Greengage

Brighter strategies
for greener projects

Client: Keepmoat Homes

Project: Keresforth Road

Report: Biodiversity Net Gain Assessment

QUALITY ASSURANCE

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CONTENTS

Tables

Figures

1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd (Greengage) was commissioned by Keepmoat Homes (Keepmoat) in December 2023 to undertake a Biodiversity Net Gain Assessment (BNGA), using the Statutory Biodiversity Metric (SBM), for an area of land known as Keresforth Road, hereafter referred to as 'the site'.

The BNGA aims to quantify the predicted change in biodiversity value of the site in light of the proposed development to assess compliance against national and local planning policy and against the BNG mandate set out in the Environment Act 2021, which states that all planning permissions granted in England (with a few exemptions) will have to deliver at least 10% biodiversity net gain.

The site extends to 8.03 hectares (ha) and comprised modified grassland, other neutral grassland, bramble scrub, developed land; sealed surface, and lowland mixed deciduous woodland, line of trees, native hedgerow with trees, and other rivers and streams, alongside data received from a desk study (as detailed in the Greengage Ecological Impact Assessment (EcIA) report[1] (report ref:)).

Assumptions were made on the proposals taken from the nineteen47 'Masterplan' drawing[2] as detailed landscape plans were not available at the time of writing. Proposed habitat creation includes 3.11 ha of other neutral grassland, 2.93 ha of developed land; sealed surface, 0.06 ha of sustainable drainage system, 0.10 ha of other woodland; broadleaved, 160 urban trees at an equivalent 0.65 ha area, 1.26 ha vegetated garden and 0.20 ha mixed scrub. The development seeks to retain 0.03 ha of modified grassland, 0.03 ha of bramble scrub, 0.01 ha of developed land; sealed surface. Enhancement is also proposed for lowland mixed deciduous, line of trees and native hedgerow with trees.

The locations, extents, conditions and habitat parcel reference numbers of the pre-development (baseline) and post development habitats are mapped in Figure A.1 and Figure B.1. The habitat values are split into three categories: area-based 'Habitat Units' (HU), linear-based 'Hedgerow Units' (HeU) and aquatic linear-based 'Watercourse Units' (WU) respectively, where applicable to the site.

The baseline values for the site have been calculated as 42.48 HU, 1.22 HeU and 1.64 WU.

The post-development design proposals are predicted to deliver 42.29 HU. This is a net loss of -0.18 HU (equivalent to -0.43 % for HU).

The post-development design proposals are predicted to deliver 1.75 HeU. This is a net gain of 0.53 HeU (equivalent to +43.03 % for HeU).

The post-development design proposals are predicted to deliver 0 WU. This is a no net gain or loss **of WU (equivalent to +/- 0 % for WU).**

The design proposals do not meet the required target of 10% BNG nor meet the BNG Trading Rules for lowland mixed deciduous woodland at high distinctiveness.

Suggested amendments include:

- Planting 40 extra small urban trees at moderate condition (to total 200 newly planted trees) across the site;

- Increasing the area of planting of other neutral grassland through replacement of vegetated garden; and,
- Planting of lowland mixed deciduous woodland in replacement of other woodland; broadleaved in the 'area for biodiversity'.

With the suggested changes the site would reach a 2.48% net gain in HU and but still not satisfy trading rules. In order to meet a 10% BNG, offsite compensation would be required. Off-site net gain is also likely for the provision of WU, as it is unlikely to be enhanced via post-development design. Off-site compensation options should be investigated following the BNG mitigation hierarchy order i.e. Off-site (within the client's ownership), Off-site (outside of the client's ownership), Local Market Analysis or Purchasing Statutory Credits (as a last resort).

Upon receiving planning permission, the submission of a Biodiversity Gain Plan (BGP) to the LPA will be required. This BGP must include details of the proposed off-site BNG compensation, including the Biodiversity Gain Site Register Reference.

Alongside the BNGA, qualitative ecological enhancement recommendations have also been provided which contribute to further increasing the ecological value of the scheme. Refer to Greengage EcIA 2024 report.

The proposed development is predicted to deliver a significant BNG due to the habitats at baseline and post-development. Therefore, a Habitat Management and Monitoring Plan (HMMP) for the habitat retention/enhancement, creation and long term management over 30 years (minimum) will be required for submission to the LPA. When these recommendations are adhered to, the proposals stand to be compliant with legislation and current planning policy.

Qualitative habitat enhancement recommendations have also been given to further increase the ecological value of the scheme.

2.0 INTRODUCTION

Greengage Environmental Limited (Greengage) was commissioned by Keepmoat Homes (Keepmoat) in December 2023 to undertake a Biodiversity Net Gain Assessment (BNGA), using the Statutory Biodiversity Metric (SBM), for an area of land known as Keresforth Road, hereafter referred to as 'the site'.

Under the Environment Act 2021, developments are mandated to achieve a 10% biodiversity net gain (BNG), and they may also be required to under local policy. Most Local Planning Authorities (LPA) require a 10% net gain delivered against a site's pre-development (baseline) value. This is determined through assessing the condition of pre-development habitats on the site i.e. calculating the baseline at the BNGA Baseline stage, followed by comparison against the anticipated changes in biodiversity value based on the development proposals.

The purpose of this BNGA which has been completed for the Feasibility Stage is to compare the predicted post development biodiversity value of the site against the pre-development (baseline) value, to identify if the 10% BNG target will be reached, or if it can be reached through implementation of 'suggested changes' to the site/landscape design. Where is it not feasible to achieve the required 10% gain onsite then off-site compensation will be required.

A previous BNG report was undertaken by Quants Environmental in 2022[3] and submitted as part of a planning application. However, due to Local Planning Authority (LPA) comments with regards to the habitat classifications of the baseline habitats this has not been used as the baseline. Instead the baseline has been taken from the Greengage Ecological Impact Assessment (EcIA) report[1].

This BNGA has been undertaken in May 2024. Any further changes to the design will impact upon the BNG score and the SBM calculations will need to be updated to reflect such changes. This also carries forward throughout the entire lifetime of the project, including after planning permission has been granted, in and throughout the construction phase. BNG aims to give an accurate reflection of the changes happening on the site.

2.1 SITE DESCRIPTION

The site extends to 8.03 hectares (ha) and is centred on Ordnance Survey National Grid Reference (OS NGR) SE 32408 05304, OS Co-ordinates: 432408, 405304. The site can be seen in Appendix A.

The site is situated north of Keresforth Road, and immediately to the east of the site is the slip road to Junction 37 of the M1. A small patch of woodland is present immediately to the south east of the Site. Woodland also surrounds the site on the western boundary, which includes a tributary of Dodworth Dyke which runs through the centre of the site, from under the M1 on the eastern boundary, towards and along the western boundary of the site to it entering the Dodworth Dyke. Residential housing is present at the west of the site beyond the woodland, as well as within the wider area. Agricultural land is present to the east of the Site, beyond the M1.

Further afield, House Carr Dike is located approximately 820m south of the site, , South Yorkshire Forest is approximately 1.3km south west of the site, Bagger Wood Dike is approximately 1.3km south west of the site, National Trust Wentworth Castle is approximately 1.4km south west of the site Dearne Valley Wetlands Site of Special Scientific Interest (SSSI) is approximately 1.8km south east of the site, Worsborough Country Park Local Nature Reserve (LNR) LNR is approximately 1.9km south east of the site, and Silkstone Golf Club is approximately 1.4km north west of the site. Barnsley town centre is approximately 2.3km east of the site.

2.2 PROPOSED DEVELOPMENT

The 'Masterplan' produced by nineteen47[2], has been used as the basis for information regarding the proposed post-development habitats and has been used to inform the comparison against the baseline values. However, as this document is lacking in enough detail to assess what habitats are proposed, assumptions have been made on the likely habitats.

The proposed development proposes to deliver a number of new residential dwellings with associated soft landscaping, a Sustainable Drainage System (SuDS) at the east of the site with associated wetland and riparian planting, grassland planting around the site, urban tree planting, woodland creation, and an 'area for biodiversity' which will include grassland, trees and scrub habitat.

3.0 METHODOLOGY

3.1 PRE-DEVELOPMENT (BASELINE)

Habitat Data

An Ecological Impact Assessment (EcIA) has been undertaken by Greengage[1] in accordance with guidance in the UK Habitat Classification System (UKHab)[4], the Chartered Institute of Ecological and Environmental Management (CIEEM) (2017) Guidelines for Preliminary Ecological Appraisal[5], and in accordance with British Standard (BS) 42020: 2013: Biodiversity[6]. The EcIA included a Preliminary Ecological Appraisal (PEA) incorporating a desk study and site walkover which identified and mapped the extent and distribution of different habitat types on site according to the standard UKHab classification methodology, i.e. using Primary Codes, and supplemented with Secondary Codes. Habitats have been split into ' habitat parcels' (e.g. Parcel Reference 1) within the report, for the purposes of denoting differentiations in characteristics/composition within habitat types, where applicable. A habitat map was produced to illustrate the results, which is provided at Appendix A.

During the EcIA, the habitats were also subject to Condition Assessments, where relevant, in accordance with the SBM Condition Assessments. (See 'Habitat Condition' below).

The site walkover included a River Condition Assessment (RCA) in relation to aquatic linear-based habitats, comprising a Modular River Physical (MoRPh) survey in order to assess the condition of the aquatic linear-based habitats for the purposes of the BNGA.

Statutory Biodiversity Metric Calculation Tool

This BNGA uses the government mandated methodology within the 'Statutory Biodiversity Metric User Guide' (SBM User Guide), distributed by Department for Food Environment and Rural Affairs (Defra), February 2024[7].

BNG uses habitat type and condition as a proxy for overall biodiversity value, measured in Biodiversity Units (BU) which are calculated using the SBM. The BU are separated into area-based Habitat Units (HU), linear-based Hedgerow Units (HeU) and aquatic linear-based Watercourse Units (WU), as applicable to a site, respectively. For this site, HU, HeU and WU are applicable.

The following information on each habitat type are the required SBM inputs:

- Type;
- Area/length;
- Condition; and,
- Strategic significance.
- Riparian and In-Watercourse Encroachment (for watercourse habitats only).

The areas of each habitat parcel are measured, with each habitat parcel assigned a 'Distinctiveness', 'Condition' and 'Strategic Significance' score. Distinctiveness is a default score for the habitat

classification, representing its inherent biodiversity value, whereas condition refers to the state each habitat parcel is in relative to a predetermined set of criteria outlined in the SBM User Guide.

Strategic significance draws upon priorities and objectives within local plans and strategies, and is measured by providing habitats with a score from low to high as follows:

- Low - "area / compensation not in local strategy";
- Medium - "location ecologically desirable but not in local strategy"; and,
- High - "formally identified in local strategy".

To calculate the pre-development (baseline) BU value, habitat data collected during the site walkover has been used. A UKHab map has been created based on the data collected in the field using Coreo[8] software. The area extents for each habitat type shown in the UKHab map were then measured using Quantum Geographical Information System (QGIS) software. See Appendix A.

To calculate the HU associated with trees on site, stem diameters of each tree were used to assign each tree a rating of 'small', 'medium', 'large' or 'extra large', in line with the User Guide. The rating corresponds to an area value to be used.

Distinctiveness values were automatically calculated for the site and habitat conditions were assessed both in the field, and retrospectively using site photos.

Type and Area/Length

Habitat types documented in the PEA use UKHab classifications and primary codes supplemented by secondary codes, where applicable. The SBM uses a classification system based mainly on the UKHab Classification System[4] but with input also from other systems including the Water Framework Directive (WFD) Lakes Typology[9], the European Nature Information System (EUNIS) habitat definitions[10], Habitats Directive Annex 1 definitions[11].

As such, UKHab classifications used in the site walkover do not always translate directly into the SBM habitat types that are available for selection within the pre-set drop-down menus. Occasionally UK Hab secondary codes provide the key information to be able to allocate the SBM 'best fit' selection for the UKHab habitat type. Habitat conversions that are applicable to the site are listed in Table 3.1 below. The SBM classifications are hereafter used throughout the report.

Table 3.1 UKHab to SBM Habitat Conversions

UKHab Habitat Type	SBM Habitat Type	Reasoning
Grassland - Modified grassland [horse grazed, scattered scrub, introduced shrub]	Modified grassland	Modified grassland was dominant habitat
Grassland - Other neutral grassland [scattered scrub, rushes dominant, tall forbs]	Other neutral grassland	Other neutral

UKHab Habitat Type	SBM Habitat Type	Reasoning
		grassland was dominant habitat
Heathland and shrub - Bramble scrub [scattered trees]	Bramble scrub	Bramble scrub was dominant habitat
Urban – Buildings	Developed land; sealed surface	Cannot input buildings into the SBM. Buildings are a sub habitat of developed land; sealed surface in the UKHab
Urban – Developed land; sealed surface	Developed land; sealed surface	Developed land; sealed surface is dominant habitat
Woodland and forest - other lowland mixed deciduous woodland [semi-natural woodland, complex woody structure, seasonally wet, bare ground, unmanaged]	Lowland mixed deciduous woodland	Lowland mixed deciduous woodland dominant
Heathland and shrub - native hedgerow [hedgerow with trees]	Native hedgerow with trees	Secondary code best fits the habitat classification
Woodland and forest - other broadleaved woodland [line of trees]	Line of trees	Secondary code best fits the habitat classification

A habitat parcel reference has been applied to each area-based, hedgerow-based and/or watercourse-based habitat type on the site, which is cross-referenced within the SBM calculation tool and Figure A.1.

For individual trees in the post-development proposals, the area extent attributed to individual trees has been calculated using the 'Tree helper' within the SBM calculation tool. This is based upon using Diameter at Breast Height (DBM) in centimetres (cm). In accordance with the SBM User Guide, based on 'Diameter at breast height (centimetres (cm))', tree sizes have been recorded as follows:

- Small is less than 30 cm diameter;
- Medium is greater than 30 cm, to less than or equal to, 60 cm;
- Large is greater than 60 cm, to less than or equal to 90 cm; and,
- Extra large is greater than 90 cm.

Habitat Condition

Where applicable, habitats were subject to a condition assessment in accordance with the SBM Condition Assessments. Formalised copies of the Condition Assessments for the Baseline habitats are provided as Appendix C.

Habitats must be quantified using criteria set out by the SBM Condition Assessments to determine their relative condition.

The condition of a habitat is a measure of the biological 'working-order' of a habitat type judged against the perceived ecological optimum state for that particular habitat.

The condition of each habitat type was assessed against pre-set criteria and categorised as either 'Good', 'Fairly Good', 'Moderate', 'Fairly Poor' or 'Poor'. Where a habitat type varies in condition within the site this was recorded and mapped.

River Condition Assessment

Watercourse habitat types cannot always be condition assessed using the SBM Condition Assessments. Instead, they are assessed using River Condition Assessment (RCA) methodology[12]. The RCA is split into two parts, the field survey and a desk study.

Field Survey

A Modular River Physical (MoRPh) survey is used to collect field data within 'sub-reaches' of a river. A 'sub-reach' refers to a short river reach with a length equal to five 'modules', and a 'module' is a short length of river equal to approximately two channel widths along which a single MoRPh is conducted. At least 20% of the river length within a given site should be surveyed[12]. MoRPh surveys are carried out on short 'modules' of the river, the size of which is determined by the river width (Table 3.2). The MoRPh field survey was carried out on the 7th May 2024 by MoRPh certified Senior Consultant Francesca Thorley, BSc (Hons), MSc, ACIEEM.

Table 3.2 Determining Module Length from River Width

River width (m)	Module length (m)
< 5	10
5 to < 10	20
10 to < 20	30
20 to < 30	40
Large and navigable rivers and canals	50

Five contiguous modules should be surveyed within each sub-reach, therefore creating a MoRPh5. The area surveyed within each module includes land within 10 metres (m) of the bank top either side of the river, both bank faces and the channel bed. The features captured within the survey include the bank and bed sediments, morphological and hydraulic features, riparian and aquatic vegetation extent and structure, presence of non-native invasive plants, bank top land use pressures and human interventions within the river channel.

The river habitat identified on the site flowed for approximately 0.18 km through the site and had a width of no more than 3 metres (m) and as such, two MoRPh5 surveys were undertaken with module lengths measuring 10 m. Therefore, a total of 100 m was surveyed, covering approximately 53% of the river habitat within the site.

The data was entered into the 'Cartographer' web application, which automatically calculates a preliminary condition score based on 32 MoRPh river condition indicators (Table 3.3). The indicators are split into positive and negative indicators (shown in Table 3.3 as bold and non-bold text respectively). Positive indicators reflect the more 'natural' elements of a river habitat and are scored 0 – 4, with 4 being the best score. Negative indicators reflect the human pressures and interventions in the river habitat and are scored between -4 and 0, with -4 being the worst score.

Table 3.3 MoRPh River Condition Indicators

Code	Indicator Name
B1	**Bank top vegetation structure**
B2	**Bank top tree feature richness**
B3	**Bank top water-related features**
B4	Bank top Non-Native Invasive Plant Species (NNIPS) cover
B5	Bank top managed ground cover
C1	**Bank face riparian vegetation structure**
C2	**Bank face tree feature richness**
C3	**Bank face natural bank profile extent**
C4	**Bank face natural bank profile richness**
C5	**Bank face natural bank material richness**

Code	Indicator Name
C6	Bank face bare sediment extent
C7	Bank face artificial bank profile extent
C8	Bank face reinforcement extent
C9	Bank face reinforcement material severity
C10	Bank face NNIPS cover
D1	Channel margin aquatic vegetation extent
D2	Channel margin aquatic morphotype richness
D3	Channel margin physical feature extent
D4	Channel margin physical feature richness
D5	Channel margin artificial features
E1	Channel aquatic morphotype richness
E2	Channel bed tree features richness
E3	Channel bed hydraulic features richness
E4	Channel bed natural features extent
E5	Channel bed natural features richness
E6	Channel bed material richness
E7	Channel bed siltation
E8	Channel bed reinforcement extent
E9	Channel bed reinforcement severity
E10	Channel bed artificial features severity
E11	Channel bed NNIPS extent
E12	Channel bed filamentous algae extent

Desk Study

A combination of a desk-based assessment and data from the MoRPh5 field survey was used to determine river type from one of thirteen near-natural river types. Eight river type indicators are used to determine river type. Indicators A1 to A5 are derived from maps or aerial images. These indicators are A1 Braiding index, A2 Sinuosity index, A3 Anabranching index, A4 Level of confinement and A5 Valley gradient. Indicators A6 to A8 are derived from the MoRPh5 field survey. These indicators are A6 Bedrock reaches, A7 Coarsest bed material size class and A8 Average alluvial bed material size class. There are also two further river types that do not require the river type indicators to be derived, and these are a large river and a canal/navigable river.

The data was entered into the 'Cartographer' web application which automatically calculates the river type from one of the thirteen types shown in the enclosed Figure D.1.

The data from the field survey and desk study data were entered into the 'Cartographer' web application, which then combined the data to calculate a final condition score of the river.

It should be noted that a RCA is not undertaken for culvert habitats. These are automatically assigned as 'Poor' condition. Ditch habitats, while classified as a watercourse habitat in the SBM calculation tool, are not assessed using RCA but are assessed in accordance with the SBM Condition Assessments (as described above). Canal habitats are assessed using the RCA methodology described above.

Strategic Significance

The SBM calculation tool accounts for whether the habitat is situated in an area locally identified as significant for nature.

Data on areas and habitats locally identified as significant for nature were obtained from the following:

- Multi-Agency Geographical Information for the Countryside (MAGIC) website for mapped statutory designated sites;
- Barnsley Biological Records Centre (BBRC) was consulted in January 2024 during the EcIA for records of statutory and non-statutory designated sites for nature conservation within and adjacent to the site;
- Habitats listed within the Local Biodiversity Action Plan (LBAP) for Barnsley (Barnsley BAP, 2009)[13];
- Local Plans;
- Local Nature Recovery Strategies;
- River Basin Management Plans;
- Catchment Plans;
- National Character Area profiles; and/or,
- Priority Habitats for Restoration.

Areas within the site that fall within a mapped designated site, have been given the highest strategic significance score of 'Formally identified within local strategy'.

Using the SBM calculation tool, habitat values have been calculated based on whether they occur commonly or whether they are rare, their area (ha) (or length (km) for linear features such as hedgerows), condition and importance within the local area, usually identified from local relevant planning policies or documents.

Riparian and In-Watercourse Encroachment

For watercourse habitats, encroachment on the habitats is assessed as part of the SBM inputs. Encroachment is split into two types; riparian and in-watercourse.

The riparian zone is defined as the area within 10 m of the bank top for rivers and canals and 5m for ditches. Any development within this zone is termed 'riparian encroachment'. Encroachment can be

classed as minor, moderate or major dependent on the proximity of the development to the bank top and the percentage area that it covers within the riparian zone. Riparian encroachment bands are described in Table 3.4 below.

Table 3.4 Description of Riparian Encroachment Bands (SBM User Guide).

Riparian Encroachment Band	Definition for rivers and canals	Definition for ditches
No encroachment	No encroachment within 10 m of the bank top.	No encroachment within 5 m of the bank top.
Minor	Any development 8 – 10 m from bank top (covering up to 100% of area); or where the footprint of encroachment occupies 0 – 10% of the riparian zone area 4 – 10 m from bank top.	Any development 4 – 5 m from bank top (covering up to 100% of area); or where the footprint of encroachment occupies 0 – 10% of the riparian zone area 2 – 5 m from bank top.
Moderate	Where the footprint of encroachment occupies between 10 to 25% of the riparian zone area 4 – 10 m from bank top.	Where the footprint of encroachment occupies between 10 to 25% of the riparian zone area 2 – 5 m from bank top.
Major	Any encroachment 0 – 4 m from bank top; or where encroachment occupies greater than 25% of the total riparian zone area.	Any encroachment 0 – 2 m from bank top; or where encroachment occupies greater than 25% of the total riparian zone area.

In-watercourse encroachment is defined as intervention that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways. In-watercourse encroachment is classed as minor or major dependent on the percentage of the bank length or channel width affected by the intervention as detailed in Table 3.5.

Table 3.5 Description of In-watercourse Encroachment Bands (SBM User Guide)

In-Watercourse Encroachment Band	Description
No encroachment	Less than 5% of the bank length is an engineered bank revetment and there is no encroachment into the channel.

In-Watercourse Encroachment Band	Description
Minor	5% - 20% of the bank length is an engineered bank revetment; or there is encroachment across up to 10% of channel width at any one point
Major	Greater than 20% bank length is an engineered bank revetment; or there is encroachment across greater than 10% of the channel width at any one point.
N/A - Culvert	To be used for culverts only

3.2 POST- DEVELOPMENT (PROPOSED)

To calculate the post-development BU value, the area extents for each habitat type were measured based on the 'Masterplan', using Quantum Geographical Information System (QGIS) software. See Appendix B.

Habitat types were assumed based on the 'Masterplan', professional judgement and a discussion with Abigail Upton at Keepmoat Homes who stated detailed landscape plans were not available and agreed on assumptions to be made (Email Ref: Abigail Upton to Francesca Thorley and Chloe Peace, dated 16th May 2024, titled "RE Keresforth Road - Survey Results"). Where justification for habitat types is required, this has been included in Section 4.0.

Targeted condition scores were assigned by Greengage, using the SBM habitat condition criteria, whilst considering the likely future use of each area on the 'Masterplan' and what was considered feasible to reach.

Where a RCA has been undertake, a scenario analysis has been undertaken by changing the baseline RCA data to the expected changes to the watercourse habitat to predict the condition.

Strategic significance of post-development habitats has been assigned based on the information above.

Riparian and In-Watercourse encroachment has been assigned based on the tables above.

In accordance with the BNG Trading Rules, changes in broader habitat types (for example, 'Urban', 'Woodland' and 'Grassland' habitats) are also tracked, and trading habitats is discouraged unless specifically targeted within a local strategy. Trading down of habitats is not permitted.

The definition of 'significant enhancements', in accordance with government guidance (www.gov.uk) is 'areas of habitat enhancement which contribute significantly to the proposed development's BNG, relative to the biodiversity value before development'.

Retention of existing habitat does not count as an on-site enhancement.

What counts as a significant enhancement will vary depending on the scale of development and existing habitat, but these would normally be:

- Habitats of medium or higher distinctiveness in the SBM;

- Habitats of low distinctiveness which create a large number of biodiversity units relative to the biodiversity value of the site before development;
- Habitat creation or enhancement where distinctiveness is increased relative to the distinctiveness of the habitat before development;
- Areas of habitat creation or enhancement which are significant in area relative to the size of the development; and,
- Enhancements to habitat condition, for example from poor or moderate to good.

3.3 COMPETENICES

In accordance with 'British Standard: 8683 (BS:8683) Process for designing and implementing biodiversity net gain – Specification', this BNGA and all associated condition assessments have been completed by competent, suitability trained and qualified ecologists.

For River Corridor Assessment, associated with WU, the ecologist is certified for use of the 'Cartographer' application.

Chloe Peace, Consultant, has a BSc (Hons) in Zoology and is a Qualifying member of CIEEM. Chloe has two seasons of experience in ecological survey and assessment in consultancy. Her experience that spans the aquatic and terrestrial environments, with particular interest in Biodiversity Net Gain (BNG), natural capital, habitat management and conservation, and ornithology.

Francesca Thorley, Senior, has an undergraduate degree in Geography (BSc Hons) and a Master's degree in Biodiversity and Conservation (MSc), holds a Natural England Great Crested Newt Licence, is Certified to undertake River Condition Assessments and is an Associated Member of CIEEM. Francesca has over 6 years' experience in the commercial sector.

Jennie Caddick, Associate, holds a BSc (Hons) in Ecology and full CIEEM membership. She has 20 years consultancy experience working for a varied client base, with a focus on complex schemes where requirement for consultation and bespoke surveying has been used. Jennie holds Natural England survey licences for bats (Class 2), GCN, water vole and white-clawed crayfish. In addition, she has also held mitigation licences for otter.

This report was written by Chloe Peace, reviewed by Francesca Thorley and verified by Jennie Caddick who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and,
- Avoids invalid, biased, and exaggerated statements.

3.4 ASSUMPTIONS

General

As a detailed landscape plan was not provided, professional judgement was made to assume likely habitat types for the scheme and the site. The following assumptions were made:

- Grassland is present where a light green colour is show, in the form of other neutral grassland;
- The large pockets of light grey is proposed for residential dwellings, with the assumption that 70% of the area is developed land; sealed surface, and 30% is vegetated gardens;
- The dark green is woodland, in the form of other broadleaved woodland;
- Circles are proposed urban trees;
- Woodland in the west has been proposed as retained;
- Native hedgerow with trees is proposed as retained;
- Line of trees is proposed as retained;
- The blue area in the north east of the site is assumed as a Sustainable Drainage System (SuDS) feature with appropriate planting; and,
- The 'area for biodiversity' has reign for exploration for mitigation and compensation of habitat loss for the scheme, and thus has been assumed as having other neutral grassland and mixed scrub, as well as qualitative habitat features, such as bird and bat boxes, invertebrates hotels and reptile hibernacula.

For the purpose of this report to remain consistent with the User Guide methodology, the line of trees on the site has been labelled as a hedgerow feature, i.e. H2, as hedgerow is classified as a linear feature rather than an area-based one (see below).

Statutory Biodiversity Metric Calculation Tool

Strategic significance for the baseline has been determined to be Low for all habitats, except for the native hedgerow with trees, other rivers and streams, and lowland mixed deciduous woodland following a review of the Barnsley Local BAP.

Strategic significance post-development has been determined to be Low also, except for the enhanced native hedgerow with trees.

The condition of the habitats, either for the baseline or that a habitat is considered to be able reach post-development, has been assessed using information within the SBM User Guide and based upon the ecologist's judgement of the habitats/input from the landscape architect.

Where there was no suitable UKHab or SBM habitat classification for a habitat, a 'best fit' alternative has been used with an explanation given to justify its use.

Note the sum of the values shown in columns within the Biodiversity Units tables may differ from the total units stated. This is due to rounding and is not considered significant. The totals stated reflect those calculated within the SBM calculation tool, based on the SBM User Guide.

4.0 RESULTS

4.1 PRE-DEVELOPMENT (BASELINE)

Desk Study

Statutory Designated Sites

The desk study had identified two statutory designated sites within 2km of the site; comprising Dearne Valley Wetlands Site of Special Scientific Interest (SSSI), located approximately 1.8km south east of the site, and Worsborough Country Park Local Nature Reserve (LNR) LNR, located approximately 1.9km south east of the site. For best practice, it is acknowledged here that measures to protect these designated sites from impacts by any future development should be undertaken and are fully detailed in the EcIA. Full details of the statutory designated sites are provided in the EcIA.

Non-statutory Designated Sites and/or Local Nature Reserves

The desk study had identified six non-statutory designated sites within 2km of the site; comprising Faithwaite and Lowe Wood Local Wildlife Site (LWS) located approximately 1.4km south west, Stainborough Park LWS located approximately 1.5km south west, Red Brook Pastures LWS located approximately 1.5km north east, Hugset Wood LWS located approximately 1.8km north west, Hugset Wood LWS located approximately 1.8km north west, Kendal Green Scrub LWS located approximately 1.8km south east, and Silkstone Fall Wood LWS located approximately 1.9km west of the site. For best practice, it is acknowledged here that measures to protect these designated sites from impacts by any future development should be undertaken and are fully detailed in the EcIA.

Priority Habitat

The desk study had identified the presence of UKBAP Priority Habitat Deciduous Woodland present at the centre and west of the site. Full details are shown in the EcIA.

Statutory Biodiversity Metric Calculation Tool

Using the SBM calculation tool the baseline biodiversity values of the site have been identified to be 42.48HU, 1.22 HeU and 1.64WU.

A breakdown of the baseline calculations for HU is provided in Table 4.1 below:

Table 4.1 Baseline Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Grassland	Modified grassland	1.6125	Low	Moderate	6.45
Grassland	Other neutral grassland	4.9875	Medium	Poor	19.95

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Heathland and shrub	Bramble scrub	0.3158	Medium	Condition Assessment N/A	1.26
Urban	Developed land; sealed surface	0.0266	Very Low	N/A - Other	0.00
Woodland and forest	Lowland mixed deciduous woodland	0.0819	High	Moderate	1.13
Woodland and forest	Lowland mixed deciduous woodland	0.2403	High	Moderate	3.32
Woodland and forest	Lowland mixed deciduous woodland	0.6837	High	Moderate	9.44
Woodland and forest	Lowland mixed deciduous woodland	0.0818	High	Moderate	1.13
				TOTAL	42.67*

*See Section 3.4.

A breakdown of the baseline calculations for HeU is provided in Table 4.2 below:

Table 4.2 Baseline Hedgerow Units

Habitat Type	Length (Km)	Distinctiveness	Condition	Hedgerow Units
Line of trees	0.214	Low	Moderate	0.86
Native hedgerow with trees	0.08	Medium	Poor	0.37
			TOTAL	1.22*

*See Section 3.4.

A breakdown of the baseline calculations for WU is provided in Table 4.3 below:

Table 4.3 Baseline Watercourse Units

Habitat Type	Length (Km)	Distinctiveness	Condition	Watercourse Encroachment	Riparian Encroachment	Watercourse Units
Other rivers and streams	0.125	High	Fairly Poor	No encroachment	Major/no encroachment	1.13
Other rivers and streams	0.062	High	Fairly Poor	Minor	No encroachment/no encroachment	0.51
					TOTAL	1.64

The above tables have been completed based on the methodologies detailed in Section 3.0 and on application of the below points:

- The pre-development (baseline) habitats did not appear to have been subject to degradation prior to the condition assessment i.e. the default condition level of 'Good' has not had to be assigned to any habitat types;
- In accordance with the SBM User Guide, 'Developed land; sealed surface', and 'Bramble scrub' have no condition assessment;
- 'Modified grassland' has a condition score of 'Moderate' as the habitat parcels failed two criterion of the 'grassland low' condition sheet. Criterion B and D failed due to sward height not being varied and physical damage was evident in >5% of the area;
- 'Other neutral grassland' habitat has been assigned a condition score of 'Poor'. Whilst having a varied sward height (except for habitat parcel 6), the cover of bare ground between 1% and 5%, and a combined cover of species indicative of sub-optimal condition and physical damage at <5% of the total area, criterion A, D and F failed;
- 'Lowland deciduous woodland' habitat has been assigned a condition score of 'Moderate'. Two age classes were present, no significant browsing damage was evident in the woodland, invasive species were present at <10% cover, five or more native tree or shrub species were found across the whole woodland, >80% of canopy trees and >80% of understorey shrubs were native, 0-20% of woodland had areas of temporary open space, one or two classes were only present in the woodland, 11% to 25% mortality and/or crown dieback or low risk pest or disease present with ash dieback present on ash trees, recognisable NVC plant community at ground layer present strongly characterised by ancient woodland flora specialists, three or more storeys were present, one veteran tree per ha, <25% of the woodland had deadwood, and <1 ha in total of nutrient enrichment across woodland area and <20% of woodland area had damaged ground;

- 'Line of trees' habitat has been assigned a condition score of 'Moderate' due to only failing Criterion C and E due to veteran features and/or ecological features were not present, and <95% of trees were in a healthy condition due to the present of ash and ash dieback;
- 'Native hedgerow with trees' habitat has been assigned a condition score of 'Poor' due to failing both attributes in one criterion group E, but failing one attribute in all other groups. The hedgerow height was >1.5m average along the length, but <1.5m in width, the ground to canopy base gap was >0.5m for >90% of length but canopy gaps were <10% total length AND no canopy gaps were >5m, there was <1m width undisturbed ground with perennial herbaceous vegetation >90% length, but plants indicative of nutrient enrichment of soils dominated <20% cover of undisturbed ground, >90% of the hedgerow and undisturbed ground was free of invasive non-native and neophyte species, but <90% of the hedgerow or undisturbed ground was free of damage caused by human activities, there was not more than one age-class of tree present, and <95% of hedgerow trees were in a healthy condition and there was evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity; and,
- The other rivers and streams have been assessed as fairly poor. This can mainly be attributed to several artificial features such as a culvert and artificial banks that occur along the stretch of stream.

4.2 POST-DEVELOPMENT (PROPOSED)

Using assumptions based on the 'Masterplan' and using the SBM calculation tool, the proposed development is predicted to deliver 43.78 HU, 1.75 HeU, and 1.64 WU respectively, as shown in Tables 4.4, 4.5 and 4.6 below.

Based on the 'Masterplan' drawing and assumptions, the proposed development is predicted to provide 43.78 HU as shown in Table 4.4.

Table 4.4 Post-Development Habitat Units

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Retained					
Grassland	Modified grassland	0.0345	Low	Moderate	0.14
Heathland and shrub	Bramble scrub	0.0282	Medium	Condition Assessment N/A	0.11
Urban	Developed land; sealed surface	0.0116	Very Low	N/A - Other	0.00
				Sub-total	0.25
Created					

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Grassland	Other neutral grassland	2.5056	Medium	Good	21.06
Grassland	Other neutral grassland	0.2466	Medium	Moderate	1.65
Grassland	Other neutral grassland	0.2766	Medium	Good	2.32
Grassland	Other neutral grassland	0.0800	Medium	Good	0.54
Heathland and shrub	Mixed scrub	0.2036	Medium	Good	1.71
Urban	Developed land; sealed surface	2.59868	Very Low	N/A - Other	0.00
Urban	Sustainable drainage system	0.0060	Low	Good	0.02
Urban	Sustainable drainage system	0.0557	Low	Good	0.19
Woodland and forest	Other woodland; broadleaved	0.0971	Medium	Moderate	0.46
Woodland and forest	Other woodland; broadleaved	0.0067	Medium	Moderate	0.03
Individual trees	Urban tree**	0.6514	Medium	Poor	1.99
Urban	Vegetated garden	1.11372	Low	Condition Assessment N/A	2.15
				Sub-total	32.11*
Enhanced					

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Woodland and forest	Lowland mixed deciduous woodland	0.6837	High	Moderate to Good	10.20
Woodland and forest	Lowland mixed deciduous woodland	0.0818	High	Moderate to Good	1.22
				Sub-total	11.42
**Urban trees are not included in the total site area to avoid double counting				Combined TOTAL	43.78*

*See Section 3.4.

Based on the 'Masterplan' drawing, the proposed development is predicted to provide 1.75 HeU as shown in Table 4.5.

Table 4.5 Post-Development Hedgerow Units

Broad Habitat	Habitat Type	Length (Km)	Distinctiveness	Condition	Hedgerow Units
Enhanced					
Line of trees	Line of trees	0.201	Low - Low	Moderate - Good	1.09
Native hedgerow with trees	Native hedgerow with trees	0.08	Medium - Medium	Poor - Moderate	0.67
				TOTAL	1.75*

*See Section 3.4.

Based on the ['Proposed Site Layout'] drawing, the proposed development is predicted to provide 1.64 WU as shown in Table 4.6.

Table 4.6 Post-Development Watercourse Units

Habitat Type	Length (Km)	Distinctiveness	Condition	Watercourse Encroachment	Riparian Encroachment	Watercourse Units
Retained						
Other rivers and streams	0.125	High	Fairly Poor	No encroachment	Major/no encroachment	1.13
Other rivers and streams	0.062	High	Fairly Poor	Minor	No encroachment/no encroachment	0.51
					TOTAL	1.64

The above tables have been completed based on the methodologies detailed in Section 3.0 and on application of the below points:

- 'Developed land; sealed surface' relates to all areas of hardstanding, building and impermeable surfaces within the proposed development design. The habitat has a pre-set condition within the SBM and does not contribute any biodiversity units to the calculation;
- 'Vegetated garden' is assumed to be planted alongside the dwellings that are calculated as the 'developed land; sealed surface' and at a 30:70 split, respectively. This is likely to consist of grassland and ornamental planting, however details and species lists were not provided at the time of writing. This habitat has a pre-set condition within the SBM;
- 'Other neutral grassland' is proposed to be planted throughout the site. In some areas where heavy damage is likely due to being adjacent roadsides or where heavy footfall is expected, this has been assessed as having 'moderate' condition, by failing criterion B, E and F. The remaining grassland is assessed as 'Good' condition, by passing all criteria except B where sward height is not varied. It should be noted that to achieve the 'Good' condition, this requires the habitat to have at least 10 vascular species per m^2, which does not include species of suboptimal condition including creeping thistle, spear thistle, curled dock (Rumex crispus), broad-leaved dock (Rumex obtusifolius), common nettle, creeping buttercup, greater plantain (Plantago major), white clover and cow parsley;
- An 'area for biodiversity' is proposed, with limited details on habitat composition and species lists at the time of writing. This has been assumed as having other neutral grassland and some mixed scrub as part of mitigation for habitat loss at the site. See above for other neutral grassland. The mixed scrub habitat would be required to meet all condition criteria to reach a 'Good' condition, therefore would need at least 80% to be native species, have at least three woody species present, have no single species comprising over 75% of the cover, having a mixed age range present (including seedlings, saplings, young shrubs and mature shrubs), an absence of WCA Schedule 9 species, a well-developed edge with scattered scrub and tall grassland/forbs between scrub and adjacent habitat, and having clearings, glades or rides present within the scrub;

- Approximately 160 'individual trees' will be planted throughout the site. A species list was not provided at the time of writing. To achieve a 'Moderate' condition, the trees must be native species, or 70% within a block being native, and have over 20% of the canopy area oversailing vegetation beneath (Criterion B is automatically passed due to being individual trees). All trees are likely to provide microhabitats for wildlife, however, are assumed to be subject to a pruning regime due to their location within public space;
- 'Other woodland; broadleaved' is assessed at a moderate condition therefore would require to meet the following criteria; having two age-classes present, having no significant browsing damage evident, no invasive species present, five or more native tree or shrub species present, >80% of canopy trees and 80% understorey shrubs native, 0-20% (as woodland is <10ha) temporary open space permitted, one or two classes of woodland regeneration present (seedlings, saplings or advanced coppice regrowth), 11-25% tree mortality and or crown dieback or low risk pest or disease present, recognisable woodland NVC plant community at ground layer present, two storeys present across woodland vertical structure, no veteran trees required, between 25-50% have deadwood present, and no nutrient enrichment or damaged ground evident;
- 'Sustainable drainage system' was assessed at good condition. This would require to meet the following criteria; varied vegetation structure providing opportunities for vertebrates and invertebrates to live, eat and breed, different plant species present that are beneficial to a diversity of wildlife (e.g. providing flowering species providing nectar sources for a range of invertebrates at different times of year), invasive non-native species (as listed on Schedule 9 of the WCA) absent, plant species mostly native (or if non-native species present, then species that do not cause detriment to the habitat or local wildlife), and vegetation structure comprising plant species suited for wetland or riparian situations;
- 'Lowland mixed deciduous woodland' enhanced from moderate to good condition. To achieve this, this habitat would need management to achieve the following criteria; increasing from two to three age classes present in the woodland, removal of cherry laurel (which is at <10% cover), increasing to all three classes present in the woodland (saplings, seedlings or advanced coppice growth), improving tree mortality (removing ash or ash trees identified as diseased with ash dieback), improving woodland ground flora to include recognisable NVC community through planting, increasing from two to three storeys, veteranising trees (currently none present), increasing deadwood presence, and reducing nutrient enrichment/damaged ground present within the habitat;
- 'Line of trees' enhanced from moderate to good condition. To achieve a good condition, the line of trees will need species veteranising so that one or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark, and to remove diseased ash trees (and any other diseased trees) so that at least 95% of the trees are in a healthy condition; and,
- 'Native hedgerow with trees' enhanced from poor to moderate condition. To achieve this, management needs to increase the average width along the length to be >1.5m, the ground to

canopy base gap needs to be <0.5m for >90% of length, and to remove diseased ash trees (and any other diseased trees) so that at least 95% of the trees are in a healthy condition.

In order to meet the target BNG of 10%, the following amendments and recommendations are made:

- Planting 40 extra small urban trees at moderate condition (to total 200 newly planted trees) across the site;
- Increasing the area of planting of other neutral grassland through replacement of vegetated garden; and,
- Planting of lowland mixed deciduous woodland in replacement of other woodland; broadleaved in the 'area for biodiversity'.

Table 4.7 below outlines the recommended amendments alongside current proposals. Should the recommendations be followed, the proposals would predict to provide a net gain of 4.17HU, equivalent to a net gain of 9.77%. However, trading rules would still not be satisfied with -3.42HU required for lowland mixed deciduous woodland.

Table 4.7 Recommended Amendments

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Created					
Grassland	Other neutral grassland	2.93	Medium	Good	24.62
Grassland	Other neutral grassland	0.2465	Medium	Moderate	1.65
Grassland	Other neutral grassland	0.2761	Medium	Good	2.32
Grassland	Other neutral grassland	0.08	Medium	Good	0.67
Urban	Developed land; sealed surface	1.5	Very Low	N/A - Other	0.00
Urban	Sustainable drainage system	0.006	Low	Good	0.02
Urban	Sustainable drainage system	0.0557	Low	Good	0.19

Broad Habitat	Habitat Type	Area (Hectares)	Distinctiveness	Condition	Habitat Units
Woodland and forest	Lowland mixed deciduous woodland	0.0971	Medium	Moderate	0.15
Woodland and forest	Lowland mixed deciduous woodland	0.0067	Medium	Moderate	0.01
Individual trees	Urban tree**	0.8143	Medium	Moderate	2.49
Urban	Vegetated garden	0.68932	Low	Condition Assessment N/A	1.33
Heathland and shrub	Mixed scrub	0.2036	Medium	Good	1.71
****Urban trees are not included in the total site area to avoid double counting**				TOTAL	35.17*

*See Section 3.4.

It would be possible to explore enhancement of the lowland mixed deciduous woodland outside of the site, immediately adjacent to the site to the west. If the 1.83 ha area of woodland was enhanced from a moderate condition to a good condition this would result in a 14.56% BNG and would result in only requiring 1.38 HU compensation of lowland mixed deciduous woodland.

5.0 EVALUATION AND DISCUSSION

Under the proposals, as set out in the 'Masterplan' drawing and with assumptions, and in the absence of additional enhancement measures and habitat creation, the development is predicted to deliver 42.67HU, which is a gain of 1.11 HU. This corresponds to an equivalent gain of 2.60% BNG for HU. Additionally, BNG Trading Rules have not been satisfied. A further 3.16 HU is required to meet the 10% BNG target. Of these units required, 3.59 HU is required to be same habitat or equivalent required and relates to the loss of lowland mixed deciduous woodland.

For HeU, the development is predicted to deliver 1.75 HeU, which is a gain of 0.53 HeU, equivalent to a 43.03% gain in BNG. Trading Rules have been satisfied for linear-based habitats.

For WU, the development is predicted to deliver 1.64 HeU, which is a no net loss of HeU, equivalent to a 0% gain in BNG. It is unlikely that it would be able to be enhanced via post-development design and therefore off-site compensation would be required in order to meet a deficit of 0.16 WU.

A copy of the SBM calculation tool outputs is provided as Appendix E. The proposals are therefore not in compliance with local and national planning policy (see Appendix F).

Table 5.1 below evaluates whether the habitat types that will be present post-development will contribute 'significant enhancements'.

Table 5.1 Significant Enhancements Evaluation

Criteria	Present/Absent	Comments
Habitats of medium or higher distinctiveness in the biodiversity metric (created)	Present	Through creation of other neutral grassland, other woodland; broadleaved, urban trees, and mixed scrub habitat
Habitats of low distinctiveness which create a large number of biodiversity units relative to the biodiversity value of the site before development	Absent	Habitats of low distinctiveness created but at a value of 1.17542 HU therefore not considered significant
Habitat creation or enhancement where distinctiveness is increased relative to the distinctiveness of the habitat before development	Absent	Pre = Area-based; Low (x1 habitat parcels), Medium (x2), V. Low (x1), High (x4), Linear-based; Low (x1), Medium (x1) Post = Area-based; Medium (x8), V. Low (x1), Low (x3), High (x2), Linear-based; Low (x1), Medium (x1).
Areas of habitat creation or enhancement which are significant in area relative to the size of the development	Present	Largest collective area is 2.59868ha for developed land; sealed surface, and 2.5056ha of other neutral grassland. Due to the total site area, this is deemed

Criteria	Present/Absent	Comments
		significant in relative size of the development.
Enhancements to habitat condition, for example from poor or moderate to good	Present	Enhancement of lowland mixed deciduous woodland from moderate to good, and enhancement of line of trees and native hedgerow with trees from moderate and poor to good and moderate, respectively.

The majority of significant enhancements are present in the assessment above, therefore, the development is evaluated as providing a significant BNG and significant enhancements.

The production of a Habitat Management and Monitoring Plan (HMMP) is appropriate to set out the actions required to manage and maintain the habitats to maximise their biodiversity value over the long term (30 years minimum).

Further qualitative ecological enhancement should ideally also be targeted on site through the provision of invertebrate habitat features (such as pollinator posts or bee bricks), bird boxes (such as for garden birds) and bat boxes, to help protect nationally and locally important species, including those specified in national, regional and local Biodiversity Action Plans.

6.0 OFF-SITE COMPENSATION

Should development proposals not be able to provide the above assumptions with further units required to meet the 10% target BNG and changes to satisfy the trading rules, off-site compensation may be required.

It is considered likely that off-site consumption would be required to satisfy the trading rules to create 4.74 HU of lowland mixed deciduous woodland. This could be achieved by improving the condition score of the lowland mixed deciduous woodland from moderate to good that is present immediately off site to the north west of the site, but further off-site compensation would be required.

This would need to be assessed at the Design Stage should all development design be finalised.

7.0 SUMMARY AND CONCLUSIONS

In accordance with the Environment Act 2021, the National Planning Policy Framework [and local policy] (Appendix E), developments (with a few exemptions) have to deliver at least a 10% net gain in biodiversity, which should be evidenced through a complete BNGA using the SBM.

This BNGA has been completed to identify the pre-development (baseline) biodiversity value of the site and compare against the predicted post-development biodiversity value.

The baseline values for the site have been calculated as 42.67 HU, 1.22 HeU and 1.64 WU.

The post-development design proposals are predicted to deliver 43.78 HU. This is a net gain of 1.11 HU (equivalent to +2.60 % for HU).

The post-development design proposals are predicted to deliver 1.75 HeU. This is a net gain of 0.53 HeU (equivalent to +43.03 % for HeU).

The post-development design proposals are predicted to deliver 0 WU. This is a no net gain or loss of WU (equivalent to +/- 0 % for WU).

The design proposals do not meet the BNG Trading Rules for lowland mixed deciduous woodland at high distinctiveness and modified grassland at low distinctiveness.

Suggested amendments include:

- Planting 40 extra small urban trees at moderate condition (to total 200 newly planted trees) across the site;
- Increasing the area of planting of other neutral grassland through replacement of vegetated garden; and,
- Planting of lowland mixed deciduous woodland in replacement of other woodland; broadleaved in the 'area for biodiversity'.

It is considered likely that off-site consumption would be required to satisfy the trading rules to create 1.38 HU of lowland mixed deciduous woodland. This could be achieved by improving the condition score of the lowland mixed deciduous woodland from moderate to good that is present immediately off site to the north west of the site. However, this would be further assessed at the Design Stage should all drawings be finalised.

Off-site compensation options should be investigated following the BNG mitigation hierarchy order i.e. Off-site (within the client's ownership), Off-site (outside of the client's ownership), Local Market Analysis or Purchasing Statutory Credits (as a last resort).

The proposed development is predicted to deliver a significant BNG due to the habitats at baseline and post-development. Therefore, a Habitat Management and Monitoring Plan (HMMP) for the habitat retention/enhancement, creation and long term management over 30 years (minimum) will be required for submission to the LPA. When these recommendations are adhered to, the proposals stand to be compliant with legislation and current planning policy.

Upon receiving planning permission, the submission of a Biodiversity Gain Plan (BGP) to the LPA will be required. This BGP must include details of the proposed off-site BNG compensation, including the Biodiversity Gain Site Register Reference.

Qualitative habitat enhancement recommendations have also been given to further increase the ecological value of the scheme.

APPENDIX A PRE-DEVELOPMENT (BASELINE) HABITAT MAP

Figure A.1 Pre-development (Baseline) Habitat Map

KERESFORTH ROAD

- Red Line Boundary
- Line of trees
- Native hedgerow with trees
- Other rivers and streams
- Bramble scrub
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Modified grassland
- Other neutral grassland

X = Parcel Reference Number

[X] = Secondary code

Title: Figure A.1a UKHab map - whole site

Drawn by: CP
Date: 29/05/2024

Reviewed by: FT
Date: 29/05/2024

Project number: 552654
Sources: Google Satellite Hybrid

Greengage

KERESFORTH ROAD

- Red Line Boundary
- Other rivers and streams
- Lowland mixed deciduous woodland
- Other neutral grassland

X = Parcel Reference Number

[X] = Secondary code

Title: Figure A.1b UKHab map - north

Drawn by: CP
Date: 29/05/2024

Reviewed by: FT
Date: 29/05/2024

Project number: 552654
Sources: Google Satellite Hybrid

Greengage

KERESFORTH ROAD

- Red Line Boundary
- Line of trees
- Native hedgerow with trees
- Other rivers and streams
- Bramble scrub
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Modified grassland
- Other neutral grassland

X = Parcel Reference Number

[X] = Secondary code

Title: Figure A.1b UKHab map - north

Drawn by: CP
Date: 29/05/2024

Reviewed by: FT
Date: 29/05/2024

Project number: 552654
Sources: Google Satellite Hybrid

Greengage

APPENDIX B POST-DEVELOPMENT HABITAT MAP

Figure B.1 Post-development Habitat Map

KERESFORTH ROAD

- Red Line Boundary
- Proposed Small Urban Tree
- Line of trees
- Native hedgerow with trees
- Other rivers and streams
- Bramble scrub
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- Other neutral grassland
- Other woodland; broadleaved
- Other woodland; mixed
- Sustainable drainage system

Title: Figure B.1 Post-development habitat map

Drawn by: CP
Date: 30/05/2024

Reviewed by: FT
Date: 30/05/2024

Project number: 552654
Sources: Google Satellite Hybrid

Greengage

APPENDIX C CONDITION ASSESSMENTS

The highlighted green text below indicates which condition has been achieved for each habitat.

Baseline Habitats

Modified Grassland

Condition Assessment Criteria		Criterion Passes (Yes or No)
A	There are 6-8 vascular plant species per m2 present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	No
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 vertebrates and invertebrates to live and breed.	No
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
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 (Footnote 2).	No
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	No
F	Cover of bracken Pteridium aquilinum is less than 20%.	Yes
G	There is an absence of invasive non-native plant species (Footnote 3) (as listed on Schedule 9 of WCA (Footnote 4)).	Yes
Essential criterion achieved (Yes or No)		No
Number of criteria passed		3

Condition Assessment Result	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)

Condition Assessment Criteria		Criterion Passes (Yes or No)
Passes 3 or fewer criteria; OR Passes 4 -6 criteria (excluding criterion A)	Poor (1)	
Footnotes		
Footnote 1 - Creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens and cow parsley Anthriscus sylvestris. 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).		

Other Neutral Grassland

Condition Assessment Criteria		Criterion Passes (Yes or No)
A	There are 6-8 vascular plant species per m2 present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	No
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 vertebrates and invertebrates to live and breed.	No
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
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 (Footnote 2).	No

Condition Assessment Criteria		Criterion Passes (Yes or No)
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	No
F	Cover of bracken Pteridium aquilinum is less than 20%.	Yes
G	There is an absence of invasive non-native plant species (Footnote 3) (as listed on Schedule 9 of WCA (Footnote 4)).	Yes
Essential criterion achieved (Yes or No)		No
Number of criteria passed		3

Condition Assessment Result	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)

Footnotes

Footnote 1 - Creeping thistle Cirsium arvense, spear thistle Cirsium vulgare, curled dock Rumex crispus, broad-leaved dock Rumex obtusifolius, common nettle Urtica dioica, creeping buttercup Ranunculus repens, greater plantain Plantago major, white clover Trifolium repens and cow parsley Anthriscus sylvestris.
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).

Woodland and forest - Lowland mixed deciduous woodland

Habitat parcel reference: 9

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
A	Age distribution of trees (footnote 1)	Three age-classes present.	Two age-classes present.	One age-classes present.	2
B	Wild, domestic and feral herbivore damage (footnote 2)	No significant browsing damage evident in woodland.	Evidence of significant browsing pressure is present in less than 40% of the whole woodland.	Evidence of significant browsing pressure is present in 40% or more of the whole woodland.	3
C	Invasive plant species (footnote 3)	No invasive species present in woodland.	Rhododendron Rhododendron ponticum or cherry laurel Prunus laurocerasus not present, and other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species ≥10% cover.	2
D	Number of native tree species (footnote 4)	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	3
E	Cover of native tree and shrub species (footnote 5)	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	3
F	Open space within woodland	10 - 20% of woodland has areas of temporary open	21 - 40% of woodland has areas of	<10% or >40% of woodland has areas of temporary open	3

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
	(footnote 6 and 7)	space. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	temporary open space.	space. But if woodland <10ha has <10% temporary open space, please see Good category.	
G	Woodland regeneration (footnote 8)	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	2
H	Tree health (footnote 9)	Tree mortality 10% or less, no pests or diseases and no crown dieback.	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present.	Greater than 25% tree mortality and or any high-risk pest or disease present.	2
I	Vegetation and ground flora (footnote 10)	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	3
J	Woodland vertical structure (footnote 11)	Three or more storeys across all survey plots, or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	3

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
K	Veteran trees (footnote 12)	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	2
L	Amount of deadwood (footnote 13)	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	1
M	Woodland disturbance (footnote 14)	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground.	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground.	2
Total score (out of a possible 39)					31

Condition Assessment Result	Condition Assessment Score
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)
Total score <26 (13 to 25)	Poor (1)

Footnotes
Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). Assessing your Woodland's Condition [online]. Available from: Woodland Wildlife Toolkit (sylva.org.uk).

Condition Assessment Criteria				Score per indicator
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	
The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However, the criteria on this sheet are those specific to the SBM and must be used when assessing woodland condition. Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch Betula sp., cherry Prunus sp. or Sorbus sp.: 0 - 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or Sorbus species; 0 - 20 years = Young; 21 - 60 years =Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees. Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed. Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly. Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage Lysichiton americanus; Himalayan balsam Impatiens glandulifera; Japanese knotweed Reynoutria japonica; cherry laurel Prunus laurocerasus; shallon Gaultheria shallon; snowberry Symphoricarpos albus; variegated yellow archangel Lamiastrum galeobdolon subsp. argentatum; rhododendron Rhododendron ponticum; and tree-of-heaven Alianthus altissima. Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present. Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs. Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees. Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha. Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering				

Condition Assessment Criteria				Score per indicator
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	
regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening. Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level. Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this. Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information. Footnote 12 - See gov.uk standing advice on ancient and veteran species[14],[15]. EWBG INDICATOR 12 is the relevant indicator. Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm. Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.				

Woodland and forest - Lowland mixed deciduous woodland

Habitat parcel reference: 10

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
A	Age distribution of trees (footnote 1)	Three age-classes present.	Two age-classes present.	One age-classes present.	2
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland.	Evidence of significant browsing pressure is present in less	Evidence of significant browsing pressure is present in 40%	3

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
	(footnote 2)		than 40% of the whole woodland.	or more of the whole woodland.	
C	Invasive plant species (footnote 3)	No invasive species present in woodland.	Rhododendron Rhododendron ponticum or cherry laurel Prunus laurocerasus not present, and other invasive species <10% cover.	Rhododendron or cherry laurel present, or other invasive species ≥10% cover.	3
D	Number of native tree species (footnote 4)	Five or more native tree or shrub species found across woodland parcel.	Three to four native tree or shrub species found across woodland parcel.	Two or less native tree or shrub species across woodland parcel.	3
E	Cover of native tree and shrub species (footnote 5)	>80% of canopy trees and >80% of understory shrubs are native.	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native.	<50% of canopy trees and <50% of understory shrubs are native.	3
F	Open space within woodland (footnote 6 and 7)	10 - 20% of woodland has areas of temporary open space. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	21 - 40% of woodland has areas of temporary open space.	<10% or >40% of woodland has areas of temporary open space. But if woodland <10ha has <10% temporary open space, please see Good category.	3
G	Woodland regeneration (footnote 8)	All three classes present in woodland; trees 4 - 7 cm	One or two classes only present in woodland.	No classes or coppice regrowth present in woodland.	2

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
		Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.			
H	Tree health (footnote 9)	Tree mortality 10% or less, no pests or diseases and no crown dieback.	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present.	Greater than 25% tree mortality and or any high-risk pest or disease present.	3
I	Vegetation and ground flora (footnote 10)	Recognisable NVC plant community at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community at ground layer present.	No recognisable woodland NVC plant community at ground layer present.	1
J	Woodland vertical structure (footnote 11)	Three or more storeys across all survey plots, or a complex woodland.	Two storeys across all survey plots.	One or less storey across all survey plots.	2
K	Veteran trees (footnote 12)	Two or more veteran trees per hectare.	One veteran tree per hectare.	No veteran trees present in woodland.	1

Condition Assessment Criteria					Score per indicator
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	
L	Amount of deadwood (footnote 13)	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities.	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities.	1
M	Woodland disturbance (footnote 14)	No nutrient enrichment or damaged ground evident.	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground.	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground.	2
Total score (out of a possible 39)					31

Condition Assessment Result	Condition Assessment Score
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)
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Footnotes

Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). Assessing your Woodland's Condition [online]. Available from: Woodland Wildlife Toolkit (sylva.org.uk).

The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However, the criteria on this sheet are those specific to the SBM and must be used when assessing woodland condition.

Condition Assessment Criteria				Score per indicator
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	
Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch Betula sp., cherry Prunus sp. or Sorbus sp.: 0 - 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or Sorbus species; 0 - 20 years = Young; 21 - 60 years =Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees. Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed. Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly. Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage Lysichiton americanus; Himalayan balsam Impatiens glandulifera; Japanese knotweed Reynoutria japonica; cherry laurel Prunus laurocerasus; shallon Gaultheria shallon; snowberry Symphoricarpos albus; variegated yellow archangel Lamiastrum galeobdolon subsp. argentatum; rhododendron Rhododendron ponticum; and tree-of-heaven Alianthus altissima. Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present. Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs. Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees. Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha. Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.				

Condition Assessment Criteria				Score per indicator
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	
Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level. Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this. Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information. Footnote 12 - See gov.uk standing advice on ancient and veteran species[16],[17]. EWBG INDICATOR 12 is the relevant indicator. Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm. Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.				

Urban - Developed Land; Sealed Surface

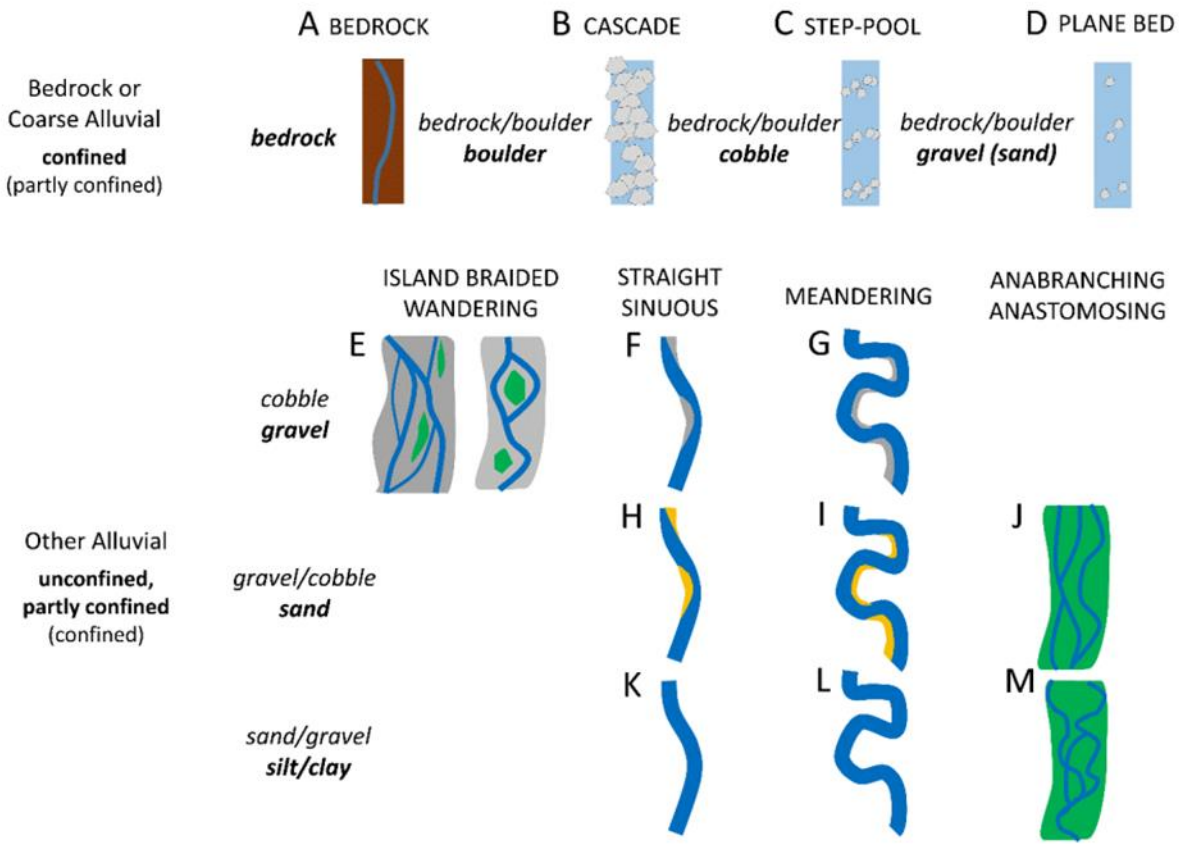
No assessment is required for this habitat as the condition is fixed within the SBM as N/A.

Urban - Bramble Scrub

No assessment is required for this habitat as the condition is fixed within the SBM as N/A.

APPENDIX D RIVER CONDITION ASSESSMENT FIGURES

Figure D.1 Thirteen Near-natural River Types



APPENDIX E RELEVANT LEGISLATION AND POLICY

E.1 LEGISLATION

The BNGA has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England including:

- UK Government's 25 Year Environment Plan (DEFRA, 2018);
- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (DEFRA, 2011);
- National Planning Policy Framework (NPPF) (MHCLG, 2023);
- The Natural Environment and Rural Communities (NERC) Act (HMSO, 2006);
- The Environment Act (DEFRA, 2021); and
- Habitats listed within the Local Biodiversity Action Plan (LBAP) for Barnsley (Barnsley BAP, 2009)

The Environment Act, 2021

Under the Environment Act, 2021, as of 12th February 2024 and 2nd April 2024, it is mandatory in England for new developments (with a small number of exceptions) to deliver a minimum 10% biodiversity net gain (BNG), as measured by the Statutory Biodiversity Metric or Small Sites Metric (SSM) respectively, secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of off-site compensation, or the purchase of statutory credits.

The Act introduces the condition that no development may begin unless a Biodiversity Gain Plan (BGP) has been submitted and approved by the LPA.

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

Under the Act, the enhancements must be maintained for at least 30 years.

E.2 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2023[18] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of

sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

The South Yorkshire Mayoral Combined Authority (SYMCA) Plan was not available at the time of writing due to being under revision.

Local

Barnsley Local Plan[19]

The Barnsley Local Plan sets out the key elements of the planning framework for Barnsley, and the approach to its long term physical development to achieve the Council's vision of what sort of place Barnsley wants to become.

Relevant policies to this scheme are taken from the Barnsley Local Plan Supplementary Planning Document: Biodiversity and Geodiversity, adopted in March 2024[19] and include:

Policy BIO1 Biodiversity and Geodiversity

Development will be expected to conserve and enhance the biodiversity and geological features of the borough, by following a list of measures.

Policy GI1 Green Infrastructure

The protection, maintenance, enhancement and creation of an integrated network of connected and multi-functional Green Infrastructure assets that follow a list of criteria.

Policy GS1 Green Space

The council will work with partners to improve existing green space to meet the standards in the Green Space Strategy.

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