



38 Heathfield, Royston

Biodiversity Net Gain Assessment

Produced for PJB Planning

By Applied Ecology Ltd

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1 Introduction

Background

- 1.1 Applied Ecology Ltd (AEL) was appointed by PJB Planning to prepare Statutory Biodiversity Metric calculations in relation to a proposed residential development at 38 Heathfield, Royston (“the Site”). The location of the Site is shown in **Figure 1.1**. The development proposed is a residential dwelling to the rear of 38 Heathfield, including demolition of existing garage at 38 Heathfield, and alteration and extension of the existing vehicular access and driveway, and associated works (“the Development”)
- 1.1 The calculations presented are high level and preliminary reflecting interpretation of the Proposed Site Plan¹, with no detailed planting plans. The Proposed Site Plan is provided in **Appendix A**.

¹ Kingston Studio (2023) *Proposed Site Plan, 38 Heathfield, Royston, SG8 5BN* – Drawing no. 481.01D.





38 Heathfield, Royston

Site location

 Site boundary

Figure 1.1

Map Scale @ A4: 1:8,000

Surveyed by: n/a

Survey date: n/a

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Status: Final



2 Biodiversity Metric Calculations

Introduction

- 2.1 The biodiversity impact of the Development has been assessed using the Statutory Biodiversity Metric calculation tool², which compares the relative biodiversity value of the habitats before and after development. The full Statutory Biodiversity Metric calculator is provided as a separate Excel spreadsheet.

Baseline Conditions

- 2.2 The habitat baseline for the Site was recorded from aerial photographs and Google Streetview images. Habitats were assigned to the corresponding Statutory Metric habitats with habitat condition assessed using the appropriate habitat condition assessment sheets (**Appendix B**).
- 2.3 Aerial photographs and Google Streetview images show that six trees have recently been cleared to the north of the existing dwelling at 38 Heathfield. The sizes of the resulting tree stumps were used to assess the likely diameter at breast height (DBH) of the trees. Two were assessed as being of medium size (>30 cm to ≤60 cm DBH); the rest were assessed as small (>7.5 cm to ≤30 cm DBH), as these trees were located in a privately owned and managed garden, the small trees were not counted in the baseline value of the Site, as per Statutory Metric guidance.
- 2.4 Due to the amenity function of the grassland, and the Google Streetview images taken in 2024, the grassland was assessed modified grassland in poor condition. It is a tightly mown sward that is deemed very unlikely to support a diversity of species required to achieve a higher condition than poor.
- 2.5 A small area of bare ground was present to the north of the existing dwelling on-site. This was most likely formed due to shading from oversailing trees, that have since been removed. This area did not support any vegetation and as such was assessed as poor condition.
- 2.6 In the north-west of the Site, there was a small greenhouse or garden shed adjoining a vegetable patch which was assigned as vegetative garden reflecting its low value ecological value.
- 2.7 The baseline habitat map is shown by **Figure 2.1**.
- 2.8 Overall, the pre-development baseline habitat value of the Site was calculated as **0.48 habitat units** as detailed in **Table 2.1** below.

² Available from [Statutory biodiversity metric tools and guides - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/statutory-biodiversity-metric-tools-and-guides) Accessed on 10/06/2024.



Table 2.1: Baseline habitats.

Habitat (UKHab)	Distinctiveness (score)	Condition (score)	Area (ha)	Habitat unit value
Grassland: Modified grassland	Low (2)	Poor (1)	0.097	0.19
Urban: Developed land; sealed surface	V. Low (0)	N/A (0)	0.036	0.00
Urban: Bare ground	Low (2)	Poor (1)	0.007	0.01
Urban: Vegetated garden	Low (2)	N/A (0)	0.002	0.00
Individual trees: Urban tree (2 medium trees)	Medium (4)	Moderate (2)	0.033	0.26
TOTAL * area total does not include individual trees			0.142	0.48

Development Impact and Post-intervention Habitats

- 2.9 Our interpretation of the Proposed Site Plan is shown by **Figure 2.2** and shows the habitats that will be created by the Development.
- 2.10 The post-intervention habitat types and areas were informed by the Proposed Site Plan, using relevant guidance and professional judgement to assign suitable habitat creation and management where required to achieve the best possible outcomes in terms of post-intervention value.
- 2.11 The proposed post-intervention habitats are described below, along with our suggestions and assumptions:

Urban: Developed land, sealed surface

- 2.12 Areas of developed land and sealed surface have a default n/a condition within the condition assessment.

Urban: Vegetated garden

- 2.13 According to the Statutory Metric guidance, habitats within areas of private residential garden should be assigned as vegetated garden to reflect the risk that they could be removed by residents. Areas of vegetated garden have a default n/a condition within the condition assessment.

Individual trees: Urban tree

- 2.14 While the Proposed Site Plan does show a small number of trees to be planted, due to their location in private gardens, they cannot be counted within the BNG calculations. The on-site retained trees were not counted in the baseline value of the Site, due to their location and size; therefore, their value is not captured in the post-intervention value of the Site either.
- 2.15 The post-intervention habitats score a post-intervention value of **0.17 habitat units** as detailed in **Table 2.2** below.



Table 2.2: Post-intervention habitats.

Habitats (UKHab)	Distinctiveness (score)	Condition (score)	Area (ha)	Habitat unit value
New habitats				
Urban: Developed land, sealed surface	V. low (0)	N/A (0)	0.055	0.00
Urban: Vegetated garden	Low (2)	N/A (1)	0.087	0.17
TOTAL			0.142	0.17

Outcome

- 2.16 The biodiversity net gain assessment for the development at 38 Heathfield, Royston results in a **net loss of -0.31 habitat units, equivalent to a net loss of -64.72%**. No hedgerows were present in the baseline or post-intervention plans for the Site, so they have been excluded from the calculations.
- 2.17 As the Development is currently assessed to secure a biodiversity net loss, further ecological consideration may be required to satisfy the corresponding planning authority and additionally be in accordance with section 15 paragraph 185a of the National Planning Policy Framework³.
- 2.18 The assessment includes an example of the minimum amount of off-site habitat creation required to ensure the Development delivers an overall net gain of +10%. This would entail the creation of at least 0.26 units of individual trees to resolve the trading loss resulting from the removal of two medium sized trees. An additional 0.10 units of any habitat would then be required to achieve a +10% gain. This could be achieved by planting 29 trees off-site; alternatively, 0.26 individual tree units could be purchased, along with 0.10 units of any habitat type, from an off-site BNG unit provider.
- 2.19 It should be noted that the Proposed Site Plan is a high-level strategic plan and does not currently assign or describe proposed landscaping types. The current Statutory Biodiversity Metric calculations may need to be updated to reflect design evolution and landscape refinement and detail.

³ Ministry of Housing, Communities and Local Government (2021) – *National Planning Policy Framework* – Accessed 10/06/2024.



38 Heathfield, Royston

Baseline habitat map

-  Site boundary
-  bare ground (poor)
-  developed land; sealed surface (n/a)
-  modified grassland (poor)
-  vegetated garden (n/a)
-  medium urban tree (moderate)
-  small urban tree (moderate)

Figure 2.1

Map Scale @ A4: 1:400

Surveyed by: NB/DP (Aerial imagery)

Survey date: 12 June 2024

Drawn by: NB

Checked by: DP

Status: Final



38 Heathfield, Royston

Post-intervention habitat map

-  Site boundary
-  developed land; sealed surface (n/a)
-  vegetated garden (n/a)
-  retained - small urban tree (moderate)

Figure 2.2

Map Scale @ A4: 1:400

Surveyed by: n/a

Survey date: n/a

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Checked by: DP

Status: Final



Appendix A

Proposed Site Plan



Appendix B

Habitat Condition Assessment Criteria



Bare ground

Condition Sheet: URBAN Habitat Type	
Condition Assessment Criteria	
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).
Additional criteria – must be assessed for Open mosaic habitat on previously developed land only	
D1	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: At least four early successional communities (a) to (i); Communities : (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.
D2	The parcel contains pools of water such as permanent and ephemeral waterbodies.
Additional Criteria – must be assessed for Bioswale and SuDS habitat types only:	
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife ⁴ .
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.
Additional criterion – must be assessed for Intensive green roofs only	
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).
Additional criterion – must be assessed for Biodiverse green roofs only	
G	The roof has a varied depth of 80–150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc are present.
Condition Assessment Result	
Passes all 3 core criteria;	
Good (3)	
Passes 2 of 3 core criteria;	
Moderate (2)	
Passes 0 or 1 of 3 core criteria.	
Poor (1)	
Notes	
Footnote 1 – Wildlife and Countryside Act 1981 (as amended).. Footnote 2 – Sources of information about detrimental non-native species can be found on the GB Non-native Species Secretariat (GBNNS) website: Home » NNSS (nonnativespecies.org) and Natural England Access to Evidence page should also be checked for up-to-date information: Horizon-scanning for invasive non-native plants in Great Britain - NECR053 (naturalengland.org.uk) For criterion C – For green roof habitat types only – buddleia <i>Buddleja davidii</i> should be assessed alongside Schedule 9 species. This species impairs the health of the local ecosystem and reduces the biodiversity potential of the roof. It is also a sign that a roof has not been planted and seeded correctly in subsequent years. Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement. Footnote 4 – Use professional judgement. Sources of additional information about non-native wildlife can be found online at the GBNNS website: Alternative plants » NNSS (nonnativespecies.org)	



Trees

Condition Sheet: INDIVIDUAL TREES Habitat Type	
Condition Assessment Criteria	
A	The tree is a native species (or at least 70% within the block are native species).
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).
C	The tree is mature (or more than 50% within the block are mature).
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark
F	More than 20% of the tree canopy area is oversailing vegetation beneath.
Condition Assessment Result	Condition Assessment Score
Passes 5 or 6 criteria.	Good (3)
Passes 3–5 criteria.	Moderate (2)
Passes 2 or fewer criteria.	Poor (1)
Note that 'Fairly Good' and 'Fairly Poor' condition categories are not available for this habitat type.	



Modified grassland

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)	
Condition Assessment Criteria	
A	There are 6–8 vascular plant species per m ² present, including at least 2 forbs (this may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present. Note – patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴)
Condition Assessment Result (out of 7 criteria)	
Condition Assessment Score	
Passes 6 or 7 criteria including passing essential criterion A.	Good (3)
Passes 4 or 5 criteria, including passing essential criterion A.	Moderate (2)
Passes 3 or fewer criteria; OR Passes 4–6 criteria excluding criterion A.	Poor (1)
Notes	
Footnote 1 – Creeping thistle <i>Cirsium vulgare</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i>. Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover. Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement. Footnote 4 – Wildlife and Countryside Act 1981 (as amended).	



