



The Green
Infrastructure
Consultancy

Telford & Wrekin

Green Space Factor Study





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Telford & Wrekin Green Space Factor Study

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1. Introduction

1.1 Purpose

- 1.1.1 This document has been produced to inform the Telford and Wrekin Council on the suitability of a Green Space Factor (GSF) scheme for the Borough and how such a scheme might operate. The report includes GSF calculations for various local schemes submitted for planning approval.
- 1.1.2 The report aims to identify the appropriate categorisation of surface cover types for Telford and Wrekin's GSF and to identify the types of development and areas within the Borough that should conform to the proposed GSF.
- 1.1.3 The Telford & Wrekin Council is reviewing its Local Plan. As part of that process, the following report aims to inform and support future planning policy regarding the protection and enhancement of green infrastructure through the introduction of a GSF.

1.2 Green Infrastructure

- 1.2.1 Green Infrastructure (GI) is defined by Natural England and the Landscape Institute as a multifunctional network of green space, which delivers a range of environmental, social, and economic benefits. GI operates at various spatial scales in both urban and rural environments¹ and can take many forms, such as parks, allotments, gardens, street trees, green walls and roofs, and sustainable urban drainage (SuDS).²
- 1.2.2 The integration of green space into urban environments provides a range of social, economic, and environmental benefits. Connecting GI features throughout urban and rural environments at a local, regional, and national scale will enhance resilience to climate and biodiversity challenges.
- 1.2.3 The benefits GI delivers to people, nature, and places, include:

¹ [*National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/424122/nppf-2019.pdf)

² [Green infrastructure: concepts, perceptions and its use in spatial planning \(ncl.ac.uk\)](https://www.ncl.ac.uk/research/centres/urban-planning-and-design/working-papers/green-infrastructure-concepts-perceptions-and-its-use-in-spatial-planning/)

- Social: supports physical and mental health, social inclusion, education, culture, and wellbeing.
- Economic: supports the value of property, economic development, and the creation of jobs.
- Environmental: creates and supports habitats to reverse biodiversity loss and mitigates against flooding and excess urban heat.

1.2.4 It is essential that GI becomes integrated into the built environment. Therefore, there is a need for processes that ensure that new developments incorporate adequate, high-quality GI (as well as the preservation and improvement of existing green spaces). By encouraging a multifunctional and interconnected approach to urban greening, necessary improvements to the GI network can be achieved.

1.2.5 Natural England's Green Infrastructure Framework (2023) has provided an evidence-based approach for the delivery, management, design, and monitoring of GI.³ The framework highlights the need to bolster the connectivity and multifunctionality of the landscape, creating Nature Recovery Networks that will address biodiversity and climate issues, and improve health and prosperity. The fundamental aims of the Framework are to improve the quality, quantity, and accessibility of green spaces. The Framework's principles, standards and design guidance will become essential tools for local plans and new developments to meet the requirements of the National Planning Policy Framework (NPPF). Figure 1. shows the Principles of Green Infrastructure outlined in the framework (2023).³

³ [Green Infrastructure Home \(naturalengland.org.uk\)](https://www.naturalengland.org.uk)

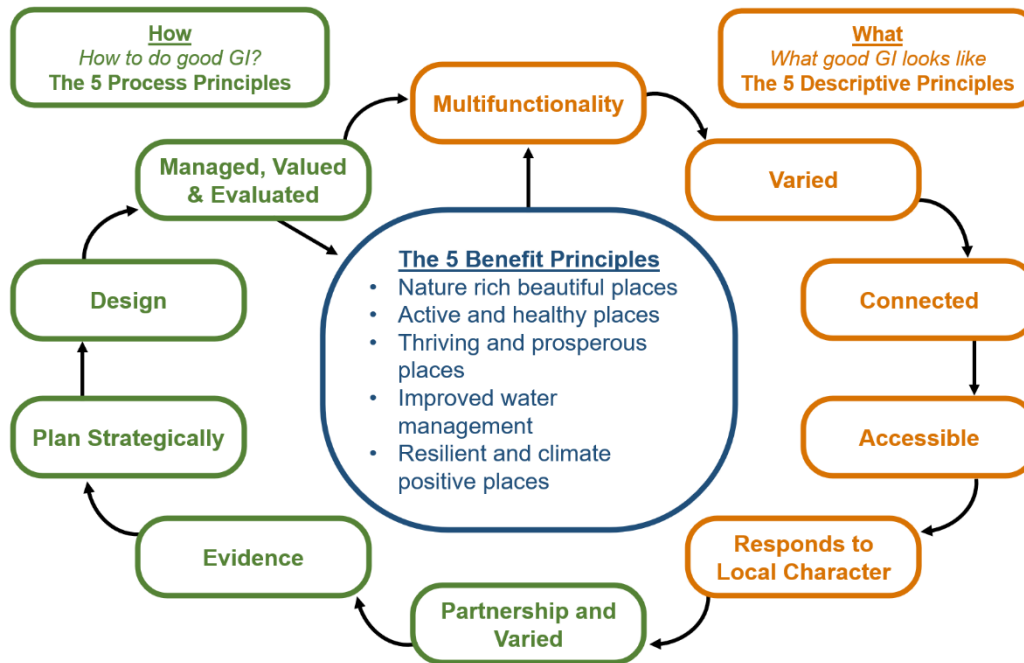


Figure 1. Natural England's GI principles.

2. Telford and Wrekin

2.1 The Borough has an extensive coverage of greenspace. 91% of the total land, and three-quarters of the urban landscape, is green infrastructure. These areas include open countryside and agricultural land, 2,500 hectares of forest and woodland, rivers and streams, private gardens, and urban green spaces for public amenity, recreation, and wildlife.^{4 5} The natural environment within the Borough contributes to local distinctiveness.

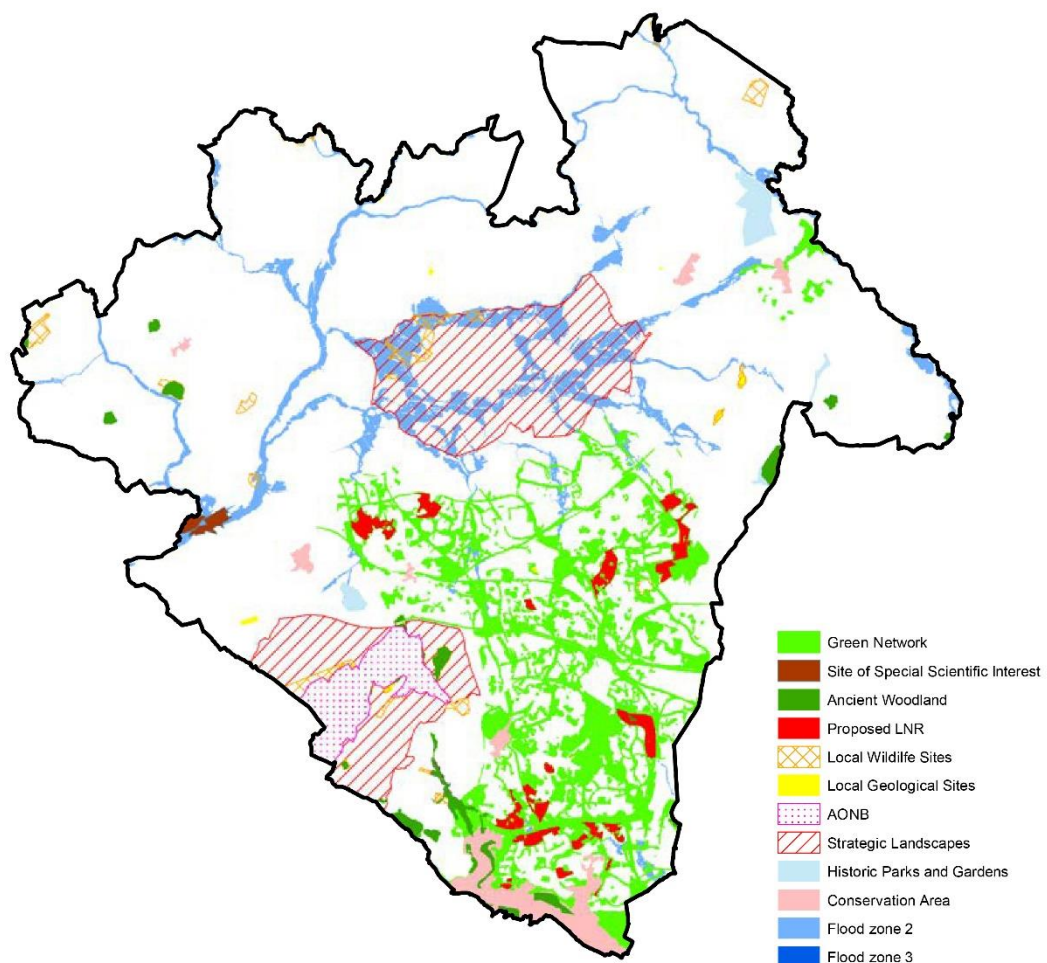
2.2 The spaces within the GI network perform the following functions across the urban area:

- Visual amenity in the form of views over green open areas, water bodies, and woodland;

⁴ [Local Green Infrastructure Needs Study - Telford & Wrekin Council](#)

⁵ [Telford and Wrekin Local Plan 2011 2031 adopted Jan 2018.pdf](#)

- Separation between built-up areas created by open greenspace, water bodies, or woodland which help to enhance the identity of neighbourhoods;
- Open land for recreation for an expanding population, combining the more formal parkland and recreation areas with wider landscaped areas valuable for informal activities;
- Natural habitats and ecological networks (corridors and stepping stones) by which wildlife can move and thrive;
- Geological and archaeological features within the Borough as a legacy of its early place in the Industrial Revolution;
- Open spaces and paths to facilitate cycling and walking.



3. Policy

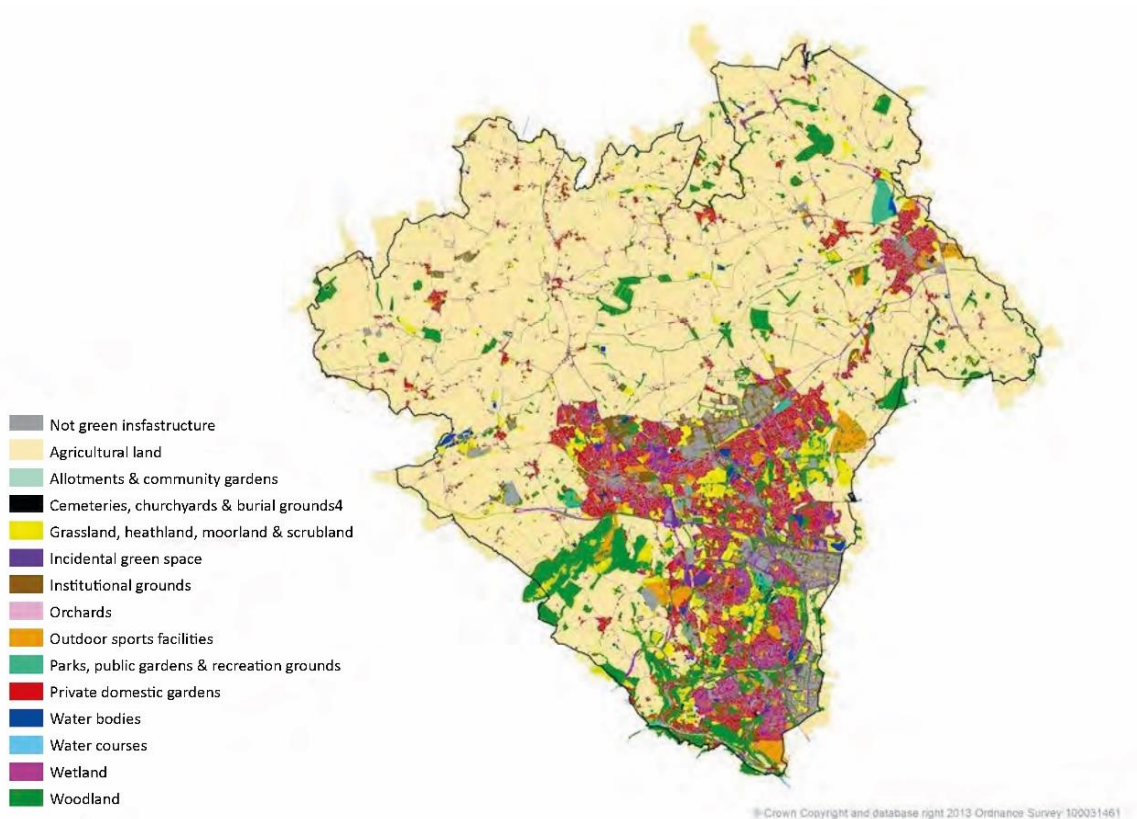
3.1 National Planning Policy Framework (2021)⁶

- 3.1.1** The NPPF aims to deliver sustainable development, providing a national framework that outlines economic, social, and environmental objectives that planning policies and decisions are required to contribute to. GI is referred to throughout the NPPF, most notably, but not exclusively, in the following sections:
- 3.1.2** Chapter 14, 'Meeting the challenge of climate change, flooding, and coastal change', outlines how future plans should mitigate and adapt to climate change, by considering the long-term implications for flood risk, water supply, biodiversity and landscapes, and the risk of rising temperatures (Para. 153).
- 3.1.3** Chapter 15, 'Conserving and enhancing the natural environment', describes how planning policies and decisions can benefit biodiversity through the protection and enhancement of valued landscapes; the identification, mapping and safeguarding of ecological networks; the promotion of conservation of priority habitats and species; and by accounting for the likely effects of pollution associated with new developments (Para. 174, 179, & 180).
- 3.1.4** Chapter 8 and 9, 'Promoting healthy and safe communities' and 'Promoting sustainable transport', further emphasises the use of GI to provide healthy, inclusive, and safe places for communities through the encouragement of accessible, connected, and multifunctional spaces (Para. 92 & 106).
- 3.1.5** Finally, Chapter 12, 'Achieving well-designed places', outlines the need for high-quality, attractive, sustainable buildings and places, highlighting the need for collaboration between stakeholders about the design and style that is maintained till the completion of a project (Para. 126).

⁶ [National Planning Policy Framework \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/92144/nppf-2021.pdf)

3.2 Green Infrastructure Framework Evidence & Analysis Document (2012)⁷

3.2.1 In 2012 the Telford & Wrekin Council released a Green Infrastructure Framework Evidence & Analysis Document to improve the understanding of GI within the Borough. It shows the distribution of the different types of GI across the Borough and explores how these provide varied functions at different locations. This document improves the understanding of the economic, social, and environmental issues that the Borough faces and how these could be alleviated by improving GI.



⁷ [Green infrastructure evidence and analysis document - Telford & Wrekin Council](#)

3.3 Local Green Infrastructure Needs Study (2013)⁸

3.3.1 In 2013 the Council released the Local Green Infrastructure Needs Study. This study builds on the Green Infrastructure Framework Evidence & Analysis Document,⁴ exploring the areas that were identified to have a lack of GI in more detail. GI deprivation was assessed and mapped in relation to health and well-being, biodiversity, spatial quality, and environmental resilience. The extensive mapping throughout this document allows for a detailed understanding of how GI varies across the Borough and the associated implications of this.

3.3.2 The Local Green Infrastructure Needs Study is in the process of being updated.

3.4 Telford & Wrekin Local Plan 2011-2031 (Adopted January 2018)⁹

3.4.1 The Local Plan sets out the vision and strategy for the physical planning of the Borough up to 2031.

The following objectives outlined in the local plan relate to GI:

- Make sure that the natural environment is planned, designed, and managed to meet site, local, and strategic needs.
- Make sure that Strategic Landscapes are protected and managed appropriately.
- Safeguard and enhance the Borough's biodiversity.
- Enable healthier lifestyles and improve the health and wellbeing of the population.
- Support the creation of safe and secure environments.
- Support the continued provision of an accessible and integrated transport network, including links to regional and national destinations.
- Encourage and help enable greater access by non-vehicular means to local green space, services, and locations of employment.
- Achieve high quality urban design which responds to local context and provides opportunities for innovation.

⁸ [Local Green Infrastructure Needs Study - Telford & Wrekin Council](#)

⁹ [Telford and Wrekin Local Plan 2011 2031 adopted Jan 2018.pdf](#)

- Safeguard the character and setting of the Borough’s built and natural heritage, including Ironbridge Gorge World Heritage Site and the Wrekin.
- Protect and enhance the Borough’s local distinctiveness.
- Make sure development mitigates for and enables adaption to the effects of climate change.
- Protect the Borough's water quality and reduce the risk of flooding.

3.4.2 The local plan sets out seven natural environment policies that aim to achieve these objectives:

3.4.3 NE 1 Biodiversity and geodiversity

Protect, maintain, and enhance biodiversity and geodiversity assets. Developments will be expected to incorporate new biodiversity features, enhance, and conserve existing spaces, and mitigate for impacted or lost habitats, through their design, layout, and landscaping.

3.4.4 NE 2 Trees, hedgerows, and woodlands

Retain, protect, and manage trees, hedgerows, and woodlands in the Borough. The policy expects developments to incorporate trees and enhance planting that aids the local character and biodiversity.

3.4.5 NE 3 Existing public open space

Protect, maintain, and enhance the provision of formal and informal open green space, highlighting the importance of the provision of, and access to sport, recreation, and biodiversity for community health and well-being.

3.4.6 NE 4 Provision of public open space

Requires major developments to provide and/or contribute to the provision of appropriate multi-functional urban greening. It is essential that the scale, type, and quality of green space are appropriate for the context and needs of the area.

3.4.7 NE 5 Management and maintenance of public open space

Development proposals are required to provide management and/or financial provision for the future management and maintenance of new and existing recreation spaces, play and sports provision, and biodiversity mitigation.

3.4.8 NE 6 Green Network

Protect, maintain, and enhance as well as where possible extend the Green Network. New developments within the green network will only be supported if they protect and enhance the Network and its functions.

3.4.9 NE 7 Shropshire Hills Area of Outstanding Natural Beauty and Strategic Landscapes.

This policy highlights the importance of protecting the Borough's Strategic Landscapes from development. The Shropshire Hills Area of Outstanding Natural Beauty (AONB) will be given the highest level of protection.

3.5 Telford and Wrekin Local Plan Review

3.5.1 The Telford & Wrekin Council is currently undergoing a review of its Local Plan to ensure that it remains up-to-date and that the borough's future development needs are met in a sustainable and measured way. A review is legally required to take place at least once every five years. The review involves the examination of the current plans, policies, and proposals, any changing circumstances in the area, conformity with the revised NPPF, and whether change is relevant to the current needs of the local community.¹⁰

3.5.2 The review set four priorities to address and support growth; the protection, enhancement and accessibility of the borough's natural environment and green spaces, meeting local housing needs, supporting the regeneration of towns and infrastructure, and employment-led growth.¹¹

3.5.3 The Issues & Options stage of the review has been completed, identifying the need to update the Local Plan. Following this, the Council will share and consult the proposals in the subsequent stages of the review and then update the Local Plan accordingly.¹⁰

3.6 Green Infrastructure Framework (2023)³

3.6.1 In January 2023, Natural England launched the Green Infrastructure Framework. The framework aims to improve the quality, quantity, and accessibility of GI throughout the country. The framework places an emphasis on increasing the extent and connectivity of green spaces to support and increase wildlife populations, promote resilience

¹⁰ Telford & Wrekin Local Plan review - Telford & Wrekin Council

¹¹ Local Development Scheme 2022 - 2025 - Telford & Wrekin Council

against the impacts of climate change, and ensure cities are habitable for future generations.

3.6.2 The framework is comprised of five parts, each designed to support and encourage different elements of green infrastructure.

3.6.3 The first component of the framework is Green Infrastructure Principles.¹² These principles provide the baseline for how to develop and deliver GI. The principles are divided into three categories (as seen in Figure 1.):

- **What** good GI looks like. This describes the attributes good GI should possess, such as being multifunctional, varied, connected, and accessible.
- **How** to plan, design, and nurture GI. This outlines the steps necessary to create good GI, such as working in partnerships, using evidence, and planning strategically.
- **Why** GI should be provided. This section outlines the benefits GI can provide to people and nature, such as creating active and healthy places, improving water management, and providing resilience to climate change.

3.6.4 The second component of the framework is the Green Infrastructure Standards.¹³ This document provides guidance on the national standards for GI quantity and quality, ensuring that GI is integrated into urban and rural environments. The standards help to deliver the 15 Green infrastructure Principles by providing an evidence base for planners, developers, green space managers, and communities outlining how to plan, design, manage, monitor, and assess the quality of GI. The five Headline Green Infrastructure Standards are:

- Green Infrastructure Strategy Standard - Local authorities should work with stakeholders and the local community to assess and plan GI provision that conforms with the 15 GI principles (adapting where appropriate).
- Accessible Greenspace Standard - Ensure everyone has good access to high-quality green space (at least 3 hectares per 1,000 people)
- Urban Nature Recovery Standard - Increase the proportion of GI designed for natural recovery.
- **Urban Greening Factor Standard** - A planning tool to increase the level of greening in urban environments and ensure there is no net loss of green cover (Urban Greening Factor is an alternative term for Green Space Factor).
- Urban Tree Canopy Cover Standard - Increase urban tree canopy cover based.

¹² [Green Infrastructure Principles \(naturalengland.org.uk\)](https://naturalengland.org.uk/green-infrastructure-principles)

¹³ [GI Standards \(naturalengland.org.uk\)](https://naturalengland.org.uk/gi-standards)

3.6.5 The third component of the framework is the Green Infrastructure Planning and Design Guide.¹⁴ The document provides practical, evidence-based guidance on how to design and create good quality, multifunctional GI. The design guide outlines how to apply the Green Infrastructure Principles and Standards to support the creation of a multifunctional, connected green network. Furthermore, it outlines how requirements such as Biodiversity Net Gain and tools such as the Urban Greening Factor can benefit the design of quality GI.

3.6.6 The fourth component of the framework is Green Infrastructure Maps.¹⁵ The maps outline environmental and socio-economic data to support the GI standards. They can be used to identify areas where there is a deficiency in green infrastructure provision and highlight areas where intervention is most needed.

3.6.7 The final component of the framework is the Green Infrastructure Process Journey.¹⁶ This document provides information on how to apply the Green Infrastructure Framework and develop GI-informed policy, strategy, delivery, and management. The document's aim is to integrate green infrastructure into new developments and improve the management of existing GI, referring to the Natural England Green Infrastructure Principles, Standards, Design Guide, and Mapping Database. They are designed to be used by local authorities, developers, and other stakeholders to help them navigate the process of planning and implementing green infrastructure projects.

4. Green Space Factor (GSF)

4.1 Origins

4.1.1 The Green Space Factor (GSF) - also known as the Urban Greening Factor (UGF) - is a tool that measures the quality and quantity of green infrastructure in a development.

4.1.2 The approach originated in Berlin, which introduced the Biotop Flächenfaktor or Biotope Area Factor (BAF) in 1994, having explored the idea in the Western

¹⁴ [GI Design Guide \(naturalengland.org.uk\)](https://naturalengland.org.uk/gi-design-guide)

¹⁵ [Green Infrastructure Map \(naturalengland.org.uk\)](https://naturalengland.org.uk/gi-infrastructure-map)

¹⁶ [GI Process Journeys \(naturalengland.org.uk\)](https://naturalengland.org.uk/gi-process-journeys)

Sector of the city in the 1980s.¹⁷ The BAF is applied, in combination with Landscape Plans, in several Berlin's inner-city neighbourhoods. Landscape Plans address spatial issues and opportunities and the BAF ensures that adequate green space is provided within each development parcel. The BAF works by setting target scores for greening, which are adjusted according to land use, with sites with educational use, for example, requiring the highest scores. Minimum scores for sites within neighbourhoods covered by the scheme vary between 0.3 and 0.6. Problems with surface water flooding and an overall lack of green space were the catalysts for the BAF initiative, and surface cover types are assigned scores that were based on their ability to infiltrate, store, and evaporate water. The BAF is viewed positively by city planners, architects, and developers, who have praised its simplicity and flexibility, however, it is recognised that it cannot be used to assess the environmental impact of a scheme.

4.1.3 A GSF scheme was trialled in 2001 in a new residential development in the post-industrial Western Harbour area of Malmö, Sweden. The original purpose was to ensure that adequate green space was provided on every plot and that sealed surfaces were minimised. A minimum target score of 0.5 was set. The scheme was subsequently revised after the quality of some developments did not match the planning authority's expectations. A Green Points System was also added to improve the quality of landscape design and to encourage the inclusion of features that increase biodiversity. The scheme is now being applied to a wider area within Malmö as well as the neighbouring town of Lund.¹⁸

¹⁷ <https://www.berlin.de/umwelt/themen/landschaft-stadtgruen-forsten/artikel.143512.php>

¹⁸ https://tcpa.org.uk/wp-content/uploads/2021/11/EP6_FINAL.pdf



Figure 4. Greening of social housing in Malmö

4.1.4 Seattle, in the State of Washington, adopted the Green Factor scheme in 2006, which has been subsequently updated.¹⁹ It was modelled, in some respects, on the Berlin BAF. The three priorities of Seattle's scheme have been liveability, ecosystem services, and climate change adaptation. As with other schemes, Seattle's has a catalogue of landscape elements, each with its own score, and a requirement for project proposals to meet a minimum overall score. Minimum scores vary according to zones, with residential zones requiring the highest scores and commercial and industrial areas, lower scores. To qualify for certain scores, landscape features must comply with detailed standards set by the city. For example, bio-retention facilities must include adequate soil volumes. Increased diversity of planting is also encouraged. The scheme includes a provision for bonus credits for drought

¹⁹ <https://www.seattle.gov/dpd/codes/dr/DR2020-11.pdf>

tolerance, irrigation with harvested rainwater, landscape features visible to passers-by, and food cultivation. For a scheme to be awarded a score, it must be submitted with a landscape plan and landscape management plan and be submitted by a licensed landscape professional. A landscape professional must also verify that the landscape scheme has been installed in conformance with the approved plan. Since the scheme was adopted, Seattle's Department of Planning and Development has noted higher quality and better-integrated landscape design, with increased use of permeable paving, green roofs, and green walls.

4.1.5 Washington DC operates the Green Area Ratio (GAR) regulation. It was introduced in 2013 and subsequently revised. It has similarities with the Seattle scheme. It has been established by regulation and applies to all applications for building permits for new buildings and major renovations (with a few exemptions). The satisfactory implementation of a landscape scheme, that has met the minimum GAR score, must be demonstrated by a Certified Landscape Expert, before a certificate of occupation may be granted. The scheme gives high scores for trees (measured by canopy size), intensive green roofs, and the conservation of existing soil. Target scores vary according to planning zones, with differentiation between residential, mixed-use and downtown (city-centre) areas.²⁰

4.1.6 Using a GSF tool is a requirement for applications within Southampton's City Centre Action Plan (AP 12), which in 2015, "required all developments (and especially key sites) to assess the potential of the site for appropriate green infrastructure improvements by using the Council's Green Space Factor, and to improve the score for the site." For other sites not within the City Centre, the council encourages, but does not require, the use of the tool. Scores are assigned according to the rate of infiltration of rainwater for each landscape element. The scoring system considers existing land cover, encourages retention of existing features, and requires an overall increase in score compared with the existing condition. Performance requirements for surface cover types are not prescribed (as they are in the US for example). A completed spreadsheet is submitted as part of an application; however, there is no requirement for a suitably qualified professional to do this and no mechanism for verifying that a scheme has been implemented satisfactorily.

²⁰ <https://doee.dc.gov/node/648482>

4.1.7 Swansea introduced the Green Space Factor in 2021, as part of its city centre green infrastructure strategy.²¹ Swansea's GSF is based on London's UGF (see below). In Wales, sustainable drainage (SuDS) for new development is a requirement and local authorities act as SuDS approving bodies (SABs).²² Having SuDS on its own does not always result in the best multifunctional outcome, with engineers opting for tanks instead of nature-based solutions, however, the GSF highlights the importance of high-quality green infrastructure in new projects. This has already led to several urban renewal proposals, featuring green roofs and green walls in Swansea City Centre. An example is the Biophilic Living²³ housing and office project on the High Street. A culture is being created whereby there is an expectation that all new buildings will feature a green roof.

4.1.8 The New London Plan was adopted in 2021 and features the Urban Greening Factor (UGF) as a tool to boost urban greening in new development.²⁴ In anticipation of the formal adoption of the UGF, local planning authorities in London have been asking for developers to submit UGF calculations for schemes for some time.

4.2 How GSF Works

4.2.1 The GSF functions by assigning a factor score to different landscape cover types within a proposed development scheme. The landcover types are assigned scores between 1 and 0, where 1 is for natural vegetation and 0 is for completely sealed surfaces. In the original Berlin scheme landscape cover categories were given scores that related to their permeability, and this was found to be a good indicator of the ecosystem services provided. The Berlin approach was subsequently adopted by other cities, with minor amendments to scores where there was a desire to encourage particular cover types. Subsequent use of the scores has in various cities proven to be easy to understand and accepted by authorities and applicants alike. This is also the

²¹ <https://www.swansea.gov.uk/greeninfrastructurestrategy>

²² <https://gov.wales/sites/default/files/publications/2019-06/statutory-guidance.pdf>

²³ <https://www.powelldobson.com/en/projects/mixed-use/biophilic-living-in-swansea#:~:text=The%20project%20has%20been%20designed,improve%20their%20relationship%20with%20nature.>

²⁴ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance/urban-greening-factor-ugf->

Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	10	10.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		0.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	4	3.2
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	28	19.6
Flower-rich perennial planting.	0.7	5	3.5
Rain gardens and other vegetated sustainable drainage elements.	0.7	3	2.1
Hedges (line of mature shrubs one or two shrubs wide).	0.6		0.0
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	5	2.5
Amenity grassland (species-poor, regularly mown lawn).	0.4	23	9.2
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1	14	1.4
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0	8	0
Total contribution			51.5
Total site area (m²)			100
Green Space Factor			0.52

Table 1. GSF calculation table for theoretical 100 sq m site from Figure 5.

4.2.5 Cities/councils will usually set minimum GSF benchmark scores that developments are required to meet. Developments are therefore encouraged to include greening as a fundamental aspect from the onset of site design. Failure to meet the target should result in the rejection of a scheme, or act as an indication that a proposal needs to be amended.

4.2.6 With most GSF schemes, the purpose is easily explained and understood, and the calculation is a relatively straightforward and inexpensive process, providing a useful and comparable metric to measure the quality of GI in a development. This will support developments to display how they have included urban greening as required by **NE 1**.⁶

- 4.2.7** Biodiverse environments underpin GI benefits, and by instilling ecologically informed approaches to the design and maintenance of spaces, further support will be delivered to health and wellbeing, water management, the reversal of biodiversity loss, and climate change mitigation (**NE 1 and 5**). It is essential that a developments context within the Green Network is understood to enable the GSF to benefit local communities, as outlined in **NE 6**.
- 4.2.8** The GSF is designed as a planning tool to improve the objectivity of discussions regarding GI included within planning applications. The intention is to improve the extent and quality of GI within developments. GSF schemes are not enforceable statutory requirements.
- 4.2.9** The Biodiversity Net Gain (BNG) process supports the recovery of nature while developing land. BNG aims to leave the natural environment in a measurably better state than it was before development. As defined in the Environment Act 2021, new developments are required to demonstrate a minimum of 10% net gain in biodiversity compared to their pre-development baseline. This can be through onsite or offsite habitat creation or enhancement. BNG differs from the proposed UGF as it is a fixed mandatory requirement, specific to biodiversity and applied uniformly across England. BNG compares sites pre- and post-development. UGF sets a target for post-development greening and does not involve offsite greening. UGF can be adapted to different zones and development types and scenarios and informs the planning process by assessing the overall quantity and quality of green spaces within a proposed development.

4.3 Benefits and Issues

- 4.3.1** The benefits of GSF include:
- An increase in the inclusion of multifunctional green infrastructure features in designs
 - More greening on restricted sites in densely developed areas
 - A simple mechanism easily understood by non-specialists
 - Facilitation of conversations between developers and planners
 - Empowerment of local authorities, who may successfully argue the case for more greening
 - Flexibility: scores and targets can be adjusted to reflect local priorities
- 4.3.2** Potential issues (depending on how a GSF scheme is implemented) can include the following:

- Given that a GSF determines only the quantum of broadly described categories, the design quality of each treatment cannot be assessed in detail.
- There is a possibility of the GSF scheme being too rigidly interpreted, with proposals meeting, but not exceeding targets.
- Not promoting green roofs and green walls could result in insufficient green infrastructure being created in schemes with tall buildings and a small ground-level curtilage.
- In an attempt to reach target scores, developments could incorporate GI elements that are inappropriate or unsuitable for the location. This can also involve maintenance issues which could undermine the long-term viability of the GI within the scheme.

5. Telford and Wrekin Case Studies

5.1 Ten case study developments within Telford and Wrekin were evaluated to understand how the GSF might be used in the Borough. The case studies were assessed using the GLA’s UGF scoring and surface cover definitions. The following table summarises the findings of the case studies, which are appended.

Table 2. Summary of Telford & Wrekin case studies.

Name	Planning Application	Use	GSF Score	Observations
Former Wrekin Endeavour Centre	TWC/2021/0930	Residential	0.49	This site is a good example of the use of a diverse mix of landcover types. The use of planted trees, wetlands, and flower-rich planting, along with the retained existing mature trees and semi-natural vegetation, boosts this score.
Queensway Unit 7	TWC/2015/1064	Industrial	0.06	Over 85% of the site is sealed surface. The vegetated landcover types have a low factor score, resulting in a very low score overall.
Allscott	TWC/2019/0827	Residential	0.42	This is an example of a phased residential development that scores above the 0.4 target. The wildflower meadow planting with the large area of tree cover above means that these overlapping types are both counted. The inclusion of rain gardens and wetlands is a good example of how residential sites can boost their GSF scores.
Allscott Primary School	TWC/2021/1146	Education	0.37	As expected with a school, a large quantity of the landcover is amenity grassland. However, to allow schools to reach a score of over 0.4, green roofs and vertical greening may be required.

The Hem	TWC/2022/0796	Residential	0.18	The site shows a lack of diversity in greenspace, with over 70% of the GSF contribution being from amenity grassland. The phasing of this development contributes to the low score of this phase as large areas of retained vegetation are not included in the current planning application. If a score was recorded for all the phases, it would likely surpass the target score.
Former Stirchley Recreation Centre	TWC/2021/1201	Residential	0.17	This site has climbers and green roofs. The soft landscape plan shows a large intensive green roof however, the design indicates a smaller sized extensive green roof. The correct categorisation and size of greening is essential to accurately assign GSF scores. The use of small amounts of vertical greening cannot redeem the site's low score, especially when the site is predominantly sealed surface.
Lightmoor Concrete Works	TWC/2019/1042	Residential	0.31	The development has a diverse landscape scheme with 8 different landcover types. However, these vegetated areas make up less than 50% of the site, with the remainder being sealed surfaces.
West of Station Road	TWC/2021/0795	Residential	0.22	This site has a bland and inadequate landscaping scheme which results in its low score. There is a lack of tree planting and overreliance on amenity grassland
Audley Avenue	TWC/2018/0138	Residential	0.32	Despite the site being dominated by amenity grassland, the extensive tree planting and the large area of wetland help the development reach a higher score.
Hortonwood 40	TWC/2021/0937	Commercial	0.42	Almost 20% of the area is retained semi-natural vegetation. This helps the site attain a high score despite roughly half of the area being sealed surfaces.

6. Conclusions & Recommendations

- 6.1** It is recommended that the Telford and Wrekin Council introduces a Green Space Factor scheme. This would be compatible with the approach set out by Natural England's Green Infrastructure Framework (2023).
- 6.2** Interest in this approach is growing considerably across the UK. The City of Southampton was the first UK planning authority to develop a scheme, where it is referred to as the Green Space Factor (GSF).²⁵ The GSF has since been adopted by the City of Swansea in Wales, and as the UGF by the Greater London Authority.²⁶ ²⁷ The approach is gaining popularity with the planning

²⁵ https://www.southampton.gov.uk/media/kajkr23v/green-space-factor-guidance-notes-2015_tcm63-371696.pdf

²⁶ <https://www.swansea.gov.uk/greeninfrastructurestrategy>

²⁷ [Urban Greening Factor | GLA \(london.gov.uk\)](https://www.london.gov.uk/urban-greening-factor)

officers who operate these schemes and Natural England makes reference to the approach in its GI Guidance (expected January 2023).

- 6.3 For Telford and Wrekin, it has been suggested that the GSF scheme as opposed to a UGF scheme should be adopted given that the versions of the scheme are likely to be used Borough-wide and not confined to urban areas.
- 6.4 The GSF is a tool for assessing GI in planning proposals, usually for urban development. It is suggested that the scheme is applied to major developments only, as defined by the NPPF. That is residential schemes where 10 or more homes will be provided, or where the site covers 0.5 hectares or more, and non-residential developments that have additional floorspace of 1,000m² or more, or a site area of 1 hectare or more.²⁸
- 6.5 Within the Borough, it is suggested that the GSF scheme is applied in three categories as follows:

Category	GSF Score
Residential/ Educational	0.4
Commercial/Institutional	0.3
Industrial/ Distribution	0.3

- 6.6 These scores should be considered as minimum targets and maximum requirements. For larger phased developments, the individual phases can be exempt from reaching the target score if the project as a whole meets the required score. The suggested targets represent challenging but achievable provision of GI and have been proven to be effective in other green factor schemes.
- 6.7 The main purpose of the GSF is to achieve the extent and quality of greening expected and promoted by policy. To ensure that targets are met, green infrastructure will need to be considered from the onset of a scheme to allow for sound planning and design. Specialist landscape and ecological advice applied at an early stage of planning, informed by the GSF, will support the implementation of GI policy.

²⁸ [National Planning Policy Framework - Annex 2: Glossary - Guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/101222/nppf-annex-2-glossary-guidance.pdf)

6.8 Applicants will be expected to produce colour-coded GSF surface cover maps and calculation tables. The surface cover map should be developed from landscape masterplans and clearly display the different surface cover types within a proposed development. The surface cover maps should be submitted for approval in shapefile (.shp) format. This means the level of detail provided must be sufficient to facilitate the GSF process.

6.9 Based on experience in operating Greater London’s UGF scheme and following feedback from Telford and Wrekin officials, we propose the following surface cover categories and scores for the borough:

Table 3. Proposed surface cover categories and scores for Telford & Wrekin.

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 new woodland that is 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 GSF of 0.8 or 0.6, depending on the relationship between canopy and soil volume, as set out below. Includes dense naturalistic, mixed-species shrub planting e.g. edible shrub beds. And species-rich grasslands/meadows that include a range of perennial flowers and grasses that will not be frequently cut. Includes tree canopies that form part of areas of semi-natural vegetation e.g. within meadows or wetlands. Other retained trees should be included in the relevant Standard Trees category.	Sq.m Woodland should be measured in sqm as the area to be retained or planted, and not by current or predicted canopy cover.
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		Sq.m
Intensive green roof that meets the requirements of the GRO Code 2021 or vegetation over structure.	0.8	Substrate minimum settled depth of 150mm.	Sq.m Measure vegetated sections only.
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, 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. For the measurement of tree canopy and soil volume: <ul style="list-style-type: none"> Tree canopy should be measured in sqm. Soil volume should be measured in cubic metres 	Sq.m Projected tree canopy is to be measured as shown on the Landscape Masterplan drawing and should not exceed the species maximum canopy area. Features underneath the tree canopy should also be calculated according to their own factor.

Biosolar roof (extensive green roof combined with photovoltaic panels fitted to purpose-made frames).	0.7	Space should be allowed between panels to allow rain and light to reach the substrate. Recommended minimum of 500mm between rows of panels.	Sq.m Include total area of green roof, including areas that are underneath photovoltaic cells.
Extensive green roof that meets the requirements of the GRO Code 2021.	0.7	Substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket)	Sq.m Measure vegetated sections only
Flower-rich perennial planting.	0.7	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.	Sq.m
Rain gardens and other vegetated sustainable drainage elements.	0.7		Sq.m
Native hedges.	0.7	Line of mature native shrubs one or two shrubs wide.	Sq.m
Hedges.	0.6	Line of mature shrubs one or two shrubs wide. Include ornamental shrub beds.	Sq.m
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, 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. For the measurement of tree canopy and soil volume: <ul style="list-style-type: none"> • Tree canopy should be measured in sqm. • Soil volume should be measured in cubic metres 	Sq.m Projected tree canopy is to be measured as shown on the Landscape Masterplan drawing and should not exceed the species maximum canopy area. Features underneath the tree canopy should also be calculated according to their own factor.
Green wall.	0.6	Modular system or climbers rooted in soil. 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 sq.m. Total site area should not be increased to include the area of a green wall.
Allotments or raised beds for food growing.	0.6		Sq.m Include areas with soil only
Groundcover planting.	0.5		Sq.m
Species-rich lawns.	0.5	At least 5 species of low-growing wildflowers - regularly mown lawns.	Sq.m
Amenity grassland (species-poor, regularly mown lawn).	0.4	Also includes species-poor improved grasslands.	Sq.m
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2021.	0.3		Sq.m
Water features (chlorinated) or unplanted detention basins.	0.2		Sq.m
Permeable paving.	0.1		Sq.m
Sealed surfaces.	0	Concrete, asphalt, waterproofing, stone.	Sq.m

- 6.10** The categories defined in Table 3 have been selected to allow people involved in planning and design to easily categorise proposed surface cover types. This improves and simplifies the GSF/UGF process. In the event that a proposed surface cover type within a site does not appear to be listed, it can be assigned into the category that is most functionally similar. If there is uncertainty, a suitable category can be agreed with planning authority officials.
- 6.11** The surface cover categories in the table have been utilised successfully, with no serious disputes, in Swansea and London in recent years. Therefore, it is recommended that Telford and Wrekin adopt a similar approach.
- 6.12** To support the policy objectives and application of the Green Space Factor, Supplementary Planning Documents (SPD) should be produced. As outlined in the Natural England's Green Infrastructure Framework, local authorities should adopt the GI principles and standards and work towards creating area-specific design guides to tackle local challenges and green space deprivation. These should outline how different types of development (residential, commercial, and industrial/distribution) can reach GSF targets and how high scoring sites can benefit people, businesses, and wildlife.
- 6.13** Monitoring is essential to understand the effectiveness of greening policy and the GSF scheme. Telford and Wrekin should implement a periodic review (say, every 5 years) to assess if the GSF baseline targets are being met and green infrastructure is being nurtured. If issues are identified, GSF targets may be adjusted across the entire Borough or for specific districts or development types. The factors can also be adjusted to facilitate application of the scheme or to deter or encourage the use of particular land cover types.

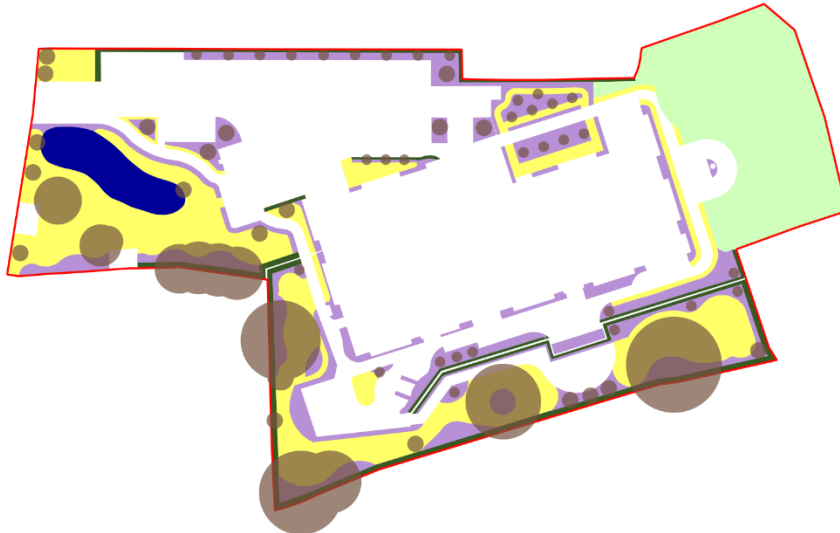
7. Appendix

Site Name

GSF Landcover Breakdown

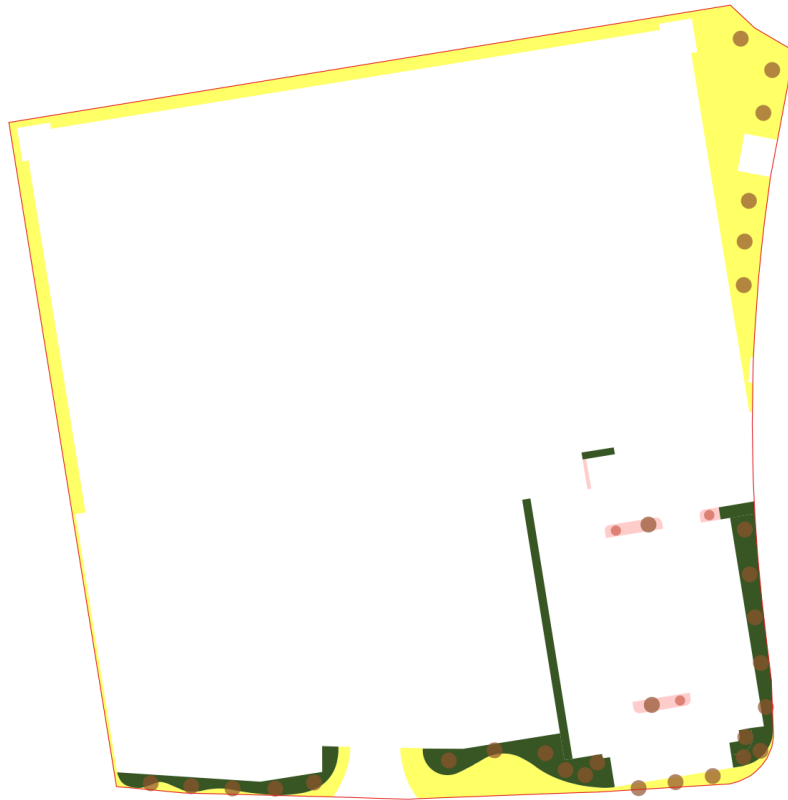
GSF Calculation table

**Former
Wrekin
Endeavour
Centre**



Surface Cover Type	Factor	Area (m²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	1062	1062.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	208	208.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	1383	1383.0
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		0.0
Flower-rich perennial planting.	0.7	1092	764.4
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	385	231.0
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5		0.0
Amenity grassland (species-poor, regularly mown lawn).	0.4	1738	695.2
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			4343.6
Total site area (m²)			8901
Green Space Factor			0.49

Queensway Unit 7



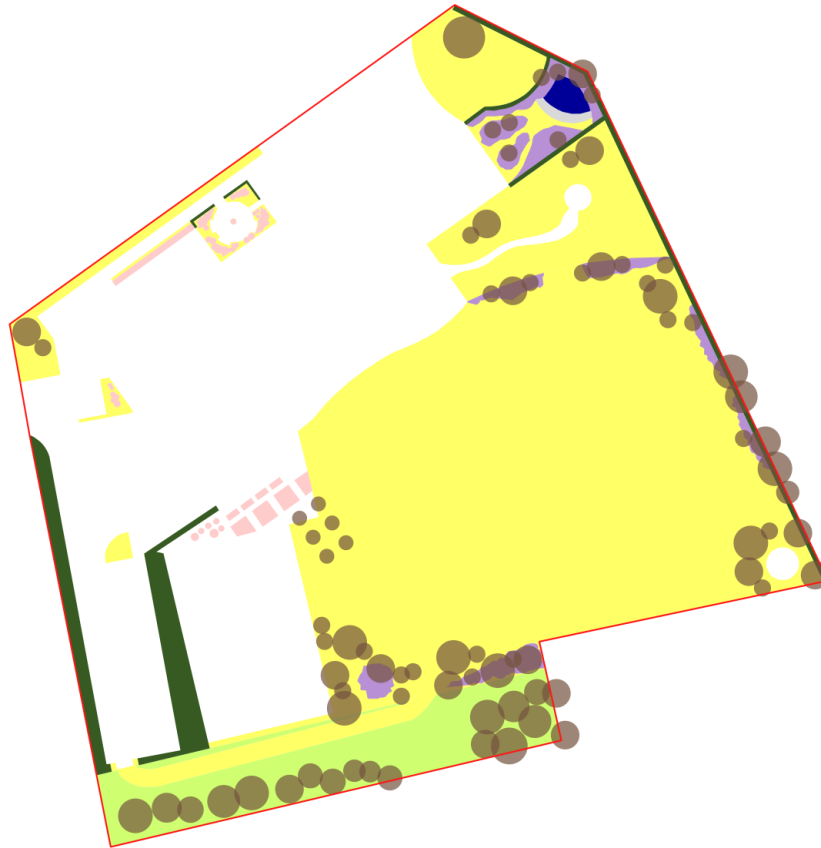
Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1		0.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		0.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	163	130.4
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		0.0
Flower-rich perennial planting.	0.7		0.0
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	424	254.4
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6	7	4.2
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	47	23.5
Amenity grassland (species-poor, regularly mown lawn).	0.4	1135	454.0
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			866.5
Total site area (m²)			14193
Green Space Factor			0.061

Allscott



Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1		0.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	880	880.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	17224	13779.2
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		0.0
Flower-rich perennial planting.	0.7	28629	20040.3
Rain gardens and other vegetated sustainable drainage elements.	0.7	439	307.3
Hedges (line of mature shrubs one or two shrubs wide).	0.6		0.0
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall – modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5		0.0
Amenity grassland (species-poor, regularly mown lawn).	0.4	27670	11068.0
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			46074.8
Total site area (m²)			108528
Green Space Factor			0.42

Allscott Primary School



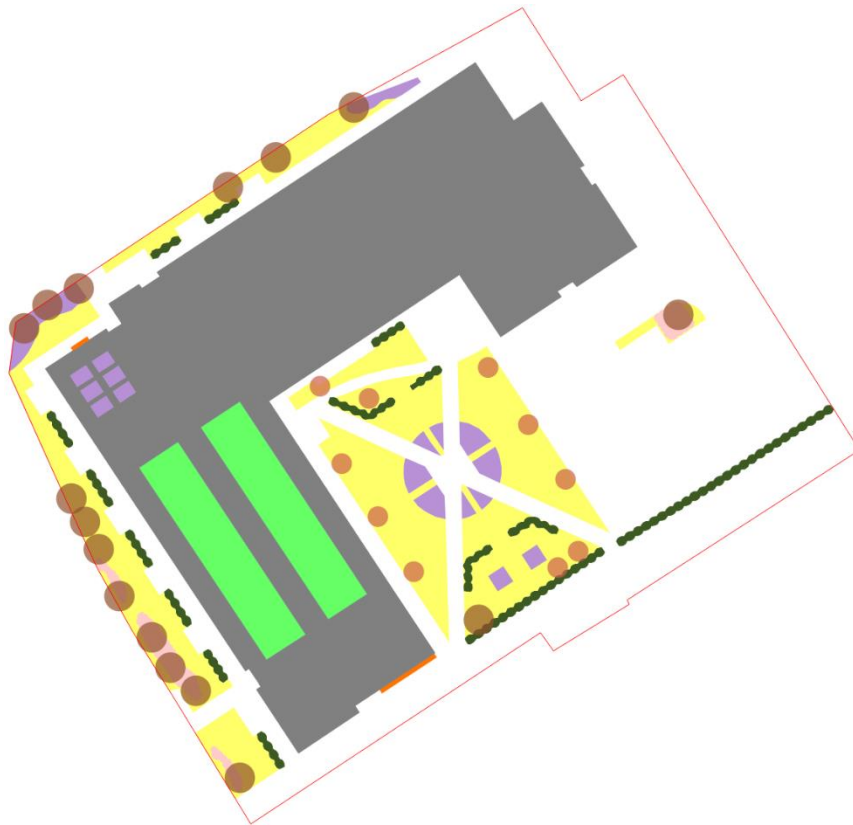
Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	830	830.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	33	33.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	1140	912.0
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		0.0
Flower-rich perennial planting.	0.7	274	191.8
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	441	264.6
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	100	50.0
Amenity grassland (species-poor, regularly mown lawn).	0.4	5777	2310.8
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1	15	1.5
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			4593.7145
Total site area (m²)			12390
Green Space Factor			0.37

The Hem



Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1		0.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		0.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	2102	1681.6
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		0.0
Flower-rich perennial planting.	0.7	22	15.4
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	1125	675.0
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	3076	1538.0
Amenity grassland (species-poor, regularly mown lawn).	0.4	33805	13522.0
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0
Total contribution			17432
Total site area (m²)			98404
Green Space Factor			0.18

Former Stirchley Recreation Centre



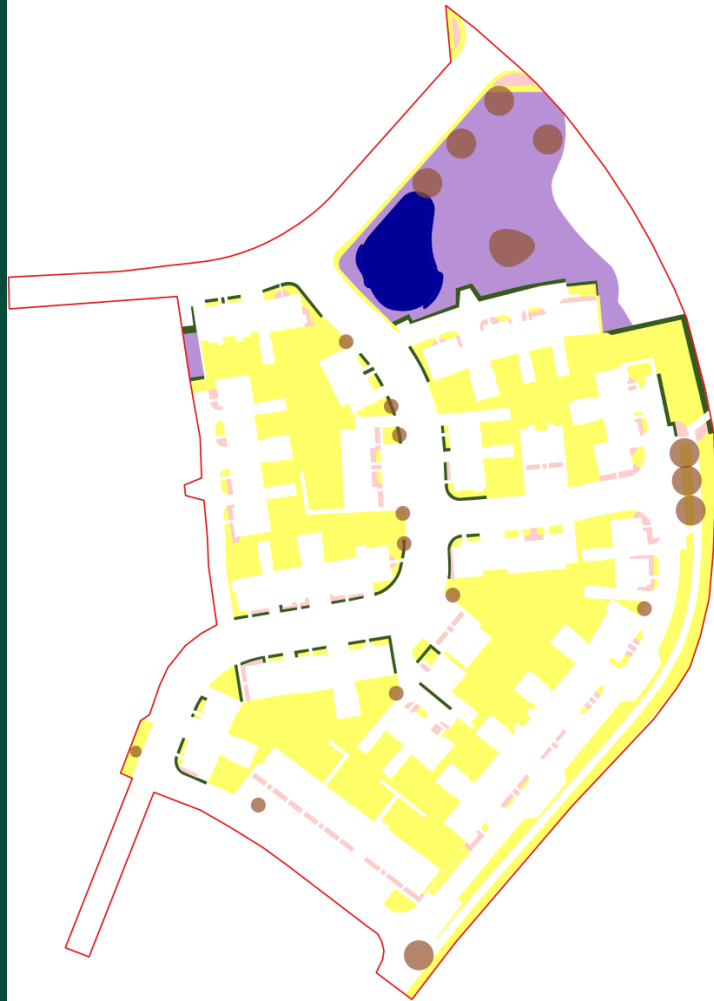
Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1		0.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		0.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	139	111.2
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	254	177.8
Flower-rich perennial planting.	0.7	101	70.6
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	94	56.5
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6	40	24.0
Green wall –modular system or climbers rooted in soil.	0.6	45	27.0
Groundcover planting.	0.5	42	21.2
Amenity grassland (species-poor, regularly mown lawn).	0.4	698	279.2
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			767.5
Total site area (m²)			4607
Urban Greening Factor			0.17

Lightmoor Concrete Works



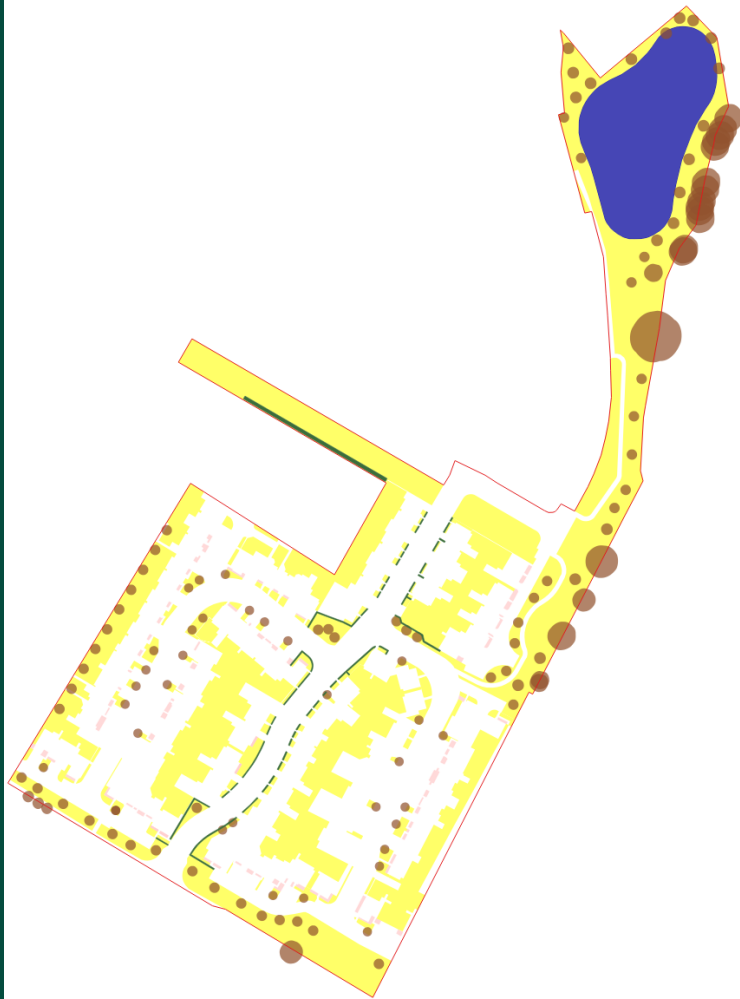
Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	2324	2324.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	133	133.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	579	463.2
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		0.0
Flower-rich perennial planting.	0.7	746	522.4
Rain gardens and other vegetated sustainable drainage elements.	0.7	36	24.9
Hedges (line of mature shrubs one or two shrubs wide).	0.6	1103	661.7
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	271	135.4
Amenity grassland (species-poor, regularly mown lawn).	0.4	4189	1675.7
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			5940.3
Total site area (m²)			19292
Urban Greening Factor			0.31

West of Station Road



Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1		0.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	483	483.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	574	459.2
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		0.0
Flower-rich perennial planting.	0.7	1959	1371.3
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	349	209.4
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	333	166.7
Amenity grassland (species-poor, regularly mown lawn).	0.4	6901	2760.6
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			5450.2199
Total site area (m²)			24417
Urban Greening Factor			0.22

Audley Avenue



Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1		0.0
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	3563	3563.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	3359	2687.5
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		0.0
Flower-rich perennial planting.	0.7		0.0
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	297	178.2
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	381	190.5
Amenity grassland (species-poor, regularly mown lawn).	0.4	18321	7328.4
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			13947.6
Total site area (m²)			43878
Urban Greening Factor			0.32

Hortonwood 40



Surface Cover Type	Factor	Area (m ²)	Contribution
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	7589	7588.6
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		0.0
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8		0.0
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	3650	2920.0
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		0.0
Flower-rich perennial planting.	0.7	2963	2074.1
Rain gardens and other vegetated sustainable drainage elements.	0.7		0.0
Hedges (line of mature shrubs one or two shrubs wide).	0.6	2602	1561.2
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0.0
Green wall –modular system or climbers rooted in soil.	0.6		0.0
Groundcover planting.	0.5	172	86.0
Amenity grassland (species-poor, regularly mown lawn).	0.4	649	259.6
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0.0
Water features (chlorinated) or unplanted detention basins.	0.2		0.0
Permeable paving.	0.1		0.0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0.0
Total contribution			14489.5
Total site area (m²)			34278
Green Space Factor			0.42

