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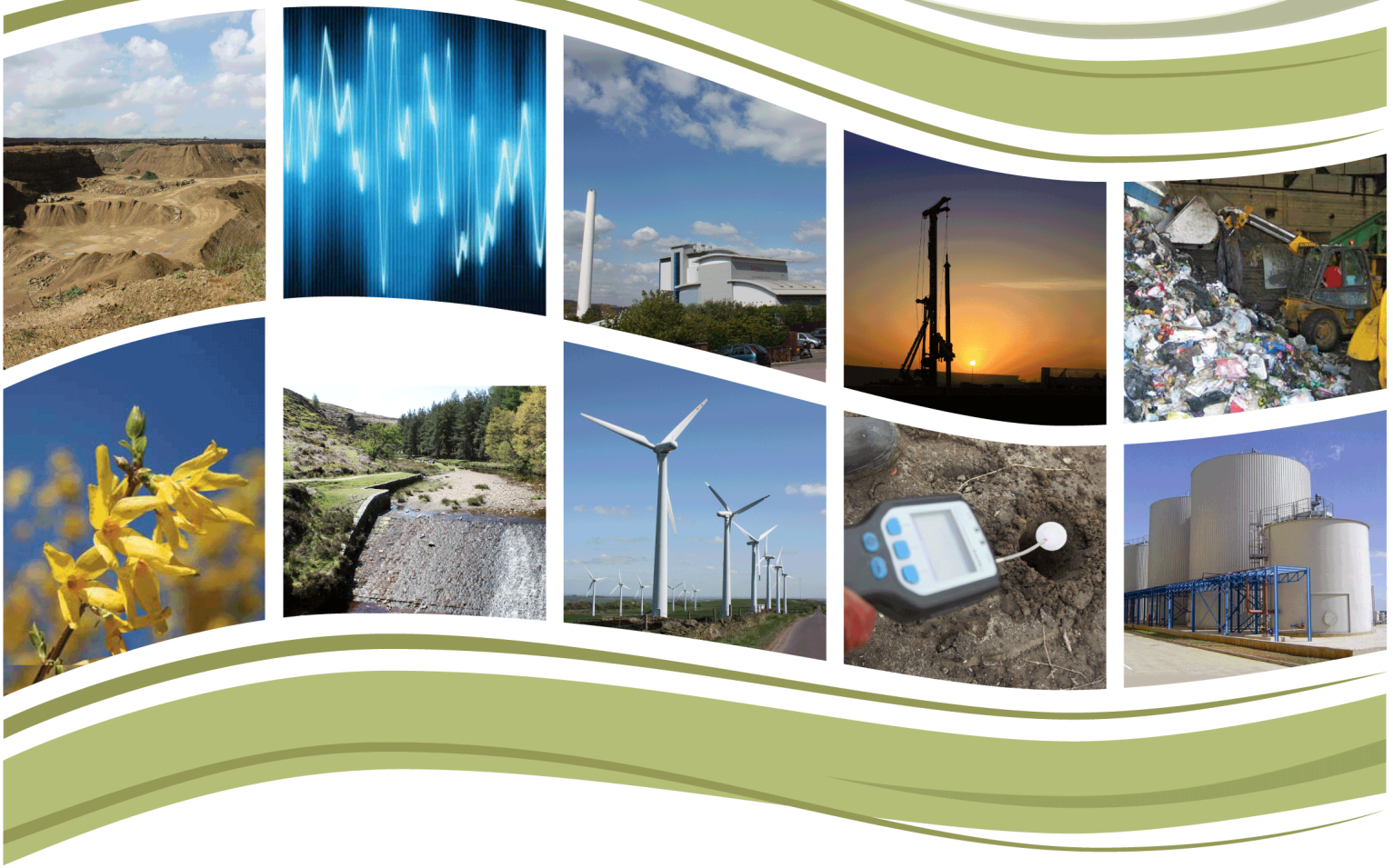

Updated Preliminary Ecological Appraisal

Land at Station Road, Wombwell
for:

Hartwood Estates

SHF.1122.009.EC.R.001

'Experience and expertise working in union'

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Preliminary Ecological Assessment

Project:	Land at Station Road, Wombwell
For:	Hartwood Estates
Status:	Final
Date:	23rd November 2022
Author:	Chris Schofield MSc BSc (Hons) ACIEEM – Senior Ecologist
Reviewer:	Derek Allan MSc BSc (Hons) MCIEEM – Director of Ecology

Contents

Tables and Figures

Drawings and Appendices

Non-Technical Summary

i. In October 2022 Enzygo Ltd was commissioned by the Hartwood Estates (the client) to undertake an updated Preliminary Ecological Appraisal (PEA) of Land at Station Road, Wombwell, Barnsley S73 8AF (central grid reference: SE 40501 03636), located within the Barnsley Metropolitan Borough Council (Darfield Ward) planning authority. The study will inform proposals for open storage at the site and provides an update to a previous February 2019 version of this report.

ii. The following ecological constraints and associated recommendations to avoid/ mitigate/ compensate for potential impacts have been identified:

- **Dearne Valley Green Heart Nature Improvement Area** – (Site lies within the Nature Improvement Area (NIA) which relates the Biodiversity and Geodiversity SPD which supplements the Barnsley Local Plan in relation to biodiversity-related local policy. Developments within the NIA are expected to provide specific biodiversity enhancement measures over and above the minimum mitigation and compensation measures) – the mitigation requirements and final site design to be designed in accordance with this SPD and NIA, including retention, protection and enhancement of existing features of value, and incorporation of a range of suitable further biodiversity enhancements;
- **Lowland Mixed Deciduous Woodland and Green Infrastructure –** (woodland to the north and north-east of the site likely represents Lowland Mixed Deciduous Woodland HPI. Trees and scrub along the eastern boundary provide significant green infrastructure and wildlife corridor function) – Incorporate corridor of trees and scrub along the eastern boundary in to the site design. Implement appropriate protection measures (e.g. fencing around root protection areas) at retained trees, and adopt sensitive lighting scheme to avoid degradation of green infrastructure resource;
- **River Dove, Bulling Dyke and Blue Infrastructure, plus associated Local Wildlife Sites and Protected Species –** (watercourses provide significant aquatic/blue infrastructure function and represent Rivers HPI, are connected to Local Wildlife Sites in the wider area to the south and south-east, and provide suitable habitat for Otter, Water Vole, White-clawed Crayfish and Kingfisher) – retention and protection of habitats in site layout design, further River Corridor Survey required if development works are to directly affect watercourses and banks, and best practice pollution prevention guidance to be adhered to. No further survey required if features can be appropriate retained, protected and incorporated with appropriate undeveloped protective buffers. Final site layout and specifically the proposed landscape scheme to enable protection and enhancement of the River Dove Strategic Corridor in accordance with Policy GI1 of the Barnsley Local Plan;
- **Bats –** (site provide suitable foraging and commuting habitat) – retention and protection of habitats, including implementing sensitive lighting scheme, further activity survey required if impacts to these habitats cannot be avoided;
- **Badger –** (site provides suitable habitat for Badger although no field signs detected) - pre-works updated check of site and immediate surrounds to ensure Badger have not colonised the site prior to commencement;
- **Birds -** (habitats across site provide nesting potential) – Clearance outside nesting period or Ecological Clerk of Works (ECoW) to conduct nesting bird check prior to clearance;

- **Reptiles, England SPI and Notable Species –** (habitats across site suitable for foraging and shelter) – Habitats should be cleared in a sensitive manner under the direct supervision of an ECoW;
- **Invasive Flora** – (Cotoneaster species present and risk of Indian Balsam presence) – removal of species from site during site preparation

iii. Proposals present opportunities for biodiversity enhancement in order to demonstrate an overall biodiversity net gain in accordance with national and local policies through providing enhanced opportunities for nesting birds, roosting bats, and landscape planting, in addition to contributing to the Dearne Valley Green Heart Nature Improvement Area. In accordance with The Environment Act 2021, once a Landscape Strategy is available a DEFRA Metric 3.1 calculation can be undertaken to demonstrable 10% overall net gain in habitat units, with irreplaceable habitats retained and habitat trading rules satisfied, or inform on practical changes to the scheme so that this can be achieved.

iv. This report has demonstrated that, if the outlined mitigation measures are implemented in full and a sensitive final site layout is produced, then no significant residual impact could be expected, and the proposed application will result in 'no net loss in biodiversity,' whilst also providing opportunities for 'biodiversity net gain' in accordance with NPPF and Local Planning Policy.

1 Introduction

1.1 Commission

1.1.1 In October 2022 Enzygo Ltd was commissioned by the Hartwood Estates (the client) to undertake an updated Preliminary Ecological Appraisal (PEA) of Land at Station Road, Wombwell, Barnsley S73 8AF (central grid reference: SE 40501 03636), located within the Barnsley Metropolitan Borough Council (Darfield Ward) planning authority. The study will inform proposals for open storage at the site and provides an update to a previous February 2019 version of this report.

1.1.2 *Note: Enzygo Ltd are not considered to act as a Principal Designer for any mitigation/enhancement strategies identified within this document in accordance with the Construction (Design and Management) Regulations 2015 (CITB, 2016)*.

1.2 Proposed Development/Identification of Impacts

1.2.1 The proposed development would include site clearance, including removal of existing vegetation within central areas of the site, and development of a series of open storage areas with associated road access from the existing access point to the north-west from the adjacent industrial land. The study will inform the design of the proposed site layout and landscape scheme, and this assessment can be updated following confirmation of the proposals. A corresponding zone of influence has been considered (this includes any transboundary effects regardless of administrative areas).

1.2.2 This report identifies ecological features, and potential impacts and effects, recommends proportionate avoidance/mitigation/compensation strategies, followed by enhancements. This information will advise the client on the potential constraints to proposals and inform the final site design. A corresponding zone of influence has been considered (this includes any transboundary effects regardless of administrative areas).

1.3 Aims and Objectives

1.3.1 The purpose of this report is to provide biodiversity information which succinctly identifies ecological features on site and within the corresponding zone of influence, identifies potential impacts resulting from the proposals, associated effects to ecological features, recommends proportionate avoidance, mitigation and compensation strategies, and identifies enhancements that can be implemented in accordance with the British Standard for Biodiversity BS42020:2013 (BSI, 2013) to demonstrate 'no net loss in biodiversity' and a 'biodiversity net gain' in accordance with NPPF and Local Planning Policy.

1.3.2 This report has been produced with reference to current *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017a), *Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), *Guidelines for Ecological Report Writing* (CIEEM, 2017b), and British Standard BS42020:2013 (BSI, 2013).

1.4 Background

1.4.1 The site was subject to a previous planning application for "*residential development for up to 111 dwellings (Outline with all matters reserved apart from the site access)*" (planning reference 2019/1414) which was supported by a previous version of this report. This application was

subsequently refused permission in April 2020, with one reason for refusal that "*there is insufficient information provided with the application to fully assess the biodiversity value of the site, impacts on habitats and how appropriate mitigation and enhancement can be provided in accordance with Local Plan Policy BIO1 and the accompanying Biodiversity/ Geological Conservation SPD"*. This reason for refusal and comments presented in the associated Committee Report have been reviewed and used to inform details and assessment presented within this updated report.

1.4.2 The site has been subject to further previous planning applications for residential development with a 2005 outline planning application (ref: 2005/2017) granted at appeal (ref: APP/R4408/06/2028445) and a 2010 reserved matters application (ref: 2010/0310) which was not determined. These applications, supporting information and consultation responses have been reviewed, where available, with the details used to inform the scope of this assessment. No supporting ecological survey information is available for these previous applications.

1.4.3 Land to the north of the application site was granted permission in 2007 (ref: 2007/2131) for development of a school, with an approved reserved matters application (ref: 2010/0990) made in 2010. This 2007 application was supported by an Ecological Assessment (Tim Outlaw, 2007) which included an Extended Phase I Habitat Survey, bat activity survey, breeding bird survey, amphibian survey and Water Vole survey. An Environmental Statement (GL Hearn, 2009) was also produced which included a chapter on Nature Conservation. These documents have been reviewed and pertinent information incorporated into the appropriate section of this report.

1.4.4 A search of the Barnsley Council planning portal has not revealed any further previous planning applications for the site or the nearby land which has any relevant supporting information to inform this assessment.

1.4.5 It is our understanding that to date there have been no correspondence with the County Ecologist or any statutory consultees i.e. Natural England, regarding this application.

1.5 Site Context

1.5.1 The approximately 3.5Ha proposed development site lies adjacent to Valley Road Industrial Estate and residential housing, in a suburban area of Wombwell, Barnsley. The site formerly supported industrial buildings, with aerial imagery indicating this was demolished between 2002 and 2008. Since that time the site appears to have been left derelict and has become colonised by vegetation.

1.5.2 Habitats present within the site comprise bare ground, which is becoming colonised by sparse pioneer vegetation and young shrubs, species-poor unmanaged neutral grassland, dense scrub vegetation, scattered trees and Bulling Dyke which runs north-west to south-east across the site. The northern boundary is demarcated by the River Dove beyond which is plantation woodland. The eastern boundary is characterised by fencing beyond which are residential properties. The southern boundary is defined by Station Road beyond which is further residential housing, and the western boundary is demarcated by security fencing with Valley Road Industrial Estate beyond.

1.5.3 The site lies within the Nottinghamshire, Derbyshire and Yorkshire Coalfield National Character Area (Natural England, 2013) which is characterised as "*a generally low-lying area, with hills and escarpments above wide valleys, the landscape embraces major industrial towns and cities as well as villages and countryside.*"

Figure 1.1: Surveyed Area

Image courtesy of Google Image Pro 7.1.8.3036, 53°31'41.39"N 1°23'25.95"W Elev. 26m. Imagery date 23rd April 2021. Image accessed 23rd November 2022.

2 Methodology

2.1 Desk Study

2.1.1 Desk study details were obtained from the following sources on the associated dates to provide background on ecological features in the vicinity of the site. Records over 10 years old for transient species and all species protected from sale only are excluded. In each case the search included the site and the specified area beyond the site boundary. The search radius was based on the professional judgement of the ecologist leading the appraisal, taking into account the scope of the proposed works and associated potential impacts, with reference to current guidelines for preliminary ecological appraisal (CIEEM, 2017). Records obtained included:

- European statutory sites within a 5km radius, national statutory sites and previous EPS licence applications within a 2km radius, and England HPI identified as requiring action in the UK BAP (JNCC, 2015) and Ancient Woodland within a 0.5km radius (Magic Map, 23rd November 2022);
- TPOs and Conservation Areas within the immediate zone of influence (Barnsley Council, 23rd November 2022);
- Waterbodies within a 0.5km radius (Online mapping sources including: Google Maps; Magic Map; and Ordnance Survey, 23rd November 2022); and
- Locally designated wildlife sites, legally protected species, England SPI identified as requiring action in the UK BAP (JNCC, 2015), Local BAP Species, any Notable species (which includes: species of conservation concern and RDB species (JNCC, 2014a), Birds Of Conservation Concern (Eaton et al., 2015), and nationally rare and nationally scarce species (JNCC, 2014b)), and Invasive species within a 2km radius, and Local BAP Habitats and important hedgerows/veteran trees within the immediate zone of influence (Barnsley Biological Record Centre (BBRC), 18th January 2019).

2.2 Field Survey

2.2.1 Field Surveys were undertaken on the following dates by the identified staff, all of whom satisfy necessary field survey competencies as stipulated by the Chartered Institute for Ecology and Environmental Management (CIEEM). Weather conditions on the day of survey have been included and where relevant survey/class licence numbers referred to.

Table 2.1: Survey Dates and Conditions

Survey	Date	Staff/Licence	Environmental Conditions and Times
Preliminary Ecological Appraisal	13/02/2019	Chris Schofield ACIEEM MSc. BSc. (Hons) [Senior Ecologist at Enzygo]	Dry and cloudy (75% cloud cover), and 18°C with a light wind.
Updated Preliminary Ecological Appraisal	09/11/2022	Chris Schofield ACIEEM MSc. BSc. (Hons) [Senior Ecologist at Enzygo]	Dry and overcast (90% cloud cover), and 14°C with a light wind.

2.2.2 Phase I Habitat Survey (JNCC, 2010) is a standard technique for obtaining baseline ecological information for large areas of land in which the main vegetation types present within the survey area are mapped using a standard set of habitat categories.

2.2.3 In addition to mapping, each of the main habitats within the survey area was described; including details of component plant species abundances (recorded using the DAFOR scale: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare).

2.2.4 Incidental observations of Legally protected species, England SPI /Local BAP Species, any Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species) and Invasive species, and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also noted.

Scoping (non-specialist) survey for roosts: individual trees and groups of trees

2.2.5 With reference to current survey guidelines BS8596:2015 (BSI, 2015), a scoping (non-specialist) survey for roosts of individual trees and groups of trees, was undertaken. Each tree was visually inspected from the ground (with the aid of binoculars and a high-powered torch) to identify Potential Roosting Features (PRFs), including checks for the presence of the following features that bats might be able to use:

- Natural holes (e.g. knot holes) arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- Woodpecker holes;
- Cracks/splits in stems or branches (both vertical and horizontal);
- Partially detached or loose, platy bark;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt rots;
- Compression forks with included bark, forming potential cavities;
- Crossing stems or branches with suitable space between for roosting;
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk);
- Bird and Bat boxes on trees; or
- Other features that offer a place of shelter.

2.3 Assessment

Assessment of Suitability of Features for Roosting Bats

2.3.1 Following the preliminary assessment of trees, based on the signs present, each tree was classified as one of the following categories in accordance with current guidance BS8596:2015 (BSI, 2015):

- Known or confirmed roost – Trees with evidence of bat use or bat presence;

- High/medium risk – Trees with a suitable PRF, or with several features with some bat roost potential;
- Low risk – Trees of sufficient size and age to contain bat roosts but with no obvious PRFs seen during the scoping survey, or features seen with limited roosting potential only, e.g. small amounts of Ivy; or
- Negligible/no risk – Trees with apparently no potential to support bats.

Assessment of Potential Development Impacts

2.3.2 A level of importance has been assigned to each ecological feature, where sufficient baseline data is available to do so, in accordance with current guidance (CIEEM, 2018). This is defined within a geographical context as follows: International and European; National; Regional; Metropolitan, County, vice-county or other local authority-wide area; River Basin District; Estuarine system/Coastal cell; and Local (plus Negligible where no associated value has been identified). For example, importance of designated sites reflects the geographical context of the designation (where designated sites no longer meet designation criteria and those formally 'de-notified' or where an undesignated site meets published selection criteria must also be considered). When considering habitats and species contextual information about distribution and abundance of that habitat/species in the area must be considered (if the habitat/species status is currently in a degraded or unfavourable condition its potential value should be considered).

2.3.3 The assessment then considers potential impacts (both positive and negative) generated during the construction and operational phase of the proposed application. Only impacts that are likely to be significant are considered. Impacts that are either unlikely to occur, or if they did occur are unlikely to be significant, are not considered.

2.3.4 Cumulative impacts are then considered where the application meets criteria in accordance with national EIA screening guidance (GOV.UK, 2019), and where agreed with the competent authority during scoping. This takes into consideration existing background levels of threat or pressure, looks at critical thresholds, and assess both additive/incremental and associated/connected impacts and effects.

2.3.5 Relevant aspects of ecological structure and function are then considered when determining if identified impacts will have a significant effect upon ecological features. Where necessary, this assessment utilises information from other specialists i.e. air quality, hydrology etc, to determine the level of impact. In accordance with current guidance (CIEEM, 2018) these are described using the following characteristics, where relevant: positive or negative; extent; magnitude; duration; frequency and timing; and reversibility.

2.3.6 The mitigation hierarchy is then explored in accordance with BS42020:2013 (BSI, 2013). This seeks as a preference to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. Justification has been provided by the client/their planner where the mitigation hierarchy cannot be followed, or for example where compensation is a preferred approach where the competent authority has adopted a County wide strategy i.e. District Level Licensing Schemes (GOV.UK, 2019). In this instance current national Biodiversity Offsetting guidance has also been consulted (GOV.UK, 2019). Additional information has also been provided by the client/their planner where the applicant wishes to demonstrate exceptional circumstances or where they wish to pursue alternative strategies. Any residual impacts following mitigation measures etc are then identified.

2.3.7 All mitigation measures follow species specific current best practice guidance and the source has been identified accordingly. Deviation from guidance has been explained by the ecologist and is proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works.

2.3.8 It is important that planning decisions are based on up-to-date ecological data, and the specific timeframe over which survey data is considered valid follows general advice (CIEEM, 2019). Additionally, it should be noted that the presence/absence and status of protected species can change seasonally/annually. The age of data should also be assessed separately when considering the submission of an EPS Licence (i.e. Natural England may require data to be from the current season).

2.4 Limitations

2.4.1 Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.

2.4.2 Natural England do not hold information of Ancient Woodland less than 2ha in size.

2.4.3 Records over 10 years old for transient species (as these are likely to have moved during the interim) and species protected from sale only under the W&C Act 1981 and amendments, are excluded (as these are not relevant to a planning application). Additionally, given the large number of priority species, these have only been included if identified from the desk study and/or habitats recorded on site have been assessed as providing suitable conditions.

2.4.4 Geological sites have only been included within this report where they have biodiversity or nature conservation components to their designation.

2.4.5 At certain times of year flora species may be in a state of senescence and are not readily identifiable. However, February and November represent suitable times to identify the majority of flora species, and it was possible to easily classify the commonly occurring habitat types. The timing of the surveys is not perceived as a survey limitation.

2.4.6 This document does not contain a comprehensive list of botanical species on site. Only plant species characteristic of each habitat and incidental observations of notable plant species were recorded.

2.4.7 BBRC do not supply information on Important Hedgerows or Veteran Trees.

2.4.8 All areas of the site were fully accessible. No significant survey or assessment limitations were experienced.

3 Results and Evaluation

3.1 Sites and Habitats Identified by the Desk Study

3.1.1 Sites and habitats identified by the desk study are presented below, along with the reason(s) for their designation and associated ecological value. Potential direct or indirect impacts resulting from the construction phase or operation of the site, and the associated ecological effect have been identified, including details of any relevant Impact Risk Zone (IRZ) within which the proposed works fall. Where potential impacts/effects to ecological features have been identified, the site/habitat is shown on Drawing SHF.1122.009.EC.D.001.

Table 3.1: Sites and Habitats Identified by the Desk Study

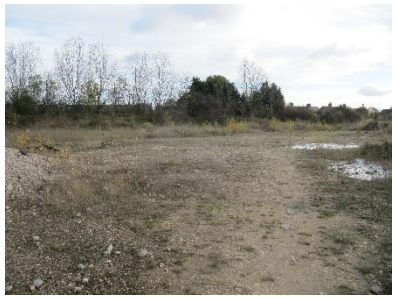
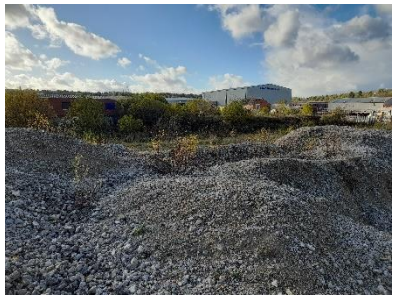
Name (distance/direction from works)	Details and Ecological Value	Potential Impact/Effect
Statutory sites designated or classified under international conventions or European legislation		
None	-	-
Statutory sites designated under national legislation		
Impact Risk Zone (IRZ)	The proposed development site lies within an Impact Risk Zone for which the LPA are advised to consult with Natural England on the likely impacts of development types which comprise airports, helipads and other aviation proposals only.	No – it is confirmed that the proposed residential development does not meet any of the development categories for which further consultation with Natural England is advised.
Locally designated wildlife sites		
Parkhill Nature Reserve Local Wildlife Site (LWS) 150m South	Site supports mixed deciduous woodland and ponds. Local value	Yes – risk of run-off/pollution impacts as Bulling Dyke flows from the site to the LWS. Minor adverse, temporary, irreversible impact
Broomhill Flash and Wombwell Ings LWS 700m East	Site supports floodplain, grazing marsh and ponds. Local value	Yes – risk of run-off/pollution impacts as both the River Dove and Bulling Dyke flow from the site to the LWS. Minor adverse, temporary, irreversible impact
Gipsy Marsh LWS 1.4km South-east	Site supports ponds, lowland meadow, fen and heath. Local value	No – no direct or indirect impacts predicted. The proposals are of a type, scale and distance that any construction or operational impacts on the LWS are reasonably discounted.

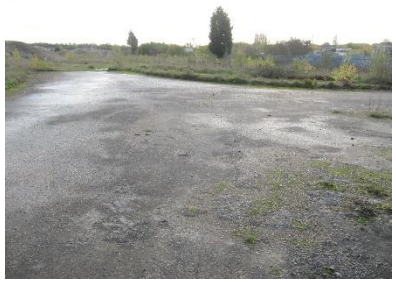
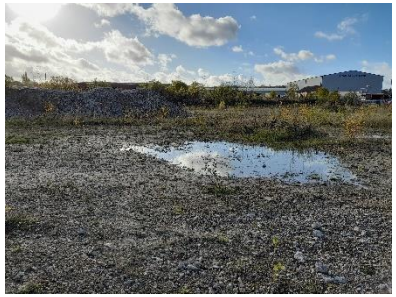
Name (distance/direction from works)	Details and Ecological Value	Potential Impact/Effect
Old Moor and Wath Ings LWS 1.8km South-east	Site supports floodplain and grazing marsh, lowland meadows and reedbeds. Local value	Yes – risk of run-off/pollution impacts as both the River Dove and Bulling Dyke flow from the site to the LWS. Minor adverse, temporary, irreversible impact
England HPI, Local BAP Habitats, Ancient Woodland, Important Hedgerows, Veteran Trees, TPOs and Conservation Areas		
Lowland Deciduous Broadleaved Woodland HPI Immediately north-west of the site and north of the River Dove.	Total of 15.7 Ha of the HPI within a 500m radius of the site boundary. With an extensive 13.3Ha present to the north and north-west of the sit boundary. Local value.	Yes – the proposals may lead to damage and/or degradation of the habitat Minor adverse, permanent, reversible impact
Green/Blue Infrastructure, Dark Zones & Local Policy		
Green Infrastructure	The trees and scrub along the eastern boundary of the site represents significant green infrastructure, providing structural diversity and wildlife corridor function, from north to south across the site, connecting to the woodland and river corridor habitats to the north, in a landscape dominated by residential and industrial development. Local value.	Yes – the proposals may lead to the loss, damage and/or degradation of habitat providing significant green infrastructure resource. Minor adverse, permanent, reversible impact
Blue Infrastructure	Bulling Dyke which runs north-west to south-east through the site, and the River Dove to the north of the site boundary provide significant blue/aquatic infrastructure function. The River Dove is also designated as an Environment Agency "Main River" (Bulling Dyke is not). Policy GI1 of the Barnsley Local Plan makes specific reference to the River Dove strategic corridor with the policy aiming to "*protect, maintain, enhance and create an integrated network of connected and multi-functional Green Infrastructure assets*" (refer to the Local Plan document for further details. Local value.	Yes – the proposals may lead to loss, damage and/or degradation of the significant blue/aquatic infrastructure. Significant adverse, permanent, reversible impact
Dark Zones	There are no known dark zones across the site. In accordance with the standard guidance specified in the *Guidance Notes for Reduction of Obtrusive Lighting* (2011), the application site likely falls under Environmental Zone E3 (Medium district brightness).	N/A

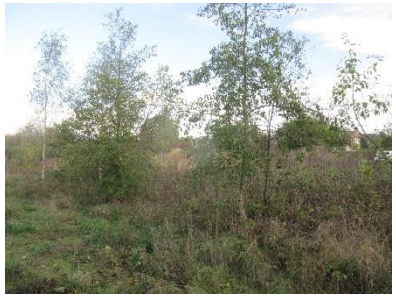
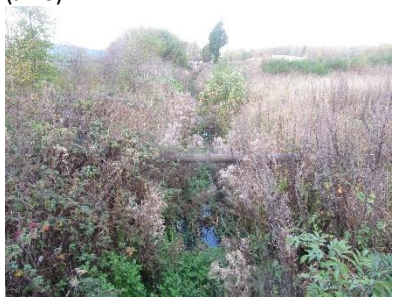
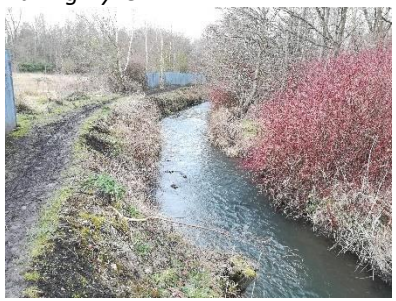
3.2 Habitats Identified on Site

3.2.1 Habitats identified on site during the field survey are presented below, along with their associated ecological value. The distribution of these habitats is shown on Drawing SHF.1122.009.EC.D.001. Potential direct or indirect impacts resulting from the construction phase or operation of the site, and the associated ecological effect have been identified.

Table 3.2: Habitat Identified on Site

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Bare Ground (J4)  	At the centre of the site is a large area of bare ground comprising areas of loose and compacted rubble which are becoming colonised by sparse pioneer vegetation. The vegetation assemblage is significantly sparse, with an abundance of approximately 1% cover of the area, and is characterised by frequent Creeping Bent (*Agrostis stolonifera*), Annual Meadow-grass (*Poa annua*) and Red Fescue (*Festuca rubra*), with occasional Common Bird's-foot Trefoil (*Lotus corniculatus*), Dandelion (*Taraxacum officinale* agg.), Hard Rush (*Juncus inflexus*), Wavy Bittercress (*Cardamine flexuosa*) and mosses. This area also supports frequent young saplings of Silver Birch (*Betula pendula*), Alder (*Alnus glutinosa*) and Poplar (*Populus* sp.), with occasional Blackthorn (*Prunus spinosa*). Two large spoil mounds are present which lack any significant vegetation cover. There are also numerous shallow pools which have been created due to the lack of drainage. This habitat is assessed against the five qualifying criteria of Open Mosaic Habitat on Previously Developed Land (OMH) in accordance with the HPI description (Maddock, 2008) and OMH Survey Handbook (Lush *et al*., 2013). All five criterion must be met for the habitat to qualify as the HPI: 1) Area is greater than 0.25Ha 2) Area has a known history of disturbance with industrial spoil present 3) Supports some early successional vegetation communities, with colonising grasses and mosses present. 4) Supports areas of unvegetated loss bare substrate and shallow seasonal pools 5) The area does not show spatial variation. The area represents a homogenous expanse of land with very sparse colonising vegetation and no distinct mosaic of successional communities present. Although adjacent to the colonising ground, grassland and scrub around the perimeter of the site are not considered to contribute, having not formed part of the previously developed land. There is no valuable mosaic of habitats present, such as established grassland, scrub and tall ruderal vegetation in combination with the bare	No - loss of this habitat is not perceived to be significant.

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
	ground, which would provide the diverse habitats of great value to wildlife and is the reason for the identification of this HPI. Therefore, it is considered this area does not meet criteria 5 of the HPI description and so does not represent England HPI or Local BAP Habitat. Site is not identified on the Open Mosaic Habitat layer on Magic Map (Defra, 2022). Negligible ecological value only.	
Seasonal Pools 	In central areas of the site are a series of shallow seasonal pools which during the 2019 survey were identified as a maximum of 10cm deep, and in November 2022 reduced in number and extent with only localised areas at around 5cm deep. It is assessed that these do not represent any permanent or semi-permanent pond habitats, and instead represent periodically inundated poorly drainage seasonal pools. No aquatic or emergent vegetation has been identified at these features. These are assessed to not represent Pond Priority Habitat. Negligible ecological value only. Assessment in relation to the potential for breeding Great Crested Newt is presented below.	No - loss of this habitat is not perceived to be significant.
Poor Semi-improved Grassland (B6) 	At southern end of the site, to the west associated with land around Bulling Dyke, the margins to the east of the site, and an area at the north of the site area areas of unmanaged specie-poor neutral grassland. This grassland is characterised by abundant Common Bent (*Agrostis capillaris*), Cock's-foot (*Dactylis glomerata*) and Red Fescue, with frequent False Oat-grass (*Arrhenatherum elatius*), Bramble (*Rubus fruticosus* agg.) and young saplings of Silver Birch, Goat Willow and Blackthorn. Further species represented include occasional Yorkshire-fog (*Holcus lanatus*), Tufted Hair-grass (*Deschampsia cespitosa*), Creeping Thistle (*Cirsium arvense*), Dove's-foot Crane's-bill (*Geranium molle*), Teasel (*Dipsacus fullonum*), Common Ragwort (*Senecio jacobaea*), Common Nettle (*Urtica dioica*), Common Hogweed (*Heracleum sphondylium*), Broad-leaved Dock (*Rumex obtusifolius*), Creeping Cinquefoil (*Potentilla reptans*) and Hard Rush. Assemblage is common and typical of the conditions present with no indicators or any rare, uncommon or species-rich habitat types This habitat does not represent England HPI or Local BAP Habitat. Negligible ecological value only.	No - loss of this habitat is not perceived to be significant.

Habitat Type (code)	Details and Ecological Value	Potential Impact/Effect
Dense/continuous Scrub (A2.1) and Scattered Trees (A3.3) 	Across southern areas of the site, around the site boundaries, and along the banks of Bulling Dyke, is dense unmanaged scrub vegetation. This habitat is characterised by abundant Bramble, Goat Willow, Blackthorn and Silver Birch, with frequent Hawthorn (*Crataegus monogyna*) and Snowberry (*Symphoricarpos albus*), and occasional Dogwood (*Cornus sanguinea*), Dog Rose (*Rosa canina*), Buddleja (*Buddleja davidii*), Broom (*Cytisus scoparius*), Sycamore (*Acer pseudoplatanus*), Norway Maple (*Acer platanoides*), Elder (*Sambucus nigra*), Poplar (*Populus* sp.), Alder and Cotoneaster (*Cotoneaster* sp.). The vegetation along the eastern boundary, although predominantly young and scrubby, does support scattered semi-mature Poplar. Other scattered trees across the site comprise occasional semi-mature Goat Willow, Silver Birch, Ash, Cherry (*Prunus* sp.) and Leyland Cypress (*× Cuprocyparis leylandii*). These habitats do not represent England HPI or Local BAP Habitat. Negligible ecological value only.	No - loss of this habitat alone is not perceived to be significant (See Green Infrastructure assessment below)
Running Water (G2) and Dry Ditch (J2.6)  *Bulling Dyke*  *River Dove*	Bulling Dyke runs north-west to south-east through the site. The watercourse is gently flowing southwards, is on average 1m wide and 0.2m deep, with steep brown earth banks which are predominantly overgrown with unmanaged scrub vegetation. The watercourse supports limited aquatic, marginal and emergent vegetation, with occasional Reedmace (*Typha latifolia*), Brooklime (*Veronica beccabunga*) and Reed Canary-grass (*Phalaris arundinacea*). The bankside vegetation is characterised by abundant Bramble, with frequent Common Nettle, Cleavers, Cock's-foot, Cow Parsley (*Anthriscus sylvestris*) and Great Willowherb (*Epilobium hirsutum*). Bulling Dyke represents River HPI and is of local value. A dry ditch lies across the south of the site and supported no water at the time of survey. The dry ditch is overgrown with scrub and grassland vegetation as described above and likely only supports any water during periods of heavy rainfall. This dry ditch does not represent any England HPI or Local BAP Habitat (ditches are excluded from the Rivers HPI description (Maddock, 2008)). Negligible ecological value. The River Dove flows along the northern boundary and is an EA Main River, approximately 6m wide and is deep and fast-flowing. The southern bank (site side) of this watercourse is approximately 2m high comprising steep brown earth substrate which supports unmanaged dense scrub and tall ruderal herb vegetation. The northern bank supports woodland edge trees and scrub forming the boundary of the Lowland Mixed Deciduous Woodland Priority Habitat beyond. The River Dove represents River Priority Habitat and provides notable blue infrastructure and wildlife corridor function through the local landscape.	Yes – the proposals may damage and/or degradation of Rivers HPI Significant adverse, permanent, reversible impact

3.3 Protected and Notable Species

3.3.1 Legally protected species, England SPI/Local BAP Species, any Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species), and Invasive species identified by the desk study and field survey are presented below, along with their associated ecological value. Potential direct or indirect impacts resulting from the construction phase or operation of the site, and the associated ecological effect have been identified. This is based on an assessment of habitat suitability and other relevant factors, such as: national distribution of each species/group; previous records of species occurrence obtained through the desk study; connectivity to suitable habitats in the surrounding landscape; and any field signs suggesting presence of species within or near to the site. Given the large number of England SPI /Local BAP Species, and Notable species (which includes: Species of conservation concern and RDB species; BOCC; and nationally rare and nationally scarce species), these have only been included if identified from the desk study and/or observed on site during the field survey.

Table 3.3: Species Identified from the Desk Study and Field Survey

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
Bats (*Chiroptera spp.*)	Records in the wider area of Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctula*), Daubenton's Bat (*Myotis daubentonii*) and unidentified *Myotis* species, with the closest records 400m south from 2013. Surveys conducted in 2007 associated with the school to the north (Tim Outlaw, 2007), detected individual numbers of Common Pipistrelle, Noctule and Daubenton's, with no significant foraging or commuting identified. No records of any previous EPS licence applications within a 2km radius of the site.	There are no buildings or structures within or adjacent to the site which have any suitability for roosting bats. Culverts present along Bulling Dyke, present at the southern site boundary as the ditch goes under Station Road, and at the north-west of the site under the Valley Road access, both have negligible suitability for roosting bats. Both culverts are significantly low to the ground (approximately 0.5m high) with the entrances significantly obscured by fly-tipping and overgrown scrub vegetation. No trees within the site support any features with potential to support roosting bats. The trees are predominantly too young to have established typical bat roosting features as regularly present on more mature trees. In accordance with current guidance (Collins, 2016), the bare ground and grassland habitats within the centre of the site provide negligible suitability foraging and commuting habitat for	Bulling Dyke, scrub and trees provide *Moderate* foraging and commuting habitat (Collins, 2016), with *High* suitability habitat provided by the River Dove and woodland to the north. Likely within zone of influence value	Yes – a) potential loss, damage, degradation and/or fragmentation of notable bat foraging and commuting habitat. Risk of significant, adverse, permanent, reversible impact

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
		bats. However, the eastern boundary green corridor and Bulling Dyke provide a limited extent of moderate suitability habitat, and provide connectivity to the favourable habitats comprising the River Dove and woodland to the north. The site is enclosed to the east, west and south by development, with lighting overspill/glare from this development illuminating the site which reduces the value to foraging and commuting bats.		
Badger (*Meles meles*)	Total of 5 records within a 2km radius of the site.	Observations during the 2019 and 2022 field surveys did not detect any evidence of badger within site boundary or the immediate surrounds. The scrub habitats/mounds provide suitable shelter and sett creation habitat, and the grassland areas provide foraging potential. Site is connected to woodland to the north which provides favourable habitat, and Badger are known to be present in the wider area.	Potentially within the zone of influence value	Yes – low risk of killing/injury of Badger during construction, and/or destruction/damage to setts if they were to colonise the site Low risk of significant adverse, permanent, irreversible impact.
Dormouse (*Muscardinus avellanarius*)	No records within search radius.	Scrub provides limited extent of sub-optimal habitat for Dormouse in an area of the country where this species is significantly rare and likely extinct.	Negligible	No
Otter (*Lutra lutra*)	One record from 2016 of a dead Otter found in Wombwell Ings 600m to the south-east	The River Dove at the northern boundary of the site and associated adjacent woodland, provides suitable habitat for Otter, and provides connectivity to the wider area. The section of river adjacent to the site, is likely of limited suitability for Otter, with the presence of the well-used public footpath along the southern bank, and the adjacent residential housing and	Within zone of influence	Yes – a) possible fragmentation/isolation of habitat through construction, b) potential for degradation of habitat and c) disturbance of Otter through increased noise, lighting and encroachment of development

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
		industrial development. However, Otter are known to have a large home-range of therefore this river may represent part of an Otter territory and commuting corridor. Bulling Dyke provides significantly poor-quality habitat for Otter, being choked and overgrown by scrub vegetation, having low water levels, and the high levels of fly-tipped material and human disturbance. However, this habitat may provide a corridor of connectivity for Otter which are present at the River Dove to the north.		Minor adverse, permanent, reversible impact
Water Vole (*Arvicola amphibious*)	Total of 45 records in the wider area, with the closest records 1.2km south-east of the site at Billing Dyke which is connected to Bulling Dyke.	Bulling Dyke provides suitable habitat for Water Vole, although sub-optimal due to the significant shading and overgrown nature of the watercourse, and the low water levels. The River Dove to the north also provides suitable, albeit significantly shaded, habitat for Water Vole and provides good connectivity to the network of watercourses in the wider landscape. Water Vole have been known to utilise a variety of sub-optimal habitats (Dean et al., 2016) and have been recorded in the wider area.	Within zone of influence	Yes – a) risk of killing/injury during any modifications to the banks of the watercourses, b) potential destruction/ disturbance of burrows, c) fragmentation/ isolation of habitat, and d) degradation of habitat. Significant, adverse, permanent, irreversible impact.
Other Protected Mammals	No records within search radius.	No habitats within or immediately adjacent to the site specifically suitable for other species of protected mammal.	Negligible	No
Specially Protected Birds	No records of any specially protected bird species within the site boundary. Total of 45 records of Kingfisher (*Alcedo atthis*) in the wider area	The River Dove to the north of the site provides suitable habitat for Kingfisher. Bulling Dyke provides significantly poor-quality habitat for Kingfisher, as it is substantially overgrown and choked with vegetation, has minimal depth of	Within zone of influence	Yes – a) potential killing/injury and/or disturbance of nesting Kingfisher during any engineering works at the River Dove to the north, b) damage and/or degradation of habitat through construction and operational activities.

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
	with the closest record 700m east along the River Dove. A total of 18 records of Barn Owl (*Tyto alba*) with the closest record 650m south-east from Wombwell Ings. Further records are predominantly associated with wetlands at Wombwell Ings to the south-east and comprise records of Peregrine (*Falco peregrinus*), Hobby (*Falco subbuteo*), Redwing (*Turdus iliacus*), Fieldfare (*Turdus pilaris*), Pintail (*Anas acuta*), Greenshank (*Tringa nebularia*), Garganey (*Anas querquedula*), Osprey (*Pandion haliaetus*), Whimbrel (*Numenius phaeopus*), Wood Sandpiper (*Tringa glareola*), Common Scoter (*Melanitta nigra*), Green Sandpiper (*Tringa ochropus*), Goldeneye (*Bucephala clangula*), Black-necked Grebe (*Podiceps nigricollis*), Black-tailed Godwit (*Limosa limosa*), Greylag Goose (*Anser anser*), Little Ringed Plover (*Charadrius dubius*) and Mediterranean Gull (Larus melanocephalus).	water and likely does not support an abundance of fish prey items. No structures or trees provide any opportunities for nesting or roosting Barn Owl. The bare ground habitats provide negligible foraging opportunities, as likely do not support an abundance of small mammal prey. The unmanaged grassland habitats provide a limited extent of suitable foraging habitat for Barn Owl, although the site is enclosed by built development and footpaths, and supports extensive dense scrub, which reduce the potential for foraging Barn Owl. Site is not considered to provide suitable habitat for the wader and waterfowl species recorded at Broomhill Flash and Wombwell Ings LWS 700m south-east, with an absence of wetland habitat, enclosed nature of the site and regular disturbance from dog-walkers.		Significant adverse, permanent, irreversible impact

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
All Other Birds	Records of UK BAP Priority Species (SPI) in the wider area comprising House Sparrow (*Passer domesticus*), Tree Sparrow (*Passer montanus*), Grey Partridge (*Perdix perdix*), Yellowhammer (*Emberiza citrinella*), Reed Bunting (*Emberiza schoeniclus*), Lapwing (*Vanellus vanellus*), Curlew (*Numenius arquata*), Cuckoo (*Cuculus canorus*), Grasshopper Warbler (*Locustella naevia*) and Spotted Flycatcher (*Muscicapa striata*).	Incidental observations during the Phase I survey of Blackbird (*Turdus merula*), Chaffinch (*Fringilla coelebs*), Dunnock (*Passer domesticus*), Blue Tit (*Cyanistes caeruleus*), Goldfinch (*Carduelis carduelis*), Robin (*Erithacus rubecula*), Wren (*Troglodytes troglodytes*), Magpie (*Pica* pica), Wood Pigeon (*Columba palumbus*) and Collared Dove (*Streptopelia decaocto*). The scattered trees, dense scrub, grassland and Bulling Dyke provide suitable habitat for a restricted range of common nesting birds (considering the site location and conditions).	Within zone of influence	Yes – potential disturbance of active nesting birds during works. Minor adverse, temporary, irreversible impact. (no significant loss of habitat)
Common Reptiles	Total of seven records of Grass Snake (*Natrix natrix*) in the wider area. The closest record is from 2016 500m south of the site at Parkhill Nature Reserve. The further six records are from the former Wombwell Foundry site 1.7km south-west and the disused Carthill Quarry 1.8km to the east.	The combination of habitats within the site, namely the grassland, scrub, bare ground and Bulling Dyke, provide suitable habitat for common reptiles, with a combination of foraging habitat, basking areas and shelter/refuge. However, the suitability of the habitat is reduced due to the extensive built development surrounding the site. Furthermore, the previous developed nature of the site and the history of disturbance likely mean the site was previously entirely unsuitable to support populations of common reptiles. It is considered possible that low numbers of common reptiles have since colonised the site.	Within zone of influence	Yes – low risk of killing/injury of common reptiles during construction activities Minor adverse, permanent, irreversible impact

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
Great Crested Newt (*Triturus cristatus*)	Six records, the most recent from 2017, from a group of ponds 1.8km south of the site. No records of any EPS licence applications within a 2km radius.	No potential breeding habitat within the site. The series of shallow pools present at the centre of the site are entirely unsuitable for breeding of GCN. With a maximum depth of 10cm at the time of survey, these ponds will dry entirely by early-summer, and therefore successful breeding of GCN and development of larvae will not be possible. Grassland and scrub habitats within the site provide suitable terrestrial GCN habitat, providing potential foraging and refuge opportunities. OS maps indicate one pond within a 500m radius of the site, located 450m north-west of the site boundary. Considering the woodland and grassland habitats in close proximity to this pond, and the absence of any nearby ponds to the south and east of the site to which GCN may be dispersing to, it is assessed significantly unlikely any GCN will disperse from this distant pond to habitats within the site.	Negligible	No
Other Protected Herpetofauna	No records within search radius.	No suitable habitats within or immediately adjacent to the site specifically suitable for other species of protected herpetofauna.	Negligible	No
White-clawed Crayfish (*Austropotamobius pallipes*)	No records within search radius.	The River Dove to the north of the site boundary provides suitable habitat for White-clawed Crayfish and connectivity to the wider landscape. However, it is noted that the landscape surrounding the site is significantly developed with engineered watercourses and there are no records of White-clawed Crayfish. Bulling Dyke	Limited poor suitability habitat outside the site boundary. Within zone of influence	Yes – a) low risk of killing/injury during any works associated with the River Dove, and b) potential fragmentation/ isolation and degradation of habitat. Significant, adverse, permanent, irreversible impact.

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
		does not provide any opportunities for this species.		
Fish/Marine	No records within search radius.	River Dove provides common and typical habitat of the developed landscape and unlikely to provide habitat for any protected fish species. Bulling Dyke, with the significant choking of vegetation and shallow nature, is significantly unlikely to support any protected fish species.	Negligible	No
Protected Invertebrates	No records within search radius.	Only widespread and common habitats typical of the landscape are present. No habitats present which are likely to support a range or diversity of invertebrates or likely to support any protected invertebrate species.	Negligible	No
Protected Flora	No records within search radius.	No protected flora species detected during the field surveys. Only common and widespread habitats present, and unlikely to support any protected flora species.	Negligible	No
Other Priority Species	Records in the wider area of Hedgehog (*Erinaceous europaeus*), Brown Hare (*Lepus europaeus*), Harvest Mouse (*Micromys minutus*), Common Toad (*Bufo bufo*), Dingy Skipper (*Erynnis tages*), Cinnabar (*Tyria jacobaeae*), Shaded Broad-bar (*Scotopteryx chenopodiata*) and Cornflower (*Centaurea cyanus*).	The unmanaged grassland and scrub habitats provide suitable foraging and refuge habitat for a range of SPI including Hedgehog, Common Toad and invertebrates.	Within zone of influence	Yes – risk of killing/injury of SPI during site clearance and construction activities Minor adverse, permanent, irreversible impact
Invasive Flora	Records in the wider are of species listed on Schedule 9 of the WCA 1981, comprising Indian Balsam (*Impatiens*	Two species of Cotoneaster were detected during the Phase 1 Survey, suspected of being Wall Cotoneaster (*Cotoneaster horizontalis*) and Hollyberry Cotoneaster (*Cotoneaster bullatus*).	Schedule 9 species	Yes – risk of spread in the wild of invasive flora during site clearance and construction activities

Species/Group	Desk Study Record (distance/direction from works)	Field Survey Habitat/Evidence	Ecological Value	Potential Impact/Effect
	glandulifera), Japanese Knotweed (*Fallopia japonica*), Canadian Waterweed (*Elodea canadensis*), Nuttall's Waterweed (*Elodea nuttallii*), Parrot's Feather (*Myriophyllum aquaticum*), Giant Hogweed (*Heracleum mantegazzianum*), Japanese Rose (*Rosa rugosa*), Rhododendron (*Rhododendron ponticum*) and Virginia Creeper (*Parthenocissus quinquefolia*).	Note: *Cotoneaster species are notoriously difficult to identify to species level in the field; a precautionary approach has therefore been adopted in assuming these two species represent species listed on Schedule 9 of the WCA 1981.* In addition, during the 2022 updated survey Japanese Rose (*Rosa rugosa*) and Indian Balsam (*Impatiens glandulifera*) were identified at the west of the site adjacent to Bulling Dyke. Considering the nature of Indian Balsam it is likely that further stands of Indian Balsam grow along Bulling Dyke and were not detected.		Minor adverse, temporary, reversible impact
Invasive Fauna	Records of Grey Squirrel (*Sciurus carolinensis*) in the wider area.	No invasive species detected during the survey, and no specific opportunities for any invasive species identified.	Negligible	No

4 Relevant Legislation and Policy

4.1 Legislation

4.1.1 Wildlife legislation and policy relevant (or potentially relevant pending further survey) to the proposed works, based on the findings of the desk study and field survey are set out below. This legal information is a summary only, and the original legal documents should be consulted for definitive information.

Table 4-1: Legislation Protection Afforded to Sites/Habitats that could Potentially be Affected by the Proposed Works

Designated Site/Habitat	Legal Status
None	-

Table 4-2: Legislation Protection Afforded to Species that could Potentially be Affected by the Proposed Works

Species	Legal Status
European Protected	
Bats	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.
Nationally Protected	
Bats, Water Vole and Otter	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.

Species	Legal Status
White-clawed Crayfish	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.
Nesting Birds (general)	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird; • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Kingfisher	Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.
Common Reptiles (e.g. Viviparous Lizard, Grass Snake and Slow-worm)	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.
Wild Mammals	The Wild Mammals (Protection) Act 1996 makes it illegal to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.
Invasive Species	
Indian Balsam, Japanese Rose and *Cotoneaster* sp.	The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act.

4.1.2 Section 40 of the Natural Environment and Rural Communities Act 2006 (the NERC Act) places a legal duty on public bodies, including planning authorities, to 'have regard' to the conservation of biodiversity when carrying out their normal functions, which includes consideration of planning applications.

4.1.3 In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI), of which there are 56 habitats and 943 species. The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

4.2 National Planning Policy

4.2.1 The NPPF (2021) set out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development.

4.2.2 The NPPF states that:

'To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping-stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'

'When determining planning applications, local planning authorities should apply the following principles:

- 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;

- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;

- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate

'The following should be given the same protection as European sites:

- potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC);

- listed of proposed Ramsar Sites; and,

- site identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'

4.2.3 The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on European sites (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.'

4.3 Local Planning Policy

4.3.1 The following policies of the Barnsley Local Plan (Barnsley Council, 2019a) are relevant to this assessment. Policy information is a summary only, and the original Barnsley Local Plan documents should be consulted for definitive information:

- **Policy GI1: Green Infrastructure** (*to protect, maintain, enhance, and create and integrated network of connected and multi-functional GI including enhancements for biodiversity through protection and creation of open space as part of new developments*). **This policy makes specific reference to the River Dove Valley Corridor**.

- **Policy GS1: Green Space** (*includes open areas which are valuable for amenity, recreation, wildlife or biodiversity, loss of such space will not normally be permitted. To improve green space in the county, new residential developments will contribute in accordance with Green Space Strategy and Infrastructure and Planning Obligations Policy following assessment to determine appropriate provision*), and
- **Policy BIO1: Biodiversity and Geodiversity** (*development will be expected to conserve and enhance the biodiversity and geological features by, protecting and improving habitats, species and sites of value, maximising opportunities around new developments, conserving and enhancing local character, following mitigation hierarchy, protecting ancient woodland and trees and provision of biodiversity enhancements*).

4.3.2 In accordance with the Local Plan policy map, this application site lies within the *Dearne Valley Green Heart Nature Improvement Area* which covers a large area to the south and east of Barnsley. Further details of this Nature Improvement Area (NIA) and how this relates to proposed development is presented within the Biodiversity and Geodiversity Supplementary Planning Document (Barnsley Council, 2019b) which supplements the Barnsley Local Plan in relation to biodiversity-related local policy. Developments within the NIA are expected to provide specific biodiversity enhancement measures over and above the minimum mitigation and compensation measures. It is noted that the SPD specifies that "*only developments of a scale that can contribute a significant, quantifiable benefit, or conversely undermine the ability, i.e. loss of wetland areas, of the NIA to meet its aims and objectives should be subject to this SPD*." This Biodiversity and Geodiversity SPD provides relevant details related to Priority Species for the NIA and details of appropriate biodiversity enhancements which are suited to the local area.

4.3.3 Further Supplementary Planning Documents relevant to nature conservation which have been reviewed and used to inform this assessment comprise:

- SPD '*Open Space Provision on New Housing Developments'* (Barnsley Council, 2019c), and
- SPD '*Trees and Hedgerows'* (Barnsley Council, 2019d).

5 Discussions and Recommendations

5.1 Overview of Ecological Features subject to Potential Impacts/Effects

5.1.1 In the absence of mitigation, the following ecological features could be subject to potential impacts/effects as a result of the proposed works:

- Dearne Valley Green Heart Nature Improvement Area;
- Lowland Mixed Deciduous Woodland HPI and Green Infrastructure;
- River Dove, Bulling Dyke and Blue Infrastructure, plus associated Local Wildlife Sites and Protected Species;
- Bats;
- Badger;
- Nesting Birds;
- Reptiles, England SPI and Notable Species; and,
- Invasive Flora.

5.2 Further Survey and Mitigation

5.2.1 For each potential impact/effect identified, all mitigation options provided follow the established mitigation hierarchy as set out in BS42020:2013 (BSI, 2013). This seeks as a preference to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. All recommended surveys and mitigation measures follow current best practice guidance as identified by CIEEM and is proportionate to the level of impact identified and to the nature and scale of the proposed works. A clear and valid justification of methods has been provided where necessary.

5.2.2 To clarify, other than the ecological features listed below, there are no perceived potential impacts on any other sites, habitats or species in the wider area. The proposals are of a type, scale and distance that any direct or indirect construction or operational impacts on the other identified ecological features are reasonably discounted.

Dearne Valley Green Heart Nature Improvement Area

Avoidance: As outlined below, the existing features and habitats of ecological value are to be retained, protected and incorporated into the final site design in accordance with the requirements of this Nature Improvement Area and associated SPD. This is to include retention and undeveloped protective buffers from the River Dove and Bulling Dyke, retention and enhancement of the eastern boundary green corridor, and protection and contribution to the off-site woodland to the north.

Mitigation and Compensation: None proposed.

Lowland Mixed Deciduous Woodland HPI and Green Infrastructure

5.2.3 *Avoidance*: To avoid the loss of valuable green infrastructure it is recommended that the site layout design incorporates retention of the corridor of trees and scrub along the eastern boundary of the site, and the woodland edge at the north-west boundary of the site.

5.2.4 *Mitigation*: To minimise the risk of damage during construction to Lowland Mixed Deciduous Woodland HPI (present to the north-east of the site and beyond the River Dove) and valuable Green Infrastructure, these habitats should be protected in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction* including establishing appropriate root protection areas. Furthermore, to minimise the potential impacts of light pollution degrading the value of the identified wildlife corridor, an appropriately designed lighting scheme should be implemented, including the use of suitable products to reduce artificial lighting overspill on to the retained habitats.

5.2.5 *Compensation:* None proposed.

River Dove, Bulling Dyke and Blue Infrastructure, plus associated Local Wildlife Sites and Protected Species

5.2.6 *Further Survey*: If impacts to the River Dove and Bulling Dyke cannot be avoided, further survey will be necessary. This should include a River Corridor Survey (RCS) in accordance with current guidance (NRA, 1992), which will also comprise assessment of the suitability of the habitats for Otter, Water Vole, White-clawed Crayfish and Kingfisher. This survey will determine any specific impacts and inform the design of any corresponding avoidance, mitigation or compensation measures, required in addition to the preliminary measures detailed below. Activities which may trigger the requirement for such a survey include, but are not limited to, works within 5m of the watercourses including construction works, outfall creation, machine/vehicle storage and building material storage.

5.2.7 *Avoidance*: It is recommended that Bulling Dyke and an undeveloped buffer along the River Dove to the north are incorporated into the site design. In accordance with EA guidance, at least and 8m width undeveloped buffer zone will be required along the River Dove to permit the EA access for remedial activities and in emergency. A 5m undeveloped buffer is recommended on either side of Bulling Dyke. The final landscape scheme to demonstrate appropriate planting and habitat creation within the buffers designed to enhance the riparian corridors, with these habitats to be managed in the long-term to maximise biodiversity and control invasive flora, whilst recognising the need for the EA to be able to access the River Dove to the north for emergency management and maintenance (i.e. capacity for machine access required).

5.2.8 To minimise the risk of any pollution event at the watercourses, all construction works will be undertaken in accordance with best practice and the through adoption of the appropriate Environment Agency guidance (refer to updated 2019 Environment Agency guidance "*Pollution prevention for businesses*" Pollution prevention for businesses - GOV.UK (www.gov.uk)). This includes appropriate storage of chemicals, controlled refuelling of vehicles, spill kits etc.

5.2.9 The watercourses will be identified to site contractors and protected with fencing as necessary (i.e. Heras panels), to prevent accidental damage and disturbance during construction activities. Additionally, there will be no night works or night lighting within the immediate vicinity of the river and dyke, and a sensitive lighting strategy will be incorporated into the operational site to further avoid disturbance impacts to these habitats and the associated species (i.e. Otter and foraging bats).

5.2.10 *Mitigation*: None proposed at present (to be confirmed by further survey if necessary (i.e. if impacts to the watercourses cannot be avoided)).

5.2.11 *Compensation*: None proposed at present (to be confirmed by further survey if necessary).

Bats

5.2.12 *Avoidance:* The recommendations above for the retention and protection of the boundary trees and scrub, including the green infrastructure corridor along the eastern boundary, and

retention and protection of Bulling Dyke and the River Dove corridor, will avoid the loss of suitable bat foraging and commuting habitat. If impacts on these habitats and aquatic infrastructure cannot be avoided through the site design, it will be necessary for further bat activity surveys to determine the bat species utilising these habitats and to provide sufficient information to characterise the potential impacts of the proposals on foraging and commuting bats. These surveys, if required, should be conducted in accordance with current guidance (Collins, 2016), and may comprise transect surveys and static/automated surveys conducted at the appropriate time of year. If development is restricted to the open bare ground habitats, unmanaged grassland and scattered scrub vegetation, with retention and protection of the riparian corridors, the eastern boundary green corridor and woodland to the north, it is considered no further bat activity survey is necessary to inform the assessment of impacts.

5.2.13 *Mitigation*: The recommended sensitive lighting scheme and habitat protection measures, in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction,* described above will ensure that foraging and commuting habitats present at the site and the immediate surrounding area are not adversely affected by light pollution caused by artificial lighting overspill.

5.2.14 *Compensation*: None proposed at present (to be confirmed by further survey if necessary

Badger

5.2.15 Avoidance: To ensure there is no risk of killing/injury of Badger or damage/disturbance to Badger setts, a pre-commencement Badger check of the site is required to ensure Badger have not moved into the site or the immediate surrounds. This pre-works updated check of the site could be subject to an appropriately worded planning condition and can be undertaken at any time of year. A detailed pre-determination Badger survey is not considered necessary due to the absence of any Badger field signs observed during the 2019 and 2022 field surveys and the limited suitability of the proposed works area for foraging and sheltering Badger habitats anticipated to be lost.

5.2.16 Mitigation: None proposed.

5.2.17 Compensation: None proposed.

Nesting Birds

5.2.18 Avoidance: To avoid an offence being committed in respect of nesting birds, clearance of any suitable bird nesting habitats, including trees, scrub and unmanaged grassland vegetation, should be conducted outside of the bird nesting season (March to August inclusive). If it is necessary to remove suitable nesting habitat during the bird nesting season, a nesting bird survey will need to be conducted by a suitably trained Ecological Clerk of Works (ECoW) to determine the presence or absence of nesting birds in the areas to be affected. If any active nests are detected, an appropriate protection area around the nest(s) will be established until it can be determined that the nest is longer active.

5.2.19 Mitigation: None proposed.

5.2.20 Compensation: None proposed.

Common Reptiles, England SPI and Notable Species

5.2.21 *Avoidance:* None proposed.

5.2.22 *Mitigation*: To minimise the risk of killing/injury of Common Reptiles, England SPI/Local BAP and notable species, including Slow-worm, Grass Snake, Hedgehog, Brown Hare and Common Toad, during the construction phase, any trees, scrub and grassland habitats should be cleared in an ecologically sensitive manner. This will be undertaken by an ecological contractor or under

the direct supervision of a suitably qualified Ecological Clerk of Works. In each instance, an ecologist will check any potential habitats/refugia immediately prior to clearance. Vegetation will then be cut/flailed to a height of 0.15m in a phase manner from the centre of the habitats outwards to encourage any wildlife present to move outside of the working area. The cut habitats and any remaining refuge habitats will again be checked by an Ecological Clerk of Works prior to the stripping of the top-soil. If necessary, this sensitive clearance and supervision can be subject to a suitably worded planning condition. No further Reptile presence/absence survey is considered necessary as the risk of reptile presence is considered low, with the possibility of individual numbers of Grass Snake present only (considering the habitats and records in the wider area). The suitability of the site for reptiles is significantly limited by the extensive built development surrounding the site, the previous developed nature of the site and the history of disturbance, meaning that significant populations of any reptile species is considered highly unlikely.

5.2.23 *Compensation*: None proposed.

Invasive Species

5.2.24 Avoidance: To avoid the risk of spread of invasive Cotoneaster species, Japanese Rose and Indian Balsam in the wild, during site clearance these species should be grubbed out by the roots and the arisings should be chipped or burnt on site or removed to licensed landfill as controlled waste. A precautionary approach should also be taken and assume further Indian Balsam is present along Bulling Dyke, with any clearance of the bankside vegetation considering this possible presence. An approved Invasive Species contractor should undertake or advise on the appropriate treatment/eradication of Indian Balsam should it be found to be present.

5.3 Further Survey Timings

5.3.1 The recommended further surveys (if required) will be undertaken in accordance with the proposed programme of works. The programme takes into account: seasonal survey constraints; the expected timetable of works (i.e. when site clearance needs to be undertaken and when construction works propose to commence); and any other timing considerations, such as planning application submission deadlines. Note: the requirement for these additional surveys can be avoided through appropriate site design (see details above).

Table 5.1: Further Survey Seasonal Restrictions

Recommendation	2023											
	J	F	M	A	M	J	J	A	S	O	N	D
Nesting Bird Checks (if required)												
Pre-works Badger Check												
River Corridor Survey (and assessment for associated protected species, if required)												
Bat Activity Surveys (Transect Survey and/or Static/Automated Survey, if required)												

5.4 Opportunities for Biodiversity Enhancement

5.4.1 Opportunities for biodiversity enhancement (above and beyond those required to mitigate for any identified impacts) have been determined through consideration of: Ecological Features identified on site and within the zone of influence; Historical records of protected species/habitats present within the locality; National and Local planning policy including UK BAP SPI/HPI and Local BAP species/habitats; Local Development Plan including consideration of Green/Blue Infrastructure Resource; Consultation with third parties/stakeholders where applicable; and Other influencing factors such a Geology/Hydrology, intended operational activities, and existing disturbance activities within the locality. Where necessary, proposed enhancements should refer to the Construction (Design and Management) Regulations 2015 (CITB, 2016).

5.4.2 It is confirmed that the below enhancements, in combination with the above-described mitigation measures, provide the opportunity to demonstrate an overall net gain for biodiversity.

5.4.3 If necessary, once the proposals have been confirmed and this PEA has been updated into an Ecological Impact Assessment (EcIA), with all necessary technical information provided (e.g. drainage assessment, arboricultural assessment etc.), a separate Biodiversity Net Gain calculation (i.e. Defra Metric 3.1) can be provided to confirm this in accordance with Schedule 14 of the Environment Act 2021 which requires a demonstrable 10% net gain.

5.4.4 Appropriate ecological enhancements, include, but are not limited to:

- Provision of bat roost boxes and bird nest boxes (to suit a variety of different species) at suitable retained trees and/or new buildings;
- Extensive landscape planting of native species, and species which are known to be of value to value. Planting should be focussed on provide connectivity across and around the site, and in connecting areas of off-site woodland to the north;
- Establish areas of species-rich grassland to provide favourable habitat for an abundance and diversity of invertebrates (and as a result enhanced opportunity for foraging birds, bats and other wildlife); and
- Creation of informal deadwood piles to provide enhanced refuge, shelter and hibernation opportunities for a range of wildlife, including common amphibians, common reptiles and small mammals.

5.4.5 No post-determination monitoring is perceived necessary. To comply with guidance set out in BS42020:2013, a Construction Environment Management Plan (CEMP) which includes consideration of biodiversity will be produced prior to the commencement of construction activities, including site clearance works. A Landscape and Ecological Management Plan (LEMP) would also normally be produced prior to operation of the site.

6 Conclusion

6.1.1 This assessment has confirmed the scheme provides opportunity to incorporate appropriate measures to mitigate any potential impacts to ecological features and to demonstrate 'biodiversity net gain in accordance with NPPF and local planning policy. As such, assuming a sensitive final site layout is confirmed, no significant residual impact can be expected which would prevent a positive determination of the planning application in ecological terms.

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Drawing SHF.1122.009.EC.D.001 – Phase I Habitat Map

River Dove

Bulling Dyke

Mound

Mound

SI

SI

SI

SI

SI

SI

29m

FB

Path

BR

STONYFORD ROAD

VALLEY ROAD

N

0 20 40 60 80 100m

Scale 1:1,250

Key

- Site Boundary
- Scrub - dense/continuous (A2.1)
- Scattered Shrubs (A2.2)
- Broadleaf Tree (A3.3)
- Coniferous Tree (A3.3)
- SI — Poor Semi-improved Grassland (B6)
- Running Water (G2)
- Seasonal Pool
- Fence (J2.4)
- Dry Ditch (J2.4)
- Bare Ground (J4)
- Hollyberry Cotoneaster
- Wall Cotoneaster
- Indian Balsam
- Japanese Rose

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SCALE: 1:1,250@A3

PROJECT REF: SHF.1122.009

DRAWN: MG

CHECKED: CS

DATE: Nov 2022

PROJECT: Station Road, Wombwell

TITLE: Phase I Habitat Map

DRAWING NO: SHF.1122.009.EC.D.001

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