# **MAYOR OF LONDON**

# London Plan Guidance

# **Urban Greening Factor**

Consultation draft September 2021

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#### **Greater London Authority**

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**London Plan Policy** 

Local Plan making

**Planning Application type** and how the London Plan Guidance will be applied

Who is this guidance for?

#### Policy G5 Urban Greening

Planning authorities to develop local UGF targets as part of the Local Plan process.

All major development

Applications below the threshold for major development if required by a Local Plan ([section 4]).

Planning authorities, architects, landscape architects, ecologists and applicants. For use in designing and specifying greening in development and in quantifying and assessing greening against relevant UGF targets

Planning authorities in developing local UGF targets as part of the Local Plan process.

#### 1 About this document

## 1.1 What is the Urban Greening Factor (UGF)?

- 1.1.1 The Urban Greening Factor is a tool to evaluate the quality and quantity of urban greening. It enables major developments to demonstrate how they have included urban greening as a fundamental element of site and building design in order to meet London Plan Policy G5 Urban greening.
- 1.1.2 UGF scores should be set out in Local Plans. Where Local Plans do not have UGF scores, the London Plan UGF scores of 0.4 for predominately residential and 0.3 for predominately commercial developments<sup>1</sup> should be applied. UGF target scores should be considered the minimum benchmark not the maximum required.

# 2 Applying the UGF

#### 2.1 Integrating urban greening into the design process

- 2.1.1 UGF requirements should be considered from the outset of the design process to ensure site specific constraints can be considered and opportunities fully realised, including the potential to link on-site greening into the wider green infrastructure network.
- 2.1.2 Appointing a suitably qualified landscape and/or ecological professional to the design team from the outset will ensure opportunities to maximise greening are fully integrated.
- 2.1.3 The early evaluation of greening options should inform wider design decisions. For example, if a lack of space at ground level may result in non-compliance with the relevant UGF target score, the necessary structural considerations should be integrated early in the building design process to accommodate the required specification for green roofs and/or green walls to meet the UFG target score.

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<sup>&</sup>lt;sup>1</sup> Excluding B2 and B8 uses.

#### 2.2 Determining urban greening priorities

- 2.2.1 The UGF is designed to provide flexibility to enable an appropriate response to meeting local green infrastructure priorities and site-specific constraints, as well as to respond to different uses within a development.
- 2.2.2 Where available, a borough's green infrastructure strategy and its associated plans should be used to understand a site's context and to determine its current and potential role within the wider green infrastructure network. Applicants should refer to any prioritisation of or design standards for certain greening types set out in borough Development Plan Documents or documents such as Tree Strategies, Biodiversity Action Plans or Open Space Strategies.
- 2.2.3 The <u>Green Infrastructure Focus Map</u>, published by the GLA, can be used to scope appropriate types of greening and be used by boroughs to inform preapplication discussions and evaluate how successfully a final UGF submission has responded to local context.
- 2.2.4 London's Local Environmental Records Centre, <u>Greenspace Information for Greater London CIC</u>, can also provide an environmental data search service to help inform the urban greening approach.
- 2.2.5 Examples of how an urban greening scheme could demonstrate it is locally appropriate include, but are not limited to:
  - Providing green routes that promote active travel where current opportunities are limited;
  - Delivering a Sustainable Drainage System (SuDS) scheme which reduces surface water run-off where there are particular issues of surface water drainage or flooding;
  - Taking design cues from local habitat types or the Local Nature Recovery Plan or Biodiversity Action Plan (e.g. as per the green roof in Figure 2.1);
  - Delivering publicly accessible open space to reduce local deficiencies in access to open space; or
  - Providing other types of accessible greening where a reduction in deficiency in access to public open space cannot be achieved.

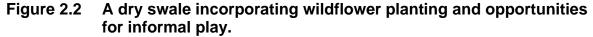


Figure 2.1 Green roof design informed by local biodiversity priorities

2.2.6 Figure 2.1 illustrates how the use of specific low-nutrient substrates and the planting plan is informed by the requirements of species listed in the Local Biodiversity Action Plan. PV panels have also been provided to respond to energy policy requirements. Further guidance on how to measure green roofs under PVs for the UGF calculation is provided in Table A1.1 in Appendix 1.

# 2.3 Synergies between urban greening and other policy requirements

2.3.1 Informed by local green infrastructure priorities, Project Design Briefs or similar should identify any synergies between urban greening and other policy requirements, for example providing natural play opportunities through the design of SuDS as shown in Figure 2.2.





2.3.2 The provision of urban greening can help to address other London Plan policies. However, the UGF tool should not be used to demonstrate compliance with these policies as these will also need to be addressed in their own right. This is particularly important in terms of the relationship between the UGF and other policies within Chapter 8 (Green Infrastructure and Natural Environment) of the London Plan.

# **Box 1: Using urban greening to meet wider London Plan policy requirements**

Relevant policies include:

Policy D8 Public realm

Policy S4 Play and informal recreation

Policy G1 Green infrastructure

Policy G4 Open space

Policy G6 Biodiversity and access to nature

Policy G7 Trees and woodlands

Policy G8 Food growing

Policy SI 12 Flood risk management

Policy SI 13 Sustainable drainage

Policy SI 14 Waterways – strategic role

Policy SI 17 Protecting and enhancing London's waterways

Policy T2 Healthy Streets

## 2.4 Using the UGF to deliver biodiversity net gain

- 2.4.1 For developments with a low baseline level of biodiversity, an ecologically informed approach can create new areas of wildlife habitat to deliver biodiversity gains alongside other green infrastructure benefits. New habitats should be designed and managed to contribute to local biodiversity priorities and the Local Nature Recovery Plan where this is in place.
- 2.4.2 Where protected species or priority habitats or species are found on a development site, or where a proposed development may impact a Site of Importance for Nature Conservation, the requirements of Policy G6 Biodiversity to manage impacts on biodiversity should be met in addition to any relevant UGF targets. In these cases, a priority for any new urban greening should be to help avoid or mitigate the impacts of the proposed development on biodiversity as well as to provide locally relevant greening that complements the site's existing wildlife value and will achieve an overall gain in biodiversity.

- 2.4.3 Applicants should ensure that any Preliminary Ecological Appraisal Reports or Ecological Impact Assessments<sup>2</sup> they commission highlight opportunities for urban greening to deliver biodiversity gains, and that these documents are used to inform the Project Design Brief.
- 2.4.4 Development proposals should include details of how they have sought to achieve a net biodiversity gain. Further guidance on urban greening design opportunities for wildlife is provided in <u>Urban Greening for Biodiversity Net Gain: A Design Guide.</u>

# 3 Calculating the UGF

## 3.1 UGF scores and weighting

3.1.1 Different types of greening that can be incorporated into development are categorised by surface cover types which broadly indicate their relative quality. The UGF assigns a factor score to each surface cover type which are weighted based on their potential for rainwater infiltration. This is used as a proxy for naturalness and functionality. Scores range from 1 for semi natural vegetation through to 0 for impermeable sealed surfaces.

Table 3.1 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.	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.	0.8

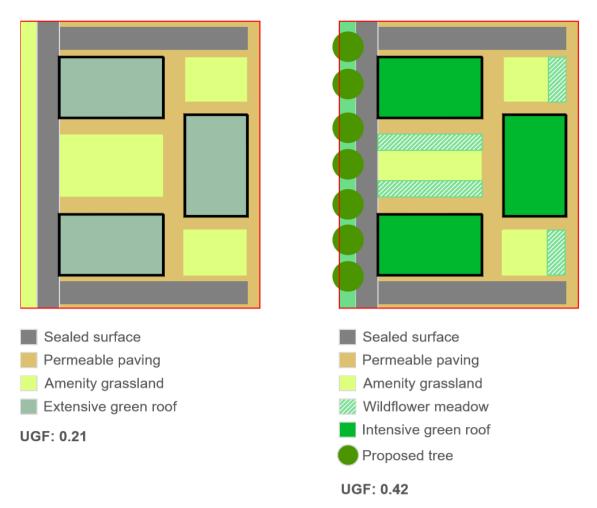
<sup>&</sup>lt;sup>2</sup> Further information on different types of ecological surveys and their purpose can be accessed from CIEEM: <a href="https://cieem.net/wp-content/uploads/2019/02/Guide-to-Ecological-Surveys-and-Their-Purpose-Dec2017.pdf">https://cieem.net/wp-content/uploads/2019/02/Guide-to-Ecological-Surveys-and-Their-Purpose-Dec2017.pdf</a>

Surface cover type	Factor		
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.			
Flower-rich perennial planting.	0.7		
Rain gardens and other vegetated sustainable drainage elements.	0.7		
Hedges (line of mature shrubs one or two shrubs wide)	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.			
Groundcover planting.	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.	0.1		
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		

3.1.2 The weighting of surface cover type scores encourages the provision of higher-quality urban greening, rather than large quantities of low-quality features. For example, while amenity grassland can contribute to SuDS and play, it will usually require more intensive management and watering, and has relatively little ecological value compared to species-rich grassland. Accordingly, amenity grassland is awarded a factor of 0.4 and species-rich grassland awarded a factor of 1.

3.1.3 In order to achieve the same UGF score, an area of amenity grassland would need to cover twice the size of an area of species-rich grassland. Likewise, twice the area of extensive green roof on a shallow substrate is needed compared to that of an extensive green roof which meets the quality standards set in the Green Roof Code<sup>3</sup>. Figure 3.1 shows how using better quality surface cover types can achieve a higher UGF score without increasing the overall footprint of greening.

Figure 3.1 Plans showing how the quality of different green surface cover types can affect the UGF score.



<sup>&</sup>lt;sup>3</sup> The Green Roof Code is an industry developed code of practice that covers the design, installation and maintenance of green roofs. <a href="https://livingroofs.org/wp-content/uploads/2016/03/grocode2014.pdf">https://livingroofs.org/wp-content/uploads/2016/03/grocode2014.pdf</a>

#### 3.2 Calculating the UGF

- 3.2.1 The following steps should be followed to calculate the overall UGF score for a proposal:
  - a) Assign each surface cover type in the development the corresponding UGF factor in line with the factor scores in Table 3.1;
  - b) Measure the area of each surface cover type in sqm (see Table A1.1 for further guidance);
  - c) Multiply the factor score by the area of the corresponding surface cover type;
  - d) Add the scores together for each surface type; then
  - e) Divide the combined score by the total site area in sqm to determine the scheme's UGF score.

Figure 3.2 Calculating the UGF score

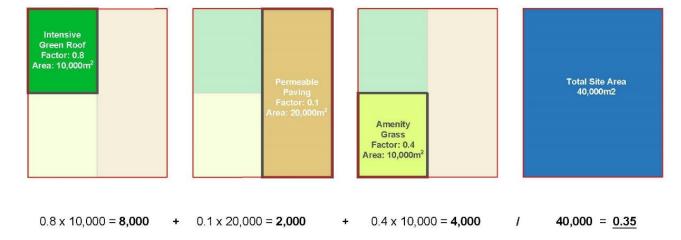


Figure 3.2 illustrates how this calculation works in practice. In this example (8,000 + 2,000 + 4,000) / 40,000 = a UGF score of 0.35.

- 3.2.2 In calculating the UGF score, the following principles should also be applied:
  - The UGF targets set out in the London Plan are for "predominately residential" and "predominately commercial development". In the case of mixed-use developments, the use class which has the highest square meterage of floorspace should be used to determine the target UGF score.
  - The UGF should always be calculated on the total site area, equivalent to the red line boundary.
  - Adjacent areas of land not included in the red line boundary, irrespective of ownership or management, must not be included.
  - Retained surface cover types should be included in the calculation.
  - Vertical surface areas of proposed green walls should be included in the UGF calculation but not be added to the site's total area. This may mean it is possible to score a UGF of more than 1, which is equivalent to the whole site area, where extensive use of green walls is proposed.

- Where a surface cover type is not included in Table A1.1, a reasonable assumption of the most relevant factor score should be made, recorded on the application drawing and referenced in the Design and Access Statement.
- Where tree canopies will grow over another permeable surface the area of the surface underneath the canopy can also be included in the UGF calculation – see Figure 3.3.
- Where land is not in the ownership/ control of applicant but is within the
  red line boundary (such as adopted roads), integration of acceptable
  surface cover types should be sought where possible. Where this is not
  possible, greening across the wider site and building design should be
  maximised towards meeting the relevant UGF target.

Trees in onnected pits: 0.8 x m<sup>2</sup> Trees in connected pits: 0.8 x m<sup>2</sup> Groundcover planting: 0.5 x n

Figure 3.3 Illustration showing how to calculate tree canopies and groundcover

## 3.3 Submitting a UGF calculation

- 3.3.1 In addition to a landscape masterplan, UGF calculations should be submitted as a separate stand-alone drawing and should include:
  - a) A masterplan that is colour-coded according to surface cover types; and
  - b) A completed UGF table.
- 3.3.2 A landscape masterplan as shown in Figure 3.4 is typically submitted as part of a planning application. It is helpful to understand the overall layout and feel of the landscape design. However, it does not provide sufficient detail to support a UGF calculation submission. Landscape masterplan drawings should be accompanied by a specific UGF masterplan, shown in Figure 3.5.

Figure 3.4 Example landscape masterplan



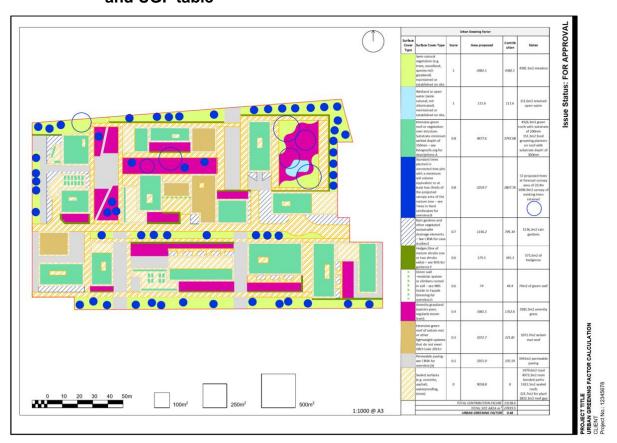


Figure 3.5 Landscape plan from Figure 3.4 translated into UGF masterplan and UGF table

3.3.3 UGF masterplans should clearly show the different types of surface cover and their contribution to the overall UGF score. The UGF table should provide sufficient details of the type of greening to allow interpretation and checking of the UGF types. A UGF table calculator can be downloaded to assist with this.

# 3.4 Planning application stages and types

- 3.4.1 Phased development each phase should demonstrate compliance with the relevant UGF target score on its own merit.
- 3.4.2 **Outline applications** planning condition required to include a final UGF calculation as part of a Reserved Matters Application, and that the UGF target is met.
- 3.4.3 Where landscape design is a reserved matter, the UGF should be calculated/submitted based on the illustrative landscape plan and other information to demonstrate the UGF target will be feasible at detailed design stage.

# 4 Development of borough targets

#### 4.1 Setting a local UGF target

- 4.1.1 The establishment of new borough targets should be based on evidence relating to the need and opportunity for new green infrastructure, ensuring it is both locally ambitious and achievable. Targets should be set out, where possible, in Development Plan Documents. Boroughs should apply the target UGF scores set out in the London Plan when assessing major applications if they do not have relevant evidence to set a local target.
- 4.1.2 When developing local UGF targets, boroughs should retain the following key elements of Policy G5:
  - the calculation methodology;
  - the surface cover types set out in London Plan Table 8.2; and
  - the surface cover factor scores set out in London Plan Table 8.2.
- 4.1.3 Any preference for specific surface cover types should be expressed through a prioritisation in local Development Plan Documents. A recommended process for developing local UGF targets is set out in Figure 4.1.

Figure 4.1 Recommended process for developing local UGF policies



#### **Step 1: Define a green infrastructure baseline**

- 4.1.4 Where available, a borough's green infrastructure strategy should be used to determine and evidence local UGF targets.
- 4.1.5 Boroughs without a green infrastructure strategy that wish to consider setting new UGF targets will need to gather evidence of sufficient scope and detail to support target setting. This should include an assessment of the local need for green infrastructure (e.g. types and/or locations) and the identification of opportunities to address this need through the planning process.
- 4.1.6 The GLA have published green infrastructure data and tools to assist boroughs in planning for green infrastructure. The Mayor's Green

Infrastructure Strategies Guidance<sup>4</sup> provides further information on these and other information and data sources that boroughs can use to inform their assessment.

- 4.1.7 When undertaking a local needs assessment exercise, boroughs should:
  - Map and categorise existing green infrastructure assets;
  - Overlay other information that is relevant to understanding the green infrastructure network baseline such as the walking and cycling network, areas of deficiency in access to open space, and areas of deficiency in access to nature:
  - Overlay information about environmental issues or challenges that green infrastructure could help to address, such as poor air or water quality, surface water flooding, noise or overheating;
  - Overlay demographic data such as areas of health or economic deprivation or other relevant information such as deficiency in access to play space to understand any interrelationships between datasets; and
  - Overlay other relevant spatial strategies or plans that the borough may have, for example improving green corridors or active travel networks.

#### Step 2: Identify opportunities for new greening

- 4.1.8 The identification of opportunities should be focused on what can be delivered through the planning system. Overlaying site allocations, Opportunity Areas and the location of other regeneration or significant infrastructure projects onto the baseline map provides the opportunity to understand where land use changes could secure appropriate types of new greening.
- 4.1.9 This process can help to understand if there are borough-wide thematic issues and/or locally specific issues concentrated in certain areas that new urban greening in developments could help to mitigate, or where it could enhance the existing green infrastructure network. Examples could include a low level of tree canopy cover across a borough or localised surface water run off contributing to poor water quality.
- 4.1.10 This spatial understanding can indicate where developments could cumulatively contribute to addressing more strategic priorities that could not be achieved on an individual site.
- 4.1.11 As well as local sources of data, the GLA's <u>Planning Data Map</u> and <u>Infrastructure Map</u> can be used to identify relevant areas or challenges.

<sup>&</sup>lt;sup>4</sup> draft Green Infrastructure Strategies guidance to follow

#### Step 3: Retain London Plan target scores or propose change

- 4.1.12 Based on the analysis of the green infrastructure baseline and opportunities for greening in steps 1 and 2, boroughs should then consider the following options:
  - a) Set new targets that apply to the whole borough; or
  - b) Set different targets for different locations within a borough; or
  - c) Introduce different targets for different use classes; and/or
  - d) Introduce a target for minor developments.
- 4.1.13 Guidance on how a borough could approach each of the options is set out below:

#### a) Set new targets that apply to the whole borough

- 4.1.14 The London Plan targets have been set to be sufficiently challenging and applicable to development across London. The evidence gathered in steps 1 and 2 may indicate it is appropriate to retain the target scores set out in the London Plan.
- 4.1.15 Where evidence of need and opportunities concludes that there is a rationale for borough-wide change then a borough may decide to set a new local UGF target across the whole borough.
- 4.1.16 Examples of when this approach may be suitable include, but are not limited to:
  - The identification of a severe deficiency in green infrastructure compared to neighbouring boroughs. This comparison may be quantified using local or regional data, such as the <u>GLA's green cover map</u>.
  - The identification of significant potential for new urban greening across the majority of a borough's area, for example if a very high percentage of the borough falls within one or more Opportunity Areas or Strategic/Local Areas for Regeneration.

#### b) Set different targets for different locations within a borough

- 4.1.17 This approach is most suitable when either the local needs assessment highlights significant environmental or social challenges in particular places, or where significant land use change provides opportunities to deliver increased levels of new green infrastructure in a specific area.
- 4.1.18 These areas may include, but are not limited to:
  - Opportunity Areas
  - Areas of deficiency to open space or to nature.
  - Proposed green corridors identified as part of a green infrastructure strategy.

- 4.1.19 Where locally specific targets relate to Opportunity Areas, they should be written into Opportunity Area Planning Frameworks or planning policy documents. Where they relate to proposed green corridors, specific guidance detailing the typology of the greening required should be included in the green infrastructure strategy and/or local nature recovery plan and referenced in the local UGF policy.
- 4.1.20 Areas subject to different UGF targets should be recorded on a map so that applicants can easily determine the relevant target.

#### c) Introduce different targets for one or more different use classes

- 4.1.21 The London Plan sets interim targets for predominantly residential and predominantly commercial development and excludes development in use classes B2 and B8. A borough that anticipates a significant proportion of colocated industrial/ residential applications may look to set a new target for this mix of use classes.
- 4.1.22 Reviewing the impact of planned development on the existing green infrastructure network may also provide justification for changing a target for a specific use class. For example, if a borough has widespread deficiency in access to open space, it may be beneficial to increase the target score for residential development, since new residential developments would place additional pressure on the existing open space network. In such instances, the increase should be accompanied by guidance setting out the type of green infrastructure most suitable to address the deficiency.

#### d) Introduce a UGF policy for minor development applications

4.1.23 This approach is most suited to boroughs where minor applications deliver a high proportion of development, and where other policy approaches would not be more appropriate e.g. requiring specific greening typologies such as green roofs, SuDS or trees to be provided in all minor developments above a certain threshold.

## **Steps 4 and 5: Testing, monitoring and review**

- 4.1.24 Boroughs should implement a periodic review of their policy to determine if UGF targets set have remained achievable and ambitious.
- 4.1.25 If developments are consistently under or overachieving compared to the London Plan UGF target, a higher borough-wide UGF target or a higher locally specific target may be appropriate. This may occur for example if applications regularly include large areas of existing green cover leading to compliance with the target without the need for new greening.
- 4.1.26 The UGF scores achieved for relevant development types are recorded in the <u>London Planning Datahub</u>. This data can be used by boroughs to inform their own UGF policy reviews and support Local Plan preparation.

# **Appendix 1** Categorising and measuring surface cover types.

A1.1.1 Table 8.2 in the London Plan sets out the UGF factor score that should be applied to 16 different surface cover types. Table A1.1 provides further guidance on how to categorise and measure the 16 surface cover types when calculating a UGF score.

Table A1.1 Surface cover types and measurement details

Surface Cover Type	Factor	Notes	How to measure
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	Includes all priority habitats listed on page 181 of the London Environment Strategy and habitats of principle importance (Priority Habitats) listed in schedule 41 of the Natural Environment and Rural Communities Act (2006).  Newly created woodland is defined as a diverse mixture of tree species, where the intention is to develop a structurally diverse habitat with an understory and ground layer of vegetation. Groups of standard trees that would be maintained as such should be awarded a UGF of 0.8 or 0.6, depending on the relationship between canopy and soil volume, as set out below. Species-rich grasslands/meadows should include a range of perennial flowers and grasses that will not be frequently cut. Includes dense naturalistic, mixed-species shrub planting e.g. edible shrub beds.  Includes trees that form part of areas of semi-natural vegetation e.g. within meadows or wetlands. Other retained	All proposed forms of vegetation to be measured by area in sqm.  Existing and proposed woodland should be measured in sqm as the area to be retained or planted, and not by current or predicted canopy cover.

Surface Cover Type	Factor	Notes	How to measure
		trees should be included in the relevant Standard Trees category.	
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	N/A	Measure in sqm.
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8	The minimum substrate depth should inform the factor applied to roofs designed to have a variable substrate depth.	Measure in sqm. Include total area of intensive green roof, including areas that are underneath photovoltaic cells, if proposed.
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.	0.8	Existing trees should be included where the trunk is on site. The entire canopy should be included in the UGF calculation, including any portion of the canopy that is beyond the site boundary. Where a tree canopy overhangs the site, but the trunk is off-site, the tree canopy should not be included in the UGF calculation.  With regard to the relationship between tree canopy and soil volume:  • Tree canopy should be measured in sqm.	Measure projected tree canopy in sqm. Projected tree canopy is to be measured as shown on the Landscape Masterplan drawing and should not exceed published maximum canopy area stated by supplier nursery.  Features underneath the tree canopy should also be

Surface Cover Type	Factor	Notes	How to measure
		• Soil volume should be measured in cubic metres.  For example, to achieve a UGF of 0.8, a tree with a projected canopy, as shown on the landscape plan and not exceeding that published by the supplier nursery, of 50 sqm would require a soil volume of at least 33 cubic metres (two thirds of 50 is 33).  Note that best practice guidance concerning the useful depth of soil under trees should be taken into consideration.	calculated in their own right according to their own factor e.g. where trees stand over amenity grassland.
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	The minimum substrate depth should inform the factor applied to roofs designed to have a variable substrate depth.	Measure in sqm. Include total area of extensive green roof, including areas that are underneath photovoltaic cells, if proposed.
Flower-rich perennial planting.	0.7	Includes mixed ornamental herbaceous planting.  Where mixed planting is proposed in a bed e.g. perennials, ground cover and shrubs, assign the whole planting bed to the dominant cover type.	Measure in sqm.

Surface Cover Type	Factor	Notes	How to measure
Rain gardens and other vegetated sustainable drainage elements.	0.7	Where a sustainable drainage element is covered in a higher scoring surface cover type, e.g. a detention basin of flower-rich grassland, the higher factor should be used.	Measure in sqm.
Hedges (line of mature shrubs one or two shrubs wide).	0.6	Ornamental shrub beds, allotments and other areas set aside for food growing should be also be assigned this factor score.	Measure in sqm.
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6	Existing trees should be included where the trunk is on site. The entire canopy should be included in the UGF calculation, including any portion of the canopy that is beyond the site boundary. Where a tree canopy overhangs the site, but the trunk is off-site, the tree should not be included in the UGF calculation.  With regard to the relationship between tree canopy and soil volume:  • Tree canopy should be measured in sqm.  • Soil volume should be measured in cubic metres.  For example, to achieve a UGF of 0.6, a tree with a projected canopy, as shown on the landscape plan and not exceeding that published by the supplier nursery, of 50 sqm would require a soil volume 33 cubic metres or below (two thirds of 50 is 33).	Measure projected tree canopy in sqm. Projected tree canopy is to be measured as shown on the Landscape Masterplan drawing and should not exceed published maximum canopy area stated by supplier nursery.  Features underneath the tree canopy should also be calculated in their own right according to their own factor.

Surface Cover Type	Factor	Notes	How to measure
		Note that best practice guidance concerning the useful depth of soil under trees should be taken into consideration.	
Green wall –modular system or climbers rooted in soil.	0.6	Proprietary green wall systems to be included.  Climbers are to be included where the design intent is to achieve the covering of a wall.	Measure surface area on the vertical plane in sqm.  The total site area should not be increased to include the area of a green wall.
Groundcover planting.	0.5	N/A	Measure in sqm. Include total area of ground cover, including areas that are underneath tree canopies.
Amenity grassland (species-poor, regularly mown lawn).	0.4	Also includes species-poor grasslands that will be managed by infrequent cutting.	Measure in sqm. Include total area of amenity grassland, including areas that are underneath tree canopies.
Extensive green roof of sedum mat or other	0.3	N/A	Measure in sqm.

Surface Cover Type	Factor	Notes	How to measure
lightweight systems that do not meet GRO Code 2014.			Include total area of extensive green roof, including areas that are underneath photovoltaic cells, if proposed.
Water features (chlorinated) or unplanted detention basins.	0.2	N/A	Measure in sqm.
Permeable paving.	0.1	Blue roofs (water storage tanks under a permeable but unvegetated roof deck) should be awarded the same factor score as permeable paving.	Measure in sqm.
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0	N/A	Measure in sqm.

