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Ecological Report

Whinney Close Farm, Kirkheaton

Preliminary Ecological Appraisal Report
with Mitigation Recommendations and
Draft Biodiversity Net Gain Plan

v1.0

Date: 23/08/2024

By: Dominic Rigby MCIEEM

Ref: JE 8329-24

Client: Shaw & Jagger Architects/Thomas Crompton

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Any future readers should note that both the physical state of the site and the relevant environmental legislation may have changed since this report.

Revision Schedule				
Version	Date	Prepared by	For Comment	Checked by
1.0	**23/08/2024**	**D Rigby** Senior Ecologist	Ed Jagger S&J	**G Lowe** CCNW Director

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Whinney Close Farm

Preliminary Ecological Appraisal Report with draft BNG Plan

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August 2024

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Abbreviations and Glossary

BAP Biodiversity Action Plan

BCT Bat Conservation Trust

BNG Biodiversity Net Gain

BoCC Birds of Conservation Concern

BSBI Botanical Society of Britain & Ireland

CCNW Conservation Contracts North West

CIEEM Chartered Institute of Ecology and Environmental Management

EPS European Protected Species

GCN Great crested newt

ha Hectare

HSI Habitat Suitability Index

km Kilometres

LBAP Local Biodiversity Action Plan

m Metres

MCIEEM Full member, Chartered Institute of Ecology and Environmental Management

NERC Natural Environment and Rural Communities (Act 2006)

NGR National Grid Reference

NVC National Vegetation Classification

prf Potential roost feature (for bats)

PSMS Protected Species Method Statement

UKHab UK Habitats Classification

WYES West Yorkshire Ecology Service

> < more than/less than

1. Summary

Conservation Contracts Northwest Ltd. (CCNW) were contracted by Shaw & Jagger Architects Ltd. to undertake an ecological assessment of land at Whinney Close Farm, Kirkheaton, Kirklees. The appraisal was to identify ecological constraints and opportunities arising from proposed development. A biodiversity net gain (BNG) exercise was also requested to meet local planning policy and statutory guidelines.

A Preliminary Ecological Appraisal (PEA) was undertaken following industry guidelines, and this was reported using the standard report template. It included reference to bat and amphibian assessments undertaken 2023. The BNG assessment was conducted using the Statutory Defra Metric at 400m^2 minimum mapping unit.

The site was in a rural location and fell under the Valley Slopes Biodiversity Opportunity Zone. The northern part of the project site was part of the Kirklees Wildlife Habitat Network.

UK Habitat Classification was used to define habitats within the red-line boundary and thus enable cohesion with the Defra metric. The PEA was to determine if any priority or locally important habitats or protected species would be affected by the proposed works.

The site comprised of 0.72ha of grassland, with 31 scattered trees, 0.09ha of woodland with the remaining 0.28ha comprising the existing residence, path and garden. A new dwelling was to be built, a garden landscaped and a biodiversity zone established outside that curtilage composed of enhanced grasslands and extended woodland, the latter contributing to the wildlife habitat network.

Regarding priority/protected species,

- The bat surveys had revealed no roosts on site. However, the possibility of encountering bats could not be eliminated, and reasonable avoidance measures were recommended.

- Nesting birds would need to be checked onsite by a competent ecologist if clearance works were done during nesting season and if present, avoidance strategies put in place to avoid an unlawful act; and,
- Any *addition* to the artificial lighting on site would need to avoid the existing and proposed woodlands planted.

The post-development BNG habitat calculation was 12.88%, largely met by adding uplifting the grasslands and increasing native woodland and summaries how these could be achieved were outlined.

2. Introduction

2.1 Principal Author

This report was compiled by Dominic Rigby MCIEEM, Senior Ecologist at CCNW. He had 35 years' professional experience in the ecology sector and held survey/disturbance licences in England and Wales for great crested newts, bats and barn owls. He was an established ornithologist and a competent, trained surveyor for the suite of protected mammals potentially present at the site. He was up to date with advances in habitat classification and condition assessment, partaking in recent CIEEM and UKHab Ltd training courses on UKHab 2.0, DEFRA Metric/QGIS and Biodiversity Net Gain and Condition Monitoring.

2.2 Survey Guidelines and Report Structure

- The Report followed Chartered Institute of Ecology and Environmental Management Guidelines on Ecological Report Writing (CIEEM 2017a; Dean, 2021) where a Preliminary Ecological Appraisal Report was defined as "a report that aims to provide general advice on ecological constraints associated with any site/development and includes recommendations for further survey."
- The process followed during this Preliminary Ecological Appraisal was that set out in the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017b).

2.3 Client

The work was done for Shaw & Jagger Architects Ltd. on behalf of their client, Mr. T Crompton.

2.4 Project Description

Demolition and replacement of a residential dwelling with integrated landscaping.

2.4.1 Location

The proposed works were situated in a 1.1ha plot centred at S 187 1784, nearest post code: HD5 0PF, 1km east of Kirkheaton, within Kirklees Council authority.

Figure One (p9) mapped the location within the context of the wider area.

2.4.2 Site Description

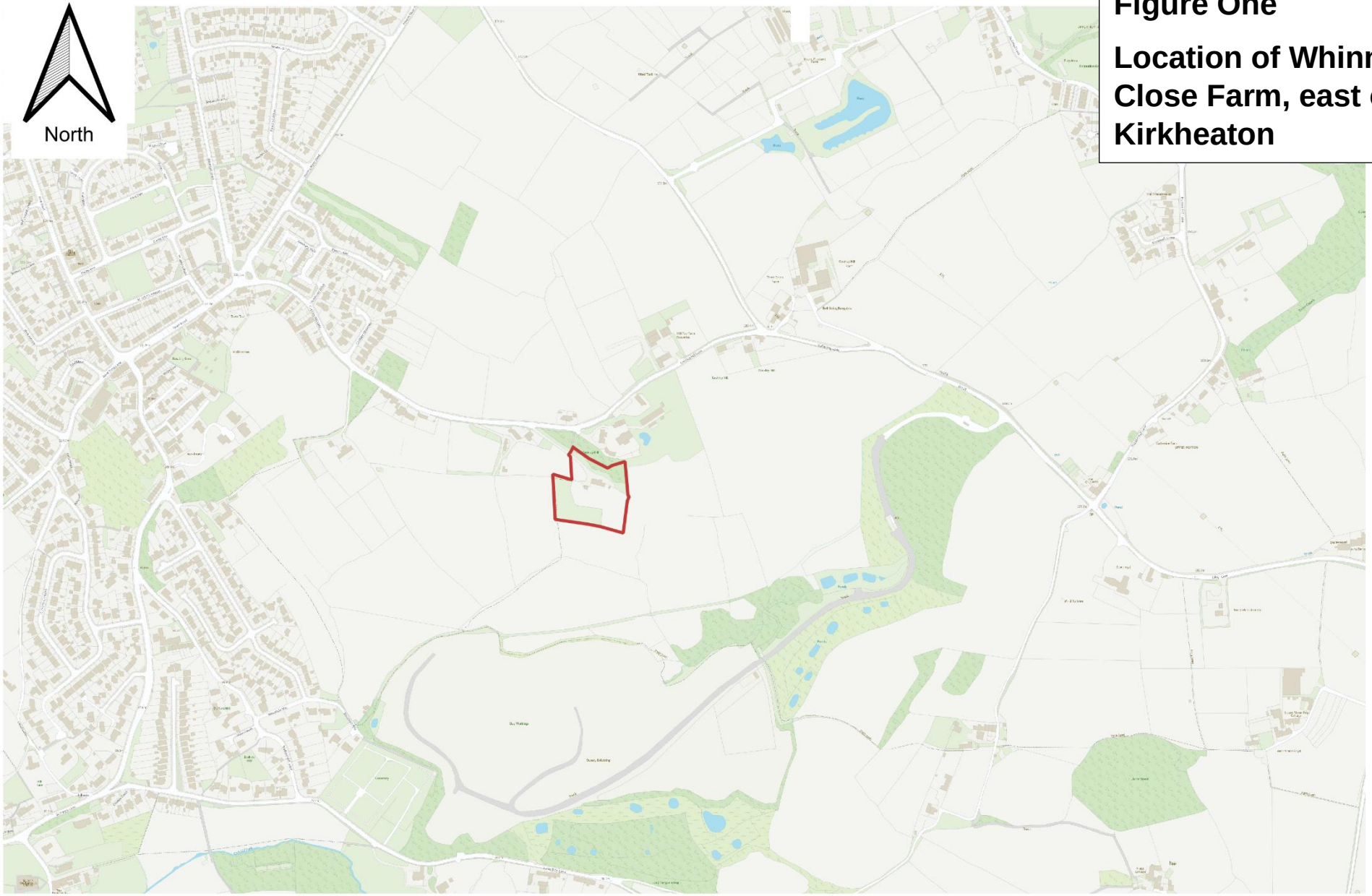
The project area was set in a large mosaic of landscape gardens, hard court and countryside habitat. The northern section of the site included a strip of woodland that formed part of the West Yorkshire Habitat Wildlife Network and comprised of priority habitat woodland as mapped by Natural England (NE) Magic Map Magic Map Application (defra.gov.uk).

2.4.3 Ownership

The site was privately owned.

Figure One

Location of Whinney Close Farm, east of Kirkheaton



Dominic Rigby v1 22/08/2024

2.5 Purpose and Scope of Report

2.5.1 Purpose of a PEA

The key objectives of a PEA were defined (CIEEM, 2017a) as:

- Identification of the likely ecological constraints associated with a project;
- Identification of any mitigation measures likely to be required;
- Identification of any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and,
- Identification of opportunities to offer ecological enhancement.

This PEA was produced to inform the client of any ecological constraints and opportunities as well further specialist surveys that may be required to support a planning application, within the context of the proposed project, with reference relevant legislation and planning policies.

2.5.2 Scope of this PEA

This assessment comprised a desk study and a field study. The desk study data was attained from NE's Magic Map and WYES.

The field study comprised of:

- Mapping relevant habitats within the red line of the proposed site.
- Assessment of possible presence of protected or priority species and the likely importance of habitat features for such species;
- Mapping of stands of invasive non-native species (INNS); and,
- Recording of incidental sightings or field signs of priority/protected species within and neighbouring the site.

In addition to this standard PEA scope, the following information was highlighted:

- Habitat data collected using UK Habitats Classification;
- Condition assessments of the habitat compartments to inform a BNG assessment;
- Ground-based assessment including the mapping and classification of any trees/tree-groups likely to be impacted by the proposals, that had potential for bat roosting;
- Baseline and Proposed Habitat Assessments and feasibility.

2.5.3 Constraints and Deviations from PEA Guidelines

There were no deviations from PEA/BNG Guidelines, nor were there seasonal constraints given the nature of the habitats encountered.

3. Legislation and Planning Policy

Following a desk-based assessment of the site, the following were considered potentially relevant:

3.1 Legislation

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

Formerly The Conservation of Habitats and Species Regulations 2017, these provided safeguards for European Protected Sites and Species (as listed in the Habitats Directive). This had recently been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 which continued the same provision for European protected species, licensing requirements, and protected areas after Brexit.

During the implementation period the 2017 Regulations would continue to be in force unamended. At the end of the implementation period the 2017 Regulations would continue to be in force but will be amended to make certain areas of the 2017 Regulations operate.

These regulations provided legal protection for European Protected Species (those listed under Annex IV of the EU Habitats Directive - Council Directive 92/43/EEC). With regards to European Protected Species, this made it an offence to:

Deliberately capture, injure or kill an EPS.

Deliberately disturb an EPS in a way that would affect its ability to survive, breed or rear young, hibernate or significantly affect the local distribution or abundance of the species.

Damage or destroy a roost/resting place [this is an ‘absolute’ offence and need not be deliberate or intentional].

Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead, or any part of an EPS.

*On this site potential EPS were**:***

great crested newt, all bat species

The Wildlife & Countryside Act 1981 (as amended)

The following parts of this Act could be relevant to this site:

Schedule 1

All birds were protected in some form (see Part One below), but some species had additional protection during the breeding season as did their nests, eggs and dependent young. To disturb these a special licence would be required.

This Schedule covered the following species potentially relevant to this site:

- ***Barn owl***

The following parts of this Act could be relevant to this site:

*Part One: **ALL** Birds*

> It was an offence to "Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built".

Section 9 (Protected Species):

> "9 (1) Subject to the provisions of this Part, if any person intentionally kills, injures or takes any wild animal included in Schedule 5, he shall be guilty of an offence. [No longer applies to EPS – see below]
> 9 (2) Subject to the provisions of this Part, if any person has in his possession or control any live or dead wild animal included in Schedule 5 or any part of, or anything derived from, such an animal, he shall be guilty of an offence. [No longer applies to EPS – see below]
> 9 (4) Subject to the provisions of this Part, a person is guilty of an offence if intentionally or recklessly—
> (a) he damages or destroys any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection; [No longer applies to EPS – see below]
> (b) he disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection; or
> (c) he obstructs access to any structure or place which any such animal uses for shelter or protection."
> "9 (5) Subject to the provisions of this Part, if any person—
> (a) sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in Schedule 5, or any part of, or anything derived from, such an animal; or
> (b) publishes or causes to be published any advertisement likely to be understood as conveying that he buys or sells, or intends to buy or sell, any of those things,
> he shall be guilty of an offence."

Former (post-Brexit) EPS are covered by 9 (4) b, c, and 5 only.

This Act covered the following species potentially relevant to this site:

- ***all bats, great crested newt, reptiles***

The Natural Environment and Rural Communities Act 2006

Section 40 of this Act required that local and regional authorities had regard to the conservation of biodiversity in England, when carrying out their normal functions.

Habitats and species of principal importance for nature conservation in England were listed in Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006.

Habitats potentially relevant to this site were:

- ***Lowland mixed deciduous woodland, Open mosaic habitats on previously developed land***

Species of principal importance for nature conservation in England in Section 41, potentially relevant to this site were:

- ***Common toad, hedgehog, brown hare***, *along with several species of plant (incorporated in Priority Habitats) and bat and bird (referred to in aforementioned Acts).*

Protection of Badgers Act 1992

The Protection of Badgers Act 1992 made it an offence to wilfully take, kill, injure or ill-treat a badger, possess a dead badger or any part of a badger. Sett interference included damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it was occupying a sett. The Act defined a badger sett as 'any structure or place, which displays signs indicating the current use by a badger' and Natural England took this definition to include seasonally used setts.

Work that may disturb badgers or their setts was illegal without a development licence from the relevant statutory body.

Wild Mammals (Protection) Act 1996

This Act aimed to protect wild mammals from deliberate acts of cruelty. Prior knowledge of the presence of mammals, or negligence through lack of survey, followed by works that could harm mammals, could come under this Act.

The Environment Protection Act 1990

This classified as controlled waste any soil and waste containing propagules of a plant species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Potentially relevant to this site were:

- Himalayan balsam (*Impatiens glandulifera*)
- Japanese knotweed (*Reynoutria japonica*)
- Giant hogweed (*Heracleum mantegazzianum*)
- Variegated yellow archangel (*Lamium galeobdolon* subsp. *argentatum)*
- *Cotoneater* spp.
- *Rhododendron ponticum*
- Montbretia (*Crocosmia* × *crocosmiiflora*)

The Invasive Alien Species (Enforcement and Permitting) Order 2019

This came into force on October 1st, 2019, and was part of the UK's implementation of EU Regulation 1143/2014. The core of these regulations was the EU's list of Invasive Alien Species of Union Concern (the Union List).

The Union List currently included thirty-six plant species, plants associated with ponds and wetlands include: Giant hogweed and Himalayan balsam (listed as "Indian balsam") as well as aquatic invasive: Water hyacinth, Curly waterweed, Nuttall's waterweed, Floating pennywort, Water primrose and Parrot's feather, amongst others.

The Order specifically stated that "A person who plants or otherwise causes to grow in the wild [any plant on the Union List] is guilty of an offence."

As Regulations, these transpose the EU Directive, and as such, fall under the changes brought about by the EU (Withdrawal) Act and all European law (i.e., Regulations) which was copied across into UK legislation to ensure legal continuity was retained after BREXIT.

Birds of Conservation Concern

This list was used in the ecological consultancy industry to inform ecological valuation as part of the impact assessment process. All species on the red and amber lists would be considered in the same way as those on the s41 list (see NERC Act above). The 5th edition of this publication was published at the end of 2021 (Stanbury *et al*, 2021).

The following species whose status on site (for example “breeding”) could coincide with the criteria for inclusion on the red or amber list (for example long-term UK breeding decline) could be present on the site:

Red list:

Swift, cuckoo, lapwing, skylark, grasshopper warbler, house martin, starling, mistle thrush, spotted flycatcher, house sparrow, greenfinch, linnet and lesser repoll.

Amber list:

Stock dove, woodpigeon, moorhen, tawny owl, kingfisher, sparrowhawk, kestrel, sedge warbler, willow warbler, whitethroat, wren, song thrush, dunnock, meadow pipit, grey wagtail, bullfinch and reed bunting.

3.2 Planning Policy

Tree Preservation Orders (TPO)

There were no TPOs on the site.

Conservation Areas

The project area was not covered by any conservation areas.

3.2.1.3 Kirklees Council

Local Plan 2019/ Local Development Scheme March 2024

Policy LP30 Biodiversity & Geodiversity

The following were relevant:

- Local Designated Sites & Important Local Ecological Features Proposals having a direct or indirect adverse effect on a Local Wildlife Site or Local Geological Site, Ancient Woodland, Veteran Tree or other important tree, will not be permitted unless the benefits of the development can be clearly shown to outweigh the need to safeguard the local conservation value of the site or feature and there is no alternative means to deliver the proposal. In all cases, full compensatory measures would be required and secured in the long term.
- Habitats and Species of Principal Importance Proposals will be required to protect Habitats and Species of Principal Importance unless the benefits of the development clearly outweigh the importance of the biodiversity interest, in which case long term compensatory measures will need to be secured.
- Biodiversity and Development proposals will be required to: -

(i) result in no significant loss or harm to biodiversity in Kirklees through avoidance, adequate mitigation or, as a last resort, compensatory measures secured through the establishment of a legally binding agreement;

(ii) minimise impact on biodiversity and provide net biodiversity gains through good design by incorporating biodiversity enhancements and habitat creation where opportunities exist;

(iii) safeguard and enhance the function and connectivity of the Kirklees Wildlife Habitat Network at a local and wider landscape-scale unless the loss of the site and its functional role within the network can be fully maintained or compensated for in the long term;

(iv) establish additional ecological links to the Kirklees Wildlife Habitat Network where opportunities exist; and

(v) incorporate biodiversity enhancement measures to reflect the priority habitats and species identified for the relevant Kirklees Biodiversity Opportunity Zone

Kirklees Wildlife Habitat Network

West Yorkshire Ecology had identified the Kirklees Wildlife Habitat Network which connected designated sites of biodiversity and geological importance and notable habitat links within the district, such as woodlands, watercourses, natural and semi-natural areas.

The council sought to ensure that development proposals did not result in the fragmentation of the network and provide improved ecological links to the Kirklees Wildlife Habitat Network, where opportunities existed.

Development within the Wildlife Habitat Network would not necessarily be prevented but the council would seek to ensure that development proposals maintain the integrity and continuity of the network and protect the nature conservation value of the land affected. Development proposals within and adjacent to the Wildlife Habitat Network should be considered as opportunities to enhance and expand its functionality

Biodiversity Opportunity Zones

The council had identified a series of Biodiversity Opportunity Zones across Kirklees, which reflected the habitats found in those areas: uplands; mid-altitudinal grasslands; valley slopes; floodplain and riverine corridors; the Pennine foothills and urban areas. The council identified the range of species of principal importance that occurred within each of these zones based on how those species used the habitats.

Opportunities to achieve net gains in biodiversity within development proposals were sought through good design, including specific habitat creation and biodiversity enhancements relevant to the Biodiversity Opportunity Zone in which the proposed development was located. The purpose of the Biodiversity Opportunity Zones was to guide developers in providing appropriate compensation and enhancements of maximum benefit for nature conservation

3.2.2 BS42020 Biodiversity — Code of practice for planning and development

The project assessment followed best practice as set out in the BS42020 Biodiversity — Code of Practice for Planning and Development (BSI, 2013).

3.2.3 National Planning Policy Framework

The National Planning Policy Framework (NPPF) (Gov.uk, 2021 section: Conserving and enhancing the natural environment, 7/2021 revision) set out the framework for planning decisions regarding ecological considerations. The relevant sections on the natural environment were paragraphs 174-188.

Of particular significance in the 7/2021 amendment para 180(d) of the NPPF 2021) required opportunities to incorporate biodiversity improvements in and around development, rather than simply making them optional.

3.2.4 Environment Act, 2021

Biodiversity Net Gain

In the 2019 Spring Statement the Chancellor delivered the following statement: “to ensure that wildlife isn’t compromised in delivering necessary infrastructure and housing, the government will Mandate net gains for biodiversity on new developments in England to deliver an overall increase in biodiversity”.

This concept of biodiversity net gain was then incorporated into the Environment Act 2021, the secondary legislation to enable this was introduced in February 2024. A minimum of 10% BNG was mandatory on most new developments. The gain was encouraged on-site, but if this was not possible off-site gain or third-party habitat credits must be arranged.

At the planning validation stage applicants were to provide a baseline habitat score and prove the feasibility of reaching a post-development 10% BNG in a draft plan, which would later be firmed up as a condition prior to determination.

4. Methodology

4.1 Desk Study

The objective of the desk study was to review the existing information available from the local records centre and in the public domain concerning species and habitats to identify the following:

- Relevant designated sites for wildlife or geology on or neighbouring the site, using WYES database and the Multi Agency Geographic Information for the Countryside (MAGIC) website (Defra, 2013, updated 2024).
- Locally significant species records using local searches of reliable, up to date data. Protected Species distributions were checked using the local data; the NBN Atlas (NBN Atlas Partnership, 2024) was checked to see if any additional data sets existed within the public realm or through licence/purchase – there were none relevant not covered elsewhere.
- Kirklees Council website, aerial photographs and Ordnance Survey (OS) maps were reviewed to identify features/networks of ecological interest surrounding the Site, nearby areas of ecological interest and features connecting these habitats (hedgerows, watercourses, railway lines); and,
- Kirklees Council website to check for Tree Preservation Orders and Conservation Areas.

4.2 Field Survey

The report author (see 2.1) visited the site on 26th July 2024 to undertake the PEA and collect baseline BNG data, as detailed below.

4.2.1 Habitat Survey

4.2.1.1 UK Habitat Classification (UKHab)

The habitats were surveyed using the UKHab. The survey was undertaken by Dominic Rigby (DR).

The following metadata was collected as recommended in UK Habitat Classification User Manual version 2.0 (Butcher *et al*, 2023).

- **Survey Scope**

  The habitat classification was applied to red line boundary, dependent on the sensitivity of the habitat to the proposed impacts of the project.

  UKHab Edition

  The Professional Edition (v2.0) was used to maximise the future value of the habitat data. Thus, habitat compartments were keyed out to Primary Code Level 5, where this level was appropriate.

- **Minimum Mapping Unit (MMU)**

  The larger scale 400m^2 polygon/20m length MMU was used to determine habitat compartments for classification and condition assessments. This was done because the using the smaller 25m^2 MMU would have led to a complex mosaic of low-quality urban habitats being mapped in the centre of the site, this was not considered proportional or necessary given the habitats present. However, occasional parcels were mapped at a smaller MMU were isolated modified grassland or obvious changes in habitat parcels could be missed.

- **Secondary Codes**

The "Essential secondary codes" were used as appropriate to each primary habitat type. Additional secondary codes were used where this added value to the survey.

The secondary codes used were displayed in Table One (below).

- **Habitat Transitions**

A compartment was assigned a habitat code when it was covered by 70% of the ground; a well-used convention recommended in the UKHab User Manual.

- **Recording**

  Data was collected in the field, following the UKHab Field Key v2.1 (UK Habitat Classification Working Group, 2020). The UKHab was a canopy-based classification. For woodland habitats additional note was made of the shrub and field layers and primary canopy species.

  Field data was collected by writing over an A4 maps of the project site supplied by the client The new field data were then transferred onto fair-copy OS versions at the desk, checked and digitised using QGIS v3.28.

- **Mapping**

  The habitat maps were digitised using QGIS v3.28 at a scale of 1:50 on a site-wide OS 1:10 000 geo-referenced vector base map, using co-ordinate reference system EPSG: 27700 OSGB 1936 / British National Grid.

  Habitat compartments were mapped using the Statutory Defra QGIS for BNG template. The baseline and proposed habitats were entered simultaneously into the Master habitats layer to aid comparison of compartments before and after the proposed development.

- **BNG data**

  The Statutory Defra Biodiversity Calculation Tool metric was used to populate the baseline BNG template via the QGIS import tool.

Table One: Secondary Codes Used in Project

v2.0 code	Habitat name	Category type
10	Scattered scrub	Grassland and Scrub
11	Scattered trees	
14	Scattered rushes	
16	Tall forbs	
29	Plantation	Woodland
31	Secondary woodlands	Woodland
82	Vacant/derelict land	Built/urban
Additional Secondary Codes Used		
108	Frequently mown	Grasslands and Scrub
800	Road	Urban
818	Residential building	Urban
821	Artificial sports pitches	Urban
847	Introduced scrub	Urban
516	Active Management	All Habitat
518	Neglected	All Habitat
519	Abandoned	All Habitat
521	Unmanaged	All Habitat
523	Non-native	All Habitat
524	INNS	All Habitat

4.2.2 Species Surveys

4.2.2.1 Plants

Any notable plants considered to be at least locally significant were recorded during the UKHab surveys. English names for plants were used in the main text to increase readability.

4.2.2.3 Birds

Habitat was assessed regarding potential breeding birds. Any birds on site were noted.

4.2.2.4 Bats

- **Habitat Suitability**

An assessment of the likelihood of bats was made during the habitat assessments.

- **Potential Roost Features in Trees**

As part of the habitat surveys consideration was given to trees and tree-groups with potential roost features using criteria in BTHK (2018) and Collins (2023).

- **Potential Roost Assessment**

A PRA was undertaken on the property and subsequently three emergence/re-entry surveys were undertaken (RDF Ecology 2023a).

.4.2.2.9 Invertebrates

Habitat suitability for invertebrates was noted during the habitat surveys.

4.2.2.10 INNS

Any species relevant to INNS legislation (see 3.1) was noted during the habitat survey and assessment.

4.3 Constraints and Implications

Some degradation had taken place around the curtilage of the house. Reference to file photographs held by the architects and aerial photographs indicated the degradation was confined to formerly concreted areas.

The interior of the house was not accessed (but had been as part of the previous bat surveys, RDF Ecology 2023a). There had been some (limited) demolition to smaller exterior buildings (sheds, garage) – assessed as having negligible bat roost potential in 2023.

5. Baseline Ecological Conditions

The following section combines the desk and field data.

5.1 **Designated Sites** (see Figure Two, p25 below)

5.1.1 International/National Designations/

There were no internationally or nationally designated sites within 10km of the site.

5.1.2. Locally Designated Sites (incl. Local Wildlife Sites)

- **Hutchin Wood**

This ancient woodland was 540m SE of the southern point of the project site.

- **Covey Clough Wood**

This ancient and semi-natural deciduous woodland was 1km east of the northern point of the project site.

- **Gregory Spring**

This deciduous ancient and wet woodland was 1.3km east of the site.

5.1.3 NERC Act Section 40/41

- The site fell under the Valley Slopes Biodiversity Opportunity Zone.
- The northern part of the project site was part of the Kirklees Wildlife Habitat Network.
- A part of the northern section of the site was mapped in the priority habitat inventory (Magic map) as deciduous woodland.

Figure Two below mapped the network and priority habitats referred to above.

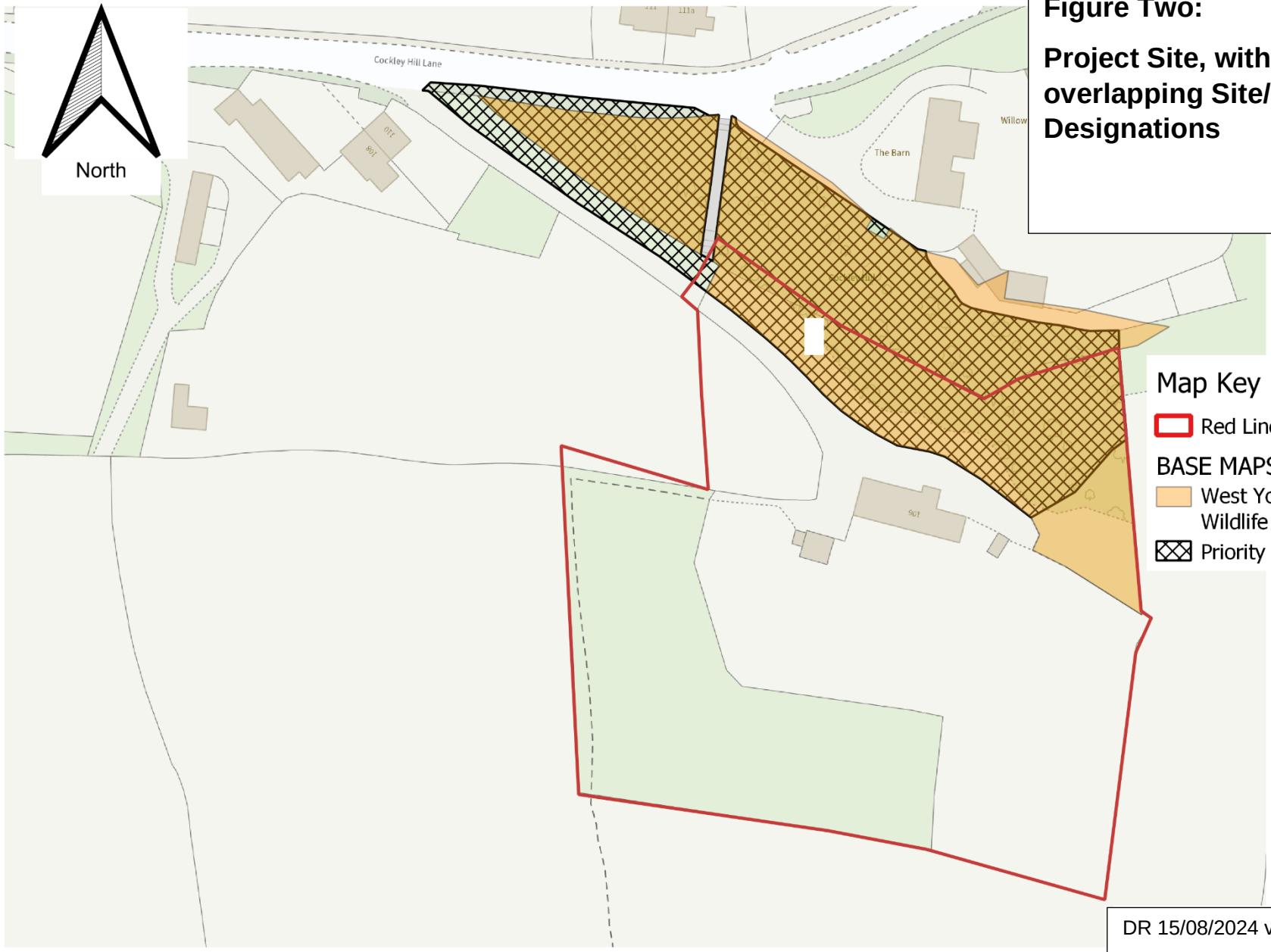


Figure Two:

Project Site, with overlapping Site/Habitat Designations

DR 15/08/2024 v1

Priority Habitat data from Natural England Magic mapping open data licence. Wildlife Habitat layer courtesy of WYES

5.2 Habitats

The baseline habitats were mapped in Figure Three (p31) below and tabulated in Table Two (p28).

5.2.1 Priority Habitats

Deciduous woodland (Lowland mixed deciduous woodland) priority habitat was mapped on the Magic database (see Figure Two above). However, the field survey assigned this area as Other neutral grassland (see 5.2.2.2; and Photographs A1-1/2.) (with individual trees) and "Other woodland: mixed" (see 5.2.2.1); neither were priority habitats.

5.2.2 Non-priority Habitats

The habitats present on site were sub-divided into UKHab to as high a level as possible. Table Two below broke down the individual habitats showing polygon associations (habitat compartments, condition assessments, local distinctiveness, area/length, INNS and additional notes); primary and secondary codes were displayed alongside reference habitat photographs in Appendix One.

5.2.2.1 Woodland

There were two woodland compartments within the redline boundary:

- **Other woodland, mixed**

Compartment 2 keyed out as "Other woodland; mixed". It was dominated by oak (*Quercus robur*) standards, but close stands of *Pinus* spp. and occasional sycamore (*Acer pseudoplatanus*), coupled with no open spaces confirmed its plantation origin. There was little understorey, but elder (*Sambucus nigra*) and holly *(Ilex aquifolium*) were occasional and the field layer sparse but herb Robert (*Geranium robertianum*) and bramble (*Rubus fruticosus* agg.) were encountered. The compartment was condition assessed as "poor"

This compartment fell within the Kirklees Wildlife Habitat Corridor and Priority Habitat (woodland) plots (see Figure Two); however, this more detailed analysis indicated it was not lowland mixed deciduous woodland Priority Habitat. But targeted management would enable to uplift the condition to contribute to the habitat corridor.

- **Other coniferous woodland**

Compartment (Cmpt) 12 was a spruce (*Picea* spp.) plantation. It had no shrub or vegetated field layer. There were two oaks on the border of the compartment, mapped separately as "Individual Trees"; one considered as a veteran tree. This compartment fell outside the Wildlife Habitat Corridor.

5.2.2.4 Grassland

- **Modified Grassland**

Baseline modified grassland was confined to the garden curtilage of the current dwelling (Cmpts 13-15). It was a fescue/rye grass lawn in poor condition as it failed the essential condition assessment of "4-6 species per m^2 including at least two forbs".

- **Other neutral grassland**

There were five sections of other neutral grassland at baseline, none consistently reached the 10 species per m^{2} - not including indicators of sub-optimal condition - required for "good" condition.

Compartments 1 and 23 where at the northern entrance and contained scattered trees, some forming a mapped line of trees. This section fell within the Kirklees Wildlife Habitat Corridor and Priority Habitat (woodland) plots (see Figure Two) but was mapped using UK Hab as grassland (g3c) in moderate condition, containing cow parsley *Anthriscus sylvestris,* 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, ,* white clover *Trifolium repens,* dandelion *Taraxacum* agg*., common ragwort Jacobaea vulgaris,* false oatgrass *Arrhenatherum elatius,* red fescue *Festuca rubra,* Yorkshire fog *Holcus lanatus* and common bent *Agrostis capillaris.*

Cmpts 4 and 5 were on the southern verge of the entrance. The grass here was more intensively mowed and damaged by the presence of an expanding public footpath. It was assessed as "poor" condition.

A line of non-native (poplar) trees crossed between grassland Cmpt 21/22; these compartments were assessed as moderate condition.

Most of the site beyond the house and garden was occupied by the neutral grassland Cmpts 19 and 20, an extensively managed, but floristically poor area. In addition to many of the species listed above creeping bent *Agrostis stolonifera* and autumn hawkbit *Scorzoneroides autumnalis* were occasionally encountered.

Cmpt 24 was a strip of rank grass growing beneath a managed hawthorn hedge.

5.2.2.3 Introduced shrub

The baseline garden boundary and garden lawns were bounded by characteristic garden shrubbery, including laurel *Prunus laurocerasus, Lonicera pileate* and *Rhododenron/s*. in Cmpt 7 and parts of 14.

5.2.2.4 Urban habitats

A dwelling, garage, shed, driveway/parking and vegetated garden made up the remainder of the site's habitats.

Table Two: Current Habitat Attributes (three pages)

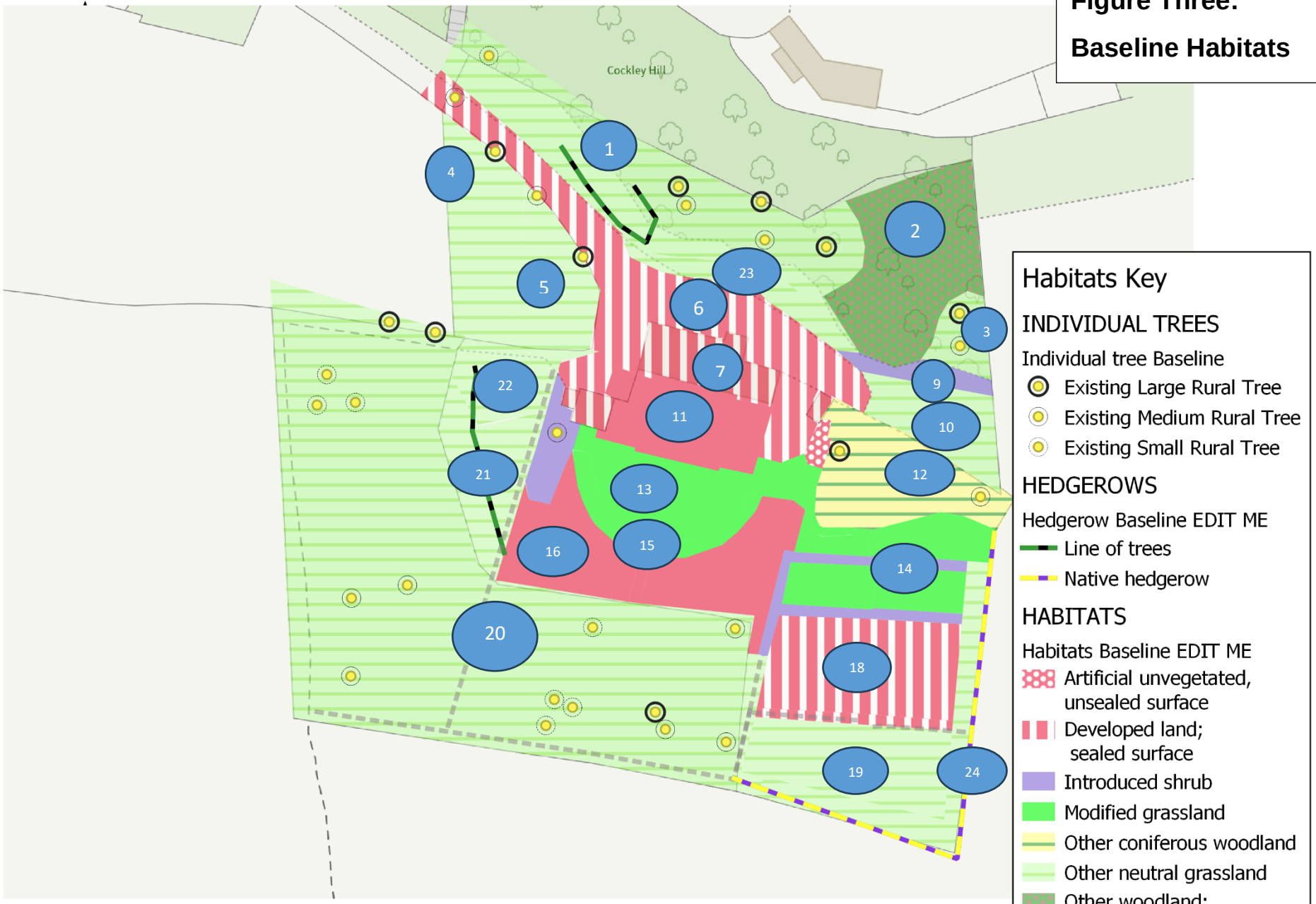
Parcel Ref	Baseline Broad Habitat Type	Baseline Habitat Type	Area m^2	Baseline Condition	Baseline Distinctiveness	Secondary Codes -see Table 1	Proposed Habitat	Comment	Proposed Distinctiveness/ condition
1	Grassland	Other neutral Grassland	898	Moderate	Medium	11, 518	Woodland	Part of Habitat network	Medium/moderate
2	Woodland and Forest	Other Woodland; mixed	536	Poor	Medium	29	Woodland	Part of Habitat network; INNS	Medium/moderate
3	Grassland	Other neutral Grassland	99	Moderate	Medium	11, 521	Woodland	Will extend habitat network	Medium/moderate
4	Grassland	Other neutral Grassland	339	Poor	Medium	11, 16, 518	Woodland	Will extend habitat network	Medium/moderate
5	Grassland	Other neutral Grassland	278	Poor	Medium	11, 16, 518	Grassland	Enhanced; tree planting	Medium/moderate
6	Urban	Developed land, sealed surface	796	N/A	V. Low	800	Retained	Drive and parking area	V. Low
7	Urban	Developed land, sealed surface	175	N/A	V. Low	818	Urban	Residence to be demolished	V. Low
8	Urban	Vegetated Garden	313	N/A	Low		Lost	New residence	V. Low

Parcel Ref	Baseline Broad Habitat Type	Baseline Habitat Type	Area m^2	Baseline Condition	Baseline Distinctiveness	Secondary codes	Proposed Habitat	Comment	Proposed Distinctiveness/ condition
9	Urban	Introduced shrub	84	N/A	Low	847 518 523	Woodland	Will extend habitat network	Medium/moderate
10	Grassland	Other neutral Grassland	226	Moderate	Medium	516	Woodland	Will extend habitat network	Medium/moderate
12	Woodland and forest	Other coniferous woodland	388	Poor	Low	29, 523 (11-veteran deciduous)	Woodland	Will extend habitat network	Medium/moderate
13	Grassland	Modified grassland	370	Poor	Low	108, 516	Urban	Terrace	V. Low
14	Grassland	Modified grassland	346	Poor	Low	108, 516	Urban	Garden	Low
15	Grassland	Modified grassland	104	Poor	Low	108, 516	Urban	Planters	Low
16	Urban	Vegetated Garden	576	N/A	Low	516	Urban	Garden	Low (V. Low 10m^2)
17	Urban	Introduced Shrub	89	N/A	Low	12, 523	Urban	Retained	Low
18	Urban	Developed land, sealed surface	470	N/A	V. Low	821	Urban	Garden	Low
19	Grassland	Other neutral grassland	381	Moderate	Medium	516	Grassland	Orchard	Moderate/High
20	Grassland	Other neutral grassland	3227	Moderate	Medium	12, 516	Grassland	Large area to come under conservation management	Good/Medium

Parcel Ref	Baseline Broad Habitat Type	Baseline Habitat Type	Area m^2	Baseline Condition	Baseline Distinctiveness	Secondary codes	Proposed Habitat	Comment	Proposed Distinctiveness/ condition
21	Grassland	Other neutral grassland	273	Moderate	Medium	516	Grassland	Line of trees in parcel	Good/Medium
22	Grassland	Other neutral grassland	187	Moderate	Medium	516	Grassland	New tree planting	Moderate/Medium
23	Grassland	Other neutral grassland	146	Moderate	Medium	521	Grassland		Good/Medium
24	Grassland	Other neutral grassland	146	Moderate	Medium	521	Grassland	Retained under hedge	Moderate/Medium

Figure Three:

Baseline Habitats



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5.3 Species

5.3.1 Plants

Although there were no individually notable plant species.

5.3.2 Amphibians

The closest pond to the site was located approximately 90m north east of the site boundary in the garden of an adjacent property and was known to support ornamental Koi carp and is therefore unlikely to support breeding GCN.

More than 20 ponds were located within 500m of the site boundary; these were to the south of Laneside Quarry (300m south of the site) and were created as part of the agreed habitat compensation for the licensed loss of ponds within Laneside Quarry.

The GCN Risk Assessment (RDF Ecology 2023) concluded that it was unlikely that GCN would be encountered during the demolition of the buildings and that a Natural England Licence would not be required for the building demolition.

5.3.2 Bats

Species recorded on site during the 2023 were: noctule, common and soprano pipistrelle, whiskered/Brandt's bat and brown long-eared bat. All bats noted commuting to/from the site were from the west.

The 2023 survey (RDF Ecology, 2023a) concluded that there were no roosts within the building despite its high suitability. The garage and shed had negligible suitability.

Several of the deciduous trees on site offered suitability for bat roosts.

5.3.3 Birds

The site offered few opportunities for wintering birds, however the denser scrub at the rear of the site, and woodland compartments and ornamental shrubbery held potential nesting habitat for a suite of commoner birds.

5.3.4 Brown Hare

Brown hare were known locally. However, the enclosed nature of the project site and scale of works in suitable habitat meant that the species was scoped out at this stage.

5.3.6 Hedgehog

Hedgehogs were present in the area and suitable habitat was present on site in the woodland, garden and introduced shrub habitats.

5.3.7 Reptiles

The site provided suitable habitat for slow worm and common lizard; however, the latter was uncommon in the area.

5.3.8 Invertebrates

The habitat was suitable for a range of common, widespread invertebrates.

5.3.9 INNS

Rhododenron occurred within the mixed woodland and was planted as part of the introduced shrub habitat within the garden area.

6. Ecological Constraints and Opportunities

6.1 Project Principles

PEA was designed as a process to flag up potential constraints and opportunities. such as: constraints to design, other mitigation requirements, further surveys required and opportunities for enhancement (CIEEM 2017a).
Additionally, the BNG was discussed.

The proposed habitats were presented in Figure Four

6.2 Constraints and Impacts

6.2.1 Designated Sites

The project posed no threat to the designated sites nearby. The proposed uplift and expansion of the woodland compartments could add value to those sites, potentially increasing connectivity by expanding the habitat corridor.

6.2.2 Habitats

6.2.2.1 The construction imprint was exclusively on urban habitats.

6.2.2.2 Grassland

There was loss of modified grassland within the current garden, however this would be compensated by uplifting the condition of the on-site medium distinctiveness grasslands outside the garden, and introducing a traditional orchard in the SE corner.

Woodland

Woodland creation was an important part of this project. The site fell within the Kirkheaton Wildlife Habitat Network. Additional planting and targeted management in the current woodland compartments would aim to expand the network.

Individual Trees

Scattered trees were a feature of the site. An ash had been felled for safety reasons (Cmpt 4); this would be more than compensated for by the planting of 14 new, native trees across the grassland compartments.

Hedgerows/Lines of Trees

Two 30m lines of trees (one of non-natives) and a heavily cropped hawthorn hedge (90m) on site would be augmented by 190m of additional native hedges, one with trees.

6.2.3 Species

6.2.3.1 Plants

The project offered the opportunity to reduce the number of (potentially invasive) non-native tree species (conifers particularly) and increase opportunity for the expansion of natural field layers. Prescriptive management to the neutral grasslands should increase the number of good condition indicators in the grasslands.

6.2.3.3 Bats

Whilst no evidence of roosting bats was recorded during the surveys in 2023 (RDF Ecology 2023a) the following precautionary measures were proposed:

The roof was covered with large Yorkshire stone slates, and these were to be removed carefully by hand and recycled.

It was recommended that no more than 50% of the roof covering was removed in each 24-hour period.

Once the roof structure had been removed there was no longer any significant risk of bats roosting in the remaining structure and demolition could proceed.

There was no mention of hibernation potential in the bat reports.

Avoidance of Hibernation period

Pipistrelle bats can use buildings at any time of year. Therefore, it would be recommended that any demolition works avoided the hibernation period (generally November to March, but variable depending on temperature). This should be done with liaison with a Class-2 licenced bat ecologist.

6.2.3.4 Birds

Any site clearance/demolition would need to take place outside of the nesting bird season (mid-February-August). If this was not possible (see bat hibernation period above), a nesting-birds method statement would need to be prepared and a competent ecologist undertake nesting checks immediately prior to site clearance. Works would need to be halted if unavoidable nesting was confirmed.

6.2.3.6 Hedgehog and Reptiles

Prior to any site clearance (for any aspect of the project) a competent ecologist should check the affected site for reptiles (slow worm) and hedgehog. Should any be found a safe translocation site should be identified. If translocation was deemed unsafe (e.g., hibernating individuals, young), works may need to be delayed.

The creation of dead wood piles in the (baseline and proposed) woodland compartments would enhance the site for hedgehogs and reptiles.

Hedgehogs were unlikely to be encountered in the compartments within the construction footprint.

7. Biodiversity Net Gain

This report should read in conjunction with the Statutory Metric Calculation Tool relating to this project. The net gain for this project was 12.88%, wholly on site.

Table Two above summarised the baseline and proposed habitats and Figure Four mapped the proposed habitats.

7.1 Methodology

The scheme was assessed in August 2024 using the Statutory Biodiversity Metric (the most recent iteration of the BNG metric) as part of a Preliminary Ecological Appraisal. Plant species lists relating to a whole site walkover were used to assign a level four UK Hab category and condition assessment; the baseline using UK Hab v2.0 and the condition assessments that accompanied the Statutory Metric.

The larger scale 400m^2 polygon/20m length MMU was used to determine habitat compartments for classification and condition assessments. This was done because the using the smaller 25m^2 MMU would have led to a complex mosaic of low-quality urban habitats being mapped in the centre of the site, this was not considered proportional or necessary given the habitats present. However, occasional parcels were mapped at a smaller MMU were isolated modified grassland or obvious changes in habitat parcels could be missed.

As the development layout was known at that time it was easier to input all information (baseline and proposed) onto the master layer of the BNG/QGIS template simultaneously.

The resulting habitat details were extracted from the PEA and accompanying Condition Assessment and proposed development information (from pdf) were inputted into the BNG for QGIS template into QGIS v3.28.

This information was then transposed using the (Defra) GIS import tool in to the Statutory Biodiversity Metric Tool.

7.1.1 Limitations and Assumptions

- **Determining Strategic Significance**

In the absence of a Local Nature Recovery Map through the Local Nature Recovery Network (LNRS), the Kirklees Wildlife Habitat Network was used to define strategic significance.

- **UK Hab and Condition Assessment**

The most appropriate UK Habitat Classification type for each habitat parcel was determined, based on the baseline habitats and the landscape design, and a target condition was assigned for each parcel based upon the condition assessment criteria for habitats within the Statutory Biodiversity Metric. The target conditions were based on what was realistically achievable balancing financial, maintenance and ground conditions criteria.

- **Degradation**

An ash tree in Compartment 4 had been felled recently (safety felling) and was thus mapped as present and proposed lost.

- **Deviations from Statutory Metric Rules**

None

7.2. Baseline Ecological Conditions

See Table Two and Figure Three above.

The Condition Assessment sheets for the project were zipped with this project report.

7.3 Proposed Post-development Habitats and Calculations

7.3.1 Post-Development Calculations

The post-development calculations were based Figure Four below, the locations and areas of the buildings, garden and access/parking were based on Drawing 489/01 (02) 005 supplied by Shaw & Jagger Architects Ltd, with slight amendments informed by BNG.

There would be a net increase in the "developed land, sealed surface", but increasing the strategically important woodland habitat, uplifting the condition of the remaining medium distinctiveness grasslands and planting addition native trees among the grasslands on the west of the site, in the remaining land within the red line boundary, led to an increase in habitat quality (nearly 13%) which would complement the nearby woodlands.

- **Change in Ecological Value**

Table Three (below) summarised the net habitat unit changes, Figure Four displayed those post development habitats.

Table Three: Headline Change in Habitat Units

On-site baseline	*Habitat units*	11.35	
	Hedgerow units	0.52	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	12.81	
	Hedgerow units	1.86	
	Watercourse units	0.00	
On-site net change (units & percentage)	*Habitat units*	1.46	12.88%
	Hedgerow units	1.34	259.63%
	Watercourse units	0.00	0.00%

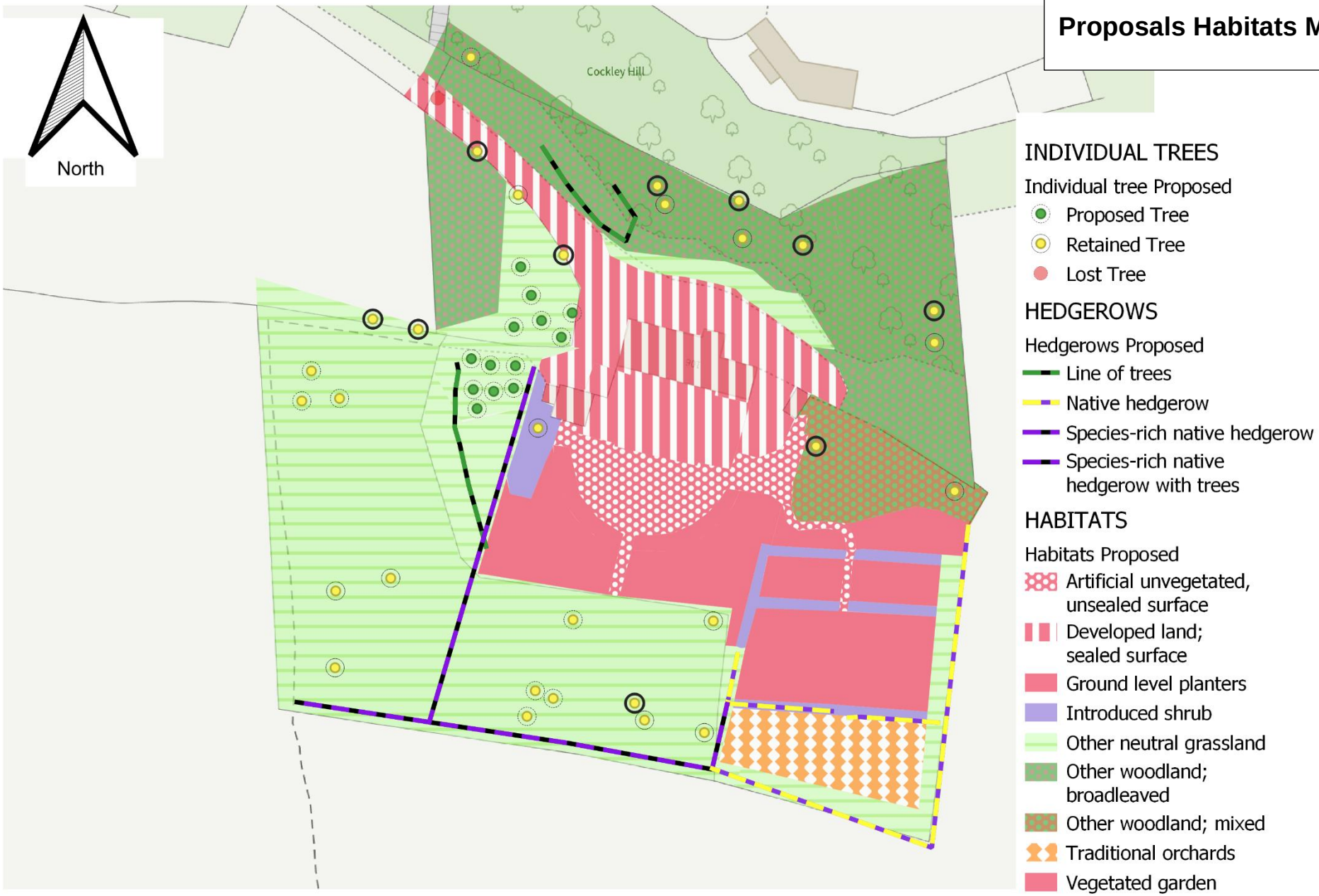
Although there was a loss of 0.23ha of grassland, this was more than balanced by uplifting the condition of the remaining grassland and met BNG trading rules, by the post-intervention management of the remaining grassland and expansion of strategically important on-site woodland.

Table Four: Trading Rules

Trading Summary		
Distinctiveness Group	**Trading Rule**	**Trading Satisfied?**
Very High	Same habitat required – bespoke compensation option ⚠	**Yes ✓**
High	Same habitat required =	**Yes ✓**
Medium	Same broad habitat or a higher distinctiveness habitat required (≥)	**Yes ✓**
Low	Same distinctiveness or better habitat required ≥	**Yes ✓**

Figure Four:

Proposals Habitats Map



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7.3.2 Calculation Assumptions and Post-development Habitat Conditions

7.3.2.1 Individual Trees

The new native tree planting (14 trees) in Cmpt 22 and 5 (i.e. outside the dwelling/garden) were proposed to complement the woodland to the north within red line boundary, were entered into the metric as small rural trees.

All newly planted trees have been classed as “Moderate” condition.

A large good-condition oak on the edge of Cmpt. 12 was considered a veteran tree. This would be retained.

7.3.2.2 Woodlands

The woodlands on the north of the site were entered as Priority Habitat woodlands on the NE Magic map, however they were not considered as lowland deciduous woodland by the current survey. Although they were strategically important it was considered that uplifting them to moderate/good condition “Other woodland, broadleaved” was the highest realistically achievable.

7.3.2.3 Grassland

Baseline modified grassland within the curtilage of the post-development garden was considered vegetated garden.

7.3.2.4 Garden and Dwelling Curtilage

There was a clear division between the garden, shrubbery and residence enabling a definitive area for the BNG to occur.

7.4 Draft Habitat Management and Monitoring Plan (HMMP)

This report was submitted to support planning validation. There should be enough information forwarded to planning officers at that stage of the process to enable them to assess the feasibility of the proposed post-development plans. Section 7.5 below was designed to outline the creation, management and monitoring stages to enable validation.

A more detailed HMMP, following the Natural England template would be expected to be a condition of any planning determination.

7.5 Feasibility and Summary Management of Post Development Habitats

7.5.1 Other Neutral Grassland (ONG)

All post-development ONG was to be either retained or enhanced. Some parcels were targeted for moderate condition (those that may not reach good condition because of the presence of newly planted individual trees) and those already in poor/moderate condition were to achieve good condition. The management for both these types was the same:

Year One and Two

Remove any weeds (those listed in Grassland Medium Distinctive etc Condition Assessment Footnote 3) by hand.

Mow and remove arisings in March (to around 50mm) and leave unmown until late July. Late-July/early August mow/collect (to *ca*150mm) and again in September (100mm).

Leave a 2m margin along hedgerows (created and retained) to provide a buffer from nutrients/arisings entering the pond.

Monitor.

Year Three

Mow and remove arisings in March (to around 50mm) and leave unmown until late July. Late-July/early August mow/collect (to 50mm) and again in September (100mm).

Monitor

Years Four to Five

Continue with March, July (or August) and September cut/clear, this time all cuts to 50mm.

Monitor

July Year Five:

Review of condition of the grassland parcel. Revisit management if necessary to maintain/reach moderate condition or higher.

Years Six onwards

Continuation of Yr4-5 management mowing regimes, but only remove July arisings after 2-7 days to allow for seed shedding and only undertake March cuts if growth >100mm.

Year Ten

Monitoring and management review. Review necessity for spring cut.

Years Eleven -Thirty: Continue monitoring every five years to Year 30.

7.5.2 Woodland

All exiting woodland compartments would be uplifted to “Other woodland, deciduous” in moderate condition. Newly planted woodland would be designed as NVC W10, achieving “Other woodland, deciduous” in moderate condition within the statutory metric’s standard 20 years. Provenance of new planting should follow the Provenance choice hierarchy (Herbert *et al*, 2022).

7.5.2.1 Enhanced Woodland

Target Condition Moderate in 10 years (Cmpt 20) and 15 years (cmpt.12)

Years One to Five

Retention of existing field layer

Annual removal/stump grind of one in five (20%) non-native stock, raking and ground preparation, planting hazel (x3) as understory and pedunculate oak (x1) rowan (x1) for each non-native tree removed.

Replacement of any failed specimens, guards, stakes, ties

Removal of any INNS/cherry laurel.

Year Three

Monitor

Application of appropriate woodland seed mix/plugs/bulbs.

Checks/loosen ties, stakes, guards

Year Five

Monitor

Replace/appraise failed stock and need for further felling in Cmpt 12.

Years Six-Ten

Continued active management (seeding/establishing shrub/canopy layer/ relacing failed stock) as directed after Year 5 monitor/review.

Checks/loosen ties, stakes, guards

Monitor

Years Eleven-Thirty

Replacement of any failed tree stock

Checks/loosen/remove ties, stakes, guards as appropriate

Zero tolerance of INNS.

7.5.2.2 Woodland Creation

Target Condition Moderate: in 15 years

Year One:

Turf strip to at least 5cm

Seed field layer with an appropriate woodland/shade native wildflower mix (e.g. Emorsgate Shaded areas wildflowers).

Plant *ca*1m tall pedunculate oaks and 0.5m silver birch and rowan at a ratio of 2:1:1 at 2.5m centres but allowing 5m buffer from established tree centres.

Plant understory hazel 2:1 holly at 4m centres (Oct/Nov for holly).

Year Two

Weeding of any undesirable species (see both woodland and grassland Condition Assessment footnote lists).

Replacement of any failed specimens, guards, stakes, ties

Year Three-Four

Monitor

Replacement of any failed specimens, guards, stakes, ties

Checks/loosen ties, stakes, guards

Year Five

Monitor

Review management/success in all three layers and amend where appropriate

Years Six-Ten

Continued active management (seeding/establishing shrub/canopy layer/ relacing failed stock) as directed after Year 5 monitor/review.

Checks/loosen ties, stakes, guards

Monitor

Years Eleven-Thirty

Replacement of any failed tree stock

Checks/loosen/remove ties, stakes, guards as appropriate

Zero tolerance of INNS.

7.5.3 Individual Trees

Year One:

Planting of native stock pedunculate oak, crab apple, and goat willow. Tree protection cones and stakes/ties and mulch around base.

Summer watering regime

Years Two-Three:

Repeat of Year One maintenance and replacement of failed trees.

Years Four-Five:

Continuation of replacement of dead stock; Cessation of watering from Year Four;

Years Six-Fifteen:

Replacement of any failed stock. Tree protection cones and stakes and mulch around base, summer watering (*new stock only*)**.** Winter pruning as necessary for tree health and safety reasons only. Check and change of any ties/cones as necessary.

Years Fifteen -Thirty

Replacement of any failed stock. Tree protection cones and stakes and mulch around base, summer watering (*new stock only, and for first three years only*). Winter pruning as necessary (see above).

Removal of all remaining stakes, ties and cones on all established stock (Year 15).

7.5.4 Traditional Orchard

ONG to Traditional Orchard (Moderate Condition)

A traditional orchard has trees spaced roughly (and no less than) 4m apart. Traditional, local and heritage varieties would be encouraged. The choice of varieties would require pre-planning to ensure cross pollination.

The orchard could not reach good condition as there would be an absence of veteran trees for many years. However, “moderate” condition could be reached within the default 20 years if suitable tree protection and formative pruning was undertaken. The annual cut and removal of the arisings from the current neutral grassland, with an additional spring cut/clear in years 1-3 and review of condition/grass type every 5 years (with a management revision if the predicted change to neutral grassland is not evident), is likely to lead to a “Moderate” condition.

Orchard Fruit Trees

Year One

Planting, with stakes, spirals and ties. Mulching around bases. Summer watering.

Years Two-Five:

Formative pruning in winter, check ties/stakes and remove asap.

Spring mulching.

Replacement of any failed stock/replace with alternative varieties if failure is variety related.

Annual weeding of undesirable field layer species (see grassland and woodland Condition Assessments)

Annual monitoring

Years Five onwards:

Removal of any remaining stakes, ties, spirals.

Review management against monitoring and Condition Assessment target.

Orchard Grassland

Years 1-3

Spring and late summer cut, and clear arisings.

Years 4-5

Late summer cut only, clear arisings

Year Five onwards

Review management against monitoring and Condition Assessment target.

7.5.4.1 Orchard Monitoring Summary

Grassland: Undertake quadrat sampling to identify the habitat type that is establishing and then number of species per m^2. Collect a botanical species list across grassland to check against target species list

Trees: Form check, disease check

Grassland and Tree checks: Annually from years 1-5, then every 5 years. Grassland/tree disease surveys to be completed between May and August

Form check: Autumn (to inform pruning)

7.5.5 Feasibility and Summary Management of Post Development Hedgerows

7.5.5.1 Existing

There were two existing lines of trees, one was to be retained, the second – a line of non-native poplar, was to be uplifted from poor to moderate condition. The latter would be done by planning silver birch into the gaps >5m wide. After care would follow that of individual tree (see 7.5.3).

The existing, heavily cropped, hawthorn hedgerow bounding the SE of the site would receive a light annual February cut to enable it to widen and heighten thus uplifting to "Good" condition.

7.5.5.2 New Hedgerows

Several native small hedgerows would be created to connect with the baseline hawthorn hedge.

Two longer, species-rich hedges along the southern boundary and connecting the southern boundary to a line of trees would be created, the latter with additional pedunculate oak planted as standards (as per 7.5.3).

Year One:

The hedges will be planted into a 45cm trench, with whips planted diagonally opposite every 22.5cm. Planted with canes and protective spirals. Bare rooted stock planted between November and February preferred.

Years Two-Five:

On-going beat-up and replacement of any failed specimens. Weeding between plants, including within spirals.

Year Five

Monitor

Year Six:

Removal of spirals and canes. Cessation of weeding activity.

Years Six-Thirty.

Annual February cut of hedges

7.6. Biodiversity Net Gain Summary

This scheme required a minimum of 10% net gain and this target was assessed as providing a greater uplift, of 12.88% for habitats and 293% for hedgerows (260% if those within the garden curtilage but connecting to boundary hedges were not included).

A BNG plan, incorporating maintenance and monitoring, should be conditioned at the planning acceptance stage in line with current BNG planning guidance.

The completed Biodiversity Metric Calculation Tool and Condition Assessments were submitted in tandem with this report and should be considered alongside

8. Summary, Conclusions and Suggested Planning Conditions

8.1 Habitats

- The habitats within the red line boundary were dominated by buildings, garden, woodland and unmanaged grasslands.
- The northern part of the site fell within the West Yorkshire Wildlife Habitat Network and provided opportunities for strategic habitat gains through woodland creation and expansion.
- The proposed development offered an opportunity to increase the biodiversity net gain by over 10% by increasing the woodland elements in the north of the site and uplifting the grassland and treed elements in the south.
- The centre of the site defined the designed and landscaped garden and residential curtilage.

A BNG Plan for the site should be implemented by way of a planning condition.

- **Bats**

The current residence roof was covered with large Yorkshire stone slates, and these were to be removed carefully by hand and recycled, initially under supervision/tools talk. It was recommended that no more than 50% of the roof covering was removed in each 24-hour period. Once the roof structure had been removed there was no longer any significant risk of bats roosting in the remaining structure and demolition could proceed.

It was be recommended that any demolition works avoided the hibernation period (generally November to March, but variable depending on temperature). This should be done with liaison with a Class-2 licenced bat ecologist.

Bats and Lighting

Additional artificial lighting from the development should not extend into the existing or proposed woodland habitats.

- **Hedgehog/reptiles**

Prior to any site clearance (for any aspect of the project) a competent ecologist should check the affected site for reptiles (slow worm) and hedgehog. Should any be found a safe translocation site should be identified. If translocation was deemed unsafe (e.g., hibernating individuals, young), works may need to be delayed.

This could be secured through a protected species RAMS

- **Nesting Birds**

Any site clearance/demolition would need to take place outside of the nesting bird season (mid-February-August). If this was not possible (for example demolition avoiding bat hibernation period), a nesting-birds method statement would need to be prepared and a competent ecologist undertake nesting checks immediately prior to site clearance. Works would need to be halted if unavoidable nesting was confirmed.

9. References

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APPENDIX

APPENDIX ONE

Habitat Compartment Photographs

The following are selected photographs to give context to characteristic compartments across the site.

Photograph A1-2 Compartment 1, g3c

Photograph A1-2 Compartment 1 g3c, with Line of Trees in distance

Photographs A1-3 Compartment 10 g3c

Photographs A1-4 Compartment 12 Coniferous woodland

Photograph A1-5a Compartment 13 g4, with Cmpt 15 in background

Photograph A1-5b Compartment 13 g4, with Cmpt 15 in background (10/2022)

Photograph A1-7 Compartment 18 with Cmpt20 in background and T15, T12

Photograph A1-8 g3c Compartment 20 with T23, T24 and T31

Photograph A1-9 g3c/w1g6 Cmpts 21/22 with non-native line of trees

Photograph A1-10 Compartment 4 g3c