BIODIVERSITY NET GAIN DESIGN REPORT

Land at Steton Works, Turners Hill Road, Crawley Down

A REPORT FOR JW STRATTON LTD

This report provides an independent assessment of the value of the proposed habitats pre and post development in order to establish if the statutory requirement of Biodiversity Net Gain is achieved.

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Assessment in November 2025

Table 0.1 - Document and Version Control

Author	Georgie Baulcomb BSc (hons) MSc ACIEEM		
Site	Land at Steton Works, Turners Hill Road, Crawley Down		
Reference	CE25207		
Type	Biodiversity Net Gain - Design Report		
Version	Approved	Checked	Date
V1	Giles Coe MCIEEM	Linda Kerrison ACIEEM	04/11/2025

The surveys and assessment have been drafted to be in accordance with the British Standard for Biodiversity BS42020:2013, Biodiversity - Code for planning and development and the Code of Professional Conduct published by the Chartered Institute of Ecology and Environmental management.

N.B It must be noted that investigations of this sort provide only a snapshot in time of the ecological conditions of a site, are limited in extent and cannot capture the full picture of the biodiversity interests at the given location.

Contents

Summary of Assessment

Co-ecology Ltd were commissioned by JW Stratton Ltd to provide advice and support relating to the proposed development at Land at the former Steton Works, Turners Hill Road, Crawley Down. The following points summarise the main results of this Biodiversity Net Gain Design Report:

1.1. The proposals comprise the construction of two two-storey semi-detached residential properties with associated soft landscaping included around the site. The proposals would result in the loss of a single storey barn structure and modified grassland currently used as amenity space for the adjacent Chelsea Cottage.

1.2. A Preliminary Ecological Appraisal undertaken by Co-ecology (2025) identified the development area as having importance at site level only due to the habitat types and structures within the proposed development site.

1.3. The surveyed area measured approximately 0.045ha and comprised 0.0266ha *g4 – modified grassland* with 0.0184ha *u1b5 – buildings.* The proposals will result in direct impacts to all habitat on site.

1.4. The objective of the proposed biodiversity measures was to increase, where possible, the structural and biological complexity of the site. Proposed habitats comprise:

- Creation of 0.0006ha new poor condition *g4 – modified grassland;*
- Enhancement of 0.01ha *g4 - modified grassland* for poor to moderate condition;
- Creation of 0.0105ha *u1b – developed land, sealed surface* (condition assessment not applicable)*;* and
- Creation of 0.0224ha *u1 – vegetated garden* (condition assessment not applicable).

1.5. The proposed on-site habitat creation with compensation for habitat loss are in line with environmental policies included within the Mid Sussex District Council Adopted Local Plan.

1.6. Under the current ecological and landscape design for the site, a **14.44% net gain** for habitat value. No hedgerow or river habitats were present on site and thus are not included within the net gain calculation.

2 Background

Overview of the commission and the proposals

2.1. Co-ecology Ltd were commissioned by JW Stratton Ltd to provide advice and support related to the proposed development of Land at the former Steton Works, Turners Hill Road, Crawley Down.

2.2. The proposals comprise the construction of a single two-storey residential property with associated soft landscaping included around the site. The proposals would result in the loss of a single storey barn structure and modified grassland currently used as amenity space for the adjacent Chelsea Cottage.

Objectives of this assessment

2.3. The aim of this report is to summarise the results and supporting information behind the accompanying Biodiversity Net Gain (BNG) calculation that determines the biodiversity value of the habitats on site pre- and post- development and to determine whether a diversity net gain can be achieved.

2.4. The retention, enhancement and creation of habitats, are detailed as required in order to reach a minimum of 10% net gain and the approach taken for this assessment is consistent with the mitigation hierarchy where impacts were avoided wherever practicable.

Site context and legislation

2.5. The site comprised a small parcel of land, approximately 0.045 hectare (ha), to the northwest of the village of Crawley Down (National Grid Ref: TQ 33727 38392). The site is bordered to the west by residential property of Chelsea Cottage with Turners Hill Road immediately beyond this. The former Steton Works motor garage is located to the east with access road to the north.

2.6. The wider landscape is comprised of further residential properties to the north and south, and large pasture fields to the east and west. Beyond these habitats the local area is dominated by woodland habitats extending to the east and west with scattered residential dwellings and suburban infrastructure.

2.7. The wider landscape is connected to the site via a network of hedgerows and lines of trees surrounding arable and grazed pasture fields.

2.8. The following pieces of legislation and National policy are relevant to this appraisal and have been used to inform this appraisal;

- The Environment Act (2021)
- Conservation of Habitats and Species Regulations 2017 (as amended)
- Wildlife and Countryside Act 1981 (as amended)
- Natural Environment and Rural Communities Act 2006
- Protection of Badgers Act 1992
- The National Planning Policy Framework 2024
- Biodiversity and geological conservation: circular 06/2005

2.9. Planning policies at the local level which are of relevance to this development are found within the Mid Sussex District Council Adopted Local Plan 2014 – 2031 (adopted March 2018).

2.1. The following local policies are extracted from the Mid Sussex District Council Adopted Local Plan 2014 – 2031 (adopted March 2018):

- *DP37: Trees Woodland and Hedgerows*

  "The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. In particular, ancient woodland and aged or veteran trees will be protected. Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/ or that have landscape, historic or wildlife importance, will not normally be permitted."

- *DP38: Biodiversity*

  "The District Plan recognises the importance of the protection and conservation of areas of importance for nature conservation and the valuable contribution made by these sites and features in conserving biodiversity and geodiversity of our natural heritage, together with opportunities for education and employment. The District Plan also recognises the importance of the protection and conservation of areas outside of designated areas where these are of nature conservation value or geological interest especially where they contribute to wider ecological networks."

3 Methodology

Personnel

3.1. The Preliminary Ecological Appraisal was undertaken in 2025 by Georgie Baulcomb BSc (Hons) MSc ACIEEM (Level 2 class licence for bats), an ecologist with nine years' experience in quantitative field surveys and assessments and with proficiency in habitat assessment. Georgie has been an associate member of CIEEM since 2021.

3.2. The Biodiversity Net Gain Calculation and report was produced by Georgie Baulcomb BSc (Hons) MSc ACIEEM.

3.3. The final site layout and landscaping used for the calculations was produced by ECE Architecture.

UK Habitats Classification and Condition Assessment

3.4. Georgie Baulcomb BSc (Hons) MSc ACIEEM undertook the UK Habitats survey in September 2025. During the survey, all identifiable plant species was recorded with an indication of their relative abundance following the DAFOR[1] scale. The purpose of the survey was to complete a baseline habitat survey of the developable areas of the site using the UK Habitats classification system. Secondary Codes were utilised where the relevant conditions pertained. During the survey, each habitat parcel was assessed using the Statutory Biodiversity Metric – Condition Assessment Sheets and Methodology.

3.5. Using open-source software, QGIS (v 3.40), recorded habitats were digitally mapped according to UK Habitats Classification to allow the quantification of the area occupied by each habitat to produce a baseline (pre-development) map.

Biodiversity Net Gain Calculation

3.6. This report provides a summary of the results of a Biodiversity calculation using the *Statutory Biodiversity Metric Calculation Tool*. The baseline habitats on site were inputted onto the QGIS BNG Template from Natural England and the condition assessment for each polygon was updated along with the proposed habitat creation. All shapefiles were then entered into the Statutory Biodiversity Metric Calculation Tool (this report should be viewed in conjunction with the spreadsheet).

Constraints

3.7. There were no noteworthy constraints to the habitats survey or Biodiversity Net Gain calculation. Although the habitat survey was undertaken in September when plants with an earlier flowering penology may have been absent, it was possible to accurately identify the habitat types present and complete condition assessments.

[1] Dominant, Abundant, Frequent, Occasional, Rare

4 Baseline Conditions

HABITATS

Irreplaceable and Priority habitats

4.1. There are no irreplaceable or Priority habitats within the site boundary.

4.2. Priority habitats within 2km of the site boundary include; Deciduous woodland, Ancient and semi-natural woodland, Ancient semi-natural woodland, and traditional orchard.

Statutory Protected Sites

4.3. Ashdown Forest Special Area of Conservation (SAC) is located 8km southeast of the site, designated for the presence of Annex I habitats, Northern Atlantic wet heaths with *Erica tetralix*, and European dry heaths with Annex II species great crested newt *Triturus cristatus* present as a qualifying feature.

4.4. Three Sites of Special Scientific Interest (SSSIs) and one Local Nature Reserve were located within 2km of the site. The closest SSSI is Hedgecourt (2km northeast), an important wetland site which supports a large assemblage of breeding birds.

4.5. The site lies within the Impact Risk Zone (IRZ) for Hedgecourt SSSI. However, the proposed development is unlikely to pose a risk to this SSSI due to the small size and nature of the development and will therefore not require consultation with Natural England.

On-Site Habitats

4.6. The surveyed area measured approximately 0.045ha and comprised of *g4 – modified grassland* and *u1b5 – buildings.* The site was uniformly flat and is currently a previously used as part of the garden for the adjacent Chelsea Cottage.

g4 – modified grassland (0.0265ha), 107[2], 827[3]

4.7. The habitat was dominated by creeping bent *Agrostis stolonifera* with abundant daisy *Bellis perennis* and white clover *Trifolium repens,* and frequent perennial rye *Lolium perenne,* ragwort *Jacobaea vulgaris,* and creeping buttercup *Ranunculus repens.* Occasional Yorkshire Fog *Holcus lanatus,* Bird's-foot trefoil *Lotus corniculatus, dandelion Taraxacum officinale agg.* and selfheal *Prunella vulgaris* were also found within the grassland.

4.8. The grassland area was square and uniformly flat with evidence of regular mowing and collected arisings placed on the north boundary. The average number of species present per square meter was <6 and the grassland had a uniform sward height throughout averaging a height of 10cm.

4.9. Along the north and east boundary next to the fenceline, and along the south next to the building (B1) the abundance of ruderal vegetation increased with locally frequent bramble *Rubus fruticosus agg.,* and occasional common nettle *Urtica dioica,* common cleavers *Galium aparine,* broad-leaved dock *Rumex obtusifolius, and* hedge bindweed *Calystegia sepium.*

4.10. Immediately adjacent to the north boundary of the site was a line of Leyland cypress *Cupressus × leylandii* with occasional ivy *Hedera helix,* stinking iris *Iris foetidissima,* herb Robert *Geranium robertianum* and a single sapling of willow sp. *Salix spp*

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[2] Mown and collected

[3] Garden

4.11. The grassland habitat was considered to be in **poor condition** with **low distinctiveness** due to the low species diversity (<6 species per m^2).

***u1b – developed land, sealed surface (u1b5 – Buildings* in Preliminary Ecological Appraisal)**

4.12. One building was present on site. B1 was a single storey timber, plyboard and steel structure previously used by the occupants of Chelsea Cottage as a small stable, storage and tack room.

4.13. The structure was set upon a large concrete slab and the different sections of the barn appeared to have been added at different stages.

4.14. A small number of brown long-eared bat droppings (total of two sent for DNA analysis) were recovered from the central storage room, and roosting features comprising crevices between stored materials and gaps behind plyboard partition walls provide suitable roosting potential for a low number of bats.

4.15. Further bat survey and assessment recorded a common pipistrelle emerging from between timber planks. The building therefore supports a roost for low number of common pipistrelle bat.

Habitat Evaluation

4.16. The site was split evenly between poor condition modified grassland and a single storey building.

4.17. The site has limited diversity of habitat types and structure with plant species limited to those typically to be found in grassland with limited intrinsic biodiversity value.

PROTECTED SPECIES

4.18. An assessment of the likelihood of protected species being present on site was included within the PEA report (Co-ecology, 2025). The most pertinent results are reproduced below.

Badgers

4.19. No active badger setts or other field signs were recorded within the site boundary at the time of the survey.

Bats

4.20. *Roosting* - A brown long-eared roost was recorded on site through DNA analysis of bat droppings recovered during the Preliminary Roost Assessment. Additionally, a common pipistrelle was recorded emerging from roost during the single emergence survey undertaken on site to date. Roosting opportunities were considered limited to crevices between stored materials and tight gaps behind plyboard partitioning. These could be used by hibernating bats but were considered unlikely to support large enough areas for maternity roosts.

4.21. *Foraging* – Foraging habitat very limited on site with poor condition modified grassland and occasional ruderal vegetation providing some foraging habitat. Areas of high quality foraging such as broadleaf woodland and hedgerow are located in the wider landscape.

Breeding Birds

4.22. The site is likely to support nesting birds within the building on site which has plenty of access and suitable areas for nest building.

Great Crested Newts

4.23. The *g4 modified grassland* does not provide suitable cover and protection for great crested newts due to the management of the site.

4.24. The likelihood of great crested newts being present is negligible given the small size of the site. No ponds located on site and one >100m to the south with two others within 250m beyond a busy A-road.

Reptiles

4.25. The likelihood of reptiles being present on site is negligible. The site does not provide the complex mosaic of habitats reptiles require.

Hazel Dormice

4.26. The site does not present any habitats suitable to support this species.

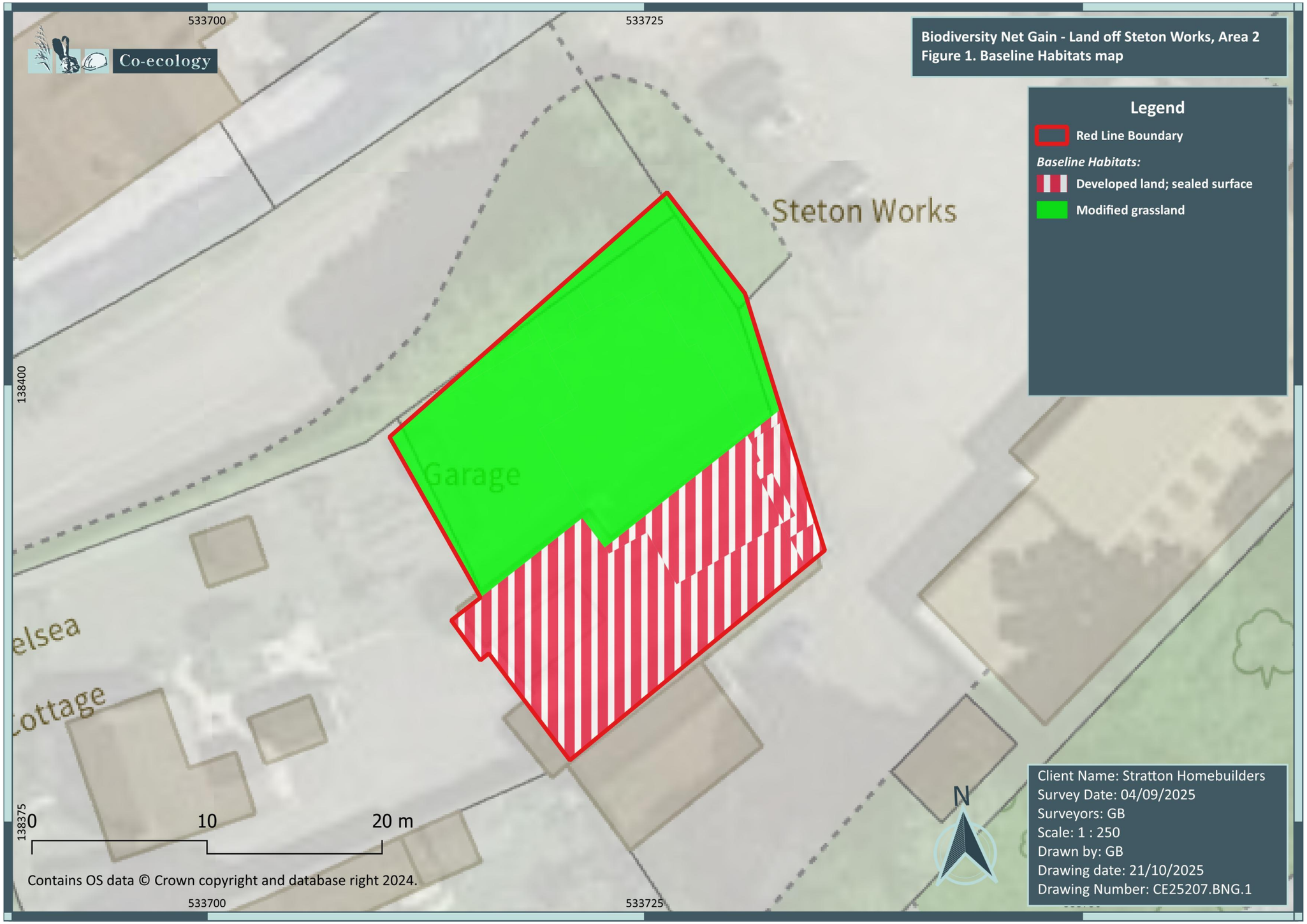
Baseline metric calculations

4.27. The table below provides the baseline information for the on-site habitats, as illustrated by Figure 1 – Habitats map.

Table 4.1. Baseline metric calculation

Habitat type	Area (ha)	Distinctiveness	Condition	Habitat Units
Modified grassland	0.0265	Low	Poor	0.05
Developed land; sealed surface	0.0184	Very Low	N/A - Other	0.00

Figure 1 – Baseline Habitats



5 BNG Good Practice Principles for Development

5.1. BNG Good Practice Principles for Development were followed from the initial stages of the project. Table 5.1 below summarises the principles and their implementation within the project.

5.2. Inherent within the design of the scheme is the iterative application of the mitigation hierarchy as discussed between the client and the landscape architects. This design, by default, has been adjusted to avoid all and de-minimis impacts on the more significant habitats. Figure 2 on the last page of this report shows the final proposed layout (including landscape) for the site.

5.3. The proposal for the site includes measures to increase the structural complexity of habitats that will act as ecotones between the proposed developed areas and the wider landscape.

5.4. The proposed habitats would provide suitable habitats for breeding birds, foraging, roosting and commuting bats, and reptiles.

5.5. Table 5.1 below details the BNG Good Practice Principles relevant to the proposed development.

Table 5.1. BNG Good Practice Principles for Development

Principle		Comments
Apply the mitigation hierarchy	Avoid	The project design has aimed to avoid impacts on ecological receptors, such as protected species, by avoiding impacts on the boundary habitats.
	Minimise	During construction, the working areas will be segregated from all retained habitats by the installation of fencing.
	Compensate	To compensate for the loss of other neutral grassland and increase the structural complexity of the site areas of mixed scrub and native hedgerows will be planted to add structure to the site and increase connectivity with the wider landscape. In addition, a pond will also be created.
Avoid losing biodiversity that cannot be offset elsewhere		No irreplaceable habitats will be impacted as a consequence of the proposed development.
Be inclusive and equitable		During the planning process, the applicant and their team have engaged with different stake holders including the planning authorities and ecologists.
Address risk		The proposed new and enhanced habitats are expected to be established (although not in a mature stage) near the completion of the works on site.
Make a measurable net gain contribution		Under the current landscape design for the site, a **14.44% net gain** for habitat units will be achievable.

6 Project Design

Overview

6.1. Following the identification and assessment of the development impacts on ecological receptors on site, this chapter describes and assesses the need for compensation and enhancement measures.

6.2. Table 6.1 below summaries the results of the Metric Calculations for the proposed habitats. Figure 2, on the following pages, details the proposed habitats and habitat creation measures for the site.

Table 6.1. Summary of predicted profit and loss of habitats on site

Habitats	Baseline		Proposed (Area)			Proposed (Units)				Total change
	Area	Units	Retained/ Enhanced	Lost	Created	Retained	Lost	Created	Enhanced	Units
g4 - modified grassland	0.0265	0.05	0.0068	0.0197	0.0006	0.04	0.01	0.00	0.01	0.00
Developed land; sealed surface	0.0184	0.00	0.0046	0.0138	0.0105					n/a
Vegetated gardens					0.0224			0.04		+0.04

Compensation

6.3. Integrated within the core design of the development is the aim to avoid any impact to habitats within the wider landscape.

6.4. All newly created features to be managed for the life of the scheme.

Habitat Creation

6.5. Creation of the habitats on site is the main objective for delivering the BNG calculation. The habitats to be created include:

- *u1b5 – developed land; sealed surface* – two semi-detached residential properties;
- *g4 – modified grassland* – the grassland throughout the rest of the site will be modified grassland in moderate condition;
- *Vegetated gardens* – These areas are to be managed by the landowner as a garden. No restrictions will be placed on this habitat except it must remain vegetated and permeable.

g4 – modified grassland – moderate condition

6.6. Table 6.3 below describes how the creation of modified grassland at moderate condition will be achieved. To achieve moderate condition 4 or 5 criteria, including criterion A, must be achieved.

Table 6.3. Modified Grassland – targeted criteria and habitat enhancement, management and remedial measures, to achieve a poor condition 4-6 criteria are required.

Condition Assessment Criteria		Targeted	Habitat creation Measures	Habitat Management / Remedial Measures
A	There are 6-8 vascular plant species per m2 present, including at least 2 forbs. **Note – this criterion is essential for achieving Moderate or Good condition**	Yes	A native seed mix comprising at least 6-8 vascular plant species will be sown.	**Management actions:** Allow new grassland to establish with a first cut after a year of growth. Avoid nutrient enrichment by removing all grass clippings after cuttings. Regular monitoring of species composition and presence of invasive non-native species **Remedial actions:** Supplementary seeding of areas with poor establishment.
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.	Yes	N/A	**Management actions:** Allow managed grassland to grow longer. These areas to be cute once a year in September or October. **Remedial actions:** N/A
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. May be present).	Yes	N/A	**Management actions:** Selective removal of scrub **only** when cover exceeds 20% of grassland area.
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.	Yes	N/A	**Management actions:** Ensure that cutting is carried out during dry weather. Do not permit storage of machinery or materials on the grassland.
E	Cover of bare ground is between 1% and 10%, including localised areas, for example, rabbit warrens[2].	No	N/A	**N/A**
F	Cover of bracken *Pteridium aquilinum* is less than 20%	Yes	N/A	**Management actions:** Yearly monitoring **Remedial actions:** Manual removal of bracken when its cover exceeds 5% of grassland area.
G	There is an absence of invasive non-native (INNS) plant species[4] (as listed on Schedule 9 of WCA[5])	Yes	N/A	**Management actions:** Yearly monitoring of presence and abundance of invasive non-native species. **Remedial actions**: Seek advice from a suitably qualified and experienced contractor if INNS develop.

Habitat Enhancement

6.7. Enhancement of the habitats on site is an objective for delivering the BNG calculation. The habitats to be enhanced include:

- *Modified grassland* – The retained grassland will be enhanced to achieve a moderate condition.

Monitoring

6.8. The establishment of the new grassland should be monitored with audit checks made at key stages immediately after creation and in years 2, 5, 10, 15, 20, 25 and 30 post construction to allow reactive changes to the management process to be made if required.

Conclusion

6.9. Overall, it is considered that the development presents opportunities for the site to be improved and made an asset for protected species within the local landscape through active management and incorporating appropriate compensation and enhancement measures.

6.10. With the creation of spatial structure within the site the habitat connectivity within the site and between the site and the wider landscape will be improved. Together with this, foraging and nesting opportunities for a range of species will increase on site.

Figure 2 – Retained and Created Habitats

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Co-ecology