

BYSS – STAPLES CORNER, LONDON

Urban Greening Factor Report

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EXECUTIVE SUMMARY

- RPS were commissioned to prepare an Urban Greening Factor (UGF) Report for a parcel of land at Staples Corner, London. This report has been prepared by RPS on behalf of Big Yellow Self Storage Company Limited to support a full planning application for the demolition of an existing car dealership and the construction of a six-storey self-storage facility (Use Class B8), flexible office space (Use Class E(g)(i)) and larger external storage units (Use Class B8), car parking area and landscaping.
- The site is approximately 0.84 hectares (ha) in size and currently comprises a central car dealership building, associated outbuildings, hardstanding, and small amounts of ephemeral vegetation, introduced shrub, scattered scrub and scattered trees.
- Existing urban greening / green infrastructure or landscape elements are non-existent. A small area of introduced shrub and ephemeral vegetation were located within the site. Stands of invasive Japanese knotweed *Fallopia japonica* were found to be encroaching along the northern site boundaries. Flora at the site is as a result of colonisation of the hardstanding and bare ground. The proposals include the creation of areas of a native scrub, scattered urban trees and formal ornamental planting of climbing plants and introduced shrubs.
- Based on the targeted Urban Greening Factor for London, as outlined by Policy G5: Urban Greening in the London Plan, the proposals should seek to attain a minimum overall target score of 0.3 for a predominantly commercial development.

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1 PLANNING POLICY CONTEXT

1.1 General

- 1.1.1 This section summarises the current and emerging National and Local planning policies and guidance pertinent to this Urban Greening Report. The following policy documents have been reviewed as part of the report.

National Planning Policy

National Planning Policy Framework (NPPF) (2023)

- 1.1.2 Although the current NPPF (Ref.1) does not specifically refer to Urban Greening; Section 14: Meeting the Challenge of Climate Change, Flooding and Coastal Change, emphasises the importance of Green Infrastructure (including landscape) when tackling the issues of climate change including overheating due to rises in temperature.

- 1.1.3 Paragraph 153 states that:

“Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures⁵³. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure”. (NPPF 2023)

- 1.1.4 Paragraph 154 states that “New development should be planned for in ways that:

(a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and

(b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government’s policy for national technical standards”. (NPPF 2023).

Regional Planning Policy

London Plan July 2021

- 1.1.5 Policy G5: Urban Greening, of the London Plan (Ref. 3), has been brought forward as a result of extensive research into urban greening and the Green Space Factor (GSF) planning policy tool that originated in Berlin and has been adopted and adapted in a number of other cities in Europe and North America to encourage urban greening. Policy G5(A) states that

“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”. Paragraph 8.5.1 further states that “The inclusion of urban greening measures in new development will result in an increase in green cover and should be integral to planning the layout and design of new buildings and developments”.

- 1.1.6 Paragraph 8.5.2 indicates the measures that could be considered as contributing to urban greening and the benefits that would result, stating that

“Urban greening covers a wide range of options including, but not limited to, street trees, green roofs, green walls, and rain gardens. It can help to meet other policy requirements and provide a range of benefits including amenity space, enhanced biodiversity, addressing the urban heat island effect, sustainable drainage and amenity”.

- 1.1.7 At paragraph 8.5.4 of the London Plan, details are given as to the methodology to be used for the calculation of the UGF for a given development and the various land cover types (including scores) which contribute to this. This methodology has been directly transposed from the GLA Urban Greening Factor for London (2017) and is the methodology which has been adopted for this report (refer to Section 2 below).

Supplementary Guidance

Greater London Authority Urban Greening Factor for London (2017)

- 1.1.8 Prepared by The Ecology Consultancy, in collaboration with The Green Infrastructure Consultancy and Temple (Ref 4). The GLA Urban Greening Factor for London (Ref. 5) report proposes a Green Space Factor (GSF) framework for London, called the Urban Greening Factor (UGF). The report has recommended that the framework was endorsed by the current Mayor of London for inclusion within the emerging New London Plan, as set out in Policy G5: Urban Greening in the London Plan (summarised above).
- 1.1.9 Section 2 and 5 of this report have been used as the baseline methodology for the completion of the Urban Greening Report. As such, further detail is summarised in Section 3 of this Urban Greening Report below.

2 METHODOLOGY

2.1.1 The methodology for this Urban Greening Report is commensurate with current guidance and policy, including Section 2: How it Works and Section 5: Recommendations – An Urban Greening Factor for London, as detailed within the Greater London Authority Urban Greening Factor (The Ecology Consultancy, July 2017) (Ref. 4). With reference to the Policy G5: Urban Greening, as detailed within the London Plan July 2021 (Ref. 3) as appropriate.

2.2 General

2.2.1 “Green Space Factor schemes are applied in a number of cities around the world. All schemes allocate a factor to various types of surface cover included in planning proposals. The factors are a simplified measure of the various benefits (ecosystem services) 2 provided by soils, vegetation and water and are usually assigned on the basis of potential for rainwater infiltration. This is because the water-holding capacity of surface cover and associated soil is a good proxy for their ‘naturalness’ and their ability to provide the range of benefits associated with more natural systems including benefits in relation to health, climate change adaptation, air quality improvement and biodiversity conservation. Factors between 0 and 1 (in increments of 0.1) are allocated to each surface cover type, with impermeable surfaces such as concrete and asphalt assigned a factor of 0 and the most natural surface cover such as open water or trees on deeper soils, given a factor of 1.

2.2.2 In calculating an overall GSF for any given proposed development it is necessary to measure the overall area of the redevelopment or regeneration site and then to determine, map and measure the area of various surface cover types proposed as part of the new development (Figure 1 below). Typical surface covers defined by cities operating GSF schemes, include sealed surfaces, permeable paving, amenity grassland, trees and shrubs, extensive green roofs, roof gardens and green walls etc. A factor (a weighting for the naturalness and functionality) is then assigned to each surface cover type. To calculate the overall GSF score the factor for each surface cover within a site is multiplied by its area. This generates a series of figures which are then added together. This new total is then divided by the site overall site area to give a GSF score (as set out in Figure 2 below). This score can then be compared with a target set by the planning authority” (Page 6, Greater London Authority Urban Greening Factor, The Ecology Consultancy, July 2017).

2.2.3 Section 5: Recommendation, - An Urban Greening Factor for London sets out the specific methodology for determining the scores assigned to urban greening elements within a given development, stating that *“The proposed city-wide methodology for determining a GSF score is presented in Table 1 below. It assigns a factor to a range of surface cover types that are likely to be included within development proposals in London. It briefly describes the surface cover type and provides references that provide additional technical description of the surface cover type. The table covers most eventualities, however, if a surface cover type is encountered which is not listed, it is suggested that it is assigned the same factor as the category in the table that is most functionally similar. Factors are similar to those used in other cities, with 0 assigned to sealed, hard surfaces and 1 assigned to the most natural and or permeable features.*

2.2.4 All developments (in areas targeted in strategic plans) should deliver additional urban greening, however targets may need to be differentiated depending on the development type and location. An overall minimum target score of 0.3 will be suitable for most proposed developments on previously developed land in London. However, each local planning authority may consider adjusting this figure, based on local needs and particular development typologies. In particular, developments that are predominantly residential may justify the application of a higher target score of 0.5, particularly if the development is resulting in additional pressure on already limited green space”. (Page 13, Greater London Authority Urban Greening Factor, The Ecology Consultancy, July 2017).

Table 2.1: Proposed surface cover type descriptions and factors

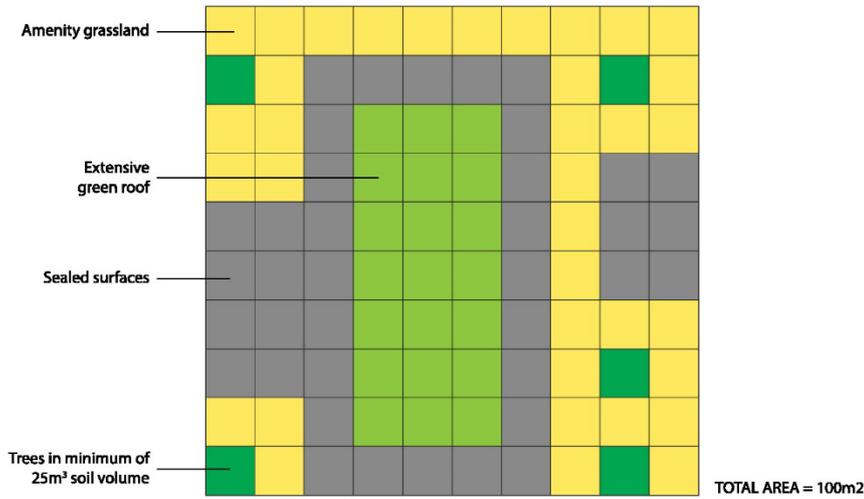
Surface Cover Area	Factor
Semi-natural vegetation (e.g., woodland, species-rich grassland) created on site	1
Wetland or open water (semi-natural) created on site	2
Intensive green roof or vegetation over structure. Vegetated sections only. Substrate minimum settled depth of 150mm	0.8
Standard trees planted in natural soils or within a minimum of 25 cubic metres of soil volume per tree.	0.8
Extensive green roof with substrate of minimum settled depth of 80mm	0.7
Flower-rich perennial planting	0.7
Rain gardens and other vegetated sustainable drainage elements.	0.7
Hedges (line of mature shrubs, more than one or two shrubs wide)	0.6
Standard trees planted in individual pits, with less than 25 cubic meters of soil volume	0.6
Green wall, modular system or climbers rooted in soil	0.6
Groundcover planting	0.5
Amenity grassland (species poor and regularly mown)	0.4
Extensive green roof of sedum mat without substrate (or similar)	0.3
Water features (chlorinated)	0.2
Permeable paving	0.1
Sealed surface (e.g., concrete, asphalt)	0

2.2.5 It is noted that the criteria set out in Table 2.1 above has been directly transposed and included within Policy G5: Urban Greening, as set out in the London Plan (2021), and so can be interpreted as the most up to date policy.

2.2.6 Furthermore, the overall minimum UGF target score, as stated in section 1 above, within Policy G5: Urban Greening, sets the current policy and Urban Greening Factor (UGF) target score, stating that *“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”* (London Plan, 2021). This is also consistent with the recommendations set out in the GLA Urban Greening Factor for London (The Ecology Consultancy, 2017).

Figure 1: Diagram of simplified theoretical development site to demonstrate how the GSF works (modified from a diagram in Southampton City Council's GSF Guidance notes)³.

1. Measure site area, measure various surface cover types



2. Table showing areas of each cover type and factor assigned to each:

		Factor	Area (m ²)
	Extensive green roof	0.7	21
	Sealed surfaces	0.0	38
	Amenity grassland	0.4	36
	Trees in minimum of 25m ³ soil volume	0.8	5
			100

3. Calculation of the overall score for the site

$$\frac{(0.7 \times 21) + (0 \times 38) + (0.4 \times 36) + (0.8 \times 5)}{100}$$

Score = 0.33

³ <https://www.southampton.gov.uk/policies/Green-Space-Factor-guidance-notes-2015.pdf>

Figure 2: Formula for calculating the overall GSF score

$$\frac{(\text{Factor A} \times \text{Area}) + (\text{Factor B} \times \text{Area}) + (\text{Factor C} \times \text{Area}) + (\text{Factor D} \times \text{Area}) \text{ etc.}}{\text{Total Site Area}}$$

3 PROPOSED DEVELOPMENT

- 3.1.1 Current landscape proposals include the planting of native scrub, introduced shrub and climbing plants and scattered trees. The plans for which, are provided in Figure 1, along with the planting schedule.
- 3.1.2 In line with the methodology set out in Section 2 above, the Overall Urban Greening Factor (UGF) score for the current proposals is **0.34** (rounded). This is based on the calculation within Table 3.1 below. As such, the current proposals **do satisfy** the target UGF of 0.3 for a scheme of this nature.

Table 3.1: Urban Greening Factor Calculation

Area	Surface Cover Type	Total Area (sqm)	Factor	Urban Greening Factor (UGF) (Total Area x Factor)
Tree planting	Semi-natural vegetation (e.g. trees, woodland, species rich grassland) maintained or established	468	1.0	468
Multi stem heavy trees	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.	2849.9	0.6	1709.9
Native hedge	Hedges (line of mature shrubs one or two shrubs wide)	243.9	0.6	146.3
Ornamental shrub planting	Ground cover planting	1011.0	0.5	505.5
Total Site Area (inc. sealed surfaces) (sqm)		8451m²		
Total UGF contribution				2829.77
Overall UGF (Total UGF divided by Total Scheme Area)				0.335

4 CONCLUSIONS AND RECOMMENDATIONS

- 4.1 In line with emerging planning policy and best practice guidelines, as set out in Policy G5: Urban Greening (London Plan, July 2021) (Ref. 3) and the Greater London Authority Urban Greening Factor (The Ecology Consultancy, July 2017) (Ref. 4), the current proposed development **does satisfy the current target Urban Greening Factor** (UGF) score of 0.3, based on Table 3.1.

5 REFERENCES

- Ref. 1: National Planning Policy Framework (NPPF) (2023);
- Ref. 2: Adopted Greater London Authority (GLA) London Plan (2016);
- Ref. 3: London Plan (July 2021); and
- Ref 4: The Ecology Consultancy. Greater London Authority / Urban Greening Factor for London Research Report (2017)
- Ref. 5: Greater London Authority Urban Greening Factor for London (2017).