of public and private amenity space for the community and residents has been provided on site



Integrated Opportunities for Food Growing

Food growing mix of planting has been included.



Wick Park

Project description

Application for full planning permission for demolition of existing buildings and mixed use redevelopment comprising construction of a new building ranging in height from five to seven storeys to provide 1,908 sqm (GIA) of commercial space (use class B1c Business), 330 student rooms (279 en suite, 34 shared bathroom, 11 wheelchair accessible and 6 wheelchair accessible studios) (Use Class Sui Generis) provision of B1 yard and podium amenity space, along with public realm improvements, blue bay car parking, cycle parking, refuse/recycling stores and new substation.

Link to application:
[LL/19/00185/FUL](#)

Site address:
Former Truman Brewery, Units 1 - 6, Stour Road, London, E3 2NT

LPA:
Tower Hamlets Borough Council. Deciding authority London Legacy Development Corporation

Inner/outer London:
Inner

Type of application:
Detailed planning application

Decision:
Granted (27/08/2020)

Status:
Completed

Developer:
Southern Grove Hackney Wick Ltd

Building Class(es):
Primarily student accommodation

Typology:
Student/co-living tower

Density:
1,434.8 hr/ha

Wick Park

Urban Greening Factor

00.10.20.30.40.50.60.70.80.91

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- A Landscape Strategy was submitted as part of the application, detailing the provision of soft and hard landscaping on site, however this did not include the UGF metric.

- GLA commented to say a UGF score of 0.4 should be met.

- States that application meets the policy by the soft landscaping proposals resulting in a UGF score of 0.43.

- Condition 27 seeks further detail of the landscape scheme prior to commencement above ground works.

- While a few non-material amendment applications where submitted, none sought to change the landscaping or UGF score on site.
- Condition 27 was discharged with officers stating ‘Officers and LLDC’s Design who are satisfied that the proposed landscaping details to be of an acceptable high quality that is in keeping with the landscaping elements of Fish Island as a whole’.

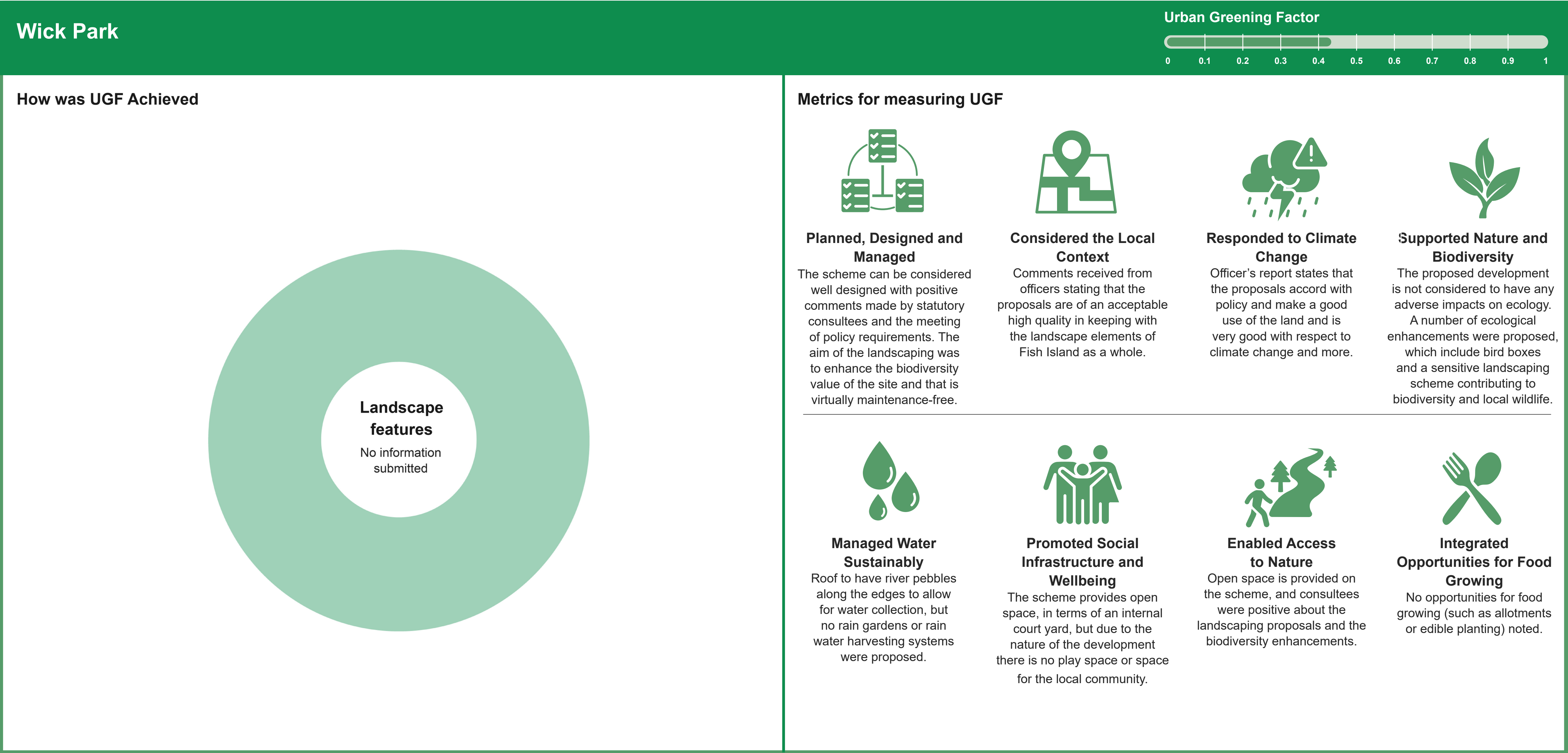
Interaction with other Policies

- Application was submitted before BNG was a statutory requirement
- PV panels are proposed with a condition requesting for further information to be submitted.

Key

Green: Meets policy requirements

- UGF of 0.40 to 0.49 (meeting or exceeding policy; 0.30 for commercial and industrial
- Complies fully with UGF or green space policies; well-integrated into design and delivery.





Former Service Station Coombe Road

Project description

Erection of a part four, part five and part six-storey building comprising 29nos residential flats (Use Class C3a), inclusive of three wheelchair accessible units, together with flexible commercial use (Use Class E), landscaping, amenity spaces and cycle parking.

Link to application:
[23/01189/FUL](#)

Site address:
Site of Former Service Station, Coombe Road, Kingston Upon Thames, KT2 7AB

LPA:
The Royal Borough of Kingston upon Thames

Inner/outer London:
Outer

Type of application:
Detailed planning application

Decision:
Granted (10/12/2024)

Status:
Post approval

Developer:
Zest Coombe Road Ltd

Building Class(es):
Residential (Use Class 3a)

Typology:
Residential block – 4-12 storey



Former Service Station Coombe Road

Urban Greening Factor

00.10.20.30.40.50.60.70.80.91

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- The application includes landscape drawings detailing the measures contributing to its UGF score. Further information on the UGF score was also included in the Design and Access Statement.

- No comments or consultation responses have been published on the portal. The committee report outlines that some resident objections related to loss of trees and lack of green space within the design.

- Comments received from Kingston’s biodiversity officer confirmed that the calculated UGF factor was in line with the requirements of the London plan.
- Some concern was expressed about the loss of trees on site and the impact of this on biodiversity value, but it was considered that the mitigation measures proposed, indicated by the UGF score, provided satisfactory mitigation.

- Condition 39 of the planning permission granted requires the submission of a Landscape and Ecological Management Plan that would set out the detailed establishment and management of all on-site compensation and enhancement measures, confirming the UGF. This condition requires the applicant to ensure/ demonstrate that their proposal will meet the stated UGF score.

- No discharge of condition applications have been submitted for this site at the time of writing.

Interaction with other Policies

- The design measures contributing to the scheme’s UGF score also contribute to a BNG habitat uplift of 184%.
- The UGF score also contributes positively to biodiversity requirements, with the ecology officer noting that the loss of trees was offset by the additional tree planting.
- PV panels are proposed on the roof of the building.

Key

Gold: Above and beyond / Best practice

- UGF over 0.50 (above policy requirement)
- Exceeds policy requirements significantly; demonstrates innovation, integration, and long term stewardship.

22

Former Service Station Coombe Road

Urban Greening Factor

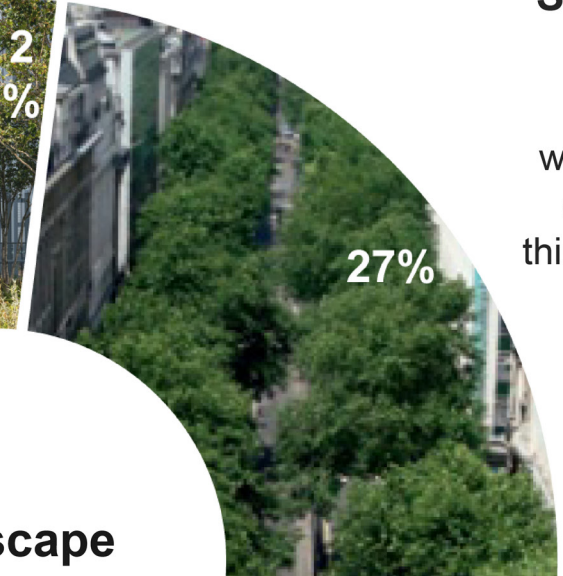
00.10.20.30.40.50.60.70.80.901

How was UGF Achieved

Standard trees planted in natural soils

or in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree.

27%



Extensive green roof

Substrate minimum settled depth of 80mm (or 60mm beneath vegetation blanket)

35%



Flower-rich perennial planting

5%

Hedges

Line of mature shrubs one or two shrubs wide.

5%



Greenwall

18%

Groundcover planting

3%

Permeable paving

4%

Semi natural vegetation

2%

Metrics for measuring UGF



Planned, Designed and Managed

Maximises the space available, balconies, public space, private amenity areas and designated play space, with sedum green roofing.



Considered the Local Context

Provides new planting including trees along the public frontage.



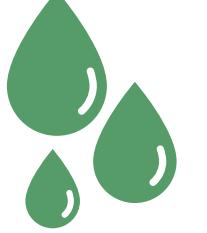
Responded to Climate Change

Use of PV panelling and additional greenery.



Supported Nature and Biodiversity

Biodiverse planting to create a diverse and balanced ecosystem.



Managed Water Sustainably

SuDs included in the form of permeable paving and green roofs.



Promoted Social Infrastructure and Wellbeing

Play space included within the design.



Enabled Access to Nature

Green enhancing features provided along the public space

Play space will be accessible for the public.



Integrated Opportunities for Food Growing

No opportunities for food growing (such as allotments or edible planting) noted.

23



Symal House

Project description

Demolition of No. 421 and 423 (Symal House) Edgware Road and erection of a building of up to 20 storeys (plus basement) to provide residential dwellings, with convenience food store and flexible commercial units at ground floor, together with associated car / cycle parking (basement and ground floor); vehicular access (Carlisle Road / Holmstall Avenue) and highways works (including provision of delivery bay to Carlisle Road / Holmstall Avenue); private amenity space; public realm and landscaping, subject to Deed of Agreement dated xx, under Section 106 of Town and Country Planning Act 1990, as amended.

Link to application:
[22/1065](#)

Site address:
Symal House and 421 Edgware Road,
London, NW9

LPA:
London Borough of Brent

Inner/outer London:
Outer

Type of application:
Detailed planning application

Decision:
Granted (18/11/2024)

Status:
Post approval

Developer:
Edgware Stone Developments Ltd

Building Class(es):
Residential (Use Class C3)

Typology:
Residential tower – 13+ storeys

Density:
High density

Symal House

Urban Greening Factor

00.10.20.30.40.50.60.70.80.901

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- Detailed landscape strategy submitted to support the planning application, which covers UGF, stating the achieved UGF score was 0.38. This document does not explain the reason for the shortfall.

- GLA comments that the applicant should seek to improve the quality or quantity to increase the UGF where possible and remove the proposed green walls. The GLA made suggestions that improving the quality of the green roof with planting and permeable paving may help to improve the quality.

- The committee report summarised the UGF score and the response from the GLA, and concluded that a revised UGF score was due to be submitted which would show a further reduction, but that due to the site constraints the UGF potential had been optimised and will be lower due to the nature of the site. The landscape strategy submitted in November 2024 kept the UGF score at 0.38.

- Condition 25 requires hard and soft landscaping details to be submitted within 18 months of the works commencing.

- A subsequent prior approval application has been submitted and approved on part of the site for the conversion of Symal House (24/3659). UGF was not approved as part of the prior approval application. No further applications were found relating to the detailed consent approved in November 2024.

Interaction with other Policies

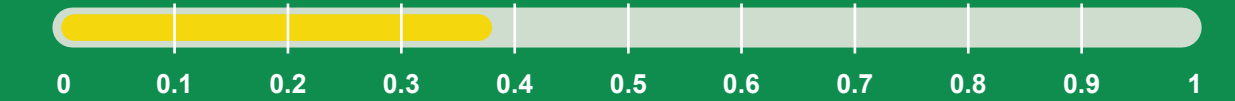
- The provision of PV panels has been included on empty roof space, and it was stated that the provision was maximised.
- Through ecological enhancements there was a BNG of 307.1%.

Key

Yellow: Considered but incomplete

- UGF of 0.30 to 0.39 (not quite meeting policy)
- UGF or green space is acknowledged in the development, but either doesn't meet policy or lacks sufficient detail to confirm compliance.

Urban Greening Factor



Metrics for measuring UGF



The submitted landscape strategy provides a significant amount of detail of the proposed landscape scheme and future management plan, which sets out the long-term objectives for the site.

The development would appear taller than blocks in the immediate surrounding context, therefore it was considered to strike the right balance between the taller blocks to the south.

The planting scheme has been planned to meet the anticipated micro-climate of the area.

A 301.7% BNG is proposed, including bat and bird boxes; low-impact lighting; biodiverse planting, deciduous and evergreen trees, a stag beetle loggery, rubble piles, a water depression for bird bathing, and an invertebrate box.



Managed Water Sustainably
Water butts will be included for rainwater harvesting and raingardens will be included as part of the landscaping scheme.

Promoted Social Infrastructure and Wellbeing

Permeability and landscaping have been planned as part of the site, play spaces have been included on the podium and roof gardens, therefore are only accessible to the residents.



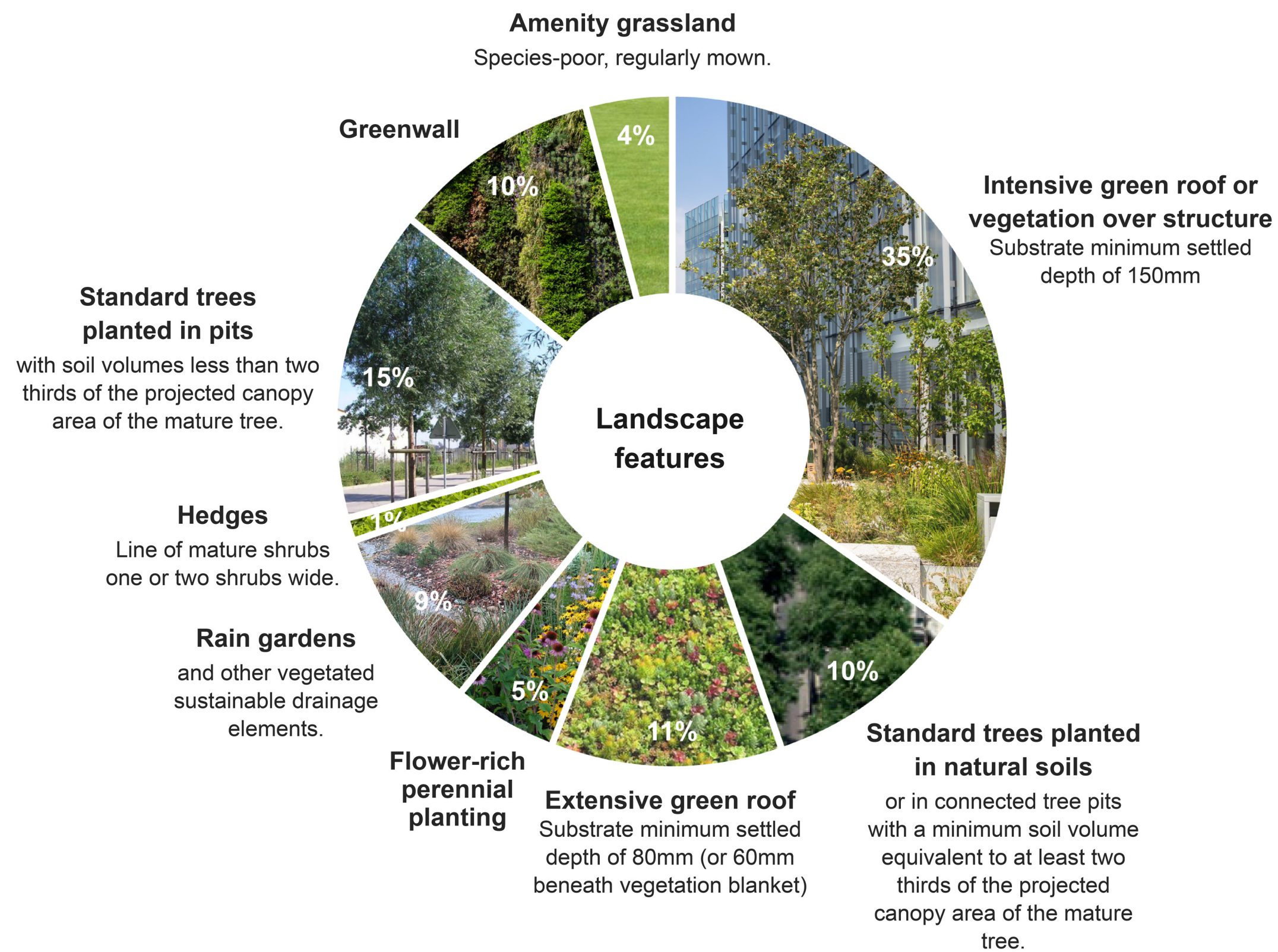
Enabled Access to Nature

Landscaping and biodiversity have been provided as part of the scheme. This is largely for the residents, rather than publicly accessible open space.



Integrated Opportunities for Food Growing

No opportunities for food growing (such as allotments or edible planting) noted.





The Printworks

Project description

Full planning application for the demolition of existing buildings and structures to the rear of 819-829 High Road; the demolition of 829 High Road; and redevelopment for purpose-built student accommodation (Sui Generis) and supporting flexible commercial, business and service uses (Class E), hard and soft landscaping, parking, and associated works. To include the change of use of 819-827 High Road to student accommodation (Sui Generis) and commercial, business and service (Class E) uses.

Link to application:
[HGY/2023/2306](#)

Site address:
819-829 High Road, Tottenham, London,
N17 8ER

LPA:
London Borough of Haringey

Inner/outer London:
Outer

Type of application:
Detailed planning application

Decision:
Granted (4/03/2024)

Status:
Under construction

Developer:
High Road West (Tottenham) Limited

Building Class(es):
Sui Generis

Typology:
Student and co-living tower

Density:
High density is acceptable

The Printworks

Urban Greening Factor

00.10.20.30.40.50.60.70.80.901

Planning timeline

Submission

- The UGF information was included in the DAS, and supported by landscape drawings.

Consultation

- No consultee comments were raised about UGF.

Committee Report

- Committee report set out that the application exceeded the policy requirements.

Decision Notice

- Planning condition 14 (Biodiversity) and condition 19 (living roofs) both refer to policy G5. Condition 19 is split into two parts. Part 1 requiring the details and Part 2 requiring evidence that the roof has been provided as approved.
- Condition 27 is a specific UGF condition, requiring that prior to completion of the construction work, that an updated the UGF calculation is done to demonstrate the maximum UGF has been met.

Post Decision

- None of the relevant conditions have been discharged at this stage and while an NMA has been submitted, the UGF was not mentioned as being amended as part of this application.

Interaction with other Policies

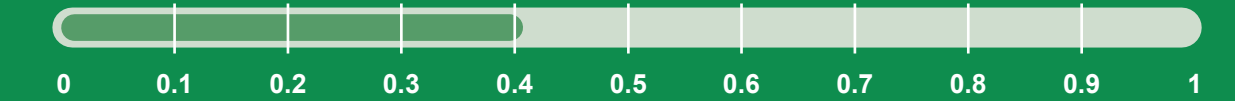
- An array of 169 panels was proposed and would cover approx. 486.5sqm of the roof. Which meetings minimum 20% reduction from on-site renewable energy generation to comply with Policy SP4. It is required that the roof space is maximised to install solar PV.
- A BNG score was not provided as part of the application, however a condition was added to the decision notice requiring these details.

Key

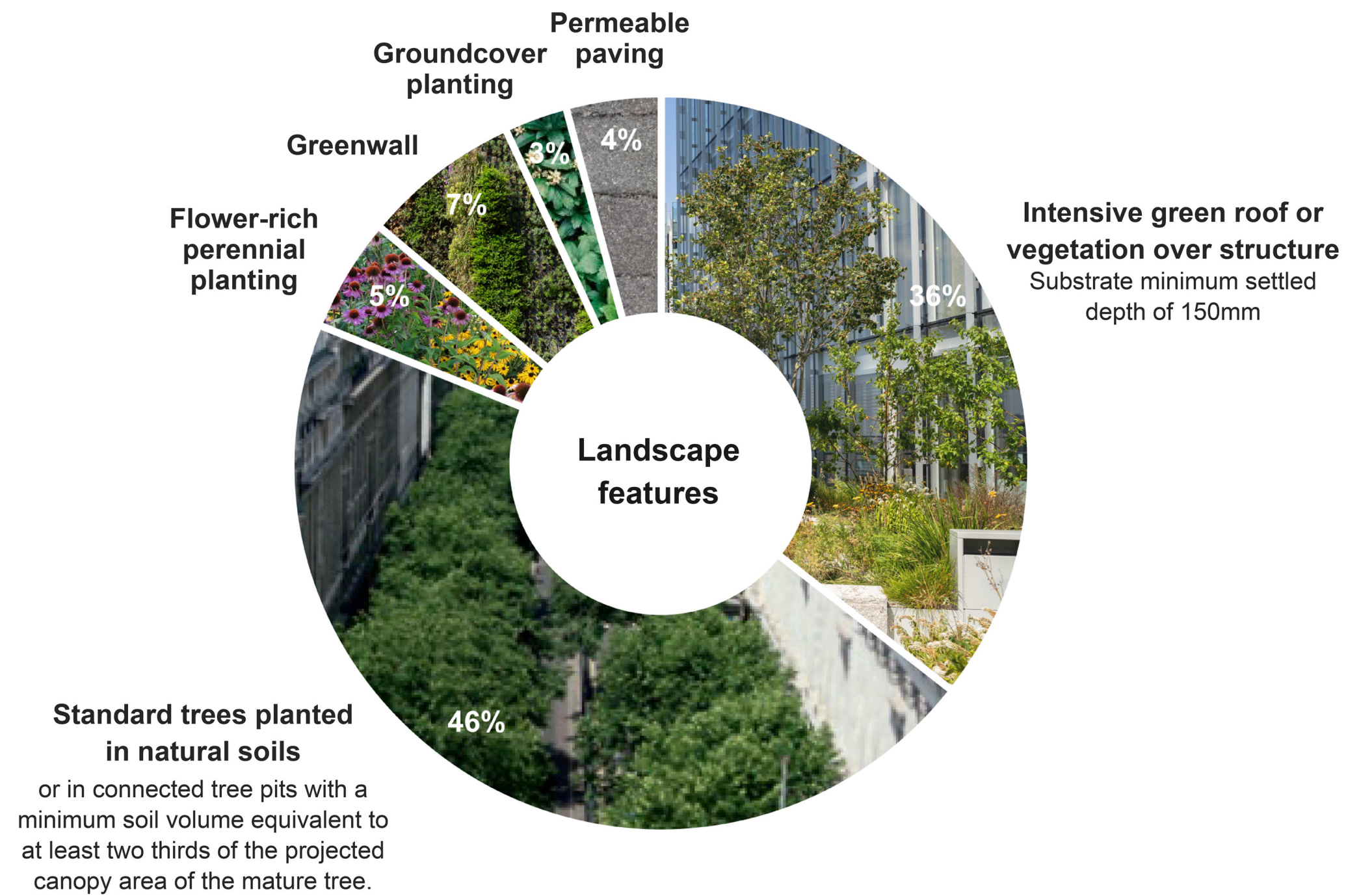
Green: Meets policy requirements

- UGF of 0.40 to 0.49 (meeting or exceeding policy; 0.30 for commercial and industrial
- Complies fully with UGF or green space policies; well-integrated into design and delivery.

Urban Greening Factor



Metrics for measuring UGF



29



85 Gracechurch Street

Project description

Phased development comprising; Demolition of existing building and the erection of a new building comprising basement levels and ground floor plus upper storeys including office use (Class E(g)(i)); flexible retail use (Class E(a), Class E(b), drinking establishments and hot food takeaway); Public Hall (sui generis); a Cultural Space (sui generis); and a public exhibition associated with archaeological findings (Sui Generis), with cycle parking, servicing, refuse and plant areas, public realm improvements and other works associated with the development including access and highways works.

Link to application:
[25/00433/FULEIA](#)

Site address:
85 Gracechurch Street, London, EC3V 0AA

LPA:
City of London

Inner/outer London:
Inner

Type of application:
Detailed planning application

Decision:
Approved (24/11/2025)

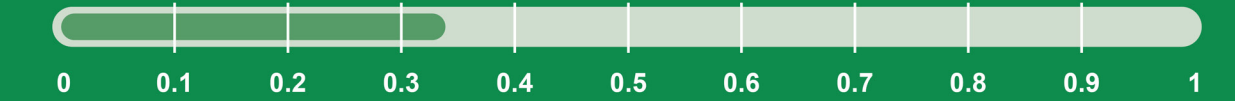
Status:
Under construction

Developer:
Hertshten Properties Limited

Building Class(es):
Commercial (Class E)

Typology:
Commercial

Urban Greening Factor



The diagram illustrates the five stages of the planning process, each marked by a green circle and a corresponding list of events:

- Submission**
 - Detailed landscape and UGF specific Design and Access Statement submitted clearly setting out the landscape scheme and how UGF is being achieved on site.
 - The UGF score of 0.33 meets the 0.3 score that is required for commercial schemes. Using the City of London's scoring the UGF score goes up to 0.37. Also including land outside the site boundary, but still within the ownership of the landowner, the score increases to 0.46 as per the GLA's score.
- Consultation**
 - GLA confirmed within Stage 1 report that the scheme was compliant with London Plan UGF policy.
- Committee Report**
 - This site was not heard at committee.
- Decision Notice**
 - The planning permission included the following conditions related to urban greening:
 - Submission of a Climate Change Resilience Sustainability Statement explaining further detail, management and maintenance of the proposed greening.
 - Submission of a holistic urban greening strategy prior to the commencement of development, including hard landscaping, materials and maintenance regime for all roof terraces and surfaces, blue roofs and public realm landscaping.
- Post Decision**
 - Neither of the conditions relating to urban greening have been discharged at the point of writing.

- The urban greening measures positively impact on related policy around biodiversity, cooling, noise attenuation, sustainable drainage, general amenity, as well as overall design quality.
- The applicant set out that the site would achieve a biodiversity net gain of 5,476%.

- A previous application for this scheme was submitted and approved by City of London (ref: 22/01155/FULEIA), which achieved an Outstanding UGF score of 0.88. However, due to finding the remains of a Roman Basilica the scheme was amended, still achieving a policy compliant 0.3, but the applicant increased the public offering, by leaving the Basilica accessible to mitigate the loss.

- **Green:** *Meets policy requirements*
 - UGF of 0.40 to 0.49 (meeting or exceeding policy; 0.30 for commercial and industrial
 - Complies fully with UGF or green space policies; well-integrated into design and delivery.

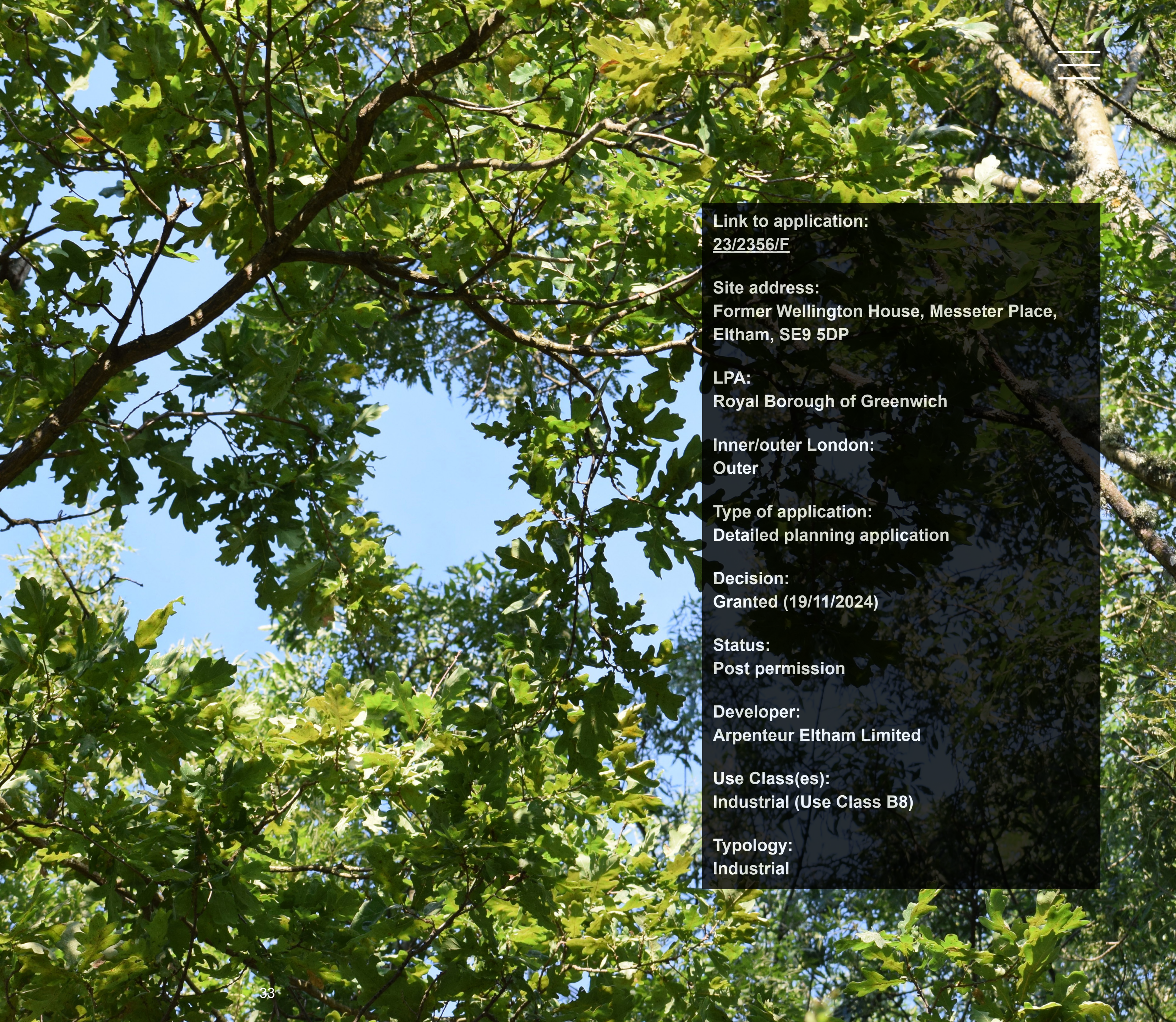




Messeter Place

Project description

Construction of a self-storage facility (Use Class B8) with flexible office space (Use Class E(g) (i)), and associated vehicle access, service bay, car parking and cycle parking. Further detailed explanation of the proposal (not forming part of the formal description of development set out above): Planning permission is sought for the construction of the storage building with solid floors at basement and ground levels only. Planning permission is sought for the permanent floorspace which amounts to a total of 2,517 sqm (GIA), including 1,466 sqm (GIA) of self-storage space, 476 sqm (GIA) of flexible office space and 575 sqm (GIA) of ancillary space, loading area and service bay. Including potential future demountable storage space, the facility could provide a total of 4,985 sqm (GIA). The flexible office space is not ancillary to the self-storage facility use. The building is proposed to be five storeys with basement. (The development may impact on the setting of the Eltham Palace Conservation Area; Conservation Areas, Eltham Conservation Area; Well Hall Pleasurance Conservation Area; Progress Estate Conservation and Listed Buildings, Eltham Library, Covent of St Mary, Presbytery to East of Christchurch Priory and Walls around Garden to North of Presbytery, Eltham High Street and Christchurch Priory).



Link to application:
[23/2356/F](#)

Site address:
Former Wellington House, Messeter Place,
Eltham, SE9 5DP

LPA:
Royal Borough of Greenwich

Inner/outer London:
Outer

Type of application:
Detailed planning application

Decision:
Granted (19/11/2024)

Status:
Post permission

Developer:
Arpenteur Eltham Limited

Use Class(es):
Industrial (Use Class B8)

Typology:
Industrial

Messeter Place

Urban Greening Factor

00.10.20.30.40.50.60.70.80.91

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- Details of the green roof are included within the Design and Access Statement and accompanying drawings.
- The application includes a separate UGF Assessment detailing the quantity and quality of urban greening, soft landscaping and habitat creation on site.

- Urban greening was not raised by consultees during the application process, beyond some comments on the green roof from an urban design perspective.

- The committee report notes that the London Plan requirement for 0.3 minimum UJGF score does not apply to B2/B8 uses, but that developers are still required to set out how greening measures have been incorporated into overall design. The report finds that the UGF score is mainly covered by the green roof, which ensures that the policy is met.

- Condition 10 of the Decision Notice requires the development to comply with the sustainability measures outlined within the UGF assessment.
- Condition 30 requires that the development will need to meet the UGF score specified – the details of which should be secured by an ecological management plan.

- No further applications have been submitted in relation to this consent.

Interaction with other Policies

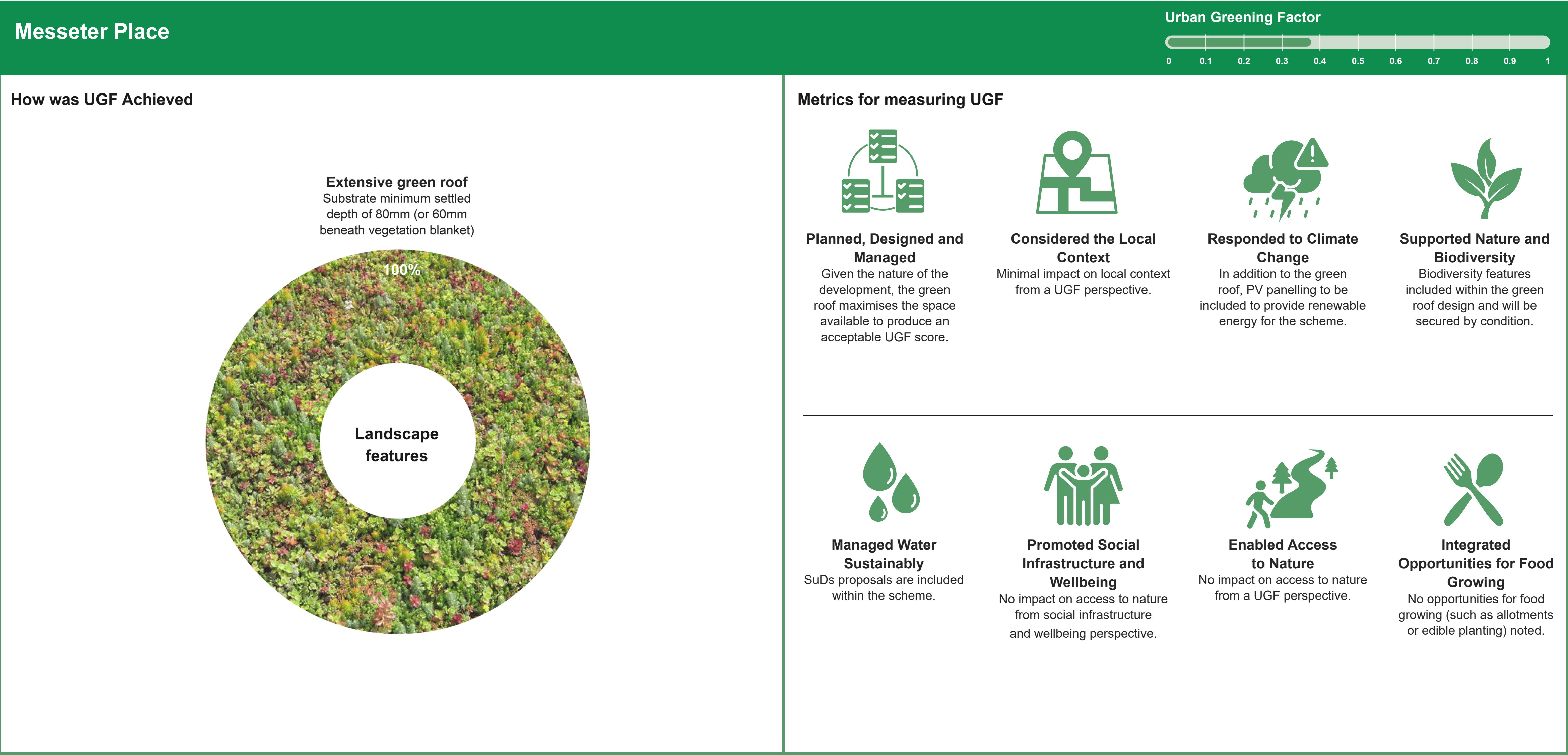
- The green roof also helps meet policy G6 of the London Plan and Core Strategy policy OS(f), in relation to improved biodiversity.

Key

Green: Meets policy requirements

- UGF of 0.40 to 0.49 (meeting or exceeding policy; 0.30 for commercial and industrial
- Complies fully with UGF or green space policies; well-integrated into design and delivery.

34

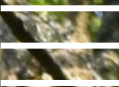
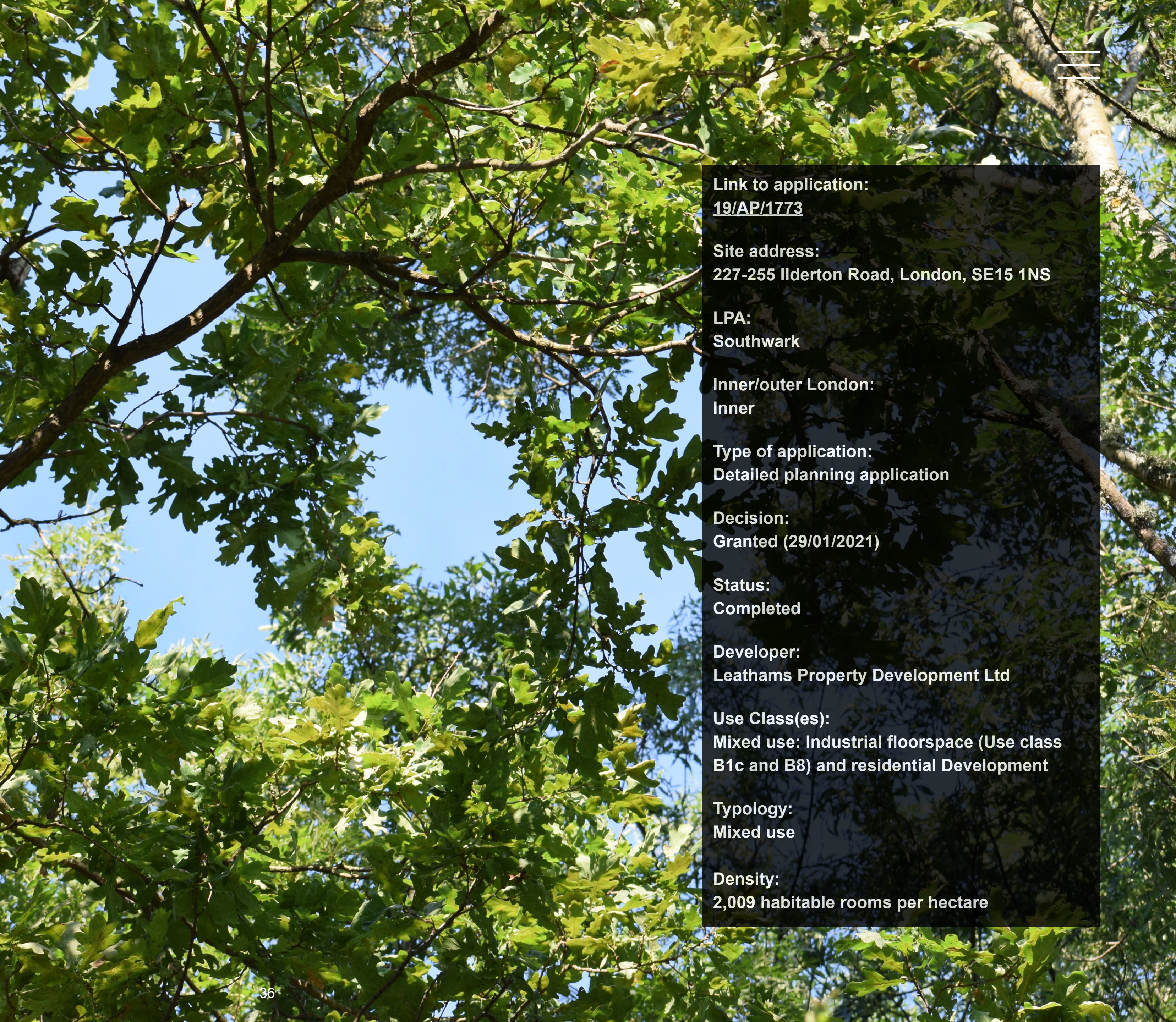




Bermondsey Heights

Project description

Demolition of existing buildings and the erection of a part 2/3, 9 and 28 storey (up to 94.65m AOD) mixed-use development comprising of 3,581 sqm including 2,538 sqm of industrial floorspace (Use Classes B1c/B8) at ground and intermediate levels, 598 sqm of internal loading yard, 445 sqm ancillary plant and equipment; and 253 residential apartments (C3), 35.75% affordable by habitable room, and other associated infrastructure. This application represents a departure from strategic policy 10 ‘Jobs and Businesses’ of the Core Strategy (2011) and Saved Policy 1.2 ‘Strategic and Local Preferred Industrial Locations’ of the Southwark Plan (2007) by virtue of proposing to introduce residential accommodation in a preferred industrial location.



Link to application:
[19/AP/1773](#)

Site address:
227-255 Ilderton Road, London, SE15 1NS

LPA:
Southwark

Inner/outer London:
Inner

Type of application:
Detailed planning application

Decision:
Granted (29/01/2021)

Status:
Completed

Developer:
Leathams Property Development Ltd

Use Class(es):
Mixed use: Industrial floorspace (Use class B1c and B8) and residential Development

Typology:
Mixed use

Density:
2,009 habitable rooms per hectare

Bermondsey Heights

Urban Greening Factor

00.10.20.30.40.50.60.70.80.91

Planning timeline

Submission

Consultation

Committee Report

Decision Notice

Post Decision

- Urban Greening Factor plan was submitted as part of the planning application.

- UGF was not raised by any consultee, including the GLA.

- UGF was not raised in the Officer's report.

- Condition 14 has been added to require details of the green/ brown roof, with a requirement for a post-completion assessment to be submitted to confirm the roof has been constructed as agreed.

- A number of NMAs were submitted but not changed or referred to the UGF.
- Condition 14 was part discharged, with a requirement to be fully discharged post completion. The condition was fully discharged in June 2025.

Interaction with other Policies

- PV and Air Source Heat Pump are proposed as part of the scheme
- Affordable housing provision of 40%
- Approval was granted prior to the statutory requirement for 10% BNG, however it was noted that a net gain would be achieved

Key

Green: Meets policy requirements

- UGF of 0.40 to 0.49 (meeting or exceeding policy; 0.30 for commercial and industrial)
- Complies fully with UGF or green space policies; well-integrated into design and delivery.

Bermondsey Heights

Urban Greening Factor

00.10.20.30.40.50.60.70.80.901

How was UGF Achieved

Flower-rich perennial planting

1%

Permeable paving

5%

Intensive green roof or vegetation over structure

Substrate minimum settled depth of 150mm

42%

Standard trees planted in natural soils

or in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree.

2%

Extensive green roof

Substrate minimum settled depth of 80mm (or 60mm beneath vegetation blanket)

49%

Landscape features

Planned, Designed and Managed

It was stated in the Officer's report that the existing public realm would be significantly improved as part of the development.

Considered the Local Context

The Officer's report concluded the proposed development offer a variety of scales and appreciation of the existing and emerging local context.

Responded to Climate Change

The applicant submitted information relating to SAP, overheating, notional cooling and ASPH to meet the climate change requirements.

Supported Nature and Biodiversity

Ecological and biodiversity landscaping is proposed that focuses on enhancing the ecological value of the development. Including a mix of planting, trees and bird boxes.

Managed Water Sustainably

The Drainage Officer was encouraged that green field run off rates would be met.

Promoted Social Infrastructure and Wellbeing

While the scheme is urban in nature, from the submitted information and the responses from statutory consultees it can be concluded that there is an increased provision of nature.

Enabled Access to Nature

While the scheme is urban in nature, from the submitted information and the responses from statutory consultees it can be concluded that there is an increased provision of nature.

Integrated Opportunities for Food Growing

No opportunities for food growing (such as allotments or edible planting) noted.

38



Plots A and B Middlesex Business Centre

Project description

Application for the Approval of Reserved Matters for the construction of a residential-led mixed use development comprising residential (Class C3), hotel (Class C1) and commercial uses (Classes A1-A5, now Class E(a), (b), (c), sui generis drinking establishment/hot food takeaway), the internal road network including Healum Avenue, and all associated infrastructure, plant, parking, and hard and soft landscaping, for Development Plots A and B of Planning Permission ref. 183673OUT dated 29 November 2019 submitted pursuant to Conditions 1 (Statutory Time Limits) and 2 (Reserved Matters Approvals - Layout, Access, Scale, Appearance and Landscaping); and the partial discharge of Conditions 7 (Reserved Matters Details), 10 (a-c) (Open Spaces Design), 46 (Overheating & Cooling), and 47 (a) (Energy Strategy), in so far as they relate to Development Plots A and B.

Link to application:
[224785REM](#)

Site address:
Plots A And B Middlesex Business Centre,
Southall UB2 4AB

LPA:
London Borough of Ealing

Inner/outer London:
Outer

Type of application:
Reserved matters planning permission

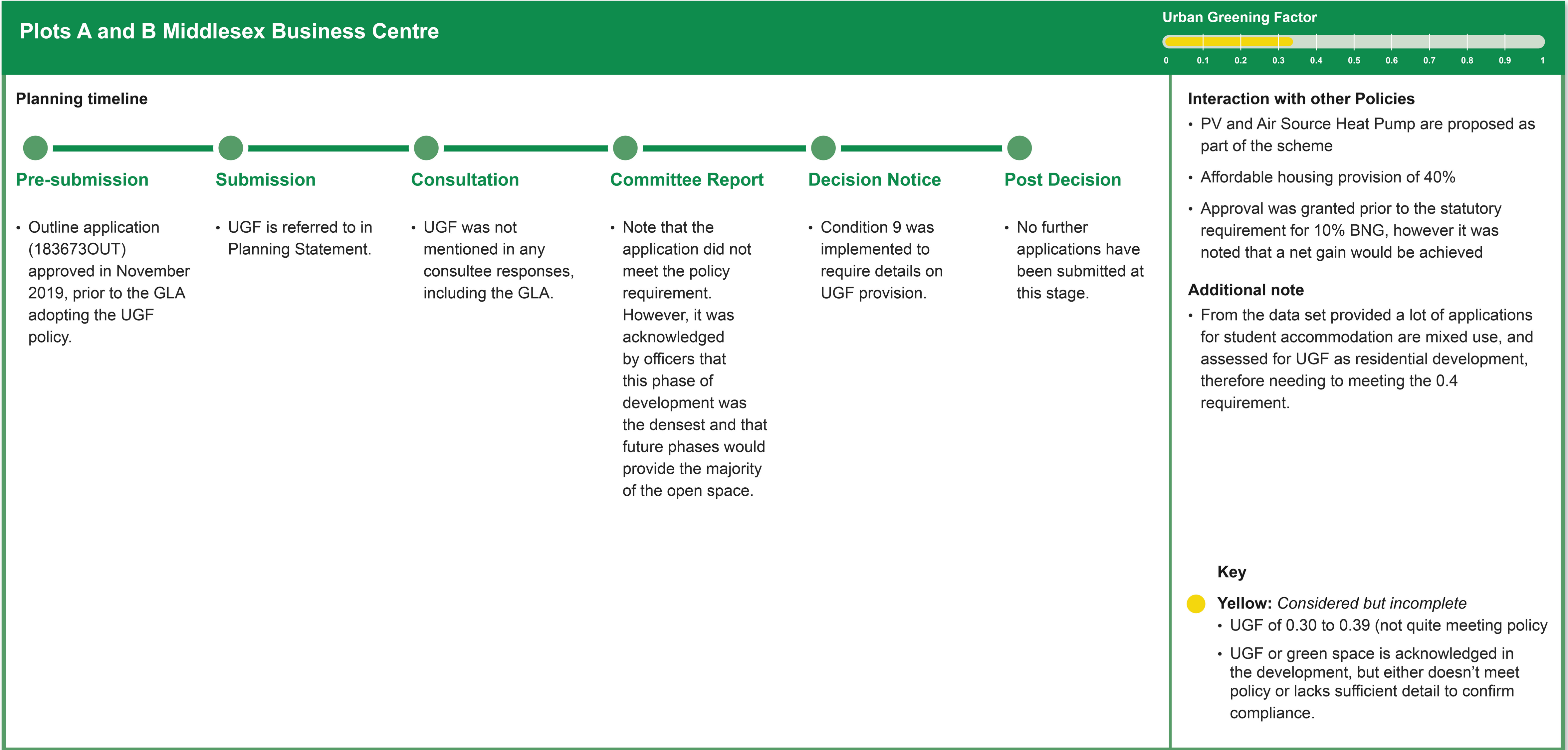
Decision:
Granted (09/11/2023)

Status:
Wider site under construction

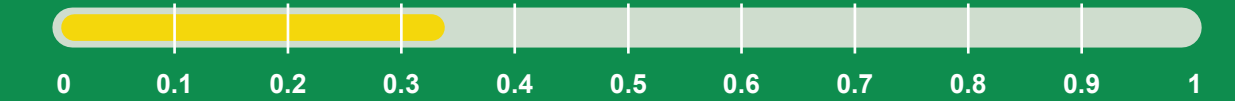
Developer:
Montreaux Developments Limited

Use class(es):
Mixed use: Residential, hotel, commercial
uses and sui generis

Typology:
Mixed use



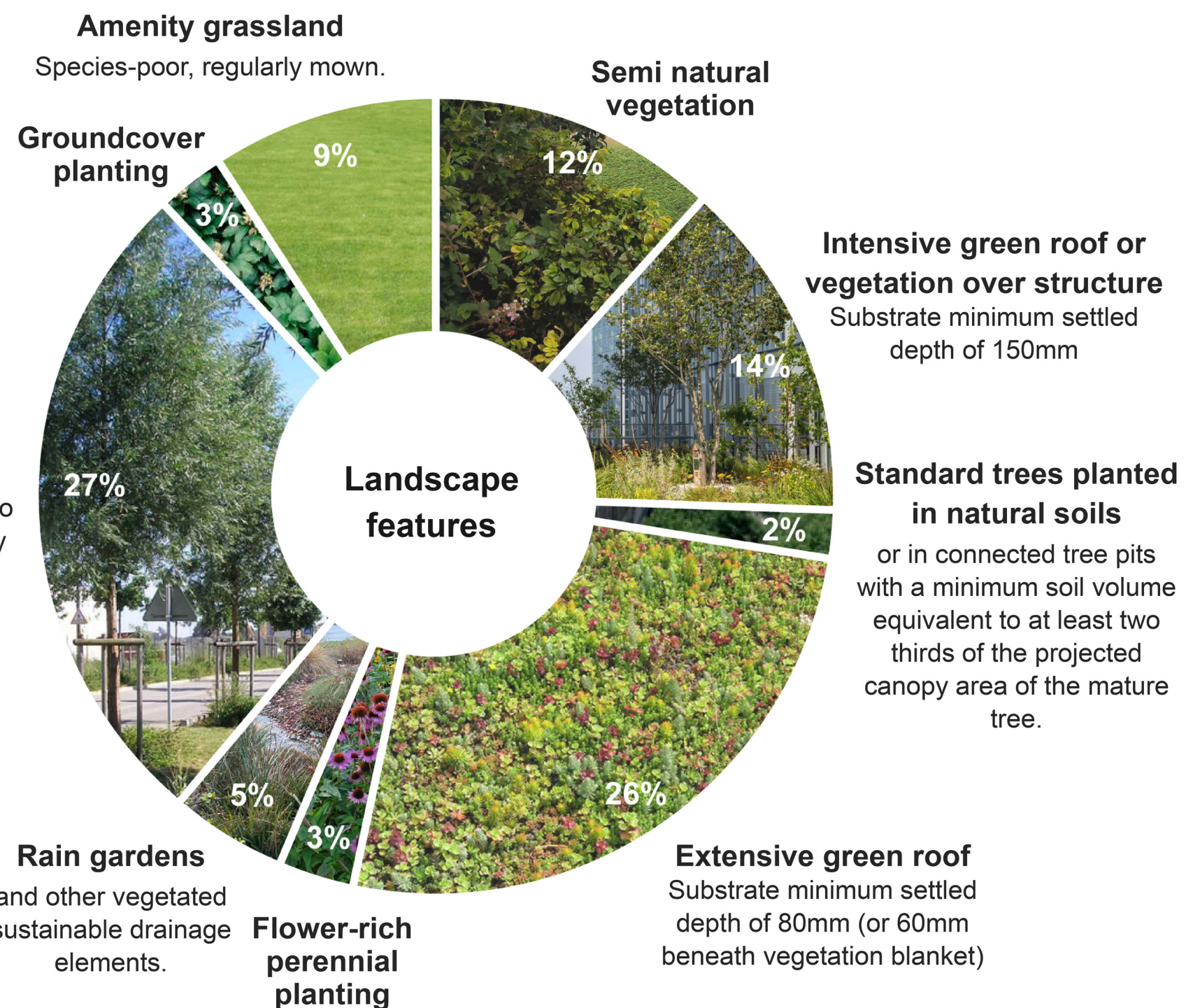
Urban Greening Factor



Metrics for measuring UGF



**Standard trees
planted in pits**
with soil volumes less than two
thirds of the projected canopy
area of the mature tree.



The DAS goes into a great level of detail of the landscape concept and how it is being inspired by the site's industrial and cultural background.

The development has been designed to contribute to the adaptation and mitigation of the effects of climate change by the specification of high performing elements to minimise heat gains and losses.

The PEA highlights the site's location between three non-statutory designated sites, allowing the landscaping strategy to enhance habitat connectivity and buffers. Measures include native planting, good horticultural practice, green roofs, and wildlife boxes.



Managed Water Sustainably

Green roofs, geo-cellular tanks, and permeable paving will manage surface water while enhancing biodiversity and amenity. Rainwater harvesting is planned across the scheme.



Promoted Social Infrastructure and Wellbeing

Residential court yards are provided with play space, but there is no mention of public space being provided for the wider community.



**Enabled Access
to Nature**
Landscaping, ecological and
biodiversity enhancements
incorporated where
practical within the
proposed development.



Integrated Opportunities for Food Growing

No opportunities for food growing (such as allotments or edible planting) noted.

Case study findings

Quantitative findings

- The table summarises how many times each of the surface cover types set out in Policy G5 metric was used in the case studies.
- Intensive green roofs were used most regularly, with 8 out of the 10 case studies using this means of green infrastructure.
- Extensive green roofs with sedum mat without substrate and sealed paving were not used in any of the case studies.

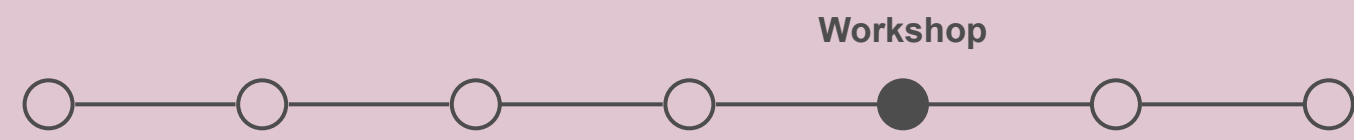
Qualitative findings

- Green Bank in Lewisham used two additional surface cover types (as highlighted in green on the table) when measuring UGF.
- No standard method of how UGF data is submitted to a council, and the information can be difficult to find within application documents.

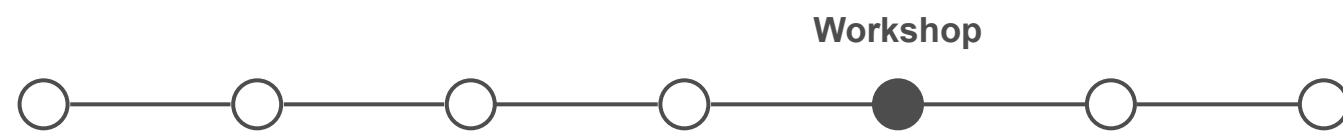
- There is no standard wording for UGF related conditions, nor any consistency with these being applied across different Boroughs.
- The information submitted for UGF across the identified case studies is inconsistent, with some supporting details missing, making comparisons difficult. Introducing a required standard for applications would ensure greater clarity and benefit overall assessment.
- It appears that no applicants have gone back to the LPA to change the UGF. However, at one site, 85 Gracechurch, the UGF has been reduced because a large replan of the site was necessary due to the discovery of Roman remains, which led to a change in massing.
- None of the developments have cited the UGF as being a barrier to meeting other policy requirements.

Table 3. Quantitative findings

SURFACE COVER TYPE	TOTAL
Semi natural vegetation	2
Wildflower meadow	1
Wetland or Open Water	1
Intensive green roof over structure, minimum depth of 150mm	8
Standard tree planted in natural soils min 25m³ soil volume	6
Extensive green roof minimum 80mm	6
Flower rich perennial planting	7
Rain Gardens	3
Hedges	4
Standard trees (med: 4.0m)	5
Standard trees (lar: 6.0m)	1
Greenwall	3
Groundcover planting	4
Extensive green roof sedum mat without substrate	0
Water features (chlorinated) or unplanted detention basins	3
Amenity grassland	1
Permeable paving	5
Sealed Surfaces	0



Workshop

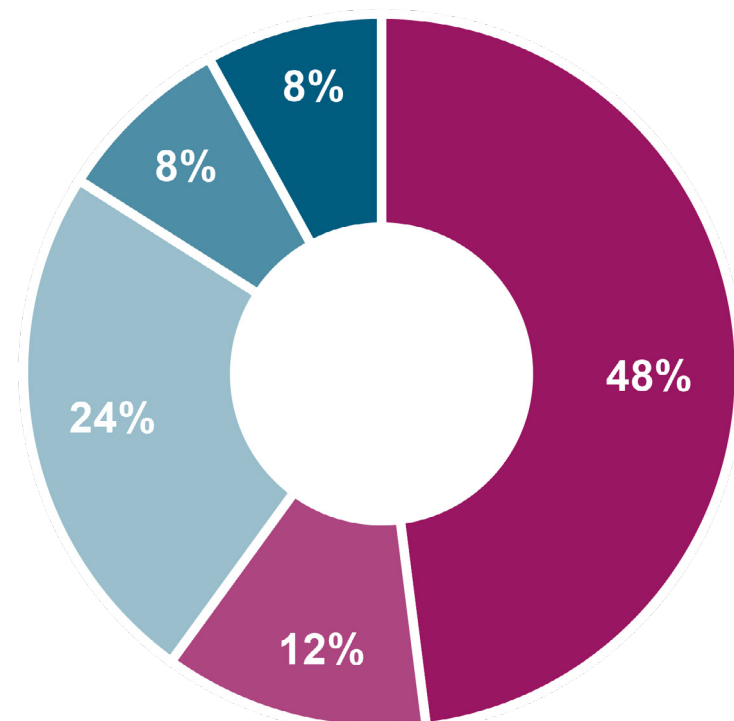


Workshop

Following selection of the case studies, the selection of workshop participants took place. For each case study, we identified the developer, consultant teams and a local authority contact and invited them to take part in the workshop.

Attendance

A total of 25 participants attended the workshop, which was held at Arup's office on 15th July 2025. The breakdown below shows a fairly even split between public and private sector attendees.



Private sector

- Consultancies
- Industrial developers
- Residential developers and landowners

Public sector

- Local authority
- Greater London authority

Methodology

Workshop participants took part in three group discussions, based around the following questions:

- What are the barriers to meeting or exceeding the minimum UGF targets?
- How do UGF requirements sit alongside other policy and legislative requirements?
- What does success look like to you, per project stage? How should urban greening be delivered?

Participants were split into groups of developers/consultants and local authority Officers.



Workshop outcomes

Strengths of the current policy

The workshop participants confirmed that the UGF remains a valuable tool in supporting the delivery of green infrastructure, aligning with broader government recommendations and sustainability goals.

Participants did not view UGF requirements as having a significant impact on the viability of development.

Participants felt that the UGF was a good tool that empowers landscape architects to prioritise greening. Without the UGF, it was felt that developer clients may attribute less value to incorporating greening into new developments.

Participants also highlighted that incorporating urban greening can result in economic benefits for development – there is an increasing expectation that development of all forms incorporates high quality open space and habitats, and the provision of this results in higher yields.

In terms of what ‘success’ looks like for the Urban Greening Factor, participants focused on the following:

- Effectiveness of policy: could be improved through a focus on quality as well as quantity, a shift from ‘should’ to ‘must’, linking to design codes, allowing off-site provision or contributions where this would link to a wider green infrastructure strategy in the locality, securing monitoring contributions, forums for LPAs to share best practice case studies of sites achieving good UGF scores, innovative ways of incorporating UGF and example planning conditions.
- To enhance the success of Policy G5, participants suggested that the policy should have a broader focus and stronger links to wider sustainability aims and regenerative design principles. Potential mechanisms include embedding UGF requirements within design codes, using planning conditions to secure long-term stewardship, and encouraging early engagement through pre-application advice.

Where ambitions such as community-led stewardship extend beyond planning powers, these could be supported through partnerships or supplementary guidance.

Spatial constraints

Space constraints were highlighted as a key barrier to achieving and exceeding targets, with particular challenges arising in relation to accommodating the UGF alongside:

- Play areas
- Servicing zones
- Waste provision
- Emergency access.
- Fire safety requirements, especially in relation green walls and roofs.
- Other competing demands on roof space - ASHPs, PV panels, amenity and play space.
- Utilities - as utilities guidance often results in over-engineered solutions diminishing the possibility to incorporate UGF.

Participants expressed concern over the prevalence of a tick-box approach to planning, which often undermines the delivery of sustainable and context-sensitive design solutions. One such example given was that UGF does not consider the embodied carbon implications of green infrastructure, such as the structural loading demands of green roofs, which may lead to undesirable outcomes for sustainability. For referrable schemes, these impacts are typically assessed through Whole Life Carbon assessments; therefore, a clearer recommendation could be to signpost applicants to consider WLC alongside UGF compliance and encourage design solutions that balance greening with carbon efficiency.

However, participants also considered that the simplistic nature of UGF was a positive attribute.

Competing policy demands

Participants acknowledged that there are competing priorities within the London Plan and Local Plans and felt that there is a lack of guidance as to how these can be reconciled.

Developers felt that there could be difficulties in meeting the overlapping UGF and BNG requirements (but no specific examples were given) and that BNG was often prioritised at the expense of UGF due to the statutory nature of the BNG requirement. However, participants noted that BNG is often not applicable for urban sites where the existing site is covered by sealed surface and, in these cases, UGF provides a good framework for achieving greening. It was also highlighted that, in most cases, if the UGF target is met then a 10% BNG is achieved by default. This suggests that UGF can reinforce BNG objectives rather than compete with them, particularly on urban sites where BNG is harder to achieve. Strengthening guidance on these synergies could help applicants and LPAs prioritise both policies effectively.

Developers felt that there was lack of clarity from LPAs on how to prioritise these policy requirements. This lack of clarity is compounded by conflicting comments given by internal Council consultees (eg. Urban Design Officers, Highways Officers) who each have their own priorities. Applicants would benefit from Case Officers providing a clear steer on the agreed priorities for the development.

Linked to this, participants felt that there was a lack of capacity within LPAs to enable meaningful pre-application consultation, especially with specialist officers, which means that it is not possible to establish these priorities for the development of the site at an early stage and factor in the relevant costs to the design.

It was also felt that review of schemes by Design Review Panels could help with prioritising policy ambitions.

Off-site provision emerged as a topic of discussion, with some participants suggesting that Boroughs could develop strategies for

UGF offsetting to enable more integrated green infrastructure networks and support wider sustainability aims. However, others raised concerns that allowing offsetting could reduce on-site greening and local benefits, potentially undermining the policy's intent if not carefully managed.

Issues of implementation

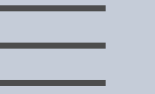
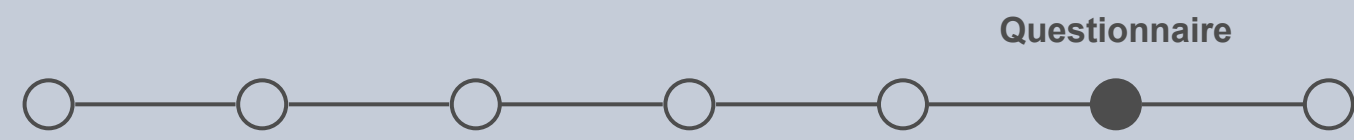
In implementing the UGF, the main challenges that emerged related to ensuring the long-term quality of the UGF through appropriate management.

Again, it was considered that maintenance introduces conflict with other policy requirements and best practice – irrigation required to maintain green infrastructure is often water intensive, a factor not considered in the UGF policy. The cost of irrigation, amongst other factors, may lead to a lower level of UGF being delivered than was stated at application stage.

Developers highlighted that insurers are often a block to creative design solutions, as there is an aversion to risk.

Across Local Authority participants, it was clear that there is an inconsistent approach to securing UGF and monitoring outcomes across Boroughs. Whilst some LPAs use planning conditions to secure the implementation of UGF (London Borough of Greenwich) and some undertake active monitoring (London Borough of Southwark), the majority of LPAs do not appear to do either.

There was no suggestion that UGF should be required on minor or householder applications, even when attendees were asked for their thoughts on how improve the policy.



Questionnaire

Purpose

Objectives of the questionnaire

- To support the GLA in evaluating the effectiveness of Policy G5: Urban Greening within the current London Plan.
- To gather direct insights from developers, consultants, and borough planning officers on how UGF standards are being implemented in practice.
- To identify barriers, enablers, and opportunities for improving the delivery of urban greening through the planning system.
- To inform recommendations on how planning conditions, monitoring mechanisms, or guidance could be enhanced to better support the policy’s intent.
- To complement findings from case studies and stakeholder workshops, forming a robust evidence base for the final report.

Despite extensive outreach efforts, including posts shared on LinkedIn by Arup and the GLA, the response rate to the questionnaire was modest, with only 20 responses received. This low level of participation may indicate a lack of concern or interest in the topic.

Key findings

Broad support for UGF as a policy tool

Both boroughs and developers generally agree that UGF is a useful mechanism for encouraging greening, especially on urban sites with low existing biodiversity. It’s seen as practical, familiar, and effective when integrated early in design, although there are some who consider it overly simplistic, rigid, and not sufficiently aligned with BNG.

London Plan targets dominate

All boroughs use the London Plan UGF targets due to satisfaction with this target, and a lack of guidance for setting bespoke scores. Developers also work to these targets, though some question their ambition and applicability to all site types.

Challenges with constrained and industrial sites

There is consensus that mixed-use, and some residential developments struggle to meet UGF targets due to limited space and roof conflicts. Industrial buildings experience

operational constraints to integrating more green infrastructure. Developers call for greater flexibility, while boroughs support applying UGF with adjusted expectations.

UGF encourages greening, but quality varies

Most boroughs feel UGF encourages high-quality greening. Developers agree it can support good design but note that quality depends more on the incentive of the developer, or likelihood that greening will bring financial returns, and technical feasibility, rather than the metric itself.

UGF and BNG policies overlap but lack coordination

Both groups recognise that UGF and BNG can be delivered together, but are often handled by different specialists. This separation can lead to missed opportunities for alignment, and there’s a shared call for better integration and clearer guidance.

Monitoring is widely supported but rarely done

Boroughs and developers alike support stronger monitoring and long-term maintenance of UGF, but cite lack of resources and enforcement mechanisms as key barriers. There’s interest in aligning UGF monitoring with BNG’s longer-term model.

Sentiment differs slightly between groups

Boroughs tend to view UGF as a positive and workable policy, even if imperfect. Developers are more mixed - some see it as flexible and useful, while others feel it lacks rigour, creates design conflicts (such as PV panels, Air Source Heat Pumps or other plant), or doesn’t go far enough.

What did Boroughs say?

General Attitudes Toward UGF

Boroughs are generally supportive of the UGF policy and see it as a useful tool for encouraging greening, particularly on urban sites with low existing biodiversity value. All respondents use the London Plan targets, citing this was due to their strong alignment with Local Plans, a lack of guidance for setting bespoke targets, and the credibility of established practice. While some noted that UGF doesn't always guarantee high-quality outcomes, it is generally considered effective when integrated early in the design process.

Challenges by Development Type

Boroughs noted that commercial developments often struggle to meet UGF targets due to large building footprints, high site coverage and limited space for greening. Industrial developments face additional constraints, including lightweight roof structures, operational requirements and pressure to maximise floorspace. While it was considered that UGF should generally be

considered for industrial sites, most boroughs supported a flexible approach, with indicative targets typically ranging from 0.15 to 0.3 depending on feasibility.

Greening Successes

Boroughs observed that larger residential schemes, particularly those over 13 metres, can offer greater potential for greening because their scale often introduces podiums, setbacks and roof areas that can accommodate landscaped space. Where this potential is realised, schemes tend to achieve higher habitat scores and more visible greening outcomes. However, boroughs also recognised that this potential is site-dependent and may be reduced where space is required for building services or constrained by wind and microclimate considerations.

Policy Integration and Design Conflicts

UGF and BNG policies are generally seen to align well, especially in terms of site assessment and proposed interventions. Views on complexity

vary, with some respondents finding BNG more technically involved, while others reported no difficulty in complying with both policies. UGF is not widely seen as a barrier to good design, though many respondents noted conflicts with rooftop PV panels and constrained ground-level space on urban sites.

Monitoring and Implementation

Monitoring of UGF post-construction is rare, with only one borough currently doing so, but seven out of nine respondents felt it should be implemented. Monitoring is viewed as important for ensuring delivery, preventing erosion of commitments, and informing future design and policy improvements. Key barriers to monitoring include limited capacity, unclear responsibility, and lack of resources within planning teams.

What did consultants and developers say?

Usefulness of UGF

Most consultants and developers found UGF to be a useful tool, particularly for encouraging dialogue and integrating greening into design. Those who did not find it useful cited issues such as lack of baseline, limited applicability, rigid criteria, and misalignment with BNG. Some felt the scoring system was too simplistic and suggested incorporating multi-storey multipliers or aligning more closely with biodiversity metrics.

Design challenges and conflicts

Over half of respondents said UGF made it more difficult to achieve other design benefits, due to conflicts with requirements like play space, planting, and rooftop PV panels. Those who disagreed felt the policy was broad and flexible enough to support good design when considered early in the process. Design decisions influencing UGF compliance included early integration of greening, structural planning for soil depth, and coordination with ecologists.

Development types and feasibility

Consultants and developers similarly identified industrial, mixed-use and high-density residential developments as challenging for UGF delivery, particularly where sites are constrained or where roof and podium areas are needed for plant or other functional requirements. Many highlighted the difficulty of achieving both UGF and BNG on constrained sites due to competing demands for space and differing assessment approaches. Only 45% of respondents reported exceeding UGF targets, typically where site conditions allowed for greater greening or where BNG requirements supported additional green infrastructure.

Surface cover types and implementation

Wetlands, open water, and green walls were the most frequently cited surface cover types that are difficult to implement due to site constraints and maintenance challenges. Respondents preferred low-maintenance features like hedging, rain gardens, and green roofs where feasible, especially on constrained or industrial sites.

UGF and BNG policy interaction

Most respondents felt that UGF and BNG could be delivered together but noted that they are typically handled by different specialists, which can limit coordination. Conflicts between the two policies were noted, especially where features that score well under BNG are not suitable for the site’s use or context. There were calls for better policy alignment, particularly when BNG is delivered off-site, noting that it should count towards a site’s overall UGF score, and concerns about long-term management and maintenance under UGF.

Monitoring and maintenance

A large majority felt that UGF helps protect greening during cost-cutting exercises, ensuring it remains part of the final scheme. Respondents supported stronger monitoring and long-term maintenance, suggesting alignment with BNG’s 30-year management model and clearer enforcement mechanisms. Suggestions included compliance conditions, ongoing reporting, landscape architect visits, and satellite imagery analysis to track delivery.

Industrial development experience

Only three respondents had experience with industrial developments incorporating UGF, and only one was required by the LPA to meet UGF standards as required by policy. Common greening features included sedum roofs, rain gardens, permeable paving, and tree planting, though transport infrastructure and roof constraints were major barriers. Two of the three felt UGF should be applied to industrial sites, with one suggesting strategic estate-level planning as a way to improve feasibility and outcomes.

Questionnaire results: Consultants and developers

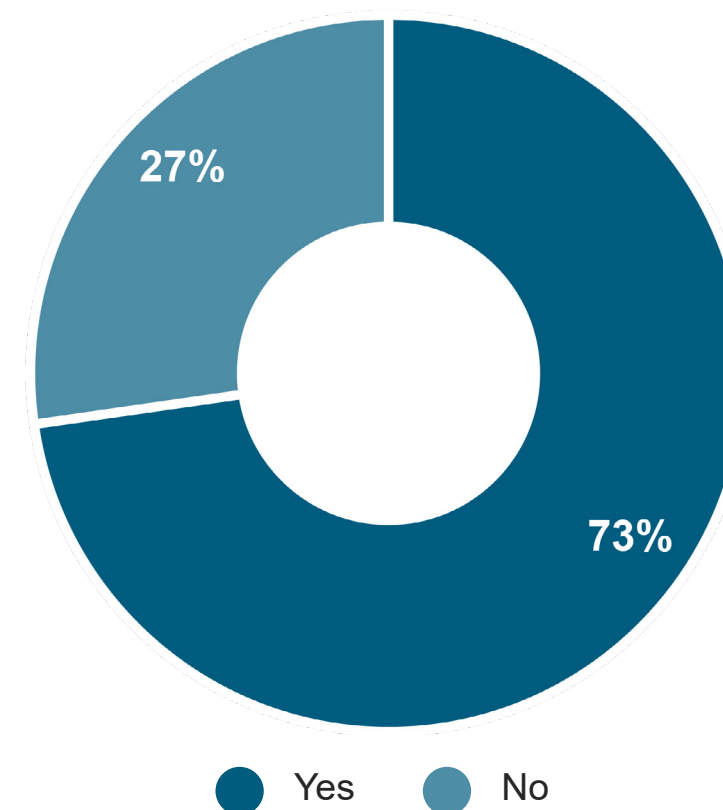
Is the UGF a useful tool for consultants/developers?

Eight out of the eleven respondents (73%) felt that it was useful.

Three respondents did not find the UGF a useful tool for different reasons. Specifically:

- It has no baseline, is relatively easily achieved, does not apply to enough development, and does not go far enough. It only considers area, and a multi-storey multiplier should instead be applied. It should be aligned with BNG.
- For smaller sites it requires impractical landscape items to achieve the score.
- It is challenging to achieve and has rigid criteria.

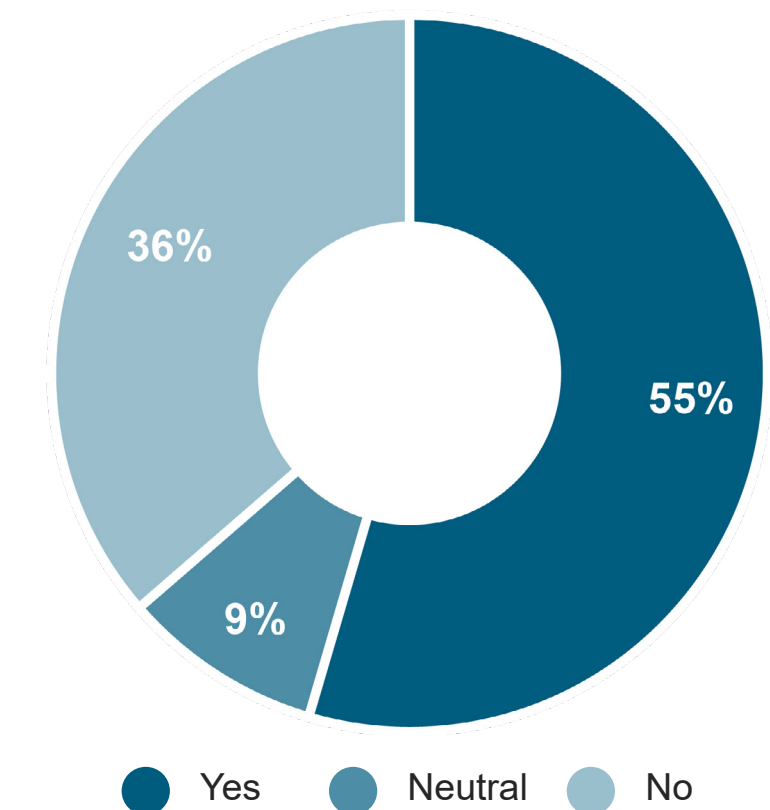
Figure 1. Do you generally find the UGF a useful tool to achieve high-quality greening on developments you have been involved in?



Does the UGF make things more difficult for consultants/developers?

- Most consultant/developer respondents said it made it difficult to achieve other benefits because it competes with other requirements, such as play, plant and photovoltaic.
- Those who felt it didn't make it difficult to achieve other benefits, said that was because the existing UGF was broad, flexible, and opens dialogue.

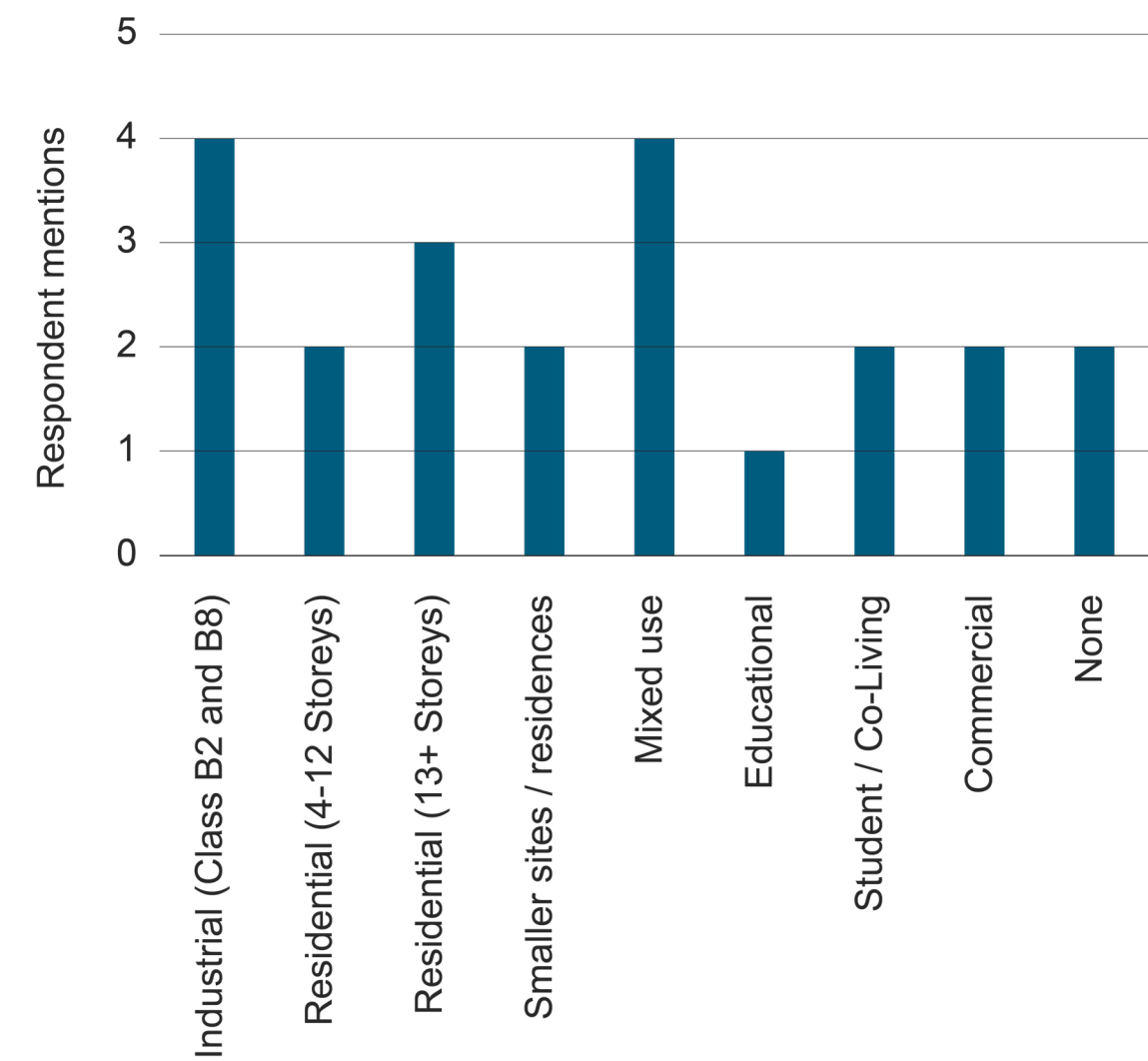
Figure 2. Do you think UGF requirements make it difficult to implement any aspects of good design, other policy ambitions or other benefits of schemes that you have worked on?



What developments struggle to meet UGF targets, and why?

- Industrial development has high demand for hard surfaces, and industrial buildings are more difficult to equip with green roofs.
- One respondent noted that achieving both BNG and UGF on small sites is incompatible, but did not provide detail as to why.
- There’s a conflict for the use of roof space for mixed use / commercial development, as there tends to be a greater need for plant, and conflict for space more generally for higher density development.

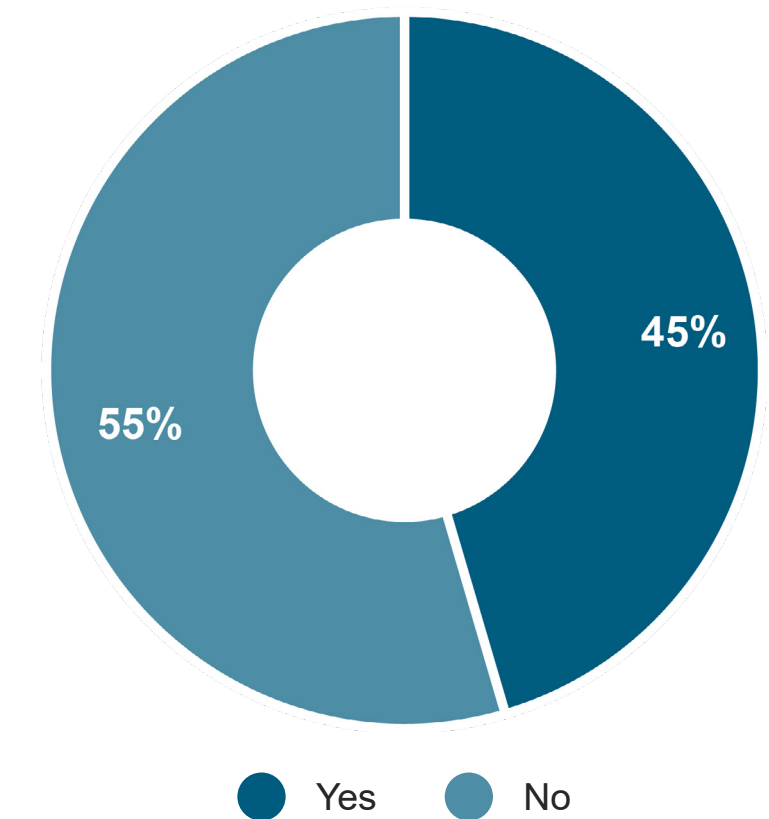
Figure 3. What developments struggle to meet UGF targets?



Had respondents exceeded the UGF target?

- Where respondents had exceeded the target, it was generally because space and site characteristics allowed for more greening opportunities. One said they exceeded it because a BNG uplift was also required, but provided no reason as to why, while others also said good design and strongly encouraging more greening were effective ways to exceed requirements.
- One respondent who said they hadn’t exceeded the target said this was because clients are not incentivised to do so.

Figure 4. Have you exceeded the UGF target on any of your projects?



Design decisions

What are the key design decisions that influence UGF compliance?

- Early-stage integration of greening solutions and structural planning for soil depth and tree loading.
- Efficient use of space to allow for additional green infrastructure through reduced paving, increased canopy cover, and prioritisation of planted areas as per the surface cover types listed in policy G5.
- Design constraints including fire risks, airport proximity, and overdevelopment pressures.
- Design choices would be geared towards low-maintenance, sustainable features like hedging, rain gardens, and green roofs (where feasible).

Are there any ‘surface cover types’ within the UGF which are hard to implement?

- Wetland or open water (9 mentions), green walls (6 mentions) and water features (3 mentions) were the three surface cover types most identified as hard to implement.

How have respondents found meeting both UGF and BNG policies?

- Many respondents noted that meeting both UGF and BNG policies is often achievable, though typically handled by different specialists - landscape architects for UGF and ecologists for BNG. This separation can lead to limited coordination and missed opportunities for alignment.
- While some found compliance relatively straightforward, especially on urban sites with low biodiversity baselines, others highlighted that the distinct scoring systems and typologies of each policy can create conflicts. For example, open mosaic habitat scores highly for BNG, but is not recognised as a surface cover type in the UGF scoring matrix.

- A recurring theme was the challenge of balancing on-site UGF delivery with off-site BNG contributions, particularly on constrained or high-density developments. Some clients are reluctant to invest in both, while others accept it for better design outcomes. Suggestions included better policy alignment, such as adjusting UGF requirements when BNG is delivered off-site. Concerns were also raised about long-term management, with UGF lacking maintenance obligations and allowing private garden planting in initial calculations, which may undermine its lasting impact. Native species requirements under BNG were also noted as a point of divergence from UGF, which permits non-native planting.

How should the UGF be implemented?

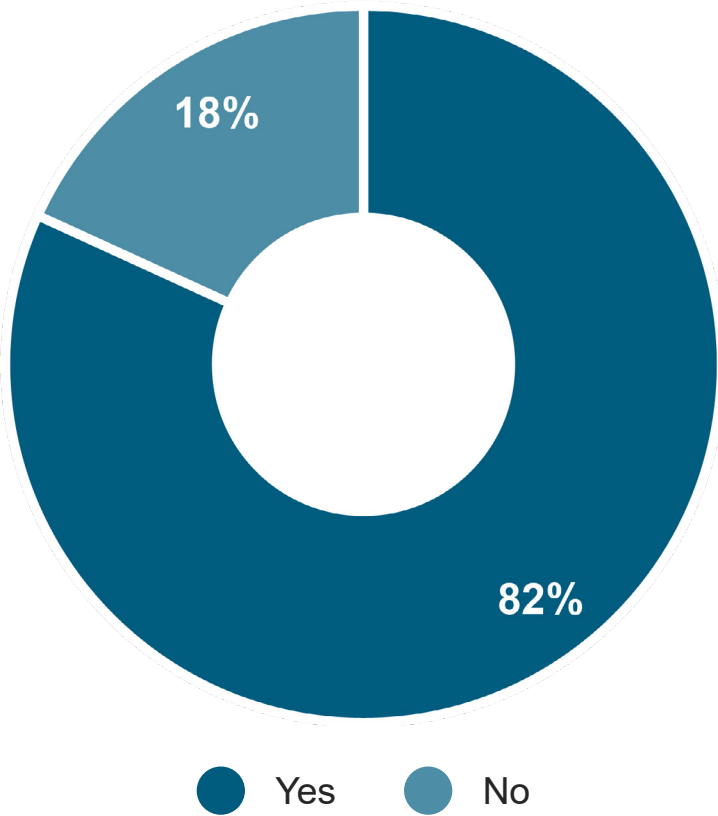
How do you think the implementation of UGF should be monitored?

Respondents highlighted the need for stronger long-term monitoring and maintenance of UGF, with suggestions to align it more closely with BNG’s 30-year management model and enforcement mechanisms. A recurring theme was this lack of coordination between UGF and BNG, with calls for better policy alignment, shared enforcement, and recognition of off-site BNG contributions.

Other respondents suggested compliance planning conditions for long-term maintenance and embedding specific targets within these.

Several other suggestions included ongoing visits by landscape architects, reporting to LPAs/GLA, and analysis of satellite imagery.

Figure 5. When cost cutting exercises are required, does the UGF help ensure urban greening is maintained?



Industrial developments

What surface cover types did the industrial developments typically include?

Two mentions of each:

- Extensive green roof of sedum mat
- Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree
- Rain gardens and other vegetated sustainable drainage elements
- Green wall – modular system or climbers rooted in soil
- Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree
- Groundcover planting
- Permeable paving

One mention of each:

- Flower-rich perennial planting; hedges; and amenity grassland

Only one of the three respondents was required by the LPA to meet UGF standards on their industrial development. Neither of those who weren't required to do so chose to meet the UGF standards.

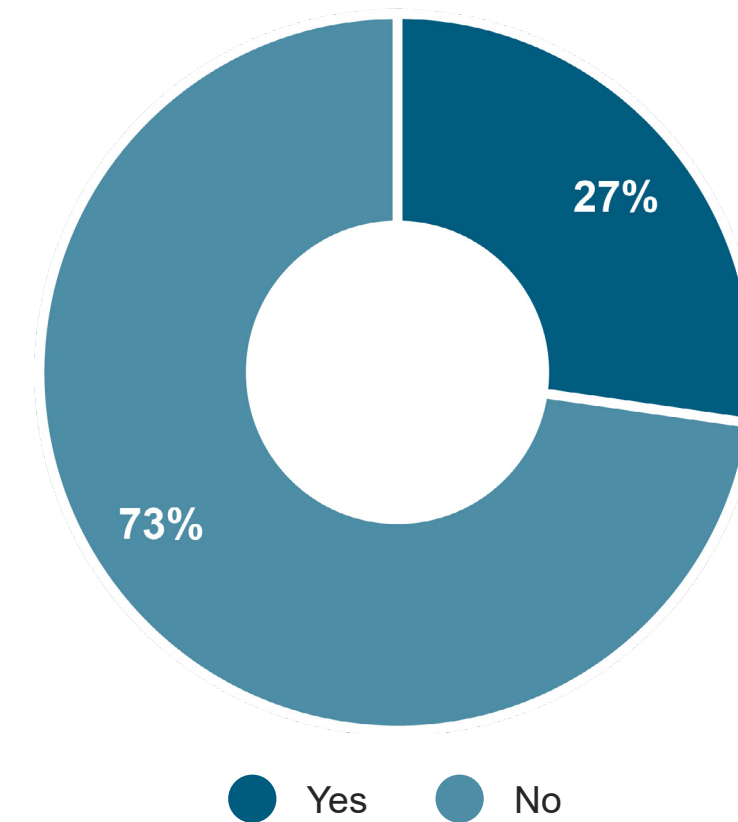
Transport infrastructure is a key challenge for getting greening into industrial developments. The inability to have green roofs on warehouse roofs is a further issue.

One respondent suggested some opportunities, stating that strategic estate-level planning can enable higher UGF scores, especially when amenity space is shared across a wider site. Green walls, trees, hedges, and low-level planting are seen as valuable additions where feasible, offering amenity and visual benefits. Unique or irregularly shaped sites may also present more

flexibility for integrating greening alongside operational requirements.

Two of the three respondents felt that UGF requirements should be applied to industrial developments.

Figure 6. Do you have any experience of being involved in industrial developments within London?



Questionnaire results: Boroughs

Meeting UGF targets

All borough respondents stated that they use London Plan UGF targets, because:

- There is a lack of evidence and impetus to justify bespoke targets
- It is established good practice
- There’s no guidance for an LPA to set their own
- Local Plan policies align with London Plan

Respondents said that it was often difficult to meet UGF requirements for these developments because of a lack of available space due to large site footprints, and limited opportunities for greening.

Two borough respondents stated that there weren’t barriers to UGF. While one said it was rather a lack of information submitted as part of application that was the issue, the other stated that developments tend to be successful in achieving the minimum target by incorporating green roofs.

Respondents felt confident they would be able to challenge these justifications, with 7 out of 9 saying they were able to do so if prompted.

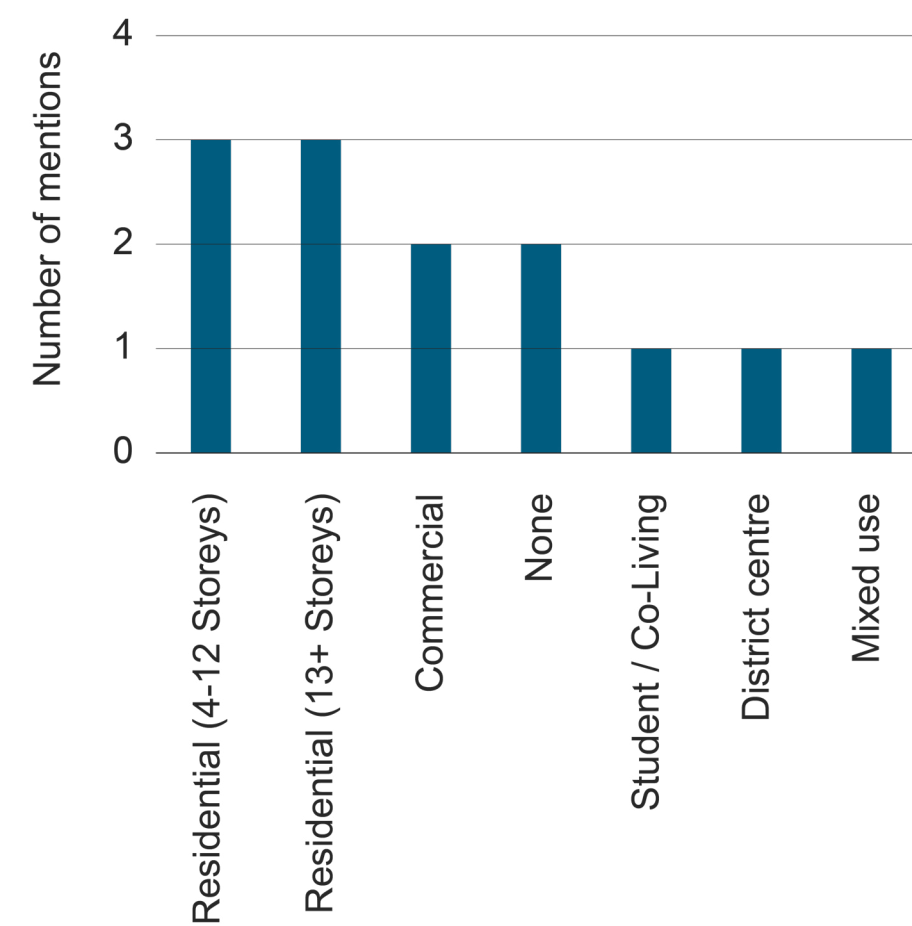


Figure 7. In your borough, are there any types of development that typically struggle to meet the minimum UGF targets?

Respondents said that these developments exceeded UGF requirements because they were usually large sites with options for good levels of landscaping at ground floor, podiums and roofs.

Larger scale development has more scope for planning in more greening, with more space allowing for habitats that achieve higher scores.

Seven of the nine respondents felt that the UGF did encourage high quality greening in their borough, while two did not. While one of those who said no wasn’t sure why, the other stated that it was because the quality of what gets delivered is not dependent on what the UGF says, but about the quality of the design and long-term maintenance.

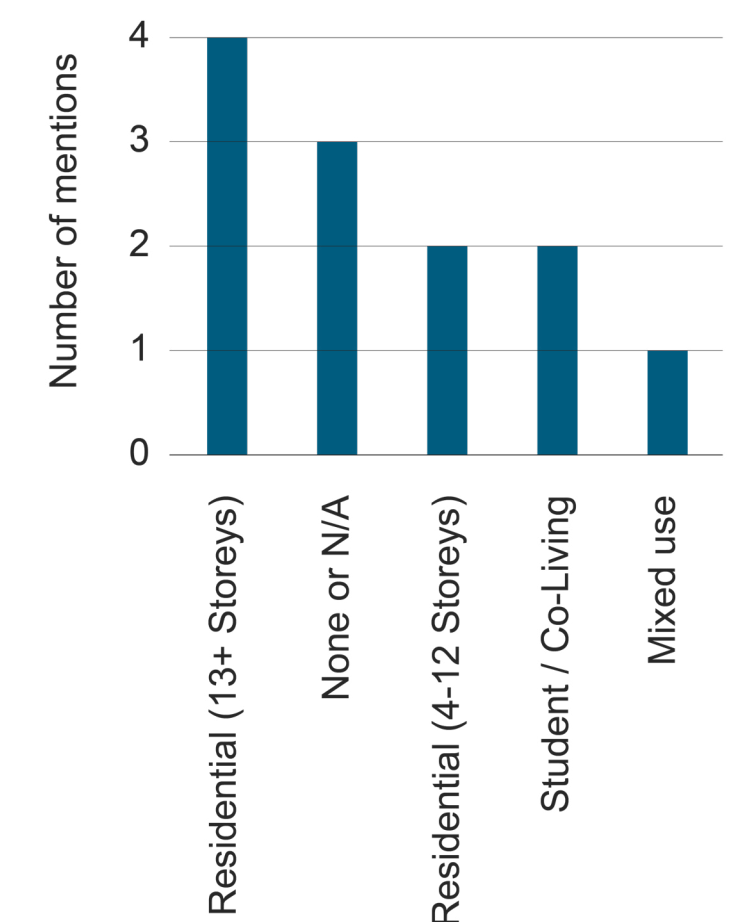


Figure 8. In your borough, are there any types of development that have been known to go beyond the minimum UGF targets?

One respondent who felt it didn't make it more difficult said that it was because it shouldn't be a high bar if factored in early in the design process.

All others stated that it was often or sometimes a barrier, because viability can impact landscape delivery and it is not as much of a priority compared to other key matters. There can be conflicts with roofs and PV panels in particular, as well as conflicts at ground level for constrained urban sites.

There appear to be a few examples of UGF being used as part of a reason for refusal of planning permissions, but fewer appeal decisions focused on this specific issue.

Achieving the minimum target by incorporating green roofs.

Respondents felt confident they would be able to challenge these justifications, with 7 out of 9 saying they were able to do so if prompted.

Figure 9. Do you think UGF requirements make it difficult to implement any aspects of good design, other policy ambitions or other benefits of schemes that you have worked on?

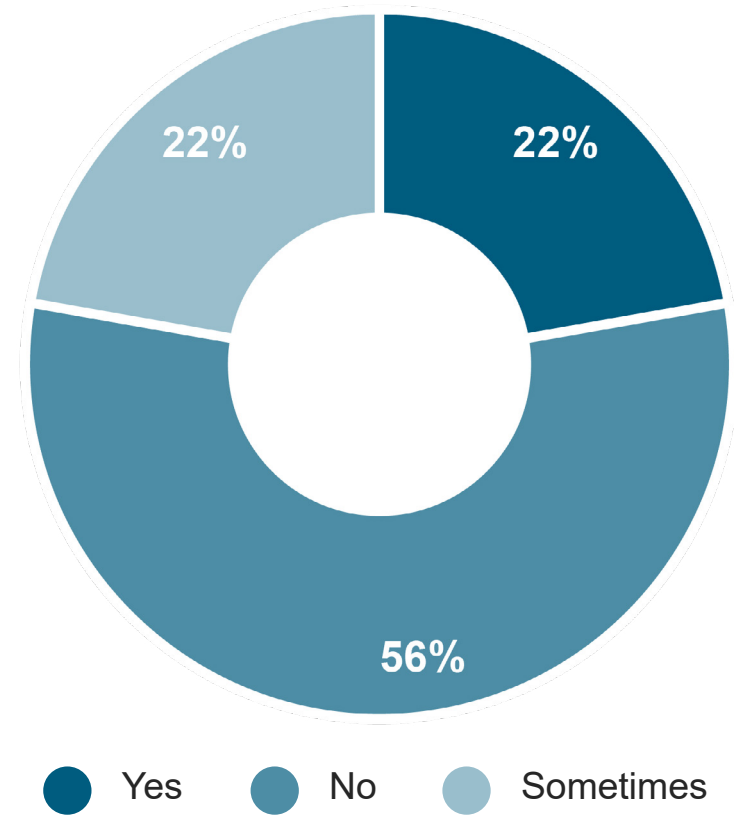


Figure 10. To your knowledge, has your borough ever used the UGF as a reason for refusal for a planning application?

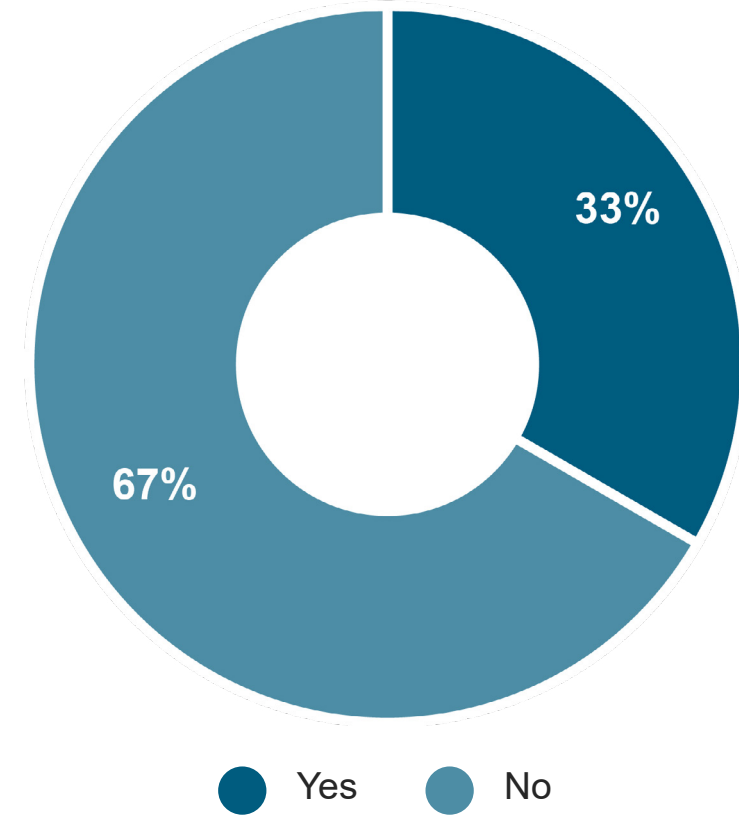
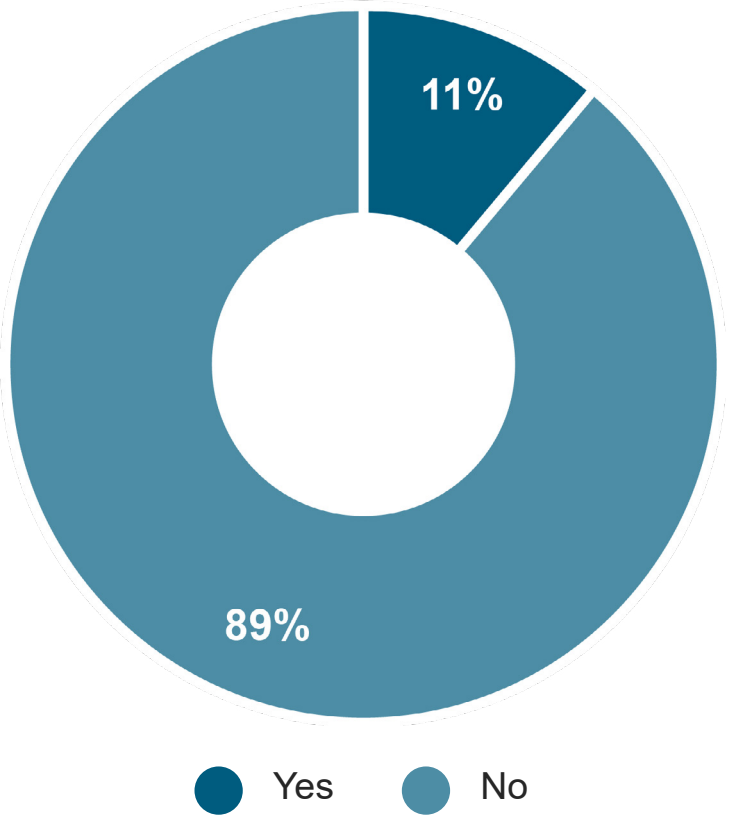


Figure 11. To your knowledge, have there been any appeals in your borough on UGF grounds?



Monitoring

While only one borough respondent stated that they do currently monitor the implementation of UGF scores once schemes are built out, the majority of respondents stated that they did not but felt as if they should be doing so. Most respondents supported monitoring, citing

the need to ensure delivery, prevent erosion of commitments, and gather useful data for future design. However, concerns were raised about capacity, clarity of responsibility, and resource limitations. A minority opposed monitoring, mainly due to impracticality and lack of resources.

Figure 12. Does your borough monitor the implementation of UGF scores once schemes are built out?

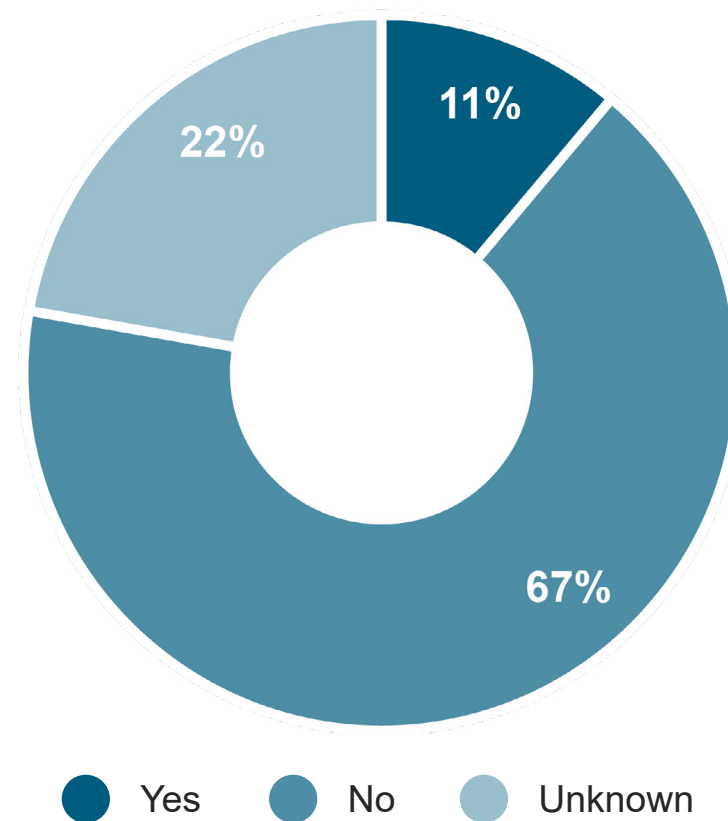
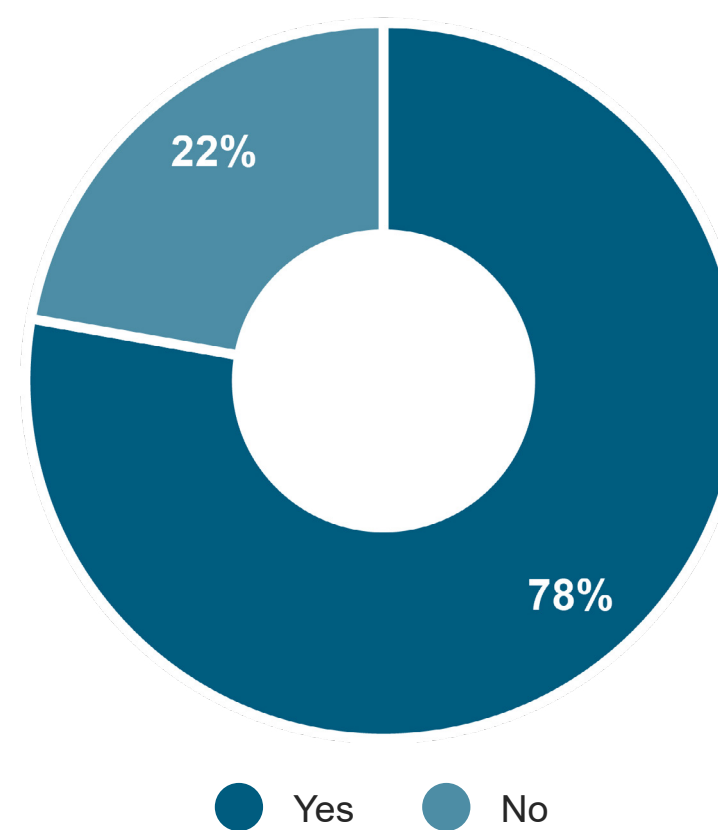


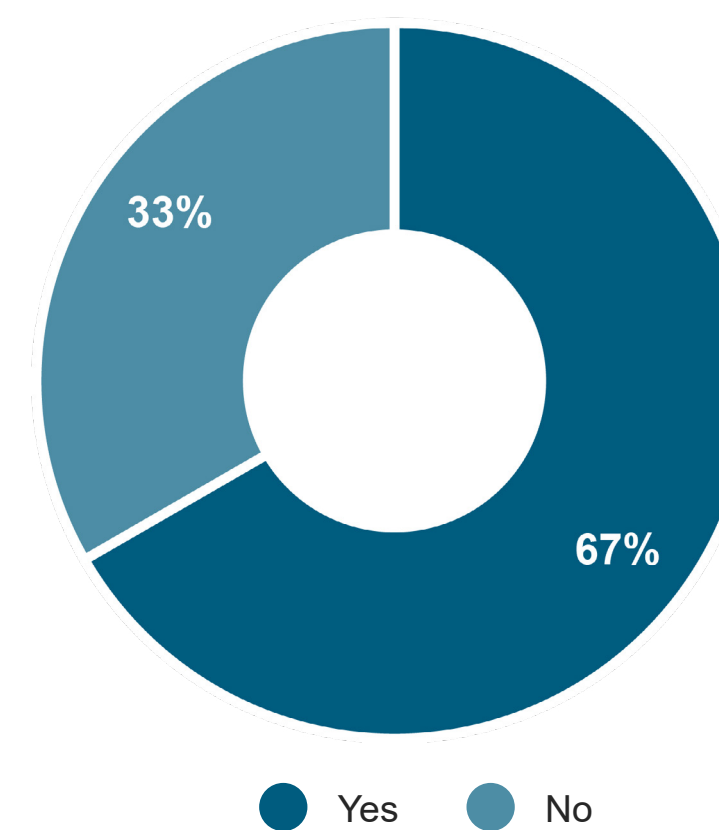
Figure 13. Do you think it should be monitored?



Industrial development

Of those who did have examples of industrial planning applications, all applicants provided a UGF assessment as part of it. All bar one respondent felt that UGF requirements can be applied to industrial developments.

Figure 14. Does your borough have examples of industrial (B2 and B8) planning applications which have incorporated urban greening since the UGF policy was implemented in 2021?



When asked what score should be used, most respondents suggested a score around 0.3, with some proposing flexibility due to industrial constraints. A lower score than commercial schemes was recommended to avoid disincentivising industrial use, with suggestions ranging from 0.15 to 0.3 depending on site coverage and feasibility. Where respondents had experienced pushback on incorporating greening into these developments, it was because:

- Lightweight roof structures and transport logistics
- Pressure to maximise development of site
- Viability and current zero score.

Summary and recommendations

Summary of research questions

Table 4. Summary of research questions

RESEARCH QUESTION	SUMMARY OF FINDINGS	SOURCE
Are there performance trends across typologies?	Overall, the broad trend across the assessed developments shows that all the typologies across inner and outer London broadly meet the policy requirements. With the industrial typology achieving an average UGF score of 0.2 across London.	Planning London Datahub data
Which typologies experience challenges in meeting the targets or offer opportunities to go beyond the minimum?	As demonstrated by the Planning London Datahub data, residential blocks (4-12 storeys), residential tower (13+ storeys) and commercial applications in both inner and outer London all broadly meet the policy requirements. While the mode of the student and co-living typology in inner London meets the policy requirement, the mean and median do not, which would suggest there is a large disparity of the UGF achieved. The data suggests that the majority of developments are meeting the policy requirement and not going further, however, as evidenced in the case studies there are examples of where developments struggle to meet the requirements, and others that go over.	- Planning London Datahub data - Case studies
What influences design decisions with regard to the UGF policy? Does this differ across typologies? Is UGF afforded more importance across some typologies?	Overall, respondents were broadly supportive of UGF. While they did raise concerns about conflicts with other policies, looking at the case studies many were able to meet the UGF requirement and other policy requirements, which can be seen in the Planning London Datahub data, these trends would suggest that UGF is considered important across all typologies, but is reduced where necessary.	- Case studies - Questionnaire - Workshop
How does UGF interact with other policy requirements (e.g., BNG, SuDS), and what guidance is needed to reconcile competing priorities?	Developers highlighted overlapping requirements between UGF and BNG, noting that BNG often taken precedence despite UGF offering a more suitable framework for an urban context. They also raised concerns about unclear policy priorities and confusion arising from UGF and BNG being managed by different specialists within local planning authorities. However, the case studies showed that UGF does not act as a barrier to meeting other policy objectives, with many developments successfully incorporating BNG and PV panels alongside UGF.	- Case studies - Questionnaire - Workshop
Is the UGF score stated in planning applications achieved when schemes are built out? Is this implementation monitored and should/ could it be?	From the case studies assessed as part of this study, there was no indication that the UGF score stated at planning application stage was not delivered. No Section 96a or Section 73 applications were submitted post-approval to amend the UGF, and where UGF planning conditions were required, they were all approved.	Case studies
Could UGF requirements be applied to other uses (particularly B2, B8, and smaller-scale development)?	The Planning London Datahub data shows that of the industrial applications included in the data set have wide range of UGF score, this is largely due to it not being required by a policy and so it is dealt with inconsistently across boroughs. There was no suggestions that UGF should be required on minor or householder applications, but there was a mixed view from the questionnaire as to whether UGF should be required for industrial developments.	- Planning London Datahub data - Questionnaire - Workshop

Summary of research and recommendations

Table 5. Summary of research questions and recommendations.

TOPIC	SUMMARY OF RESEARCH	RESEARCH SOURCE	RECOMMENDATION
Support for UGF	Broad support for UGF as a policy	Questionnaire	1. No further action.
	- UGF is a valuable tool - Empowers landscape architects to prioritise greening - Can provide economic benefit to the development - Like the simplistic nature of UGF - Not viewed as having significant impact on the viability of development - No need to be mandatory as BNG is a requirement	Workshop	
	None of the developments have quoted UGF as being the stopper for other policy requirements	Case studies	
UGF scores across boroughs	- Outer London leads slightly in all three metrics, suggesting greener developments on average - Inner London has a slightly lower mean and median, possibly due to denser urban form and more constrained sites - The mode is consistent across al regions at 0.40, indicating a common target or threshold in many developments - Residential typologies (both block and tower) consistently show higher UGF scores than commercial or industrial development - Student and co-living towers in Inner London have a lower mean (0.30) compared to Outer London (0.40) - Mixed use developments are relatively consistent across inner and outer Boroughs,with a mean around 0.37–0.4	Quantitative (Planning London Datahub)	2. Policy update to remove requirements for boroughs to create own UGF scores. 3. Update policy wording to encourage boroughs to review prioritisation of UGF against other sustainability objectives on a case-by-case basis. 4. Enhance the knowledge building capacity of planning officers to support better understanding of the qualitative components of UGF through training and guidance.
	Inconsistent approach to UGF across boroughs	Workshop	
	London Plan targets dominate - no borough as adopted different figures (except LB Sutton which has included a Green Space Factor (GSF) in the Local Plan technical guidance note appendix A)	Questionnaire	
Planning application	- Some wording is not necessarily clear or easily interpreted (e.g. ‘semi-natural planting’) - LAs should use the validation list to request a combined UGF and BNG masterplan in the DAS	Workshop	5. Require applicants to provide clear and consistent evidence demonstrating how UGF has been met. 6. Include diagram of example green-blue masterplan showing UGF and BNG combined.
	No standard wording of condition	Case studies	
Long term success	Concerns over the long-term quality and maintainability of green spaces	Workshop	7. See below recommendations on alignment with BNG.
	- UGF encourages greening, but quality varies - Monitoring is widely supported but rarely done	Questionnaire	

Table 6. Summary of research questions and recommendations continued.

TOPIC	SUMMARY OF RESEARCH	RESEARCH SOURCE	RECOMMENDATION
Industrial	Industrial developments have the lowest UGF scores, especially in Inner London (mean 0.22)	Quantitative (Planning London Datahub)	8. Policy update to include industrial uses with a score of 0.2* (in alignment with NE score and mean score across available data sources for industrial developments in London).
	Challenges with constraints - particularly on industrial site	Questionnaire	
	- Some felt that industrial could be included but preferred not to be mandatory - Others felt industrial should be included as an incentive for developers and noted that industrial may better suit some types of typology (e.g. invertebrate habitats) than others	Workshop	
BNG interface	- BNG and UGF are commonly developed by different consultants or at different design stages causing conflict rather than integration - Seeking alignment between UGF and BNG would be positive as the BNG 30-year management requirement could benefit the UGF greening	Workshop	9. Include diagram in the UGF guidance that sets out the synergies between UGF and BNG, using the UK GBC diagram as an example. 10. Explain that in unison, UGF can provide the ‘land use & function’ and BNG can provide the ‘character & diversity’. 11. Long-term watching brief to provide feedback to DEFRA on BNG policy when under review to seek better synergies between the two policies.
	UGF and BNG policies overlap but lack co-ordination	Questionnaire	
Offsite provision	Offsite provision was discussed but overall, there was a consensus that it should not be considered for UGF	Workshop	12. Provide guidance / signposting to best practice urban green space. 13. Create annex to this policy providing successful examples of integration of UGF and other sustainability needs. This guidance could be developed in the future once more UGF case studies have been built out.
Other constraints	- Concerns around fire risk reduce potential of green spaces - Insurers are often a block to creative design solutions - Competition with other sustainability requirements which are mandatory can be a challenge	Workshop	14. Provide guidance / signposting to best practice urban green space. 15. Create annex to this policy providing successful examples of integration of UGF and other sustainability needs. This guidance could be developed in the future once more UGF case studies have been built out.
Other opportunities	- Include food growing in the matrix to provide more social value - Encourage vertical greening – particularly important given the rise of tall buildings in London - SuDS should have more focus. Explore potential for expansion of scoring to include more blue infrastructure elements (see Natural England scoring). This will not be incorporated in BNG so should be captured here. - UGF should encompass and support a wider range of sustainability aims	Workshop	16. Review scoring matrix against Natural England’s guidance on the Urban Greening Factor to establish if the UGF scoring matrix can be amended to include other typologies which benefit communities, such as allotments. 17. Review scoring matrix against Natural England’s guidance on the Urban Greening Factor and consider inclusion of relevant typologies (such as SuDS).

Summary of research and recommendations

Table 7. Review of Natural England's Green Infrastructure scoring matrix against the existing London Plan matrix

NO.	SURFACE COVER TYPE	FACTOR	GENERAL DESCRIPTION
Vegetation and Tree Planting			
1	Semi-natural vegetation and wetlands retained on site (Including existing / mature trees)	Y: 1.0	Protection and enhancement of existing vegetation within the development site including mature trees and habitats.
2	Semi-natural vegetation established on site	Y: 1.0	New areas of vegetation and species-rich habitats within the development site that are connected to sub-soils at ground level.
3	Standard / semi-mature trees (Planted in connected tree pits)	Y: 0.9	Tree planting established within engineered and interconnected systems with structural soils to maintain tree health at maturity.
4	Native hedgerow planting (Using mixed native species)	R: 0.8	Dense linear planting of mixed native hedgerow species, at least 800mm wide and planted two or more plants wide.
5	Standard / semi-mature trees (Planted in individual tree pits)	Y: 0.7	Tree planting established within separate designed tree pits with structural soils to maintain tree health at maturity.
6	Food growing, orchards and allotments	G: 0.7	Areas and facilities provided for local allotment and community-based food growing including formal orchards with fruit trees.
7	Flower rich perennial and herbaceous planting	Y: 0.7	New areas of mixed native and ornamental herbaceous and perennial plant species to support seasonal cycles of pollinating insects.
8	Single species or mixed hedge planting (Including linear planting of mature shrubs)	Y: 0.6	Dense linear planting of native or ornamental shrub and hedgerow species, closely spaced with one or more plants wide.
9	Amenity shrub and ground cover planting	Y: 0.5	Areas of formal and informal non-native shrub and ground cover planting connected to sub-soils at ground level or in planters.
10	Amenity grasslands including formal lawns	Y: 0.4	Areas of short-mown grass and lawn used for active sports or informal recreation that is regularly cut and generally species-poor.
Green roof and walls			
11	Intensive green roof (Meets Green Roof Organisation / GRO Code)	Y: 0.8	High maintenance accessible green roof with planting and a depth of growing substrate with a minimum settled depth of 150mm.

NO.	SURFACE COVER TYPE	FACTOR	GENERAL DESCRIPTION
12	Extensive biodiverse green roof (Meets the GRO Code, may include Biosolar)	Y: 0.7	Green roof with species-rich planting, with limited access, may include photovoltaics, the depth of growing substrate is 100 - 150mm.
13	Extensive green roof (Meets GRO Code)	Y: 0.5	Low maintenance green roof, limited species mix in planting and with no access, the depth of growing substrate is 80 - 150mm.
14	Extensive sedum only green roof (Does not meet the GRO Code)	Y: 0.3	Low maintenance sedum green roof, no access, combined depth of growing substrate, including sedum blanket, is less than 80mm.
15	Green facades and modular living walls (Rooted in soil or with irrigation)	Y: 0.5	Vegetated walls with climbing plants rooted in soil supported by cables or modular planted systems with growing substrate and irrigation.
SuDS and water features			
16	Wetlands and semi-natural open water	Y: 1.0	Areas of semi-natural wetland habitat with open water for at least six months per year contributing to surface water management.
17	Rain gardens and vegetated attenuation basins	Y: 0.7	Bio-retention drainage features including vegetated rain gardens and attenuation basins that also provide biodiversity benefit.
18	Open swales and unplanted detention basins	G: 0.5	Sustainable drainage systems to convey and temporarily hold surface water in detention basins with minimal vegetation cover.
19	Water features (unplanted and chlorinated)	Y: 0.2	Ornamental and generally chemically treated water features providing amenity value but with minimal biodiversity and habitat benefit.
Paved surfaces			
20	Open aggregate and granular paving	Y: 0.2	Porous paving using gravels, sands and small stones as well as recycled materials that allow water to infiltrate across the entire surface.
21	Partially sealed and semi-permeable paving	Y: 0.1	Semi-permeable paving using precast units and filtration strips that allow water to drain through defined joints and voids in the surface.
22	Sealed paving (including concrete and asphalt)	Y: 0.0	Impervious paving constructed of concrete, asphalt or sealed paving units that do not allow water to percolate through the surface.

Legend

- Y:** Similar category included in London UGF
- R:** Expanded typology distinctions not necessary for the London context
- G:** Not included in London UGF but potential to incorporate

London UGF scoring matrix

Recommended additions

Recommended additions based on the research outcomes and review of Natural England UGF are highlighted in the table provided.

Table 9. Recommended additions

SURFACE COVER TYPE	FACTOR
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1
Wetland or open water (semi-natural; not chlorinated maintained or established on site	1
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm – see livingroofs.org for descriptions.	0.8
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree – see Trees in Hard Landscapes for overview.	0.8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.	0.7
Flower-rich perennial planting – see RHS perennial plants for guidance.	0.7
Rain gardens and other vegetated sustainable drainage elements – See CIRIA for case-studies.	0.7
Food growing orchards, allotments or community gardens	0.7
Hedges (line of mature shrubs one or two shrubs wide) – see RHS for guidance.	0.6
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6
Green wall –modular system or climbers rooted in soil – see NBS Guide to Façade Greening for overview.	0.6
Groundcover planting – see RHS Groundcover Plants for overview.	0.5
Open swales and unplanted detention basins (SuDS) that convey or temporarily hold surface water	0.5
Amenity grassland (species-poor, regularly mown lawn).	0.4
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3
Water features (chlorinated) or unplanted detention basins.	0.2
Permeable paving – see CIRIA for overview.	0.1
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0

ARUP