BIODIVERSITY NET GAIN DESIGN STAGE ASSESSMENT

June 2022

Edgehill Park – Phase 4,
Gameriggs Road,
Whitehaven,
CA28 9RA

URBAN GREEN

QUALITY MANAGEMENT

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Project:	Edgehill Park Phase 4				
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01	02/08/2022	To reflect changes to soft landscaping	Shannon Brady	-

NON-TECHNICAL EXECUTIVE SUMMARY

This Biodiversity Net Gain Assessment has been prepared by Urban Green on behalf of Storey Homes to support a proposal for the development of a residential housing scheme with associated hard and soft landscaping.

Urban Green have been appointed to complete a Biodiversity Net Gain Design Stage Assessment in order to assess the change in value to the environment provided by the proposed development.

The Assessment was conducted using the Biodiversity Metric 3.1 to calculate the pre-and post-development biodiversity habitat units of the site for the proposed development. The results of this calculation are summarised in the following table:

		Habitat Unit Change					Net change in Biodiversity	
	On-site baseline	Retained	Lost	Enhanced	Created	On-site post development	Habitat units	%
Habitat (Area) Units	12.96	0.00	12.96	0.00	33.55	33.55	20.59	**+158.84**
Hedgerow (Linear) Units	0.00	-	-	-	1.95	1.95	1.95	**+100**

Overall, this assessment does achieve a net gain in biodiversity, at 158.84% for area habitats and 100% for linear hedgerow habitats. Offsite mitigation will not be necessary, and the design satisfies all trading rules laid out by the Biodiversity Metric 3.1. The gain is also in line with the relevant national and local planning policies. To ensure that habitats are maintained at the expected condition, a 30 year-management plan should be implemented post-development (Urban Green, 2022).

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1 Introduction

1.1 Background to the Scheme

Story Homes are proposing to develop land at Edgehill, Gameriggs Road in Whitehaven (hereafter referred to as 'the site'). The proposals include the development of a residential housing scheme with associated hard and soft landscaping.

Urban Green have been appointed to complete a Biodiversity Net Gain Design Stage Assessment in order to assess the change in value to the environment provided by the proposed development.

The author of the report is Biodiversity Net Gain Consultant, Shannon Brady. Shannon has experience providing consulting services for a range of development schemes across the UK, including residential and commercial schemes.

1.2 Site Context

The site is located at National Grid Reference NX 97427 15703 and comprises a total area of approximately 5.87-hectares (see Figure 1).

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Figure 1 – Site Extent

The site is located in a predominantly rural area of Whitehaven, approximately 2.4km south of the town centre. Residential estates are present immediately to the north, east and south of the site. Areas of woodland are also present immediately to the north and south of the site, with a larger area of woodland

present approximately 200m to the east. Land immediately to the west of the site is an active construction site for a residential development. Arable fields and pastureland are present in the wider to the south and west. Saltom Bay is present approximately 1.4km to the north-west of the site.

1.3 Purpose of this Report

This report has been produced to document the methods, results and conclusions of a BNG Assessment that was undertaken on site. The advice herein is based on both desk and field-based studies and intends to fulfil the following purposes:

- Ensure the core principles of Biodiversity Net Gain including the mitigation hierarchy are applied;
- Identify the baseline habitats present on site (pre-development), assess the condition and provide an indication of the ecological value of those habitats;
- Identify the post development habitats present on site, assess the possible target condition and provide an indication of the likely importance of those habitats;
- Calculate the overall change in biodiversity score from pre- to post-development habitats (measured as habitat units);

1.4 Planning Context

BNG means leaving biodiversity in a better state than it was before. As part of the Government's 25 Year Environment Plan, this requirement is being introduced and mandated for all developments. National planning policy and several Local Plans already require developments to deliver BNG.

Currently the National Planning Policy Framework (NPPF, 2021) details:

Paragraph 174 of the NPPF states:

Planning policies and decisions should contribute to and enhance the natural and local environment by:

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

Copeland Borough Council are currently running public consultation for the final draft of the Copeland Local Plan 2021 – 2038. The publication draft contains the following recommendations for Biodiversity Net Gain in the borough

Strategic Policy N3PU: Biodiversity Net Gain

'All development, with the exception of that listed in the Environment Act must provide a minimum of 10% biodiversity net gain over and above existing site levels, following the application of the mitigation hierarchy set out in Policy N1PU.'

2 Methods

2.1 Biodiversity Net Gain

Biodiversity Net Gain is defined as "development that leaves biodiversity in a better state than before". This assessment was conducted using the Biodiversity Metric 3.1 from Natural England.

The Biodiversity Metric 3.1 uses habitat features as a proxy measure for capturing the value and importance of nature. The matric considers the size, ecological condition, distinctiveness, and location of habitats assessing 'Area', 'Hedgerow' and 'River' habitats units independently. The metric enables assessments to be made of the baseline and targeted post development biodiversity value of a site.

2.2 Good Practice Principles

To ensure holistic development that makes a lasting positive change to the site's biodiversity the Good Practice Principles as detailed in Biodiversity Net Gain: Good Practice Principles for Development (Baker, et al., 2019). Key principles include:

- Following the 'Mitigation Hierarchy':
    - Avoid impacts on biodiversity
    - Minimise impacts on biodiversity
    - Compensate for biodiversity losses on site
    - Compensate for biodiversity loss off site
- Avoid irreplaceable habitats and losing biodiversity that cannot be offset elsewhere;
- Address risks including difficulty and time of habitat creation and enhancement;
- Make a measurable net gain contribution calculated with a suitable metric with limitations and assumptions clearly identified;
- Achieve the best outcome for biodiversity creating lasting long-term benefits that exceed current expectations;

2.3 Desk Study

A desk study was undertaken by Urban Green in January 2022 to provide information of habitat types, condition, and strategic significance both on site and within the wider area. Due to the size and low impact of the proposed development and being located within a predominantly rural area of Whitehaven, a 1 km Local Data Search was conducted as it is deemed an appropriate distance for the Zone of Influence.

Sources of information for the desk study are displayed in Table 1.

Table 1 – Desk Study Sources of Information

Source	Date Consulted	Information Sought
MAGIC website (www.magic.gov.uk)	11/02/2022	Locations of statutory designated sites within 1km of the site boundary. Locations of National Site Network sites (Ramsar, Special Area of Conservation (SAC) and Special Protection Area (SPA)) within 5km of the site boundary. Locations of granted European Protected Species Licences (EPSL) within 1km.
Natural England (https://designatedsites/.naturalengland.org.uk/)	11/01/2022	Relevant statutory designated site citations.
JNCC (https://jncc.defra.gov.uk)	11/01/2022	Information on European wildlife sites. Details of relevant Section 41 species and habitats.
Cumbria Biodiversity Data Centre	11/01/2022	Locally designated wildlife sites within 1km of site boundary. Records of protected and notable species within 1km of the site boundary.
Cumbria Biodiversity Action Plans	11/01/2022	Species and habitats which are given special conservation status at the local level.

2.4 Site Mapping

2.4.1Sources of Information

Table 2 – Site Mapping Sources of Information

Source	Date Consulted	Information Sought
Preliminary Ecological Assessment (PEA) Urban Green 2022	31/01/2022	Phase 1 Habitat Survey map and description of existing habitat condition.
Soft Landscape Plan Urban Green 2022	08/06/2022	Habitat areas and conditions as to be included within the planning layout (post-development) for site.

Source	Date Consulted	Information Sought
The Biodiversity Metric 3.1 (JP039)	08/06/2022	The Biodiversity Metric 3.1, including the tool itself, user guides and reference documentation associated with the tool.

2.4.2 Existing Habitat (Pre-Development)

The site was subject to a field survey by Urban Green on the 18th of January 2022, by Assistant Ecologist Jake Healy and Senior Biodiversity Consultant, Maisie McKenzie. The weather conditions were 5°c, overcast (7/8 oktas), with a wind speed of 3 on the Beaufort scale.

The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC, 2010) and Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). The method records the habitat types present, within and immediately surrounding the site (based on the JNCC descriptions), habitat extent and quality. Habitat types were converted to UKHab classifications (The UK Habitat Classification Working Group, May 2018) using the UK Habitat Classification V1 guidance tool based on the assessor's judgment of how JNCC habitat descriptions best meet the criteria of the UKHab classification. Plant species were also identified and recorded as target notes using the DAFOR scale. Flora species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and/or uncommon habitats, were searched for during the survey. Any invasive species, including those listed on the revised (April 2010) Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were noted during the field survey when sighted.

These habitats were subsequently mapped based on *the Phase 1 Habitat Survey* (JNCC, 2010) guidance using ESRI ArcGIS Pro software, and habitat areas and lengths were calculated to demonstrate habitats within the proposed development and the surrounding area.

Based on consultation with MAGIC it has been identified that the site also falls within the Impact Risk Zone of the St. Bees Head Site of Special Scientific Interest (SSSI) located approximately 1.1km to the west of the site. There are also two non-statutory designated sites within 1km of the site – Woodhouse Quarry County Wildlife Site (CWS) and Roska Park and Bellhouse Gill Wood (CWS), both 600m away. None of these areas are expected to impact the development.

2.4.3 Planning Layout (Post-Development)

The planning layout as provided by the Proposed Landscape Layout (Urban Green, 2022) (see Appendix 2) was provided in DWG. format and the habitat areas and lengths were calculated from this using BricsCAD.

2.5 The Biodiversity Metric 3.1

The BNG calculation was undertaken utilising The Biodiversity Metric 3.1 from Natural England. The Biodiversity Metric 3.1 uses habitat features as a proxy measure for capturing the value and importance of nature. The metric takes into account the type, size, ecological condition and location of habitats. The metric enables assessments to be made of the present and forecast future biodiversity value of a site.

The calculation was performed by a technically competent person as detailed in British Standard BS8683 - Suitably qualified person –definition in BS8683:2020.

2.6 Habitat Scoring

The Biodiversity Metric 3.1 supplies reference documents and user guides in which to accurately evaluate and assess the different habitats on site as to their condition, distinctiveness and strategic significance. A summary of the methodology for each assessment undertaken is demonstrated in the following sections.

2.6.1 Condition

The Biodiversity Metric 3.1 uses the term habitat 'condition' as one of its measures of the quality of a habitat. Habitat condition will be assessed by a competent person based on guidance provided in part 1a of 'The Biodiversity Metric 3.1: Technical Supplement'.

'Condition Sheets' are provided for each area habitat type. These list positive indicators for each habitat, question whether the condition has been achieved and indicate how many of these indicators need to be present to meet certain thresholds of condition. These condition sheets can be found in "The Biodiversity Metric 3.1: Habitat Condition Assessment Sheets". Completed condition sheets for this assessment can be found in section 3.

Table 3 details the condition sheets used within this assessment.

Table 3 – Conditions sheets used for habitat assessment

Condition Sheet	Habitats Assessed
Area Habitats	
Grassland	Modified Grassland
Urban	Vacant/Derelict Land/Bare Ground
Grassland	Other Neutral Grassland
Lakes	Pond (Non-Priority Habitat)
Heathland and Shrub	Gorse Scrub

2.6.2 Distinctiveness

The distinctiveness of each habitat is automatically assigned by the tool, based upon national records of the occurrence and rarity of each habitat. Table 4 provides the basis of the distinctiveness assessment.

Table 4 – Distinctiveness Assessment for Habitats

Distinctiveness Categories		
Category	**Scores**	**Multiplier**
Very High	8	Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act that are highly threatened, internationally scarce and require conservation action e.g. blanket bog.
High	6	Priority habitats as defined in Section 41 of the NERC Act requiring conservation action e.g. lowland fens.
Medium	4	Semi-natural habitats not classed as a Priority Habitat.
Low	2	Habitat of low biodiversity value. Temporary grass and clover ley; intensive orchard; rhododendron scrub.
Very Low	0	Little or no biodiversity value e.g. hard standing or sealed surface.

2.6.3 Strategic Significance

The idea of strategic significance works at a landscape scale. It gives additional unit value to habitats that are in preferred locations for biodiversity and other environmental objectives. Ideally these aspirations will have been summarised in a local strategic planning document which articulates where biodiversity is of high priority and the places where it is less so. Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement, such Nature Recovery Areas, local biodiversity plans, National Character Area 14 objectives and green infrastructure strategies.

Table 5 – Strategic Significance Assessment for Habitats

Strategic Significance Categories	
Category	**Score**
High strategic significance High potential & within area formally identified in local policy	1.15
Medium strategic significance Good potential but not in area defined in local policy	1.1
Low Strategic Significance Low potential and not in area defined in local policy	1

2.6.4 Temporal Multiplier

For post development habitat creation or enhancement, a risk multiplier will be automatically applied by the tool to account for the period of diminished ecological value while the habitat reaches the targeted post development condition. This time and therefore risk multiplier differs between habitat types, if the habitat is being created or enhanced and how the habitat is to be managed. The predetermined multiplier is based on the average time to meet targeted condition assuming good practice principles and appropriate management strategies are applied.

2.6.5 Difficulty Multipliers

For post development habitat creation or enhancement, a risk multiplier will be automatically applied by the tool to account the 'difficulty' of habitat-specific enhancement or creation. There are two separate difficulty multipliers assigned to each habitat, one for creation and one for enhancement/restoration, recognising that the technical challenges will not necessarily be the same for both.

2.7 Constraints to the Survey

Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

ESRI ArcGIS Pro software was utilised to produce the pre-development habitat map, with the best possible effort made during the mapping process to ensure that the habitat map accurately represents the area of habitats present on site. Some margin of error is possible due to the continuous and difficult to define nature of habitat boundaries, however this margin of error has been minimised using professional opinion of two experienced ecologists and up to date aerial imagery. As such this is not expected to be a significant constraint and affect the overall Biodiversity Net Gain Calculation provided within this report.

January is a suboptimal time for carrying out a Phase 1 Habitat Surveys due to being outside of the optimal plant growing season. Therefore, it is likely that some plants are present on the site but were not evident at the time of the survey and were not recorded. This is not considered to be a significant constraint with regards to the general Phase 1 Habitat Survey results due to the size and location of the site and limited extent of the habitats, it is considered very unlikely that any rare or priority plant species were missed. It should not, however, be taken as providing a full and definitive survey of any protected species group.

3 Pre-Development Habitat Assessment

Predevelopment baseline habitat condition was assessed following the methodology outlined in Section 2.6. Habitat descriptions and the results of this assessment are provided below. The habitats have been given reference numbers for clarity regarding in-text and the metric calculation (UG_1415_ECO_BNGCALC_01) which illustrates the numerical data. Full habitat descriptions can be found in the Ecological Assessment (Urban Green, 2022).

3.1 Area Habitats

3.1.1 1) Grassland – Modified Grassland

The largest habitat area on-site was modified grassland that showed evidence of grazing and had a short sward of less than 10cm. Yorkshire fog (*Holcus lanatus*) was abundant throughout the site, with red fescue (*Festuca rubra*) and false oat grass (*Arrhenatherum elatius*) locally abundant within the south of the site. 5 other species occurred frequently and 7 species occurred occasionally. There was an area of fly-tipping from a residential garden along the north-east border of the site.

Table 6 – Condition Assessment for modified grassland

UK Hab Classification	Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m². If a grassland has 9 or more species per m² it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition criteria 5.	Cover of bare ground between 1% and 5% including localised areas, for example, a concentration of rabbit warrens	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7%) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail	Condition Criteria 6.	Cover of bracken less than 20%	Fail
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.	Physical damage is evident in less than 5% of total grassland area.	Pass			
Condition Poor	Passes 4 of 7 criteria but fails essential criteria 1.				
Distinctiveness	Low				

Photo 1 – Modified grassland covering most of the site

Photo 2 – Modified grassland to the centre of the site

3.1.2 2) Urban – vacant/derelict/ bare ground

An active construction site was present on the western boundary of the site and extended partially within the survey area. This area was absent of vegetation.

Table 7 – Condition Assessment for vacant/derelict/bare ground

UK Hab Classification		Urban				
Condition Sheet		Urban				
Condition Criteria 1.		Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	Fail	Condition Criteria 3.	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.	Pass
Condition Criteria 2.		There is a diverse range of flowering plant species, providing nectar sources for insects. These species may either be native or non-native but beneficial to wildlife.	Fail			
Condition	Poor	Passes 1 of 3 criteria				
Distinctiveness		Low				

Photo 3 - Area of construction site encroachment

Photograph 2 – Area of construction site encroachment

3.1.3 3) Grassland – Other neutral grassland

This type of grassland was characterised during the ecological assessment as marshy grassland. Two areas were identified, one at the south of the site and one along the northern boundary, however both areas contained very similar plant communities. Rosebay willowherb (*Chamaenerion angustifolium*) and soft rush (*Juncus effusus*) were abundant, with 4 other species occurring occasionally and reedmace (*Typha latifolia*) locally abundant in the northern parcel of grassland. Other neutral grassland is allocated medium distinctiveness in the metric.

Table 8 – Condition Assessment for other neutral grassland

UK Hab Classification	Grassland				
Condition Sheet	Grassland medium, high & very high				
Condition Criteria 1.	The appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward.	Fail	Condition Criteria 4.	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7%) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass	Condition criteria 5.	There is an absence of invasive non-native species (as listed in Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access or any other damaging	Pass

				management activities) accounts for less than 5% of total area.	
Condition Criteria 3.	Cover of bare ground between 1% and 5% including localised areas, for example, rabbit warrens	Pass	Condition Criteria 6 (non-acid types only).	There are greater than 9 species per metre squared.	Fail
Condition	Poor	Passes 4 of 6 criteria but fails essential criteria 1			
Distinctiveness		Medium			

Photo 5 – Marshy grassland at the south of the site

Photograph 6 – Marshy grassland at the north of the site

3.1.4 4) Lakes – Pond (non-priority habitat)

Two areas of standing water were present on site – one to the north of the site which was dominated by bulrush and another to the south of the site where rushes were also present. The southernmost area of standing water exists due to an overflow pipe running from an off-site pond. Both areas of standing water were similar in terms of species composition. These ponds have been allocated medium distinctiveness by the metric.

Table 9 – Condition Assessment for pond

UK Hab Classification	Lakes				
Condition Sheet	Pond				
Condition Criteria 1.	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Fail	Condition Criteria 6.	There is an absence of non-native plant and animal species.	Pass
Condition Criteria 2.	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10m from the pond edge.	Pass	Condition Criteria 7.	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass

Condition Criteria 3.	Less than 10% of the pond is covered with duckweed or filamentous algae.	Pass	Condition Criteria 8. (Only applicable to non-woodland ponds)	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds), should cover at least 50% of the pond area that is less than 3m deep	Pass
Condition Criteria 4.	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Fail	Condition Criteria 9. (Only applicable to non-woodland ponds)	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	Pass
Condition Criteria 5.	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Fail			
Condition Moderate	Passes 6 of 9 criteria				
Distinctiveness	Medium				

Photo 7 – Standing water to the south

Photo 8 – Bulrush reedbed

3.1.5 5) Lakes – Pond (non-priority habitat)

A pond had also been constructed within the area of bare ground (3.1.2). This pond is fenced off and has an area of 0.03-hectares. There is limited vegetation surrounding the pond edge with large areas of bare ground.

Table 10 – Condition Assessment for pond

UK Hab Classification	Lakes				
Condition Sheet	Pond				
Condition Criteria 1.	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable	Fail	Condition Criteria 6.	There is an absence of non-native plant and animal species.	Pass

	if the pond is grazed by livestock.				
Condition Criteria 2.	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10m from the pond edge.	Fail	Condition Criteria 7.	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
Condition Criteria 3.	Less than 10% of the pond is covered with duckweed or filamentous algae.	Pass	Condition Criteria 8. (Only applicable to non-woodland ponds)	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds), should cover at least 50% of the pond area that is less than 3m deep	Fail
Condition Criteria 4.	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Pass	Condition Criteria 9. (Only applicable to non-woodland ponds)	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	Pass
Condition Criteria 5.	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Pass			
Condition Moderate	Passes 6 of 9 criteria				
Distinctiveness	Medium				

Photo 13 – Construction site pond

Photo 14 – Construction site pond

3.1.6 6) Heathland and shrub – Bramble scrub

A small patch of dense scrub was present to the north of the site, and this is locally dominated by bramble. Bramble scrub is automatically assigned medium distinctiveness but has a predetermined condition score of N/A within the metric.

3.1.7 7) Heathland and shrub – Gorse scrub

Within the centre of the site, adjacent to the road, a small stretch of dense scrub dominated by gorse (*Ulex europaeus.*) was present.

Table 11 – Condition Assessment for heathland and shrub

UK Hab Classification	Heathland and shrub				
Condition Sheet	Scrub				
Condition Criteria 1.	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover)	Fail	Condition Criteria 4.	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Fail
Condition Criteria 2.	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Fail	Condition criteria 5.	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail
Condition Criteria 3.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass			
Condition Poor	Passes 1 of 5 criteria				
Distinctiveness	Medium				

Photo 10 – Dense gorse scrub in the centre of the site

3.1.8 8) Urban – Developed land, sealed surface

Along the eastern boundary of the site there is a small area of hardstanding where the site joins an existing road. This habitat is automatically allocated a condition score of N/A by the metric.

4 Retained Habitats

4.1 Area habitats

The only area habitat being retained on site is the parcel of hardstanding along the eastern boundary of the site which adjoins to an existing road and will provide access to the residential scheme. Developed land, sealed surface is automatically allocated a condition score of N/A by the metric and contributes no habitat units to the post-development total.

Table 12 – Area habitats to be retained on site

Habitat Parcel Reference	Total Area(ha)	Total Units	Area Retained (ha)	Units Retained
8) Developed land, sealed surface	0.01	0.00	0.01	0.00
Total	0.01	0.00	0.01	0.00

5 Lost Habitats

Under the current proposed landscape design, all habitats but the area of hardstanding will be lost and the existing associated area habitat units will therefore also be lost.

5.1 Area Habitats

Table 12 shows a summary of the area habitats and their corresponding area (ha) and unit score to be lost on site along with planned mitigation.

Table 13 – Area habitats to be lost on site

Habitat Parcel Reference	Total Area (ha)	Total Units	Area lost (ha)	Units lost	Planned Mitigation
1) Modified grassland	5.09	10.18	5.09	10.18	This area is currently in poor condition. The loss of this habitat is to be compensated for by the creation of other areas of modified grassland.
2) Vacant/derelict/bare ground	0.45	0.90	0.45	0.90	Although not compensated for directly, the site will feature a range of tree species, native and non-native, known to have value to the wider environment.
3) Other neutral grassland	0.12	0.48	0.12	0.48	This area is currently in poor condition. The loss of this habitat will be compensated for by creating other areas of better condition habitat of the same type, such as meadow planting.
4) Ponds (non-priority habitat)	0.13	1.04	0.13	1.04	A SuDS pond to the south of the site will compensate for the loss of this habitat. The new pond will be of the same condition or higher.
5) Ponds (non-priority habitat)	0.03	0.24	0.03	0.24	These are small areas which will be replaced by a significantly larger SuDS pond which will provide much more habitat value.
6) Bramble scrub	0.02	0.08	0.02	0.08	Different areas of mixed scrub featuring native species will be planted and these areas will form a diverse habitat with surrounding habitat types.
7) Gorse scrub	0.01	0.04	0.01	0.04	Different areas of native mixed scrub will be planted. These will be habitats of the same distinctiveness and better condition.

Total	5.85	12.96	5.85	12.96	

6 Pre-Development Unit Summary

Using the Biodiversity Metric 3.1, the habitat units of the existing site habitats were calculated, and the habitat units that are anticipated to be lost in site development were calculated. As developed land, sealed surface has no attributed habitat units, despite being retained, the retained unit value remains at 0.

The results of these calculations are presented in Table 13.

Table 14: Pre-Development Unit Summary

	On-site baseline	Retained	Lost	% change
Area Units	12.96	0.00	12.96	-100%

7 Created Habitats on Site

Using the Biodiversity Metric 3.1, the habitat units of the post-development created habitats were calculated.

7.1 Area Habitats

7.1.1 C1) Developed Land; Sealed Surface – Roads and footpaths

A variety of access roads and footpaths are to be created throughout the site. These access routes will be entirely hardstanding which is categorised as developed land; sealed surface and has a predetermined condition of **N/A** within the metric.

7.1.2 C2) Developed Land; Sealed Surface – Housing and gardens

The proposed development is for the creation of a residential housing scheme. Under the current Biodiversity Metric 3.1 user guidance, the area of housing and their associated gardens are recorded as developed land, sealed surface and vegetated gardens at a ratio of 70:30. Both of these habitats are automatically allocated a condition score of N/A by the metric.

7.1.3 C3) Urban Trees

A total of 427 trees are due to be planted on site. Species to be planted include alder (*Alnus glutinosa*), silver birch (*Betula pendula*), European aspen (*Populus tremula*), Judas-tree (*Cercis siliquastrum*), honey locust (*Gleditsia triacanthos* 'Skyline') and Tibetan cherry (*Prunus serrula 'Tibetica*). Trees will be planted in blocks throughout recreational areas, as well as individually within the residential scheme.

Table 15 - Condition Assessment for Urban Tree

Classification within Landscape Designs	Tree planting to open public spaces / Tree planting to residential properties / Multi-stem tree planting				
UK Hab Classification	Urban tree				
Condition Sheet	Urban tree				
Condition Criteria 1.	The tree is a native species(or more than 70% within the block are native species).	Pass	Condition Criteria 4.	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	Pass
Condition Criteria 2.	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	Condition Criteria 5.	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	Fail

	pass this criterion).				
Condition Criteria 3.	The tree is mature or veteran (or more than 50% within the block are mature or veteran).	Fail	Condition Criteria 6.	More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass

Condition Moderate	Passes 4 of 6 criteria
Distinctiveness	Medium
Time to Target Condition	27 years
Difficulty of Creation	Low

7.1.4 C4) Introduced shrub

Several areas of planting fit the criteria for introduced shrub, in accordance with UK habitat classification guidance. In the proposed landscape plans, these areas are labelled 'planting mix to residential properties type 1', planting mix to residential properties type 2', 'street planting mix', and 'herbaceous perennial and grass planting mix'. These areas are characterised by primarily non-native species planted in a garden setting for aesthetic value. Species within these mixes include feathertop (*Pennisetum villosum*), English lavender (*Lavandula angustifolia*), sea thrift (*Armeria maritima*), and Mexican feather grass (*Stipa tenuissima* 'pony tails'). Introduced shrub is automatically allocated a condition score of N/A by the metric.

7.1.5 C5) Mixed scrub – Native woodland planting

Several blocks of mixed scrub will be created, primarily to the south of the site. A native woodland planting mix will be used to achieve this which includes hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), holly (*Ilex aquifolium*), dog rose (*Rosa canina*), blackberry bramble (*Rubus fruticosa*) and guelder rose (*viburnum opulus*).

Table 16 - Condition Assessment for mixed scrub

Classification within Landscape Designs	Woodland planting mix
UK Hab Classification	Mixed scrub
Condition Sheet	Scrub

Condition Criteria 1.	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Pass	Condition Criteria 4.	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Pass
Condition Criteria 2.	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Fail	Condition Criteria 5.	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail

Condition Criteria 3.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass			

Condition Moderate	Passes 3 of 5 criteria.
Distinctiveness	Medium
Time to Target Condition	5 years
Difficulty of Creation	Low

7.1.6 C6) Mixed scrub – Native trees and shrubs

Further areas of mixed scrub will be created using a similar species mix of that in the woodland planting mix (C5), with additional species including silver birch and alder (*Alnus glutinosa*). These compartments of mixed scrub will be created along the boundaries of the site, adjacent to the other areas of mixed scrub.

Table 17 - Condition Assessment for mixed scrub

Classification within Landscape Designs	Native tree and shrub planting mix				
UK Hab Classification	Mixed scrub				
Condition Sheet	Scrub				
Condition Criteria 1.	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Pass	Condition Criteria 4.	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Pass
Condition Criteria 2.	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Fail	Condition Criteria 5.	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail
Condition Criteria 3.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass			

Condition Moderate	Passes 3 of 5 criteria.
Distinctiveness	Medium
Time to Target Condition	5 years

Difficulty of Creation	Low

7.1.7 C7) Rain garden

Two small areas of rain garden will be created along the northern boundary of the site. Species within this mix include false fox sedge (*Carex otrubae*), meadowsweet (*Filipendula ulmaria*), sweet vernal grass (*Anthoxanthum odoratum*) and Japanese spirea (*Spirea japonica* 'firelight').

Table 18 - Condition Assessment for rain garden

Classification within Landscape Designs	SUDS planting mix				
UK Hab Classification	Rain garden				
Condition Sheet	Urban				
Condition Criteria 1.	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	Pass	Condition Criteria 3.	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area.	Pass
Condition Criteria 2.	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).	Pass			
Condition	Moderate	Passes 3 of 3 criteria but fails to meet specific conditions in criteria 2 regarding native species.			
Distinctiveness	Low				
Time to Target Condition	3 years				
Difficulty of Creation	Low				

7.1.8 C8) Modified grassland – Amenity grassland

Areas of modified grassland will be created across the site with the largest areas to the south of the site. These will be seeded with grass seed and are expected to be heavily managed and experience high footfall.

Table 19 - Condition Assessment for modified grassland

Classification within Landscape Designs	Amenity grass
UK Hab Classification	Modified grassland
Condition Sheet	Grassland (low)

Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Condition Criteria 2.	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.	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.	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.	Pass			

Condition Poor	Passes 5 of 7 criteria but fails essential criteria 1.
Distinctiveness	Low
Time to Target Condition	1 year.
Difficulty of Creation	Low

7.1.9 C9) Other neutral grassland – Wildflower meadows

Wildflower meadow areas will be created along the eastern boundary and at the southern end of the site, with some smaller compartments along the western boundary. These areas will be seeded with EM2 standard general purpose meadow mixture and so will contain a mix of 15% wildflowers and 85% grasses. Wildflower species include cowslip (*Primula veris*), meadow buttercup (*Ranunculus acris*) and common knapweed (*Centurea nigra*). Grass species include common bent (*Agriostis capillaris*), crested dogstail (*Cynosurus cristatus*), red fescue and smooth-stalked meadow grass (*Poa pratensis*).

Table 20 - Condition Assessment for other neutral grassland

Classification within Landscape Designs	Meadow planting				
UK Hab Classification	Other neutral grassland				
Condition Sheet	Grassland (medium, high & very high)				
Condition Criteria 1.	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	Pass	Condition Criteria 4.	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass	Condition Criteria 5.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition1 and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
Condition Criteria 3.	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass	Condition Criteria 6.	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).	Pass
Condition	Good	Passes 6 of 6 criteria, including both essential criteria.			
Distinctiveness		Medium			
Time to Target Condition		10 years			
Difficulty of Creation		Low			

7.1.10 C10) Other neutral grassland – Wet wildflower meadows

An additional area of meadow will be created surrounding the areas of marginal planting and SuDS pond. This area will be seeded with wet wildflower seed mix which contains 30% native wildflower seed and

70% grasses. This mix contains species more suited to wet ground, such as wild angelica (*Angelica sylvestris*), yellow rattle (*Rhinanthus minor*), meadow foxtail (*Alopecurus pratensis*) and common bent.

Table 21 - Condition Assessment for other neutral grassland

Classification within Landscape Designs	Wet meadow				
UK Hab Classification	Other neutral grassland				
Condition Sheet	Grassland (medium, high & very high)				
Condition Criteria 1.	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	Pass	Condition Criteria 4.	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass	Condition Criteria 5.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition1 and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
Condition Criteria 3.	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass	Condition Criteria 6.	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).	Pass
Condition	Good	Passes 6 of 6 criteria, including both essential criteria.			
Distinctiveness		Medium			
Time to Target Condition		10 years			
Difficulty of Creation		Low			

7.1.11 C11) Modified grassland – Bulb planting

Linear beds will be planted with bulbs adjacent to public walkways and spaces which will provide aesthetic value to the site. The three species which will be planted are snowdrop (*Galanthus nivalis*), spring crocus (*Crocus vernus*) and daffodil (*Narcissus pseudonarcissus*).

Table 22 - Condition Assessment for modified grassland

Classification within Landscape Designs	Bulb planting				
UK Hab Classification	Modified grassland				
Condition Sheet	Grassland (low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Fail
Condition Criteria 2.	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.	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass
Condition Criteria 3.	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.	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.	Pass			
Condition Poor	Passes 4 of 7 criteria but fails essential criteria 1.				
Distinctiveness	Low				

Time to Target Condition	2 years.
Difficulty of Creation	Low

7.1.12 C12) Other neutral grassland – Marginal planting

Two areas of marginal planting will border the SuDS pond at the south of the site. The species selected for this area are naturally occurring in wet habitats and suited to a pond edge. Species in this mix include greater pond sedge (*Carex riparia*), soft rush and yellow iris (*Iris pseudacorus*).

Table 23 - Condition Assessment for other neutral grassland

Classification within Landscape Designs	Marginal planting				
UK Hab Classification	Other neutral grassland				
Condition Sheet	Grassland (medium, high & very high)				
Condition Criteria 1.	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. NB - This criterion is essential for achieving moderate condition for non-acid grassland types only.	Fail	Condition Criteria 4.	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass	Condition Criteria 5.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition1 and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
Condition Criteria 3.	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass	Condition Criteria 6.	There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).	Fail
Condition Poor	Passes 4 of 6 criteria but fails both essential criteria.				
Distinctiveness	Medium				

Time to Target Condition	10 years
Difficulty of Creation	Low

7.1.13 C13) Pond (non-priority habitat) – SuDS Pond

A large SuDS pond will be created to the south of the site, adjacent to the length of the south-eastern boundary. This is surrounded by marginal vegetation and areas of wet meadow and will work to regulate water movement by holding rainwater and run-off and slowly releasing it. The pond will also provide a valuable habitat for aquatic and amphibious species, as well as being an interesting visual feature.

Table 24 - Condition Assessment for pond (non-priority habitat)

Classification within Landscape Designs	SuDS pond				
UK Hab Classification	Pond (non-priority habitat)				
Condition Sheet	Pond				
Condition Criteria 1.	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Pass	Condition Criteria 6.	There is an absence of non-native plant and animal species.	Pass
Condition Criteria 2.	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	Pass	Condition Criteria 7.	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
Condition Criteria 3.	Less than 10% of the pond is covered with duckweed or filamentous algae.	Pass	Condition Criteria 8.	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds)[3], should cover at least 50% of the pond area that is less than 3 m deep.	Fail
Condition Criteria 4.	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Pass	Condition Criteria 9.	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	Pass
Condition Criteria 5.	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Pass			
Condition	Moderate	Passes 8 of 9 criteria.			
Distinctiveness		Medium			
Time to Target Condition		3 years.			

Difficulty of Creation	Low

7.2 Linear Habitats

There was no direct need for the creation of linear habitats as there were no existing hedgerows or lines of trees on-site to be compensated for. However, hedgerows provide valuable wildlife corridors, as well as opportunities for refuge, resting, foraging and nesting,

7.2.1 Hedge ornamental non-native

A total of 722m of New Zealand privet (*Griselinia littoralis*) hedgerow is being created across the site. These hedgerows will be within the residential development in individual lengths of approximately 5-25m. This type of hedgerow is automatically assigned a condition score of poor by the metric.

7.2.2 Native hedgerow

200m of beech (*Fagus sylvatica*) hedge will be created across the site within the residential development in individual lengths of up to 20m.

Table 25 - Condition Assessment for native hedgerow

Classification within Landscape Designs	Hedgerow planting				
UK Hab Classification	Native hedgerow				
Condition Sheet	Hedgerow				
A1. Height	>1.5 m average along length	Pass	C1. Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	Fail
A2. Width	>1.5 m average along length	Pass	C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Pass
B1. Gap – hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	Pass	D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species.	Pass
B2. Gap – hedge canopy continuity	Gaps make up <10% of total length and No canopy gaps >5 m.	Pass	D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass
Condition	Good	Passes 7 of 8 criteria			
Distinctiveness		Low			
Time to Target Condition		12 years.			
Difficulty of Creation		Low			

7.2.3 Native species rich hedgerow

66m of native species rich hedgerow will be created in areas around the periphery of the residential scheme. There are five different native species within the planting mix, making it species rich, and these are hawthorn, gorse, blackthorn, dog rose and elder.

Table 26 - Condition Assessment for native species rich hedgerow

Classification within Landscape Designs	Hedgerow planting				
UK Hab Classification	Native species rich hedgerow				
Condition Sheet	Hedgerow				
A1. Height	>1.5 m average along length	Pass	C1. Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	Fail
A2. Width	>1.5 m average along length	Pass	C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Pass
B1. Gap – hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	Pass	D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species.	Pass
B2. Gap – hedge canopy continuity	Gaps make up <10% of total length and No canopy gaps >5 m.	Pass	D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass
Condition	Good	Passes 7 of 8 criteria.			
Distinctiveness		Low			
Time to Target Condition		12 years.			
Difficulty of Creation		Low			

8 Post-Development Summary and Conclusion

Using the Biodiversity Metric 3.1, the habitat units of the planned created habitats were calculated; the habitat units to be retained within site development were calculated; and the habitat units that are anticipated to be lost in site development were calculated.

The results of these calculations are presented in Table 27.

Table 27: Post Development Biodiversity Net Gain Calculation

		Habitat Unit Change					Net change in Biodiversity	
	On-site baseline	Retained	Lost	Enhanced	Created	On-site post development	Habitat units	%
Habitat (Area) Units	12.96	0.00	12.96	0.00	33.55	33.55	20.59	+158.84
Hedgerow (Linear) Units	0.00	-	-	-	1.95	1.95	1.95	+100

As illustrated in Table 27 the total Biodiversity Net Gain for the site, based on the current landscape design, is a gain of 158.84% in area habitats and a gain of 100% in linear hedgerow habitats. Offsite mitigation will therefore not be necessary. The landscape design also satisfied the trading rules laid out by the metric and so there is no need to incorporate additional habitat to address this. The gain is in line with all relevant national and local planning policies.

To ensure that the habitats proposed as part of the post development design of this site reach the condition detailed within this report and the full gain in value to the environment is achieved by this site, a long-term management plan (usually 30 years) is required. This length of management plan is required due to the complex nature of the habitats to be enhanced/created on site and the high value they will provide to the environment.

9 References

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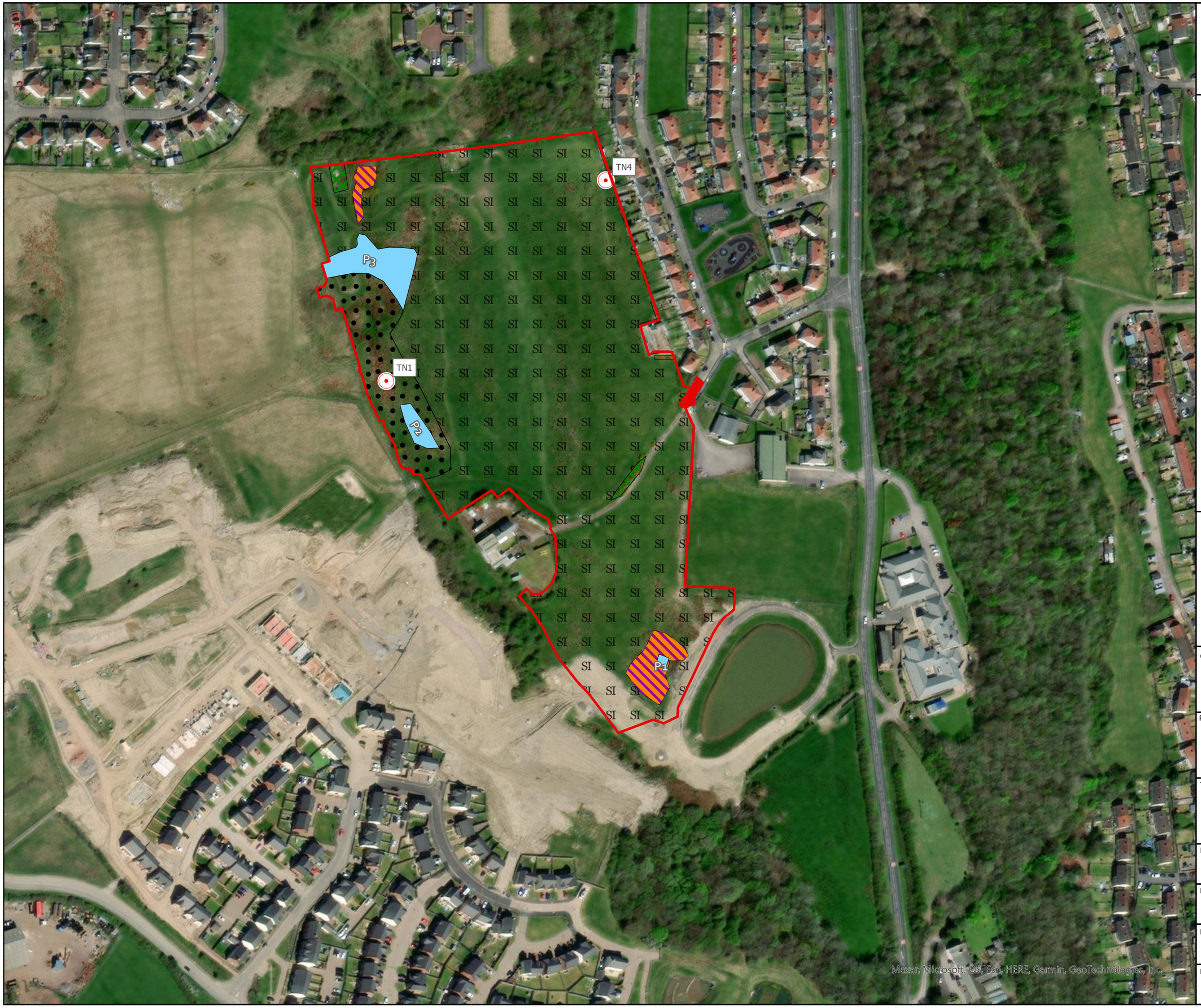
Appendix 1 – Pre-Development Habitat Map

URBAN GREEN



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Red Line Boundary
Hardstanding

Target Note

Label

TN1 - Lack of access, ongoing construction

TN4 - Land grab from residential property

Standing Water
Bare ground
Marsh/Marshy Grassland
Dense/Continuous Scrub
SI Poor Semi-improved Grassland
Tall Ruderal

N

0 25 50 100 Meters

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Client: **Story Homes**

Project: **Edgehill Park Phase 4**

Title: **Habitat Map**

Issue: **01**

Drawn:	Checked:	Approved:
CL	MM	MM

Project:	Scale @ A3:	Date:
UG1415	1:2250	26/01/2022

Dwg No:	Revision:
UG1415_ECO_HM_01	01

Appendix 2 – Proposed Landscape Plan

URBAN GREEN

KEY

RED LINE BOUNDARY

Soft Works

EXISTING TREES
To be retained

TREE PLANTING TO OPEN PUBLIC SPACES
Refer to planting schedule for further information

TREE PLANTING TO RESIDENTIAL PROPERTIES
Refer to planting schedule for further information

MULTISTEM TREE PLANTING TO RESIDENTIAL PROPERTIES AND LINEAR PARK
Refer to planting schedule for further information

HEDGEROW PLANTING
Refer to planting schedule for further information

PLANTING MIX TO RESIDENTIAL PROPERTIES - TYPE 1
Refer to planting schedule for further information, section *Coastal Ornamental Mix*

PLANTING MIX TO RESIDENTIAL PROPERTIES - TYPE 2
Refer to planting schedule for further information, section *Coastal Structural Mix*

STREET PLANTING MIX
Refer to planting schedule for further information, section *Coastal Road Mix*

WOODLAND PLANTING MIX
Refer to planting schedule for further information, section *Coastal Native Shrub Mix*

HERBACEOUS PERENNIAL & GRASS PLANTING MIX
Refer to planting schedule for further information, section *Coastal Herbaceous & Grass Mix*

NATIVE TREE AND SHRUB PLANTING MIX
Refer to planting schedule for further information, section *Native Tree and Shrub Planting Mix*

SUDS PLANTING MIX
Refer to planting schedule for further information, section *Coastal Rain Garden Planting Mix*

TURF GRASS

AMENITY GRASS

MEADOW PLANTING
Refer to planting schedule for further information, section *Meadow Mix*

WET MEADOW
Refer to planting schedule for further information, section *Wet Meadow Mix*

BULB MIX PLANTING
Refer to planting schedule for further information, section *Bulb Mix*

MARGINAL PLANTING
Refer to planting schedule for further information, section *Marginals Mix*

SUDS POND

PEBBLES
To Architect specification

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Notes:-

REV.	DATE	DESCRIPTION	DRAWN	CHK'D
P04	01.08.22	Layout amended. Third issue for planning	KT	MT
P03	13.06.22	Second Issue for planning	KT	MT
P02	20.05.22	First Planning Issue	KT	MT
P01	11.05.22	Preliminary Issue	KT	MT

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Client:
Story Homes

Project:
Edgehill Park, Phase 4

Title:
General Arrangement Plan

Issue:
Planning

Drawn:	Checked:	Approved:
KT	MT	ME

Project:	Scale @ A0:	Date:
UG1415	1:500	07/03/2022

Dwg No:	Revision:
UG_1415_LAN_GA_DRW_01	P04