

SF3386 | 271 Cliffe Lane, Gomersal

ECOLOGICAL IMPACT ASSESSMENT

April 2023 | For Planning
REVISION C

Quality Assurance

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Revision A issued April 2023 following receipt of updated arboricultural survey information.

Revision B issued August 2023 with inclusion of eDNA and bat activity survey results.

Revision C issued August 2023 to reflect minor amendments.

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EXECUTIVE SUMMARY

Smeeden Foreman Limited has been commissioned by Quarters Gomersal to undertake an ecological appraisal of their site at 271 Cliffe Lane, Gomersal (grid reference SE 20316 26343).

A desk study of relevant information has been undertaken including designated nature conservation sites and existing records of protected species within 2km of the site; and an initial site survey (habitat survey to the UK Habitat Classification System; internal and external building assessments and tree assessments for bats; and Habitat Suitability Index (HSI) assessment with respect to great crested newts).

The site predominantly comprises modified grassland, with areas of mixed and blackthorn scrub primarily situated centrally on site, developed land; sealed surface in association with the residential dwelling and access road to the west of site, introduced shrub in the south-west corner of the site (in the garden of the residential property), ruderal/ephemeral vegetation associated with the western boundary, bare ground to the north-east of site, a pond, a further seven buildings/structures in addition to the residential house, lines of trees bounding sections of the western and northern boundaries, native hedgerows to the east and a native hedgerow associated with a ditch to the northern boundary.

Designated sites

One statutorily designated site lies within 2km of the proposals site; Oakwell Park LNR located 0.7km north-east of site. Habitats within these sites do not complement those within the proposals site and no connective habitat links exist between the sites, primarily roads and residential properties. The proposed development is likely to result in additional footfall at Oakwell Park LNR and LWS and whilst significant negative impact is considered unlikely, mitigation measures can be adopted to minimise the potential impact upon this designated site. The proposals site does not fall within a SSSI Impact Risk Zone (IRZ).

Two non-statutorily designated sites are located within 2km of the site, the closest of which is Oakwell Park LWS located 0.7km north-east of site. However, it is considered that there will be no adverse impact upon these designated sites as a result of the development due to a combination of distance from the proposals site, intervening land uses (roads and built-up areas) and the nature and scale of the proposals.

Habitats

Habitats within the proposals site are generally considered to be of limited/low conservation value, predominantly comprising the areas of modified grassland, the area of bare ground to the north-east corner of site, the ruderal/ephemeral vegetation to the western boundary and areas of developed land; sealed surface. The areas of blackthorn and mixed scrub, the pond and the lines of trees, hedgerows and trees within the site are considered to be of some conservation value, as these provide flight corridors and foraging habitat for bats and suitable habitat for breeding and roosting bird species, amphibians and small mammals such as hedgehogs and other species in general.

In order to protect habitats of ecological value present and ensure that the proposed development provides enhancement to wildlife, the following surveys and mitigation measures have been recommended:

- Retention of hedgerows and trees, or replacement native planting, and gapping up of existing retain hedgerows, where possible;

- Use of temporary protective demarcation fencing to protect retained trees and hedgerows (with reference to BS5837:2012);
- Use of directional lighting during construction, which will not shine upon the site boundaries, hedgerows or trees within the site;
- Consideration of seeding areas with a suitable wildflower mix in association with hedgerows/tree planting of the proposed public open space in general;
- Implementation of sympathetic lighting across the operational site which minimises illumination of the site boundaries and areas of retained/new planting.

Species

The potential for the following protected and notable species to be affected by the development has been assessed with potential mitigation and further survey work as follows:

- **Great crested newt** – Two GCN records were provided within 2km of the site, one of which is partially connected to the site via hedgerows and woodland, Ponds P3 and P4 also have a partial connection to this record. The majority of the site comprises grazed grassland, considered to be sub-optimal for GCN during their terrestrial phase. Hedgerows and scrub could offer some terrestrial value to GCN and other amphibians. As Pond P1 is considered to offer 'poor' suitability for GCN and the majority of site is considered to be of limited terrestrial value to GCN. Following an eDNA survey undertaken of Pond P1 in June 2023, which returned a negative result for the presence of great crested newts, and given terrestrial habitats on site are sub-optimal for this species, and unsuitability of connected ponds within 500m, it is considered unlikely for this species to be negatively impacted by the development. No further survey for this species is required;
- **Roosting bats** – confirmed presence of common pipistrelles using 271 Cliffe Lane as a day roost. A licence from Natural England is required prior to demolition. Mitigation for the loss of roosts to be provided as integral bat boxes within new housing on site, with general site enhancements to include native planting, a sympathetic lighting scheme on site during construction and operation, the retention of linear habitat features (where feasible), native hedgerow and tree planting, enhanced foraging areas which include species/plant assemblages which are attractive to invertebrates which in turn will provide a foraging resource for bats, and consideration given to the installation of bat boxes/roost features on retained trees on/adjacent to site;
- **Foraging/commuting bats** – confirmed foraging and commuting behaviour in association with the northern and western boundary hedgerows and the central hedgerow within site. The northern hedgerow forms part of the Kirklees Wildlife Habitat Network. Primary routes to the northern and western boundary are to be retained maintaining connections with the Habitat Network. Lost foraging habitat to be mitigated for through new, enhanced foraging areas which include species/plant assemblages which are attractive to invertebrates which in turn, will provide a foraging resource for bats;
- **Breeding birds** – Habitats on site including trees and hedgerows provide suitable nesting and foraging opportunities for birds. Any vegetation clearance works will be undertaken outside the breeding season (March – August, inclusive) unless checks by an appropriately qualified ecologist finds the absence of active nests immediately prior to clearance works commencing. Recommendations to mitigate for loss of vegetation on site and potentially enhance the proposals site include appropriate native species

and/or species yielding berries or seeds planting, sympathetic management of existing and newly planted hedgerows should be considered to avoid disturbance of breeding birds, and the installation of a range of bird nesting boxes upon the proposed residences and/or upon the boundary trees suitable for species likely to utilise the site or adjacent areas;

- **Badger and hedgehog** – Suitable habitats are present on site for these species. No evidence of these species was observed during the site walkover; however, foraging and commuting by both species across the site is possible. Therefore, the use of precautionary working methods for both species during construction to avoid accidental harm or injury is recommended, and a pre-commencement check for badger and general review of site for badger activity during other species surveys, whilst appropriate design of fences/boundary features and the inclusion of hedgehog highways with the scheme is also recommended;

The development is considered feasible with minimal impact on biodiversity provided that mitigation and enhancement measures detailed within this report are incorporated within the site proposals. The residual ecological impacts are not anticipated to be significant. Refer to the corresponding biodiversity net gain assessment for further details (*SF3386_Biodiversity Net Gain Assessment_271 Cliffe Lane, Gomersal v2*, August 2023).

1.0 INTRODUCTION

- 1.1.1 Smeeden Foreman Limited has been commissioned by Quarters Gomersal to undertake an ecological appraisal of a site at 271 Cliffe lane, Gomersal (central grid reference SE 20316 26343), hereafter referred to as the 'site'.
- 1.1.2 This report will include the following information gathered by consultation with local record centres, a habitat survey to the UK Habitat Classification System, a Habitat Suitability Index (HSI) assessment with respect to great crested newts and, internal and external building assessments with tree assessments with respect to roosting bats:
- Proximity to statutory and non-statutory designated sites;
 - Proximity to existing records of protected species; and,
 - Site habitat appraisal and potential to support protected species.
- 1.1.3 A review of the above information will be made to identify any features or sites of ecological interest which may be affected by the development proposals. Where potential impacts or protected species are identified the need for mitigation measures and requirements for further surveys will be discussed.
- 1.1.4 The report has been commissioned to inform a planning application for the development of the site for residential housing with associated infrastructure and landscaping.
- 1.1.5 The methodologies used to survey and assess the ecological value and potential impacts on the site are based upon guidelines produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) (Guidelines for Preliminary Ecological Appraisal, 2017 and Guidelines for Ecological Impact Assessment, 2018).

2.0 SITE DESCRIPTION

- 2.1.1 The site is located on the outskirts of the village of Gomersal approximately 6.7km south-east of Bradford Centre. It occupies an area of approximately 3.7 hectares and predominantly comprises areas of modified grassland with pockets of blackthorn scrub, introduced shrub, mixed scrub and ruderal/ephemeral vegetation, with an area of bare ground, a pond, buildings and areas of developed land. The site boundaries are comprised of native hedgerows, lines of trees and native hedgerow associated with a ditch. Refer to *Figure 01* below for the site location.



Figure 01: Aerial view of site location showing red line site boundary and blue line survey boundary

- 2.1.2 The site is bound to the north by Ferrand Lane, beyond which lies agricultural farmland, to the east and south are built-up residential areas, and to the west is a small number of residential homes and gardens with agricultural farmland beyond these.
- 2.1.3 The wider landscape comprises agricultural land to the west, east and north with areas of woodland to the north-west, and residential areas to the south.

3.0 PRINCIPLE LEGISLATION AND POLICIES

- 3.1.1 The national nature conservation legislation and policies that may be relevant to the proposed development are listed below. A brief explanation of the principle legislation and policies relating to nature conservation, biodiversity and ecology is provided in **Appendix 01**.

Principle Legislation and Policies

- Wildlife and Countryside Act 1981 (*as amended*)
- EC Habitats Directive (92/43/EEC)
- EC Birds Directive (79/409/EEC)
- Conservation of Habitats and Species Regulations 2017 (*as amended*)
- Countryside and Rights of Way Act 2000
- Protection of Badgers Act 1992
- United Kingdom Biodiversity Action Plan (UKBAP)
- Natural Environment and Rural Communities Act (NERC), 2006 – Biodiversity Duty
- Hedgerow Regulations 1997
- National Planning Policy Framework (NPPF)

4.0 BASELINE INFORMATION

4.1 METHODOLOGY

- 4.1.1 The ecological interest of the site and its surroundings has been investigated by a combination of the following:
- Field survey of the site and immediate surroundings including a habitat survey to the UK Habitat Classification System, a Habitat Suitability Index (HSI) assessment of waterbodies within 500m of the site with respect to great crested newts, and internal and external building assessments with tree assessments with respect to their bat roost suitability;
 - Consultation with relevant bodies to obtain existing protected species records and statutory / non-statutory designated sites information within 2km of the development site: West Yorkshire Ecology Service (WYES) and West Yorkshire Bat Group (WYBG);
 - A review of a previous ecological report produced for the site by Smeeden Foreman Limited – *SF2518 Sykes Meadows, Gomersal: Ecological Appraisal. Version 5, Issued January 2019*;
 - The UK Biodiversity Action Plan (UKBAP);
 - The Kirklees Local Biodiversity Action plan (LBAP);
 - Magic map, a government website for nature conservation information; and,
 - Aerial photographs.

4.2 NATURE CONSERVATION DESIGNATED SITES

Statutory Designations

- 4.2.1 One statutorily designated nature conservation site lies within 2km of the proposals site boundary; Oakwell Park Local Nature Reserve (LNR) (central grid reference SE217270) which comprises areas of deciduous woodland and traditional orchards and is located approximately 0.7km north-east of the proposals site.
- 4.2.2 Local Nature Reserves (LNRs) are designated by local authorities under the National Parks and Access to the Countryside Act 1949. They cover sites of local significance in terms of their nature conservation value and can contribute to opportunities for public education and enjoyment of wildlife. Local Authorities are required to consult English Nature regarding such designation and the criteria for site selection is published by them in 'Local Nature Reserves in England'.
- 4.2.3 The proposals site does not lie within any Impact Risk Zones (IRZ).
- 4.2.4 No other European or national statutory designated sites are present within 2km of the proposed development site such as Sites of Special Scientific Interest (SSSI), Ramsar Sites, Special Protection Areas (SPA), Special Areas of Conservation (SAC), National Nature Reserves (NNR), Areas of Outstanding Natural Beauty (AONB) and National Parks.

Non-statutory Designations

- 4.2.5 West Yorkshire Ecology Service (WYES) provided information on two non-statutorily designated sites within 2km of the proposals site. These sites are detailed in Table 01 below with additional descriptions of their corresponding designations.

Table 01: Non-statutorily designated sites within 2km

Site Name	Designation	Grid reference	Location from site	Notes
Oakwell Park	LWS ^[1]	SE220272	0.7km north-east of site.	Deciduous woodland, traditional orchards, wet woodland, areas of tall ruderal
Hunsworth Little Wood	LWS	SE185271	1.6km north-west of site.	Ancient woodland, species rich acid woodland
^[1] Local Wildlife Site (LWS) are areas identified and selected locally for their wildlife value. The designation is non-statutory but is recognition of a site's significance with many LWS being of county and often regional importance for wildlife. Examples range from field ponds, streams and reed beds, to ancient woodlands, flower-rich meadows and hedgerows. This designation is equivalent to a SINC. This designation is used by local authorities to allow the ecological value of a site to be considered within the planning system.				

- 4.2.6 Ferrand Lane adjacent to the northern boundary of the proposals site is included within the Kirklees Wildlife Habitat Network with a small spur into the proposals site, along a field boundary in the centre of the site, also included within the Network (refer to *Appendix 02* appended).
- 4.2.7 The Kirklees Wildlife Habitat Network is a network of areas identified by West Yorkshire Ecology Service which includes designated sites and habitat links within the district. It is used to highlight areas where development proposals should aim to expand and enhance the functionality of the existing links.

- 4.2.8 Refer to *Appendix 03* which shows the locations of the designated sites in relation to the application site.

4.3 EXISTING SPECIES RECORDS

- 4.3.1 Existing biological records were provided following consultation with West Yorkshire Ecology Service (WYES) and West Yorkshire Bat Group (WYBG). The records detailed in the following tables are those in closest proximity to the proposed development site within the 2km search area.

Table 02: Protected species records within 2km (WYES)

Species	Grid reference	Notes
Great crested newt <i>Triturus cristatus</i>	SE1974826929	Two records (2015-2018). Closest and most recent record (2018) of 1 count individual located at Drub Lane 0.8km north-west of site.
Brambling <i>Fringilla montifringilla</i>	CONFIDENTIAL *	One record dated 2007 located approx. 1.5km from site.
Fieldfare <i>Turdus pilaris</i>	CONFIDENTIAL	Two historic records (1970-1988). Closest record located approx. 1.5km from site.
Kingfisher <i>Alcedo atthis</i>	CONFIDENTIAL	One record dated 2009 located approx. 1.1km from site.
Redwing <i>T. iliacus</i>	CONFIDENTIAL	Two historic records (1970-1988). Closest record located approx. 1.5km from site.
Brown long-eared bat <i>Plecotus auritus</i>	SE203263	One record dated 2018 of 1 count individual located on site .
Common pipistrelle <i>Pipistrellus pipistrellus</i>	SE203263	Forty-nine records (2003-2020). Closest record (2018) located on site . Most recent record (2020) located at Leeds Road 1.9km south-east of site.
Daubenton's bat <i>Myotis daubentonii</i>	SE2104225110	Two records (2007-2010). Closest and most recent record (2010) of 3 count individual located at Firthcliffe 1.4km south-east of site.
Leisler's bat <i>Nyctalus leisleri</i>	SE1910126703	Six records (2002-2020). Closest record (2002) of a roost located at Kilroyd Drive 1.2km north-west of site. Most recent record (2020) located at Leeds Road 1.9km south-east of site.
Myotis bat species <i>M. sp.</i>	SE203263	One record dated 2018 of 1 count individual located on site .
Noctule <i>N. noctula</i>	SE203263	Thirteen records (2007-2020). Closest record (2018) located on site . Ost recent record (2020) located at Leeds Road 1.9km south-east of site.
Otter <i>Lutra lutra</i>	SE19492543	One record dated 2006 located at Cleckheaton 1.2km south-west of site.

Species	Grid reference	Notes
Pipistrelle bat species <i>P. sp.</i>	SE1914026842	Four records (2005-2007). Closest and most recent record (2007) of a roost located at Drub 1.2km north-west of site.
Soprano pipistrelle <i>P. pygmaeus</i>	SE203263	Six records (2007-2020). Closest record (2018) of 1 count individual located on site . Most recent record (2020) located at Leeds Road 1.9km south-east of site.
Vesper bat species <i>Vespertilionidae</i>	SE20402608	Seventeen records (1996-2009). Closest record (2005) of 1 count grounded adult located at Beech Grove 0.2km south of site. Most recent record (2009) of a roost located at Tetley Drive 1.4km north-east of site.
*Exact locations of Schedule 1 birds as listed under the Wildlife and Countryside Act 1981 (as amended) to remain confidential		

Table 03: Bat species records within 2km (WYBG)

Species	Grid reference	Notes
Common pipistrelle	SE2023026204	Fifteen records (1996-2015). Closest record (2003) of a roost located at Cliffe Lane (2003) <0.1km south of site. Most recent record (2015) of 2 count adult located at Land off Low Lane 1.6km south-east of site.
Leisler's bat	SE2020027893	Two records (2000-2006). Closest and most recent record (2006) of a roost located at Oakroyd Hall 1.5km north of site.
Noctule	SE2208326268	One record dated 2015 of 1 count adult located at land off Low Lane 1.6km east of site.
Pipistrelle bat species	SE2054226875	Eight records (1996-2016). Closest record (2011) of 4 count adult located at Oxford Road 0.5km north-east of site. Most recent record (2016) of 1 count adult located at Shirley Avenue 1.5km north-east of site.
Vesper bat species	SE20402608	Sixteen records (1995-2011). Closest record (2005) of 1 count grounded adult located at Beech Grove 0.2km south of site. Most recent record (2011) of a roost located at Bradford Road 1.1km east of site.

4.3.2 Three granted European Protected Species Mitigation Licences were identified within the 2km search area, as detailed in the table below.

Table 04: EPSM licences granted within 2km

Licenced species	Location	Details including amendments
Common pipistrelle	SE19692739 1.1km north-west of site	2014-6160-EPS-MIT Valid 12/02/2015 – 30/09/2020 Allows for the destruction of a resting place. 2014-6160-EPS-MIT-1 Valid 02/03/2015 – 30/09/2020 Allows for the destruction of a resting place.
Common pipistrelle	SE20392749 1.1km north of site	EPSM2012-5116 Valid 04/12/2012 – 31/03/2013 Allows for the destruction of a resting place.
Common pipistrelle	SE20302800 1.6km north of site	2016-27192-EPS-MIT Valid 22/02/2017 – 22/02/2017 Allows for the destruction of a resting place. 2016-27192-EPS-MIT-1 Valid 02/06/2017 – 31/01/2018 Allows for the destruction of a resting place.

4.3.3 There are no records of badger recorded within 200m of the site boundary, however there are known records within 2km. One sett record is located within 1.7km of the site boundary but the exact location of this is confidential.

4.3.4 Non-native invasive species included on Schedule 9 of the Wildlife and Countryside Act 1981 which have been recorded within 2km of the proposals site include American mink *Mustela vison*, grey squirrel *Sciurus carolinensis*, Canadian waterweed *Elodea canadensis*, floating pennywort *Hydrocotyle ranunculoides*, giant hogweed *Heracleum mantegazzianum*, Himalayan cotoneaster *Cotoneaster simonsii*, Indian balsam *Impatiens glandulifera*, montbretia *Crocasmia x crocosmiiflora*, New Zealand pigmyweed *Crassula helmsii* and water fern *Azolla filiculoides*.

4.3.5 Records of priority UK Biodiversity Action Plan species within 2km of the study area were provided for the following species:

Amphibians: common toad *Bufo bufo*;

Birds: bullfinch *Pyrrhula pyrrhula*, dunnock *Prunella modularis*, grey partridge *Perdix perdix*, house sparrow *Passer domesticus*, linnet *Carduelis cannabina*, reed bunting *Emberiza schoeniclus*, skylark *Alauda arvensis*, song thrush *Turdus philomelos*, spotted flycatcher *Muscicapa striata*, starling *Sturnus vulgaris*, tree sparrow *P. montanus*, willow tit *Parus montanus*, yellowhammer *E. citronella*;

Invertebrates: cinnabar *Tyria jacobaeae*, scarce vapourer *Orgyia recens*, small heath *Coenonympha pamphilus*, wall *Lasiommata megera*, white-letter hairstreak *Satyrrium w-album*;

Mammals: brown hare *Lepus europaeus* and hedgehog *Erinaceus europaeus*.

4.4 REVIEW OF PREVIOUS REPORTS FOR THE SITE

SF2518_Ecological Appraisal_Sykes Meadows, Gomersal_Version 5 (v5) (Smeeden Foreman, 2019)

- 4.4.1 Habitats noted on site previously included improved pasture, hedgerows, trees, shrubs, nine buildings/structures and a pond. The site was generally considered as having low conservation value with none of the habitats within the site being of significant interest in terms of the plant species composition. The majority of the grassland was considered to be of limited/low conservation value, predominantly comprising heavily grazed, improved pasture, however areas of greater interest were found associated with within the field boundaries, to the north-west and east of site. The hedgerows, trees and buildings at the site were considered to be of local value to breeding birds and provided shelter and foraging opportunities for wildlife in general. The northern boundary hedgerow (H3) was thought to qualify as 'Important' under the Hedgerows Regulations 1997 with regards to ecology. This hedgerow and the hedgerow to the east (H2) were considered to meet the criteria to be classified as UKBAP priority habitat.
- 4.4.2 A bat roost was identified within the residential building at 271 Cliffe Lane (building B9), which supported 2 adult common pipistrelle bats. Five trees (T1-T5) were identified as supporting features with bat roost potential. Results from bat activity transect surveys in the 2018 active season found bat activity across the site to be generally low, predominantly used by common pipistrelle bats with foraging and commuting activity concentrated along the mature hedgerows and tree lines to the northern and western boundaries of site. One of the trees (T4) identified as having potential to support roosting was subject to a climb and inspect survey in September 2018 where no bats or signs of current use by bats was identified at the time of the survey.

4.5 BIODIVERSITY ACTION PLANS

National Biodiversity Action Plan

- 4.5.1 The UK Biodiversity Action Plan (UK BAP) identifies priority species and habitats which are those considered to be the most threatened and therefore most in need of conservation action. The lists were updated in 2007 to include 1150 species and 65 habitats. The UK Post-2010 Biodiversity Framework (July 2012) has succeeded the UKBAP, however priority species and habitats listed under the UKBAP remain a valuable reference source and have been used to inform statutory lists at a national level including Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (England).
- 4.5.2 Priority habitats known to occur within 2km of the site include:
- Ancient and semi-natural woodland
 - Ancient, replanted woodland
 - Deciduous woodland
 - Open mosaic habitats on previously developed land

- Traditional orchards

4.5.3 During the walkover survey it was noted that the hedgerows on site meet the criteria for UKBAP habitat, they have the potential to support roosting and breeding birds and mammals in general.

Local Biodiversity Action Plans

4.5.4 The following species have been afforded local action plans by the West Yorkshire Biodiversity Action Plan (WYBAP):

Amphibians: common frog *Rana temporaria*, smooth newt *Triturus vulgaris*;

Birds: house martin *Delichon urbica*, kestrel *Falco tinnunculus*, swallow *Hirundo rustica* and swift *Apus apus*.

4.5.5 Habitat types for which action plans have been prepared for Kirklees Local Biodiversity Action Plan (LBAP) include:

- Arable field margins
- Blanket bog
- Hedgerows
- Lowland and upland meadows
- Lowland deciduous and other woodland
- Lowland dry acid grassland
- Lowland heathland
- Reedbeds
- Rivers, riverine corridors and associated habitats
- Scrub and habitat mosaics on previously developed land
- Semi-natural pasture
- Upland flushes
- Upland heathland
- Upland mixed ashwoods
- Upland oak woodland
- Wet woodland

4.5.6 The hedgerows on site constitute a habitat listed within the LBAP.

4.5.7 Species for which action plans have been prepared for Kirklees LBAP include:

- Floating water plantain *Luronium natans*
- Great crested newt
- Marsh helleborine *Epipactis palustris*
- Northern wood ant *Formica lugubris*
- Twite *Carduelis flavirostris subsp. bensonorum/pipilans*
- Water vole *Arvicola terrestris*

- White-clawed crayfish *Austropotamobius pallipes*

4.6 SITE SURVEY – HABITAT SURVEY

Methodology

- 4.6.1 A walkover survey was undertaken by Senior Ecologist Jonathan Siberry BSc (Hons) MCIEEM and Assistant Ecologist Sarah Hoyle FdSc BSC (Hons) during suitable weather conditions on 3rd November 2022. Habitat types and key species were noted and are presented in accordance with the UK Habitats Classification System (*Version 1.1 UKHabs*, September 2020) including associated condition assessments undertaken in accordance with the Natural England technical supplement (JP039, July 2021). This system includes the use of primary and secondary (2°) codes to provide further information on the habitat parcels present, where relevant, as described in more detail within individual habitat descriptions.

Results

- 4.6.2 **Site summary:** The site predominantly comprises areas of modified grassland with areas of blackthorn scrub, introduced shrub, mixed scrub, and ruderal/ephemeral vegetation with an area of bare ground, a pond, buildings and areas of developed land. The site boundaries are comprised of native hedgerows, lines of trees and native hedgerow associated with a ditch. Refer to *Figure 02* (appended) for locations of existing habitats on site.
- 4.6.3 Habitat photographs and details of the condition assessment criteria for each relevant habitat are provided within *Appendix 04*.

Habitats with codes

Area-based Habitats

- **Ref. 1:** g4 – Modified grassland
- **Ref. 2:** g4 – Modified grassland
- **Ref. 3:** g4 – Modified grassland
- **Ref. 4:** g4 – Modified grassland
- **Ref. 5:** g4 – Modified grassland
- **Ref. 6:** u 231 – Urban (2° 231 – vegetated garden)
- **Ref. 7:** h3h – Mixed scrub
- **Ref. 8:** h3a – Blackthorn scrub
- **Ref. 9:** r 39 – Pond (Non-priority habitat) (2° 39 – freshwater – man-made)
- **Ref. 10:** s 17 – Sparsely vegetated land (2° 17 – ruderal/ephemeral)
- **Ref. 11:** u 73 – Urban (2° 73 – bare ground)
- **Ref. 12:** u 1160 – Urban (2° 1160 – introduced shrub)
- **Ref. 13:** u1b – Developed land; sealed surface

Individual Trees

- **T1:** u 1171 – Urban (2° 1171 – Mature tree)

- T2: u 1172 – Urban (2° 1172 – Young Tree)
- T3: u 1171 – Urban (2° 1171 – Mature tree)
- T4: u 1171 – Urban (2° 1171 – Mature tree)
- T5: u 1171 – Urban (2° 1171 – Mature tree)
- T9: u 1170 – Urban (2° 1170 – Tree)
- T17: u 1170 – Urban (2° 1170 – Tree)
- T28: u 1170 – Urban (2° 1170 – Tree)
- T29: u 1171 – Urban (2° 1171 – Mature tree)
- T30: u 1171 – Urban (2° 1171 – Mature tree)
- T32: u 1171 – Urban (2° 1171 – Mature tree)
- T33: u 1171 – Urban (2° 1171 – Mature tree)
- T34: u 1171 – Urban (2° 1171 – Mature tree)
- T36: u 1170 – Urban (2° 1170 – Tree)

Linear Features

- Ref. H1: h2b – native hedgerow
- Ref. H2: h2b – native hedgerow
- Ref. H3: h2b 191 – native hedgerow associated with a ditch (2° 191 – ditch)
- Ref. LT1: w1g6 – line of trees
- Ref. LT2: w1g6 – line of trees
- Ref. LT3: w1g6 – line of trees

Habitat 1: g4 – Modified grassland

- 4.6.4 *Habitat description:* Located in the south-west of site, to the north of the residential property within the site boundary. The grassland features localised areas of ruderal vegetation and is used primarily to house and exercise poultry including chickens, guineafowl and a turkey.
- 4.6.5 *Species composition:* This area is dominated by perennial ryegrass *Lolium perenne* with the following species occurring frequently to rarely including creeping buttercup *Ranunculus repens*, creeping thistle *Cirsium arvense*, nettle *Urtica dioica*, greater plantain *Plantago major*, white clover *Trifolium repens*, spear thistle *C. vulgare* and timothy *Phleum pratense*. The areas of localised ruderal vegetation included spear thistle, nettle, weld *Reseda luteola* and broad-leaved dock *Rumex obtusifolius*.
- 4.6.6 *Condition Assessment result:* Poor

Habitat 2: g4 – Modified grassland

- 4.6.7 *Habitat description:* Situated in the north-west corner of the site this field parcel is primarily used as cattle pasture.
- 4.6.8 *Species composition:* This parcel was again dominated by perennial ryegrass with other species present including white clover, creeping buttercup, Yorkshire fog *Holcus*

lanatus, spear thistle, annual meadow grass *Poa annua*, creeping bent *Agrostis stolonifera*, ragwort *Senecio jacobaea*, vetch species *Vicia sp.* and nettle.

4.6.9 *Condition Assessment result:* Poor

Habitat 3: g4 – Modified grassland

4.6.10 *Habitat description:* Situated to the east of Habitat 1, adjacent to the rear gardens of properties on Cliffe Lane. This area looked to be used on a rotational basis for the cattle to graze with areas of bare ground apparent due to trampling pressure.

4.6.11 *Species composition:* This parcel is also dominated by perennial ryegrass, with frequent creeping buttercup and abundant white clover. Species occurring rarely included broad-leaved dock, creeping thistle, timothy, nettle, spear thistle, bramble *Rubus fruticosus* and common sorrel *R. acetosa*.

4.6.12 *Condition Assessment result:* Poor

Habitat 4: g4 – Modified grassland

4.6.13 *Habitat description:* Comprising the majority of the eastern half of the site and can be accessed by the cattle for grazing purposes. This area also includes the smaller mixed scrub (Habitat 7) parcels and an area of bare ground (Habitat 11) along the northern boundary.

4.6.14 *Species composition:* Species in this area include dominant perennial ryegrass with abundant creeping buttercup and other species occurring frequently to rarely including common chickweed *Stellaria media*, white clover, creeping thistle, broad-leaved dock, nettle, common sorrel, crested dog's tail *Cynosurus cristatus*, Shepherd's purse *Capsella bursa-pastoris*, common bent *A. capillaris*, ribwort plantain *Plantago lanceolata*, ragwort, Yorkshire fog and greater plantain.

4.6.15 *Condition Assessment result:* Poor

Habitat 5: g4 – Modified grassland

4.6.16 *Habitat description:* Lying to the east of Habitat 4 in the north-east corner of site this parcel features one built structure and is currently grazed by a single horse.

4.6.17 *Species composition:* Access to this area could not be gained at the time of the walkover survey, however species composition looked to be similar to that of the other parcels of modified grassland.

4.6.18 *Condition Assessment result:* Poor

Habitat 6: u 231 – Urban – Vegetated garden

(2° code: 231 – vegetated garden)

4.6.19 *Habitat description:* This forms part of the garden to the front of 271 Cliffe Lane in the south-west corner of the site.

4.6.20 *Species composition:* This area comprises perennial ryegrass and white clover.

4.6.21 *Condition Assessment result:* Condition pre-set to N/A

Habitat 7: h3h – Mixed scrub

4.6.22 *Habitat description:* Six parcels of mixed scrub of varying sizes are located within the boundaries of Habitat 4. Two of these parcels, located in the west of Habitat 4, form part of the spur of the Kirklees Wildlife Habitat Network which enters the site from Ferrand Lane on the northern boundary.

4.6.23 *Species composition:* Species occurring within these areas of mixed scrub include hawthorn *Crataegus monogyna*, oak *Quercus robur*, rose sp. *Rosa sp.*, bramble, ash *Fraxinus excelsior*, elder *Sambucus nigra*, cherry sp. *Prunus sp.*, Holly *Ilex aquifolium*, sycamore *Acer pseudoplatanus*, apple sp. *Malus sp.*, nettle, spear thistle, broad-leaved dock and blackthorn *Prunus spinosa*.

4.6.24 *Condition Assessment result:* Moderate

Habitat 8: h3a – Blackthorn scrub

4.6.25 *Habitat description:* An area of blackthorn scrub is located adjacent to the north-west corner of Habitat 3.

4.6.26 *Species composition:* This parcel is dominated by blackthorn with occasional nettle and bramble present in the understory.

4.6.27 *Condition Assessment result:* Poor

Habitat 9: r 39 – Pond (Non-priority habitat)

(2° codes: 39 freshwater – man-made)

4.6.28 *Habitat description:* The pond is heavily used by waterfowl including domestic ducks and geese and by the cattle for drinking. There appeared to be an absence of fish in the pond.

4.6.29 *Species composition:* Very little aquatic vegetation is present, limited to a raft of vegetation in the centre of the pond.

4.6.30 *Condition Assessment result:* Moderate

Habitat 10: s 17 – Sparsely vegetated land – ruderal/ephemeral

(2° codes: 17 ruderal/ephemeral)

4.6.31 *Habitat description:* Located in the south-west corner of Habitat 2 in association with the western site boundary.

4.6.32 *Species composition:* Along with dominant nettle and a single hawthorn there are brash piles present in this area.

4.6.33 *Condition Assessment result:* Poor

Habitat 11: u 73 – Urban – bare ground

(2° codes: 73 bare ground)

4.6.34 *Habitat description:* Situated on the northern boundary in the north-east corner of site where vehicle access is provided from Ferrand Lane into Habitat 4. The ground has been heavily disturbed due to large machinery travelling over the area. No floral species were present in this area.

4.6.35 *Condition Assessment result:* Poor

Habitat 12: u 1160 – Urban – introduced shrub

(2° codes: 1160 introduced shrub)

4.6.36 *Habitat description:* Situated to the south of 271 Cliffe Lane this forms part of the garden with Habitat 6 and the remainder of the area comprising asphalt/concrete.

4.6.37 *Condition Assessment result:* Condition pre-set to N/A

Habitat 13: u1b – Developed land; sealed surface

4.6.38 *Habitat description:* This is an area to the rear of 271 Cliffe Lane which is surfaced with paving flags and an asphalt road on the western boundary which provides access to properties to the rear of Cliffe Lane.

4.6.39 *Condition Assessment result:* Condition pre-set to N/A

Individual trees: u 1170, u 1171, u1172 – Urban

(2° codes: 1170 Tree, 1171 Mature Tree, 1172 Young Tree)

4.6.40 *Habitat description:* A total of 14 individual trees (see *Figure 02* and detailed below) throughout the site were assessed against the Urban Tree condition assessment criteria.

- **T1:** u 1171 – Mature Sycamore *Acer pseudoplatanus*
- **T2:** u 1172 – Young Ash *Fraxinus excelsior*
- **T3:** u 1171 – Mature Sycamore
- **T4:** u 1171 – Mature Sycamore
- **T5:** u 1171 – Mature Willow species *Salix sp.*
- **T9:** u 1170 – Early Mature Oak species *Quercus sp.*
- **T17:** u 1170 – Semi-mature Ash
- **T28:** u 1170 – Early Mature Ash
- **T29:** u 1171 – Mature Hawthorn *Crataegus monogyna*
- **T30:** u 1171 – Mature Sycamore
- **T32:** u 1171 – Mature Ash
- **T33:** u 1171 – Mature Ash
- **T34:** u 1171 – Mature Oak species
- **T36:** u 1170 – Semi-mature Elder *Sambucus nigra*

4.6.41 *Condition Assessment result:* Moderate-Good (see *Appendix 04* for full details)

Linear Feature H1: h2b – Native hedgerow

4.6.42 *Habitat description:* Located on the eastern boundary of the site adjacent to residential properties.

4.6.43 *Species composition:* As access could not be gained to this area at the time of the walkover survey, species composition could not be noted down.

4.6.44 *Condition Assessment result:* Moderate

Linear Feature H2: h2b – Native hedgerow

4.6.45 *Habitat description:* Situated between Habitats 4 and 5 in the north-east corner of the site.

4.6.46 *Species composition:* Species include holly, hawthorn, elder and bramble.

4.6.47 *Condition Assessment result:* Good

Linear Feature H3: h2b 191 – Native hedgerow associated with a ditch

(2° codes: 191 ditch)

4.6.48 *Habitat description:* Located on the northern boundary parallel to Ferrand Lane for approx. two thirds of the boundary length in association with a ditch to the north of the site boundary.

4.6.49 *Species composition:* Species present include ash, holly, bramble, sycamore, hawthorn, oak whips and alder *Alnus glutinosa*.

4.6.50 *Condition Assessment result:* Good

Linear Feature LT1: w1g6 – Line of trees

4.6.51 *Habitat description:* Located on the northern boundary extending west from H3.

4.6.52 *Species composition:* Species include ash, alder, hawthorn, oak and sycamore.

4.6.53 *Condition Assessment result:* Moderate

Linear Feature LT2: w1g6 – Line of trees

4.6.54 *Habitat description:* Situated on the western site boundary adjacent to the public footpath.

4.6.55 *Species composition:* Species present include oak, elder, sycamore, hawthorn and alder.

4.6.56 *Condition Assessment result:* Poor

Linear Feature LT3: w1g6 – Line of trees

4.6.57 *Habitat description:* Situated on the western boundary either side of the access gate to Habitat 1.

4.6.58 *Species composition:* Leylandii *Cupressus x leylandii* is the predominant species in this line of trees.

4.6.59 *Condition Assessment result:* Poor

Fauna

4.6.60 During the survey the following bird and mammal species were recorded: blackbird *Turdus merula*, blue tit *Cyanistes caeruleus*, crow *Corvus corone*, goldfinch *Carduelis carduelis*, great tit *Parus major*, house sparrow *Passer domesticus*, jackdaw *C. monedula*, long-tailed tit *Aegithalos caudatus*, magpie *Pica pica*, robin *Erithacus rubecula*, a thrush species *T. sp.*, woodpigeon *Columba palumbus*, wren *Troglodytes troglodytes* and rabbit *Oryctolagus cuniculus*.

Conclusion

4.6.61 Habitats on site with limited ecological value include the areas of modified grassland which comprise the majority of the site, the area of bare ground to the north-east corner of site, the ruderal/ephemeral vegetation to the western boundary, and areas of developed land; sealed surface. The areas of blackthorn and mixed scrub, the pond, and the lines of trees, hedgerows and trees provide some ecological value as flight corridors and foraging habitat for bats and feeding, roosting and breeding opportunities for birds, amphibians, small mammals such as hedgehogs and other species in general. The plant communities at the site are of widespread occurrence and are characteristic of the habitats present in the wider area and common nationally. No rare or locally uncommon plant species or invasive species as listed under the Wildlife and Countryside Act 1981 (as amended) were detected at the site.

Limitations

- 4.6.62 The walkover survey was completed outside the optimal growing season (April-September inclusive) however, it is not expected to have a significant impact upon the results of the survey as the majority of the site is subject to regular grazing.

4.7 SITE SURVEY – HABITAT SUITABILITY INDEX SURVEY

Methodology – Habitat Suitability Index

- 4.7.1 From consulting an OS map of the local area eight ponds (P1-P8) are located within 500m of the site (See *Figure 03*(appended) for the pond locations). During the site survey in November 2022, only two ponds within 500m were accessible at the time of survey, Pond **P1** and **P6**, for a Habitat Suitability Index assessment (see Table 05 for brief pond descriptions). Whilst undertaking eDNA survey of Pond **P1** on site on 19th June 2023 observations were attempted for Ponds **P2**, **P3** and **P4**, with Pond **P2** being the only one fully accessible at the time of survey.

Table 05: Watercourse/body descriptions on site and within 500m

Pond P1 – located within the site and is heavily used by domestic waterfowl including ducks and geese.



Pond P2 – an ornamental pond located at a residential property approx. 58m west of site which contains several large fish and is currently undergoing renovation



Pond P3 – Approx. 410m north-west of site located on private land. The pond was observed through binoculars from a nearby public footpath, it was heavily horse poached with little to no vegetation present.



Pond P4 – Approx. 203m north-west of site located on private land with access not possible at the time of survey.

No photograph

Pond P6 – located to the south of site with high vegetation cover around the perimeter. Fish and waterfowl were not observed to be present at the time of survey but considered possible.



- 4.7.2 Waterbodies were assessed using the Habitat Suitability Index (HSI) survey methodology to consider their suitability for great crested newts and the requirement for further assessment and appropriate mitigation in regards to the proposed development.
- 4.7.3 The HSI survey is a method produced by Oldham *et al.* (2000) to assess the suitability of ponds for great crested newts by quantifying ten factors (suitability indices) which can affect great crested newt occurrence, such as the presence of fish and wildfowl, shading, coverage of aquatic vegetation, etc. and provides a score which can indicate the suitability of a pond to support breeding great crested newts. The HSI is calculated as a geometric mean of the ten suitability indices using the formula below:
- 4.7.4 $HSI = (SI_1 \times SI_2 \times SI_3 \times SI_4 \times SI_5 \times SI_6 \times SI_7 \times SI_8 \times SI_9 \times SI_{10})^{1/10}$
- 4.7.5 The score can range from 0 to 1, 0 indicating low suitability and 1 indicating a high suitability. The HSI has been adapted by the National Amphibian and Reptile Recording Scheme (NARRS) who have categorised the suitability of a pond to support great crested newts by the HSI obtained, which is as follows:

Table 06: HSI scoring system

<i>HSI Score</i>	<i>Pond Suitability</i>
<0.5	Poor
0.5-0.59	Below average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

Results

- 4.7.6 **Ponds P1 and P6** were assessed using the Habitat Suitability Index (HSI) survey methodology – see Table 07 for the survey results.
- 4.7.7 The remaining ponds were not accessible at the time of the survey; however, Ponds 2, 3 and 4 all within 500m of the site were historically assessed by Smeeden Foreman in 2018. As access could only be gained to one of these ponds for re-assessment in June 2023 the previous survey results are still applicable. These ponds were assessed to offer the following suitability in 2018:

- Pond P2 – Poor
- Pond P3 – Good
- Pond P4 – Below Average

4.7.8 Whilst access could be gained to Pond P2 in June 2023, conditions were assessed as having not changed from the previous survey in 2018, it is still and ornamental pond with an absence of vegetation in and around the pond and the presence of large fish contributing to poor suitability of the pond to support great crested newt. The pond is also undergoing renovations which are thought not to increase the likelihood of great crested newt being present as it is to remain an ornamental pond. Pond P3 was also deemed to be unsuitable to support great crested newt owing to it being heavily horse poached and a lack of aquatic vegetation being present.

4.7.9 During the 2018 assessment major barriers to newt movement (residential areas and main roads) were considered to be present between the site and ponds P6, P7 and P8. Pond P5 was noted to be located approximately 450m north-east of the site with no other ponds present that may act as a stepping-stone between it and the site. These conclusions are considered to remain relevant to these ponds.

4.7.10 The results of the HSI survey undertaken in 2022 are detailed in the table below:

Table 07: Habitat Suitability Index Survey

	Pond 1		Pond 6	
Sl ₁ Location	A	1	A	1
Sl ₂ Pond area	90	0.2	540	1
Sl ₃ Pond drying	Never	0.9	Never	0.9
Sl ₄ Water quality	Poor	0.33	Moderate	0.67
Sl ₅ Perimeter Shade	0 - 60%	1	0 - 60%	1
Sl ₆ Fowl	Major	0.01	Minor	0.67
Sl ₇ Fish	Absent	1	Possible	0.67
Sl ₈ Ponds within 1km	11	0.95	12	0.95
Sl ₉ Terrestrial habitat (within 250m)	Moderate	0.67	Poor	0.33
Sl ₁₀ Macrophytes*	30%	0.6	30%	0.6
HSI Score	Poor		Good	

* Due to the timing of the survey undertaken during November, this is considered to be a seasonal limitation, however, the end suitability score category would not change if the percentage cover of macrophyte cover was to increase.

Conclusions

- 4.7.11 From assessment in 2022, Ponds P1 and P6 are considered offer 'Poor' and 'Good' suitability for great crested newts (respectively).
- 4.7.12 Assessment in 2018 found Ponds P2, P3 and P4 to offer 'Poor', 'Good' and 'Below Average' suitability for great crested newts (respectively).
- 4.7.13 Pond 5 is located approx. 450m north-east of the site with no ponds to act as stepping-stones between it and the site. Major barriers to newt movement (residential areas and main roads) are considered to be present between the site and ponds P6, P7 and P8.

4.8 SITE SURVEY – EDNA WATERBODY ANALYSIS

Methodology

- 4.8.1 Water samples were taken from ponds P1 on 19th June 2023 following the survey methodology detailed within the document *Analytical and methodological development for improved surveillance of Great Crested Newt Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA* (2014) published by DEFRA and adopted by Natural England. Water samples were collected by Assistant Ecologist Sarah Hoyle FdSc BSc (Hons) and a survey assistant.

Results

- 4.8.2 The samples collected were submitted to and tested by SureScreen Scientifics Limited on the 23rd June and 3rd July 2023. Great crested newt eDNA was confirmed to be absent from the waterbody surveyed with negative results for great crested newt DNA. See the analysis report on results in Figures 04a and 04b below:



Folio No: E18260
Report No: 1
Purchase Order: SF3386
Client: SMEEDEN FOREMAN
Contact: Maria Gill

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 23/06/2023
Date Reported: 03/07/2023
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
2362	Pond 1, Cliffe Lane	SE2021326298	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Chris Troth

Approved by: Chelsea Warner



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Figure 04a: eDNA sample analysis



METHODOLOGY

The samples detailed above have been analysed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample which then undergoes DNA extraction. The extracted sample is then analysed using real time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. We also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

INTERPRETATION OF RESULTS

- SIC:** **Sample Integrity Check** [Pass/Fail]
When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results.
- DC:** **Degradation Check** [Pass/Fail]
Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.
- IC:** **Inhibition Check** [Pass/Fail]
The presence of inhibitors within a sample are assessed using a DNA marker. If inhibition is detected, samples are purified and re-analysed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.
- Result:** **Presence of GCN eDNA** [Positive/Negative/Inconclusive]
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.



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Figure 04b: eDNA sample analysis

4.8.3 Pond P1 returned a negative result for the presence of great crested newt indicating likely absence. Given terrestrial habitats on site are sub-optimal for this species, and the unsuitability of connected ponds within 500m, it is considered unlikely for this

species to be negatively impacted by the development. No further survey for this species is required.

4.9 SITE SURVEY – BUILDING ASSESSMENT

Methodology

- 4.9.1 Buildings on site comprise a residential dwelling in the south-west corner of site with a dog kennel, two derelict sheds, chicken coop and a container/outbuilding immediately to the north. A cow shed and stable are located in the north-east corner of site adjacent to the northern site boundary. Proposals for these buildings include demolition to facilitate the development of the site.
- B1 – residential property (271 Cliffe Lane)
 - B2 – dog kennel
 - B3 – collapsed shed
 - B4 – collapsed shed
 - B5 – container/outbuilding
 - B6 – chicken shed
 - B7 – cow shed
 - B8 – stable
- 4.9.2 A detailed building inspection was undertaken on 3rd November 2022, with reference to the Bat Conservation Trust publication *Bat Surveys Good Practice Guidelines* (Collins, 2016), to identify potential access points/roosting opportunities suitable for bats such as missing mortar, lifted tiles, cracks, gaps and missing window panes as well as actual evidence of bats in the form of droppings, fur/urine staining, scratch marks, feeding remains, distinctive smell and dead bats. The buildings were examined using close focussing binoculars and a high-powered torch.
- 4.9.3 The potential of each building to support roosting bats has been categorised to relate to the value of identified features. These categories are provided by the Bat Conservation Trust (BCT) within *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition* (Collins, 2016) and are summarised in the Table 08 below.
- 4.9.4 The inspection was undertaken by Senior Ecologist Jonathan Siberry BSc (Hons) MCIEEM and Assistant Ecologist Sarah Hoyle FdSc BSC (Hons) during suitable weather conditions. Refer to *Figure 02* (appended) for locations of buildings and features identified.

Table 08: Summary of BCT building/tree categories

<i>BCT Category</i>	<i>Description</i>
High	One or more highly suitable features capable of supporting larger roosts on a regular basis and for long periods of time.
Moderate	One or more suitable features but unlikely to support a roost of high conservation status.
Low	One or more suitable features suitable for low numbers of bats e.g. individual bats opportunistically.
Negligible	Negligible features likely to be used by roosting bats.

Results

B1 – 271 Cliffe Lane

- 4.9.5 *Historic information* – The previous report completed for this site identified a roost in this building (previously labelled as B9) used by up to two individual common pipistrelle bats on the south-facing gable end of the building. A further potential roost feature was noted on the north-west corner of the property after a common pipistrelle appeared to swarm this area but did not enter the property at this time.
- 4.9.6 *External inspection* – The building comprises a brick built detached house with roof pitches facing west and east. A section of flat roof above the garage is adjoined to the eastern side of the house. A conservatory structure is also attached to the northern elevation of the dwelling.
- 4.9.7 A range of potential features were identified including worn brickwork on the chimney on the western elevation, lifted ridge tiles, gaps between wall top and tiles on western side of gable and a missing end cap to the soffit on eastern side of gable, lifted tiles at either side of the Velux window, a gap between the wall and soffit and lifted tile at base of chimney, a gap between the garage doors and upper timber section and a missing hanging tile on the southern gable end.
- 4.9.8 *Internal inspection* – the internal loft space of the property has been converted to an additional room, primarily used for storage. The room has been plastered and painted and was well-sealed. Windows are also present in this attic room, allowing daylight into the space.
- 4.9.9 Due to the historic presence of a roost in this building and the number of potential roost features identified, Building B1 is considered to offer **high suitability** to support roosting bats.

Building B2 – dog kennel

- 4.9.10 Direct access could not be obtained to this building at the time of the survey but it was subject to an external inspection from directly adjacent areas, assisted by the use of binoculars. No features which were thought to offer suitability to support roosting bats were identified, this building is therefore identified as offering **negligible suitability** to support roosting bats.

Buildings B3 – B8

- 4.9.11 The remaining buildings on site; two derelict sheds, a chicken coop and a container/outbuilding immediately to the north of Building B1 and a cow shed and stable to the north-east corner of site adjacent to the northern site boundary were all subject to an external building inspection and no features were identified with

suitability to support roosting bats. Buildings B3-B8 were identified to offer **negligible suitability** to support roosting bats.

Photographs



Image 01: Worn brickwork on chimney



Image 02: Missing soffit end cap



Image 03: gap between wall top and tiles on western side of gable



Image 04: Lifted tiles either side of Velux window



Image 05: Gap between wall top and roof on eastern elevation and lifted tile at base of chimney



Image 06: Gap between garage door and upper timber section



Image 07: Missing hanging tile on southern elevation

Conclusion

4.9.12 No signs or evidence of roosting bats were identified during the external and internal inspections of Buildings B1-B8. However, due to the record of a previous roost in

Building B1, the number of access points and potential roosting features noted during the survey and the suitability of habitats within proximity of the building for bats, Building B1 has been assessed as offering **high suitability** to support roosting bats. The remaining buildings (B2-B8) have been identified as offering **negligible suitability** to support roosting bats due to the lack of potential roost features on the structures.

4.10 SITE SURVEY – TREE ASSESSMENT FOR BAT ROOST POTENTIAL

Methodology

- 4.10.1 Trees on site were surveyed during the walkover survey in order to identify if they had features present with the potential to support roosting bats. All aspects of the trees were surveyed using close focusing binoculars and high-powered torch light. The surveyor looked for features which are commonly used by bats for roosting or shelter, such as natural holes, woodpecker holes, cracks and splits, cavities, epicormic growth and bat boxes; and, for signs of bats utilising a tree for roosting purposes such as scratches on the bark at entry points, staining, droppings, audible noise, distinctive smells and the smoothing of surfaces near to cavities.
- 4.10.2 The trees potential to support roosting bats has been categorised to relate to the value of identified features. These categories are provided by the Bat Conservation Trust (BCT) within *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition* (Collins, 2016) and are summarised in the Table 08 in Section 4.8.

Results

- 4.10.3 During the walkover survey a total of seven trees were considered to have bat roost suitability, refer to *Figure 02* (appended) for approximate locations. Refer to Table 09 below for details of potential roost features (PRFs) identified. For those trees with bat roost suitability on site, references are detailed in line with the arboricultural survey provided by Elliot Consultancy Ltd. in March 2023 (refer to Tree Constraints Plan drawing ARB/CP/3075/TCP).
- 4.10.4 Trees which require removal to facilitate the proposed development with bat roost potential, T19 and T33, should be subject to further survey and if found to have bat roost potential emergence/re-entry surveys or climb and inspect surveys (excepting ash trees) should be undertaken.
- 4.10.5 Any further trees which require removal or pruning works to facilitate the proposed development with moderate or above bat roost potential should be subject to further surveys prior to determination.

Table 09: Trees identified with bat roost potential

Tree Ref.	Arb survey tree ref.	Species	Comments	Bat Potential
T1	T1	Sycamore	Thick ivy cover to main trunk and majority of branches	Low
T2	T3	Sycamore	Trunk cavity on northern face	Moderate
T3	T4	Sycamore	Branch cavities in canopy	Low
T4	T13	Ash	Small knot holes and historic limb breaks	Low
T5	T19	Oak	Cavity on eastern aspect	Moderate

Tree Ref.	Arb survey tree ref.	Species	Comments	Bat Potential
T6	T30	Sycamore	Woodpecker holes present on eastern aspect	Moderate
T7	T33	Ash	Trunk cavity on eastern aspect	Moderate

Photographs



Image 08: Tree T1



Image 09: Tree T2 (foreground) and T3 (background)



Image 10: Tree T2 - trunk cavity



Image 11: Tree T3 – branch cavities



Image 12: Tree T4



Image 13: Tree T4 knot holes



Image 14: Tree T5



Image 15: Tree T5 trunk cavity



Image 16: Tree T6 woodpecker holes



Image 17: Tree T7 – on the righthand side



Image 18: Tree T7 trunk cavity

4.11 SITE SURVEY – BAT ACTIVITY TRANSECT SURVEY APRIL 2023

Methodology

- 4.11.1 To establish the use of the development site by foraging and commuting bats, transect activity surveys were undertaken within the proposals site during the peak bat active period to give an indication of how habitat features within the site are used across the season. Generally, habitats on site were assessed as providing low value to commuting and foraging bats due to lack of connectivity across the site, and surrounding habitat being predominantly urban or intensive agriculture with limited hedgerows/woodland areas, and no areas of open water. Habitat features considered to be of higher value to foraging and commuting bats include hedgerows with associated mature trees which bound the southern, western and northern site boundaries.
- 4.11.2 This survey was undertaken during April 2023, covering a two-hour period after sunset following guidance outlined within the Bat Conservation Trust's '*Bat Surveys: Good Practice Guidelines*' (2016).
- 4.11.3 Two surveyors walked pre-determined transect routes designed to incorporate all accessible habitats that were considered to be of potential value to bats including linear features such as hedgerows and tree lines.
- 4.11.4 Titley Anabat Express and Swift detectors were used to record bat activity on site to enable full spectrum and zero crossing analysis of echolocation calls. These static detectors were used in conjunction with handheld heterodyne detectors as audible aids to assist the surveyors to locate bat activity.
- 4.11.5 Remote static detectors were deployed in conjunction with the transect survey for a minimum of five consecutive nights. Titley Anabat Express and/or Titley Anabat Swift detectors were used, located in appropriate positions on site to record bat activity.
- 4.11.6 Bat activity identified during the survey, and locations of static detectors are shown in *Figure 05* (appended).

4.11.7 The tables below include information on the timing and conditions of transects undertaken and remote static detector surveys.

Table 10: Bat transect survey specifics

<i>Date</i>	<i>Start time</i>	<i>Finish time</i>	<i>Sunset/ Sunrise</i>	<i>Temp.</i>	<i>Cloud cover</i>	<i>Wind speed</i>	<i>Rain</i>	<i>Humidity</i>
25.04.2023	20:26	22:26	20:26	8°C	95%-25%	11-12mph	<5%	58%-67%

Table 11: Remote automated detector survey specifics

Month	Start date	Finish date	Nights of data	Location
April (SF1)	21.04.2023	25.04.2023	5	SE 20274 26307 (Southern Boundary – within hedgerow)
April (SF2)	21.04.2023	25.04.2023	5	SE 20218 26446 (Northern Boundary – within hedgerow)

Results – Transect and automated survey

April 2023

- 4.11.8 The first bat activity recorded on site during the April transect survey was a common pipistrelle bat in association with the tree line to the centre of site, sixteen minutes after sunset. From this time onwards, frequent passes of foraging and commuting common pipistrelles were recorded within the site boundary, with the majority of bat passes recorded in association with hedgerows/ trees to the north and centre of site. Limited activity was recorded throughout the remainder of the site, with occasional passes to the north and east by common and in association with hedgerows and field edges.
- 4.11.9 Common pipistrelle was the only bat species recorded on site during the survey, with a peak count of two bats recorded at any one time. Increased bat activity towards the northern boundary of the site was identified by the number of bat passes recorded by the static detectors. The last activity recorded was identified at 22:18, approximately eight minutes before the end of the survey.
- 4.11.10 Recordings from remote Anabat Express detectors from the walked transect were analysed, confirming common pipistrelle to be utilising the site.
- 4.11.11 Refer to Table 12 above for remote data specifics and Figure 05 (appended) for locations of activity and static detectors on site.
- 4.11.12 The table below provides a summary of data sampled over the five nights, giving the total number of bat passes each night for each bat species identified.

Table 12: Remote automated detector results

	Location (SF1) SE 20303 26322 (Within central hedgerow)	Location (SF2) SE 20215 26418 (Northern Boundary – within hedgerow)
Recording night	Common pipistrelle passes	
21.04.2023	1	2
22.04.2023	18	43
23.04.2023	1	127
24.04.2023	0	0
25.04.2023	10	32
Total	30	204

Conclusions

- 4.11.13 Transects and automated survey data have identified varying levels of activity on site, with activity concentrated to the north and centre of the site in association with the hedgerows and trees located there. The site was predominantly used by common pipistrelle which is consistent with transect results obtained in 2018.

4.12 SITE SURVEY – BAT ACTIVITY EMERGENCE SURVEYS

Methodology

- 4.12.1 The residential property on site, 271 Cliffe Lane, was identified to support a roost of two individual common pipistrelle bats during previous survey work in 2018. Further emergence/re-entry surveys of this property were recommended to update previous surveys to ascertain the current status of this roost and to inform licencing requirements.
- 4.12.2 Following the initial site inspection for bats, Building B1 (271 Cliffe Lane) was assessed as having **high potential** to support roosting bats and Buildings B2-B8 were all assessed as having **negligible potential** to support roosting bats. A total of two emergence/re-entry surveys were undertaken on Building B1 on 4th and 20th July 2023 during the peak bat activity season. A low number of bats were recorded to be using the building during both surveys.
- 4.12.3 A total of three surveyors were positioned to cover all accessible aspects of the buildings on site. Titley Anabat Express detectors were used to record bat activity on site to enable full spectrum and zero crossing analysis of echolocation calls. These static detectors were used in conjunction with handheld heterodyne detectors as audible aids to assist the surveyors. As potential roost locations were identified in the first emergence survey Night Vision Aids (NVAs) in the form of a Sony FDR-AX53 and additional infra-red floodlight were used on the second survey to confirm roost access point locations. The surveys were carried out under the supervision of licenced bat worker Maria Gill (bat licence ref. 2018-34259 (Class 1)).

- 4.12.4 The locations of bat activity identified during the surveys are described below and shown in *Figures 07-08* (appended). Table 12 below includes information on the timing and conditions of the surveys:

Table 12: Survey specifics

Date	Start time	Finish time	Sunset/ Sunrise	Temp.	Cloud cover	Wind speed	Rain	Humidity
04.07.2023	21:09	23:09	21:39	15-13°C	50%	5-6mph	<5%	63-74%
20.07.2023	20:53	22:53	21:23	15-14°C	90-50%	9-5mph	10- <5%	71-74%

Results

Activity Survey – Emergence survey 4th July 2023

- 4.12.5 First activity was recorded to the south-west corner of a common pipistrelle bat emerging from under the eaves of the house at 21:57 eighteen minutes after sunset (roost access location **B** (Image 19)). Following emergence, the bat flew north along the Public Right of Way (PRoW) adjacent to the west side of the house.
- 4.12.6 Between 21:57 when first activity was recorded and 23:08 the majority of the commuting and foraging bat activity recorded was in association with the PRoW to the west of the house where there are a number of mature trees with only common pipistrelles noted by surveyors.
- 4.12.7 A further 3 bats were observed emerging from the southern elevation 22:02 (roost access location **A** (Image 19)), and 21:59 and 22:11 (roost access location **B** (Image 19)). Echolocation calls were not emitted by every bat on exit, however all are considered to be common pipistrelle.
- 4.12.8 At 22:05 a single bat was observed re-entering the property under the eaves above the south-west window on the south elevation of the property (roost access location **B** (Image 19)).
- 4.12.9 Final activity was recorded at 23:08, one minute prior to the end of the survey of an unseen commuting common pipistrelle bat.
- 4.12.10 Recordings from static Anabat Express detectors were analysed, confirming that in addition to the species listed above, noctule and a pipistrelle bat species were recorded to be utilising the site. Refer to *Figure 06* for locations of activity.
- 4.12.11 Prior to the survey commencing a house sparrow was observed entering the property via a gap in the hanging tiles on the southern elevation with young heard calling shortly after (See Image 20). In 2018 bird droppings were also noted in this area on the southern gable end, with anecdotal evidence from the homeowner of house sparrows utilising this gap for nesting purposes, this was confirmed to be the case prior to the survey.
- 4.12.12 Other species noted during the survey included a tawny owl which landed on top of a telegraph pole in the north-west corner of the rear garden of the property adjacent to the PRoW at approximately 22:25. A second tawny owl was observed landing in a Leylandii tree within LT3 to the east of the PRoW at approx. 22:40.

Activity Survey – Emergence survey 20th July 2023

- 4.12.13 First activity recorded on this survey was at 21:29, six minutes after sunset, of a common pipistrelle commuting in an east to west direction to the south of the property.
- 4.12.14 During this survey four bats were observed emerging from the southern elevation of the property. Two emerged at 21:38, fifteen minutes after sunset, from different locations under the eaves (see Image 19 – Roost Location **A** and **B**). A third bat emerged at 21:50, twenty-seven minutes after sunset (see Image 19 – Roost Location **C**), with the final bat emerging at 22:12, forty-nine minutes after sunset (see Image 19 – Roost Location **D**). The third and fourth bats were confirmed as common pipistrelle from recordings on the static Anabat Express detector with the species of the first two bats unconfirmed as no echolocation calls were emitted on exit from the property.
- 4.12.15 A bat was also observed re-entering the property at 21:46 (see Image 19 – Roost Location **C**), this bat was confirmed to be common pipistrelle through the analysis of the recordings on the static Anabat Express detector.
- 4.12.16 Final activity recorded on the survey was at 22:53, ninety minutes after sunset, of a commuting/foraging common pipistrelle bat seen circling over the small holding to the north of Building B1.
- 4.12.17 Between 21:29 and the end of the survey when final activity was recorded the majority of the commuting and foraging bat activity recorded was in association with the PRoW to the west of the property with both common and soprano pipistrelle bats noted in this area.
- 4.12.18 Recordings from static Anabat Express detectors were analysed, confirming that in addition to the species listed above, Nathusius's pipistrelle, Leisler's bats, a *Nyctalus* bat species and a pipistrelle bat species were recorded to be utilising the site. Refer to *Figure 07* for locations of activity.
- 4.12.19 Both Nathusius's pipistrelle and Leisler's bat made two passes of the location where the Anabat Express was deployed during the emergence survey (see *Appendix 05* for species sonograms).
- 4.12.20 Photographs



Image 19: Confirmed 20.07.2023 emergence survey roost access points (A-D)



Image 20: House sparrow nest location (circled in orange)

Conclusions

4.12.21 Species confirmed to be utilising the site include common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, Nathusius's pipistrelle *P. nathusii*, noctule *Nyctalus noctula*, Leisler's *N. leisleri*, *Nyctalus* bat species *N. sp.*, and pipistrelle bat species *P. sp.* Recordings from static Anabat Express detectors were analysed, confirming the species listed above to be utilising the site.

- 4.12.22 A third and final survey is to be undertaken at the property during the remainder of the 2023 survey season or at the start of the 2024 survey season depending on when works are scheduled to take place to inform protected species licencing.

5.0 IMPLICATIONS/RECOMMENDATIONS

5.1 NATURE CONSERVATION DESIGNATED SITES

- 5.1.1 One statutorily designated site lies within a 2km radius of the proposals site: Oakwell Park LNR located 0.7km north-east of site. Oakwell Park active provides a recreational resource, with car parking available on site and the site also accessible via public footpaths.
- 5.1.2 The proposed development is likely to result in additional footfall at Oakwell Park LNR and whilst a significant negative impact is considered unlikely (with the LNR managed to accommodate visitors), mitigation measures will be adopted on site to minimise the potential impact upon the LNR. Sufficient public open space will be provided on site to provide local recreation areas (e.g., play spaces and walking) and links will be provided to existing public footpaths (located adjacent to the northern and west site boundaries). These measures will aim to encourage use of more local recreational resources and minimise day-to-day use of Oakwell Park LNR.
- 5.1.3 No other European or national statutory designated sites are present within 2km of the proposed development site such as Sites of Special Scientific Interest (SSSI), Ramsar Sites, Special Protection Areas (SPA), Special Areas of Conservation (SAC), National Nature Reserves (NNR), Areas of Outstanding Natural Beauty (AONB) and National Parks.
- 5.1.4 Two non-statutorily designated sites are located within 2km of the site, the closest of which is Oakwell Park LWS located 0.7km north-east of site. As detailed above for Oakwell Park LNR, Oakwell Park LWS is likely to be subject to increased recreation; however, if the mitigation measures detailed above are adopted on site this will aim to minimise the potential impact upon the LWS. Given the distance of Hunsworth Little Wood LWS from the site and the lack of hydrological connection, it is considered unlikely that any significant negative impacts upon the LWS would arise as a result of construction works on site (e.g., pollution events). A significant negative impact as a result of increased recreation within the LWS is also considered unlikely, with the majority of the LWS not publicly accessible and availability of walking routes / recreational site more local to the proposed development site.
- 5.1.5 Ferrand Lane, adjacent to the northern site boundary, is included within the Kirklees Wildlife Habitat Network with a small spur into the proposals site along a central field boundary (see *Appendix 02*). The spur consists predominantly of grassland and mixed scrub and will be lost to facilitate development; however, with this area forming a 'spur' to the corridor along Ferrand Lane, it is not considered to act as an important connective feature (though it offers some biodiversity value to species such as foraging birds and bats). Given the loss of this central spur of the Wildlife Habitat Network, the northern boundary features associated with Ferrand Lane are to be retained and protected within the scheme. Furthermore, new habitat creation will be incorporated along the northern site boundary, to mitigate for the lost spur of the Habitat Network in the centre of the site and to enhance the existing corridor along Ferrand Lane. This will provide enhanced connectivity along the northern site boundary and with appropriate habitat creation, could enhance the value of the corridor for a number of species seeking refuge and foraging opportunities.

5.2 HABITATS

- 5.2.1 The habitats within the proposals site are generally considered to be of limited/low conservation value, predominantly comprising the areas of grazed modified grassland

with an area of bare ground to the north-east corner of site, the ruderal/ephemeral vegetation to the western boundary and areas of developed land; sealed surface. The areas of blackthorn and mixed scrub, the pond, the lines of trees and the hedgerows with trees within the site are considered to be of some conservation value, as these provide flight corridors and foraging habitat for bats and suitable habitat for breeding and roosting bird species, amphibians and small mammals such as hedgehogs and other species in general.

5.2.2 The northern boundary hedgerow (H3) is considered to qualify as 'Important' under the Hedgerow Regulations 1997 with regards to ecology. This hedgerow is to be retained in full and strengthened with additional planting within the proposals, therefore further assessment of its 'Importance' with reference to the Hedgerow Regulations 1997 is not considered necessary. Hedgerow H3 and the hedgerow to the east (H2) are considered to meet the criteria to be classified as UKBAP priority habitat.

5.2.3 In order to protect habitats of ecological value present and ensure that the proposed development provides enhancement to wildlife, the following recommendations have been incorporated within the landscape proposals scheme () where relevant:

- The retention of the trees and hedgerow along the northern site boundary, and protection of these features during construction works;
- The retention of the trees and hedgerows elsewhere on the site where feasible, or replacement planting using native species;
- The gapping up of the existing hedgerow to the northern boundary with appropriate native species;
- Inclusion of buffer planting to the southern boundary comprised mixed native shrubs and trees;
- Seeding of areas associated with hedgerows/tree planting with suitable wildflower mixes and the use of flowering lawn mixes in place of typical amenity grassland mixes, such as road verges;
- Use of temporary protective demarcation fencing to protect retained areas/features. The fencing must be in accordance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction', extend outside the canopy of the retained trees, and remain in position until construction is complete;
- Use of directional lighting during construction, which will not shine upon the site boundaries or retained habitats within the site (e.g., hedgerows and trees);
- Implementation of a sympathetic lighting scheme within proposals that minimises illumination of the site boundaries and any newly created vegetated open space / corridors. Incorporation of appropriate luminaire specifications and locations should be considered in the interest of minimising impacts on ecological receptors, including light sensitive species i.e., bats. Refer to section 5.3.9 for further detail.

5.3 PROTECTED SPECIES

5.3.1 Existing records data and site survey have noted the potential for various protected species to occur within the search area or on site, upon which the potential effects of the proposed development are discussed in the following sections (refer to *Appendix 06* for relevant species legislation).

Great Crested Newts

- 5.3.2 Two records of great crested newts were provided within 2km of the site. One record is located over 1km from the site (north-east) and is considered to be separated from the site by major barriers to movement (residential areas). The second record is located 0.8km north-west of the site; the associated grid reference is of high-resolution and is situated in a garden which appears to contain a pond (based upon aerial imagery). This record has not been acknowledged within great crested newt survey licence return data (available via DEFRA's 'MagicMap'), and may have been submitted by a non-professional. It has been assumed that record is correct, but it should be noted that this could be a result of misidentification. The site is partially connected to this record by hedgerows and woodland. Ponds P3 and P4 are located approx. 420m from this record, also with partial connection.
- 5.3.3 From consulting OS maps of the local area, eight ponds were identified within 500m of the site. Pond P1 is located on site and returned a HSI score of 'Poor'. Ponds P2, P3 and P4 scored between 'Good' and 'Below Average' (in 2018). Pond 5 is not connected to the site by any ponds which may act as stepping-stone between it and the site. Ponds P6, P7 and P8 are considered to be separated from the site by major barriers to movement (main road and residential areas).
- 5.3.4 Whilst undertaking eDNA survey of Pond P1 on site on 19th June 2023 observations were attempted for Ponds P2, P3 and P4, with Pond P2 being the only one fully accessible at the time of survey.
- 5.3.5 Whilst access could be gained to Pond P2 in June 2023, conditions were assessed as having not changed from the previous survey in 2018, it is still and ornamental pond with an absence of vegetation in and around the pond and the presence of large fish contributing to poor suitability of the pond to support great crested newt. Pond P3 was also deemed to be unsuitable to support great crested newt owing to it being heavily horse poached and a lack of aquatic vegetation being present.
- 5.3.6 The majority of the site comprises grazed grassland, considered to be sub-optimal for great crested newts during their terrestrial phase. Hedgerows and scrub could offer some terrestrial value to great crested newts and other amphibians.
- 5.3.7 As Pond P1 is considered to offer 'poor' suitability for great crested newts and the majority of the site is considered to be of limited terrestrial value to great crested newts, should it be evidenced that great crested newts are likely absent from the site (via further survey), it is considered unlikely that there would be any negative impact upon great crested newts.
- 5.3.8 Pond P1 was subject to eDNA survey in June 2023 which returned negative a result for the presence of great crested newt indicating likely absence. Given terrestrial habitats on site are sub-optimal for this species, and the unsuitability of connected ponds within 500m, it is considered unlikely for this species to be negatively impacted by the development. No further survey for this species is required.
- 5.3.9 Pond P5 – P8 are considered to be sufficiently isolated from the site and no further surveys are recommended.
- 5.3.10 To enhance the site for biodiversity in general, including amphibians, mitigation should include the retention of primary hedgerows as foraging/ commuting habitat, the provision of habitat piles (brash, logs, stone), and native planting would also provide additional opportunities for wildlife.

Bats – commuting/foraging habitat

- 5.3.11 Bat species recorded within 2km of the proposals site include field and roost records relating to brown long-eared bat, common pipistrelle, Daubenton's bat, Leisler's bat, *Myotis* bat species, noctule, Pipistrelle bat species, soprano pipistrelle and unidentified (Vesper) bat species. The closest of these records are for brown long-eared bat, common pipistrelle, *Myotis* bat species and soprano pipistrelle, all of which were foraging records from within the site boundary (recorded by Smeeden Foreman in 2018 – *Smeeden Foreman, 2019*).
- 5.3.12 Lines of trees, hedgerows and trees on site provide suitable habitat for foraging and commuting bats, acting as potential flight corridors and connecting the site to other suitable areas adjacent to site. Open grassland areas and the pond are also likely to be of some foraging value, with open grassland of particular value to *Nyctalus* bat species (though with noctule only occasionally recorded on site in 2018).
- 5.3.13 Considering the habitats present on site and the connectivity to the Kirklees Habitat Network and other habitats of value to foraging and commuting bats, the site is considered to offer **moderate** suitability for foraging and commuting bats. Results from bat activity transect surveys completed in 2018 (to BCT guidance 2016) identified bat activity across the site to generally be low, predominantly used by common pipistrelle bats with foraging and commuting activity concentrated along the mature hedgerows and tree lines to the northern and western boundaries of site. The updated site walkover completed in 2022 has identified habitat conditions have not significantly changed in the interim period and as activity across site was identified to generally be low and the main vegetated foraging corridor to the northern/western boundary is to be retained within proposals.
- 5.3.14 A bat activity transect survey was completed in April 2023. This survey and automated survey data have identified varying levels of activity on site, with activity concentrated to the north and centre of the site in association with the hedgerows and trees located there. The site was predominantly used by common pipistrelle which is consistent with transect results obtained in 2018.
- 5.3.15 As site conditions and levels of bat activity remained consistent with the findings in 2018 no additional bat activity transect survey work was required which was supported by Kirklees Biodiversity Officer Gareth Hey in correspondence dated 18th May 2023.
- 5.3.16 To maintain connectivity and foraging corridors the boundary hedgerow and trees will be retained within the development, where feasible. To enhance these linear features, existing hedgerow planting will be strengthened with additional native tree/shrub planting and where possible and new hedgerows will be planted to the boundaries where none are currently present. To further this any new lighting will be appropriately designed including directional and low wattage luminaires to avoid illuminating the areas of planting. A lux contour plan and lighting specifications should be reviewed by an appropriately qualified ecologist to minimise impacts on light sensitive bat species and ecological receptors on/adjacent to site. Reference should be made to the Bat Conservation Trust publication/s '*Artificial Lighting and Wildlife*' (2014) and/or '*Bats and Artificial Lighting in the UK*' (2018) which includes the following guidelines:
- Using warm white, narrow spectrum lights with little or no UV;
 - Low wattage (eg 20W);
 - Directional lighting with near full horizontal cut off, mounted at a low height;
 - Minimum height columns at maximum spacing.

- 5.3.17 The retention and replanting of boundary trees/vegetation and a sympathetic lighting scheme will avoid impacts on foraging and commuting bats by preventing the illumination of these features, therefore impacts on foraging and commuting bats will be low-negligible.
- 5.3.18 With reference to previous survey results (Smeeden Foreman, 2019) and no significant changes to site habitats and conditions in the interim period, the following recommendations have been incorporated into the proposals as follows:
- Retention of the linear habitat features along the northern boundary;
 - Retention of linear habitat features elsewhere on site (where feasible) replacement of the features / commuting corridors;
 - Lost foraging habitat to be mitigated for through new, enhanced foraging areas. These areas to include species / plant assemblages which are attractive to invertebrates which in turn, will provide a foraging resource for bats; and,
 - Adoption of a sensitive lighting scheme on site, during construction and operation. Reference should be made to the document published by the Bat Conservation Trust and the Institute of Lighting Professionals '*Bats and artificial lighting in the UK*' (2018).
- 5.3.19 Possible enhancements for foraging and commuting bats include the strengthening of existing linear features on site (hedgerows and lines of trees), through gapping up these features or creating near linear features to increase the network of linear habitats on and directly adjacent to the site. Hedgerow planting is to be strengthened with additional native tree/shrub planting and where possible, seeding of hedge understoreys with an appropriate wildflower seed mix.
- 5.3.20 In addition to this, any landscaping around the proposed development aims to enhance the site for the local bat population and other local wildlife, to maintain linkages to adjacent habitats and increase biodiversity. Providing a variety of berry, nut-bearing and flowering trees, shrubs and plants offer year-round interest for a range of invertebrates, and as such provide feeding opportunities for the local bat population.
- Bats – building roosts*
- 5.3.21 Buildings on site were subject to an inspection to determine the suitability of each building to support roosting bats.
- 5.3.22 The residential dwelling, 271 Cliffe Lane, (Building B1) was considered to offer **high suitability** for roosting bats, with potential roosting features noted during the building assessment, including gaps beneath/between tiles, gaps between the wall top and tiles, missing end cap to soffit, lifted tiles, missing hanging tile, gap between garage doors and upper timber section and missing mortar beneath ridge tiles. Previous surveys of this building in 2018 (Smeeden Foreman, 2019) confirmed the presence of a roost used by up to two individual common pipistrelle bats on the south-facing gable of the building, with another potential roost feature (but with roosting unconfirmed) noted at the north-western corner of the house.
- 5.3.23 No further buildings on site were considered to offer suitability for roosting bats.
- 5.3.24 Surveys undertaken in July 2023 confirmed the presence of common pipistrelles using 271 Cliffe Lane as a day roost.
- 5.3.25 Bats and their roosts are afforded full legal protection under both UK and European legislation, and as such any proposed works taking place that would prevent access to a roost or remove bat roost features without a European Protected Species Mitigation

licence (EPSML) or the site not registered under a Bat Mitigation Class Licence (BMCL), would contravene this protection.

- 5.3.26 On the basis that the building is used as a temporary summer roost by common pipistrelles, considered to be a common and widespread species of bat (Bradford Biodiversity Action Plan), the impact anticipated as a result of the proposed works on site is low when referring to the Natural England Bat Mitigation Guidelines (2004).
- 5.3.27 Given the type of roosts present within the property, the site could be registered under a Bat Mitigation Class Licence (BMCL) granted by Natural England, which will provide derogation from the legislation afforded to bats. An approved licence from Natural England will be required prior to works commencing. This would ensure that works are undertaken in such a way and time so as not to harm/kill roosting bats and detail the provision of mitigation so as to maintain a favourable conservation status of the roosting bats identified on site.
- 5.3.28 As proposed development works will result in the loss of common pipistrelle bat roosts, mitigation is to be provided in the form of integral bat boxes to mitigate for roosts to be removed and potentially provide enhanced opportunities for roosting bat species. A third survey has been commissioned to be undertaken at the appropriate time to inform the licence application, to take place in the 2023 or 2024 active season dependent on when works are scheduled to take place.
- 5.3.29 The works will be undertaken in accordance with a method statement approved by Natural England. This will ensure that harm or disturbance to bats will be avoided. As the roosts identified within the house are considered to be day roosts utilised by low numbers of non-breeding bats of a common species there are no constraints as to the timing of when proposed works can take place however, the method statement will include the following recommendations which would be adhered to:
- The installation of alternative mitigation during works;
 - Use of traditional bitumen roofing felt only, or in areas associated with bat roost features. This is due to breathable roofing membranes being proven to be hazardous to bats;
 - Use of approved remedial timber treatments if required (refer to www.gov.uk/guidance/bat-roost-use-of-chemical-pest-control).
 - The creation of new roosting features, where feasible; and,
 - Site supervision by a suitably qualified ecologist during works to features known to support roosting bats.

5.3.30 It is considered that surveys undertaken to date provide sufficient information to assess the impact of the proposed development on bats and provide appropriate recommendations for mitigation. As bats are a transient species, if building demolition does not take place within 1 year of the most recent emergence/re-entry surveys, updating surveys are recommended to re-assess any changes in the buildings use by bats within the interim period.

5.3.31 Consideration should also be given to the installation of bat roosting features on new buildings/retained trees irrespective of whether roosts are found, to enhance site biodiversity in line with the National Planning Policy Framework (NPPF).

Bats – potential tree roosts

5.3.32 Seven trees on site were assessed as having the potential to support roosting bats (see *Figure 02*), with potential roost features identified including branch socket holes,

branch cavities, knot holes, woodpecker holes and trunk cavities. It is recommended that these trees are retained on site, where possible. Should any of these trees be proposed for removal to facilitate the development or pruning, T19 and T33, they should be subject to further survey work to confirm the presence or likely absence of roosting bats.

- 5.3.33 Further assessment of these trees for bats would consist of either a climb and inspect survey (excepting ash) looking for signs of bat use prior to works (no timing restrictions are applicable to this type of survey) or where a climb and inspect survey is not possible or cavities are too large for thorough inspection, a suite of bat emergence/re-entry surveys carried out during the appropriate survey season (May to September, inclusive). Two surveys would be required for moderate suitability trees, comprising one dusk emergence survey and one pre-dawn re-entry survey. These two surveys must be separated by a period of at least two-weeks and at least one must be undertaken between May – August, inclusive. In the event of a bat roost being found a EPSM licence from Natural England may be required, along with appropriate mitigation and working methods.
- 5.3.34 Any further trees which require removal or pruning works to facilitate the proposed development with moderate or above bat roost potential should be subject to further surveys prior to determination.

Breeding Birds

- 5.3.35 Bird species recorded during the walkover survey included house sparrow, robin, blackbird, wren, magpie, blue tit, great tit, long-tailed tit, wood pigeon, crow, goldfinch, jackdaw and a thrush species. Hedgerows, trees and scrub on site are likely to be used by all these species and local breeding and roosting bird populations in general.
- 5.3.36 House sparrow recorded during the site survey have been afforded national priority within the UK Biodiversity Action Plan. It was also noted during a bat activity survey that this species uses the house, 271 Cliffe Lane, for breeding purposes. Wren, woodpigeon, house sparrow and thrush sp. have also been assigned red or amber status on the UK Red List (BoCC, 2021) and are considered species of conservation concern. Species feature on this list as a result of historical declines in numbers, trends in population and range, rarity, localised distribution and international importance.
- 5.3.37 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) during breeding. It is therefore recommended that any vegetation clearance takes place outside the core bird nesting period (March – August, inclusive) unless checks by an appropriately qualified ecologist find active nests to be absent immediately prior to clearance works. If nesting birds are identified the advising ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. Measures such as applying a 'no works buffer' around the nest may be necessary until the young birds have fledged.
- 5.3.38 Any lost trees, scrub or hedgerows should be mitigated for through new planting. Use of native species and/or species yielding berries or seeds or those attractive to pollinators is recommended. Areas of open grassland should also be included within the landscape proposals, ideally with a diverse sward, to maintain opportunities for ground-foraging birds.
- 5.3.39 To enhance the site for colony nesters such as house sparrow and hedgerow/tree nesters such as song thrush, dunnoek and tree sparrow, consideration should be given to the installation of species-specific bird boxes onto retained trees/hedgerows/new buildings within the site and the installation of integral house sparrow terraces within

new houses to mitigate for the loss of breeding sites following building demolition. The retention of field margins in association with the northern hedgerow is recommended where feasible. The sowing of suitable wild bird seed mixtures under cover of existing hedgerows will aim to boost seed production, an important source of food for species of conservation concern such as tree sparrow/yellowhammer and wildlife in general.

- 5.3.40 The inclusion of native berry-bearing tree and shrub species within planting proposals will benefit thrush species and breeding/wintering bird populations in general. Particular consideration should be given to the incorporation of berry-bearing species such as rowan *Sorbus aucuparia*, guelder-rose *Viburnum opulus*, holly *Ilex aquifolium*, hawthorn, blackthorn and ivy as a climber.
- 5.3.41 Sympathetic management of existing and newly planted hedgerows should be considered to avoid disturbance to breeding birds. This involves the avoidance of management during the core active season March – August (inclusive) and preferably only to be carried out during January and February when the berry crop is mostly finished to benefit species during winter.

Badger

- 5.3.42 No signs of badger were recorded within or adjacent to the site (where accessible) during the survey and no records of badger were provided within a 2km radius of the site. However, due to the presence of suitable habitat on site and in the surrounding local area, it is possible that these species could access the site.
- 5.3.43 A pre-commencement check should be undertaken prior to the commencement of construction works, to confirm the continued absence (or otherwise) of badger from the site. Precautionary working methods should also be adopted during construction works, which will include the covering, or providing a means of escape from, any trenches and capping any open pipework at the end of each working day, to prevent accidental harm to badger or other mammals which may access the site.

Other protected species

- 5.3.44 Due to the lack of records for white-clawed crayfish and water vole within the surrounding area and the lack of suitable habitat for reptiles, water vole, otter and white-clawed crayfish are considered absent from the site. No adverse impact upon such species is anticipated as a result of the proposed development.

5.4 NOTABLE SPECIES

Hedgehog

- 5.4.1 Records within 2km of the site included hedgehog and habitats on site offer suitable foraging habitat and refuge areas for hedgehog. Precautionary working methods will therefore be adopted to ensure hedgehogs are not harmed/killed during works. Such works would include the removal of any tree/shrub cuttings from site, once vegetation is cut, so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery. In addition, any trenches created on site will be covered or a means of escape shall be provided and any open pipe work will be capped at the end of each working day.
- 5.4.2 To enhance the site for hedgehog, it is recommended that small gaps (0.15m) are left under sections of new fencing/walls within the development to allow passage of hedgehog and maintain connectivity across the site.

5.5 OTHER SPECIES

- 5.5.1 Rabbits were observed on site during the walkover survey and were seen to retreat towards the north-east corner of site. No burrows were noted at the time of survey but warrens may be excavated on site in the interim period. Construction works have the potential to harm the individuals using the site and due care should be taken in the interests of animal welfare.

5.6 IMPACT ASSESSMENT SUMMARY

- 5.6.1 A summary of the resulting impact assessment based upon CIEEM guidelines (see *Appendix 07* for methodology) is provided in Table 10. With the mitigation and enhancement measures detailed within this report incorporated within the site proposals, and subject to the findings of further species surveys, there are anticipated to be no significant residual ecological impacts.

Table 10: Ecological Impacts: Summary

Ecological Feature (to be affected by the proposals)	Geographical level of importance (of local level and above)	Identified impacts	Magnitude Of impact	Duration of impact (reversibility)	Impact significant without mitigation	Mitigation and enhancement proposals	Residual impact
Designated sites							
Oakwell Park LNR / LWS	National / County	Recreational pressure	Negative	Permanent	No	Public open space to be provided on site and footpath links to be provide from the site to adjacent public footpaths, to minimise use of Oakwell Park for recreation.	Neutral
Kirklees Wildlife Habitat Network	County	Direct loss. Accidental damage.	Negative	Permanent	Yes	Impact avoided/minimised by the location of open space along the northern boundary of the site, incorporating appropriate native species within the landscape proposals.	Neutral – minor beneficial
Habitats							
Hedgerows	Local	Direct loss. Accidental damage.	Negative	Permanent	Yes	Retention of principle hedgerows (H2 and H3) and others (where possible). Temporary protective fencing. Replacement planting of native species within the landscape proposals. Any hedgerows which are to be removed in part, or in full, to be surveyed against the criteria for 'importance'.	Neutral – minor beneficial
Trees and lines of trees	Local	Direct loss. Accidental damage.	Minor negative	Permanent	Yes	Retention of trees where possible. Temporary protective fencing. Replacement planting of appropriate native species within the landscape proposals.	Neutral – minor beneficial
Pond	Site only	Direct loss	Negative	Permanent	No	Existing livestock pond of limited ecological value. eDNA survey returned a negative result for the presence of great crested newt indicating likely absence.	Neutral
Species							
Bats (foraging/commuting)	Site/local	Loss of foraging / commuting habitat and effects of light pollution.	Negative	Permanent	Yes	Retention of principle foraging /commuting habitat to site boundaries. Inclusion of native species within the landscape proposals. Sympathetic lighting design.	Neutral
Bats roosting building (day roost: low	Local/County	Loss of roost (building to be	Negative	Permanent	Yes	Provision of roost features in new builds. (Demolition under EPSM licence).	Neutral

Ecological Feature (to be affected by the proposals)	Geographical level of importance (of local level and above)	Identified impacts	Magnitude Of impact	Duration of impact (reversibility)	Impact significant without mitigation	Mitigation and enhancement proposals	Residual impact
number of common pipistrelles		demolished for access).					
Bats roosting trees	Site/local	Loss of potential roosts / roost features within trees	Minor negative	Permanent	No	Trees with roost potential which are scheduled for removal should be subject to further survey in the form of either climb and inspect survey (excluding ash) or an emergence/re-entry activity survey where aerial tree climb not possible. Use of precautionary working methods for trees with low roost potential. Provision of roost features in new builds and bat boxes upon retained trees.	Neutral
Great crested newt	Site/local	Loss/disturbance of breeding/terrestrial habitat	Negative	Permanent	Yes	eDNA survey of Pond P1 returned a negative result for the presence of great crested newt indicating likely absence.	Neutral
Birds	Site	Loss of habitat. Destruction / disturbance of active nests.	Minor negative	Permanent/ temporary	Yes	Vegetation clearance outside the nesting season (or following checks for active nests). Replacement planting to include appropriate native species. Installation of nest boxes in retained trees/new build and integral house sparrow terraces to mitigate for loss of breeding site.	Neutral – minor beneficial
Hedgehog	Site/local	Increased harm /injury.	Minor negative	Permanent	Yes	Working methods during construction and measures to maintain habitat connectivity and quality.	Neutral

6.0 CONCLUSIONS

- 6.1.1 One statutorily designated site lies within 2km of the proposals site; Oakwell Park LNR located 0.7km north-east of site. Habitats within these sites do not complement those within the proposals site and no connective habitat links exist between the sites, primarily roads and residential properties. The proposed development is likely to result in additional footfall at Oakwell Park LNR and LWS and whilst significant negative impact is considered unlikely, mitigation measures can be adopted to minimise the potential impact upon this designated site. The proposals site does not fall within a SSSI Impact Risk Zone (IRZ).
- 6.1.2 Two non-statutorily designated sites are located within 2km of the site, the closest of which is Oakwell Park LWS located 0.7km north-east of site. However, it is considered that there will be no adverse impact upon these designated sites as a result of the development due to a combination of distance from the proposals site, intervening land uses (roads and built-up areas) and the nature and scale of the proposals.
- 6.1.3 The lines of trees, hedgerows, trees and areas of mixed and blackthorn scrub are considered to be of greatest value on site, offering functionality for a number of species.
- 6.1.4 Pre-construction checks where/if needed for badger recommended prior to works commencing.
- 6.1.5 General site enhancements included in the proposals include the retention of trees and hedgerows, use of appropriate native species planting, wildflower seeding, sympathetic lighting and incorporation of bird/bat nesting/roosting features and hedgehog highways.
- 6.1.6 Use of temporary protective demarcation fencing to protect retained trees and hedgerows (with reference to BS5837:2012).
- 6.1.7 Precautionary working methods for species such as badger, breeding birds, bats and hedgehog.
- 6.1.8 Registration of the site under a Bat Mitigation Class Licence (BMCL) or European Protected Species Licence required prior to demolition of the residential house on site owing to presence of common pipistrelle bat roosts.
- 6.1.9 It is anticipated that the development of the site is feasible with minimal impact to biodiversity and potential for biodiversity gains of **2.21 habitat units (+12.49% net change)** and Potential gains of **1.07 hedgerow units (+27.95% net change)** provided that the recommended mitigation and enhancement measures are incorporated within the scheme (see *SF3386_Biodiversity Net Gain Assessment_271 Cliffe Lane, Gomersal_August 2023* (Smeeden Foreman, 2023)).

7.0 REFERENCES

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FIGURES

Figure 01: Aerial View of Site Location (within the main body of the report)

Figure 02: Existing Habitats Plan

Figure 03: Watercourse/body Locations On Site and Within 500m

Figure 04a and 04b: eDNA sample analysis (within the main body of the report)

Figure 05: Bat Activity: Transect Survey April 2023

Figure 06: Bat Activity: Emergence Survey 4th July 2023

Figure 07: Bat Activity: Emergence Survey 20th July 2023

FIGURE 02: EXISTING HABITATS PLAN



FIGURE 03: WATERCOURSE/BODY LOCATIONS ON SITE AND WITHIN 500M

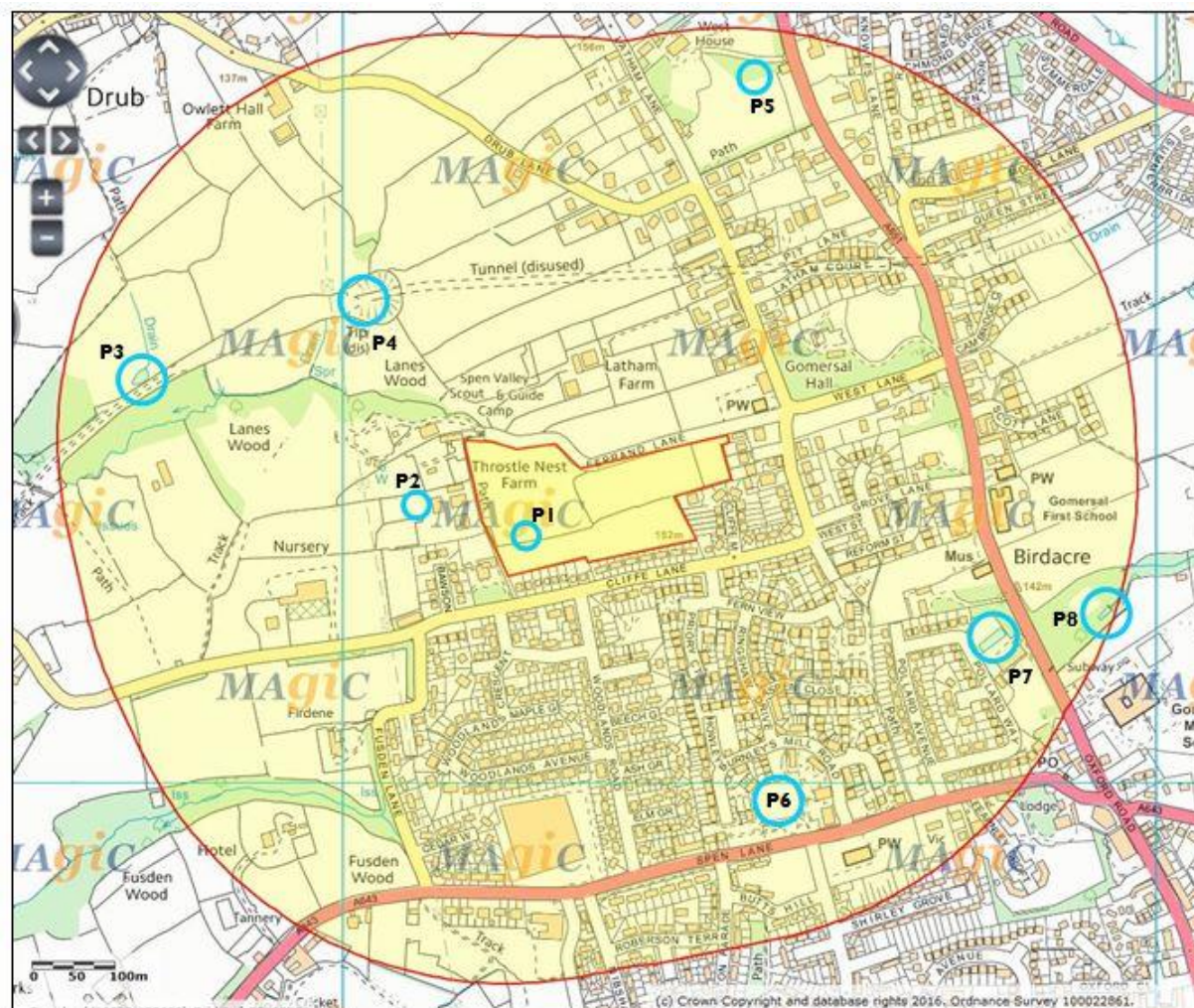


FIGURE 05: BAT ACTIVITY TRANSECT SURVEY 25.04.2023



FIGURE 06: BAT ACTIVITY EMERGENCE SURVEY 04.07.2023

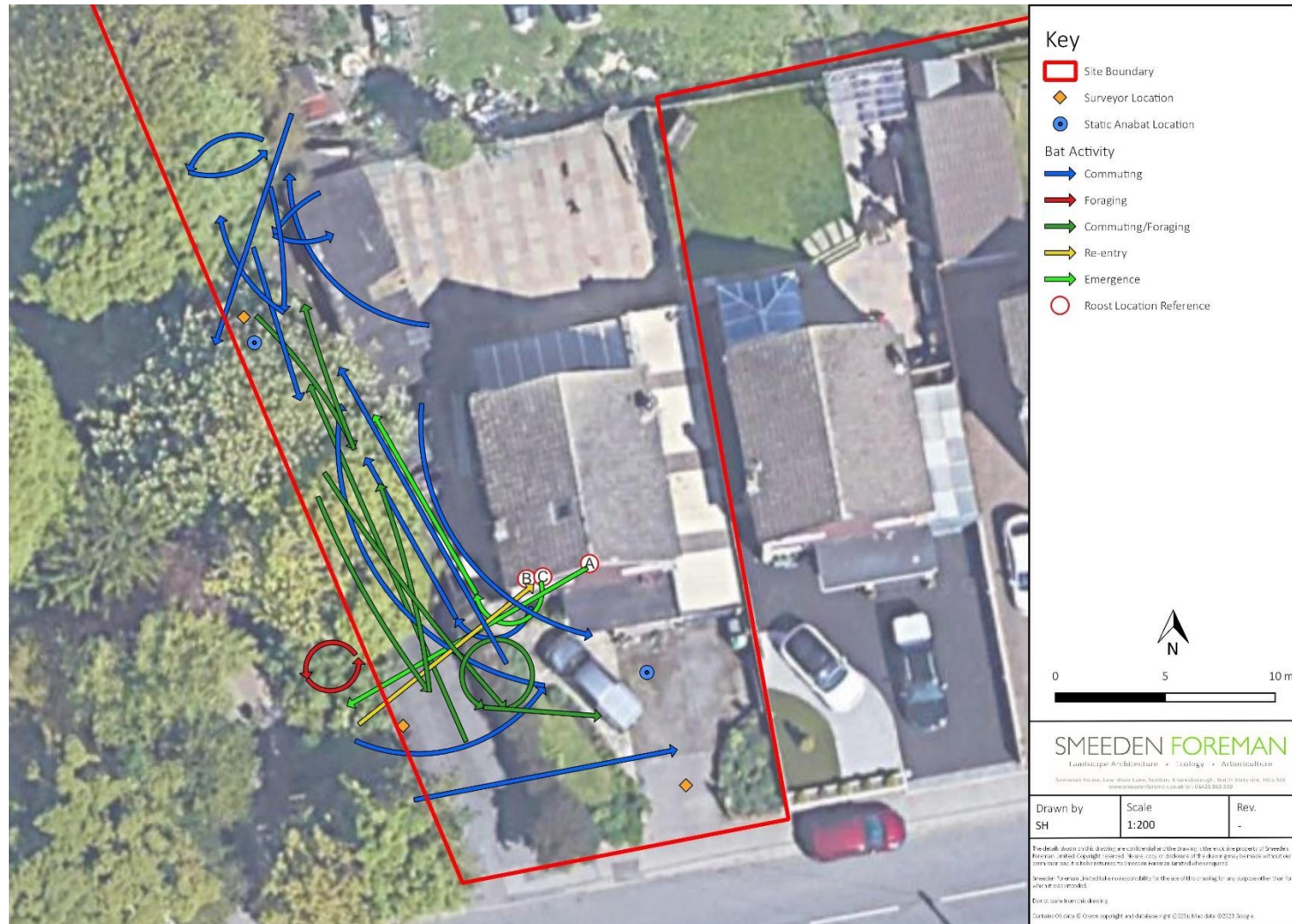
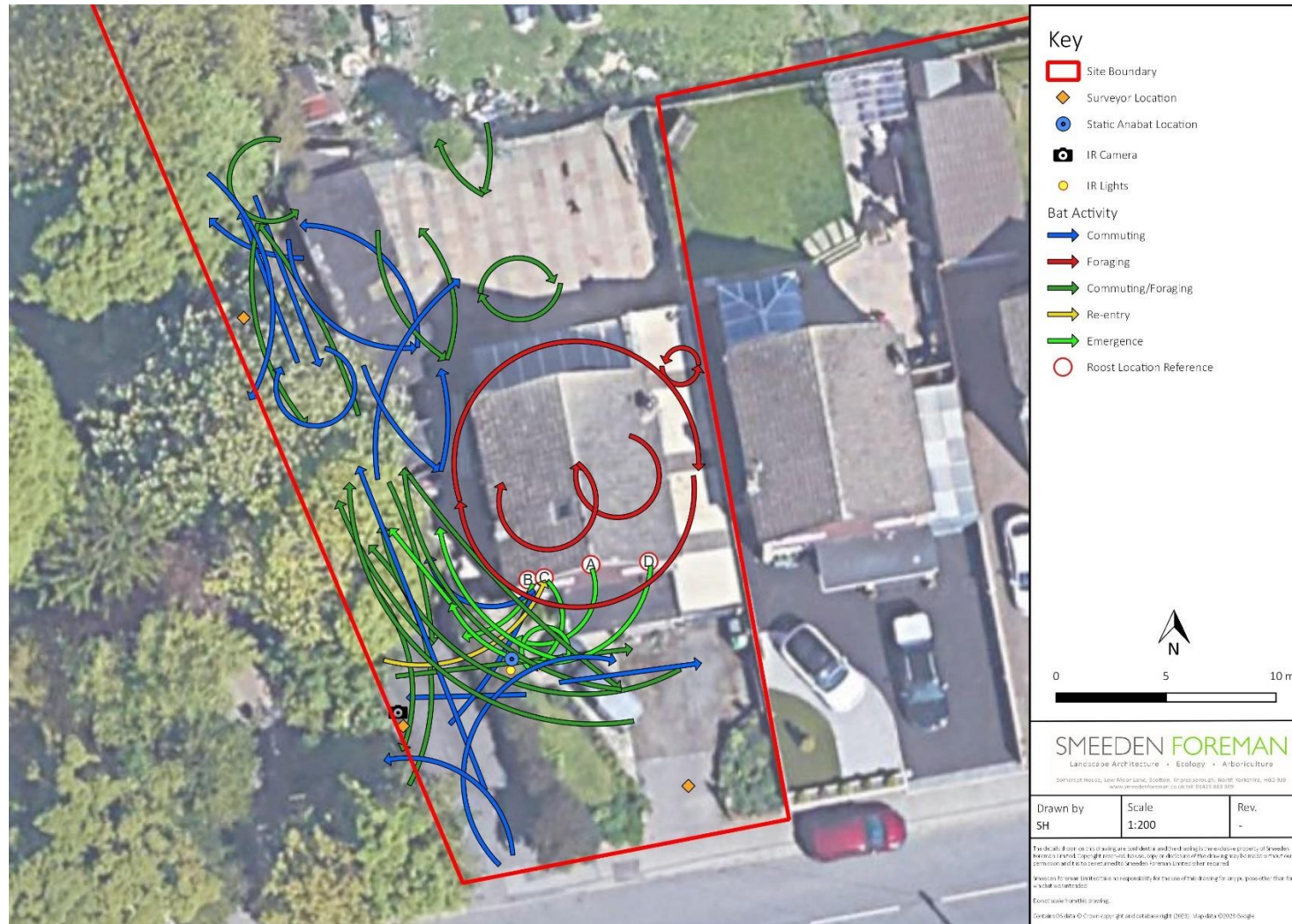


FIGURE 07: BAT ACTIVITY EMERGENCE SURVEY 20.07.2023



APPENDICES

Appendix 01: Principle Legislation and Policies

Appendix 02: Wildlife Habitat Network

Appendix 03: Designated Site Map

Appendix 04: Site Photographs and Condition Assessments

Appendix 05: Nathusius's Pipistrelle and Leisler's Bat Sonograms

Appendix 06: Protected Species Legislation

Appendix 07: Ecological Assessment Methodology

APPENDIX 01: PRINCIPLE LEGISLATION AND POLICIES

Principle Legislation

Wildlife and Countryside Act 1981 (as amended)

This is the primary legislation for nature conservation in England and Wales. It confers varying degrees of protection on selected species according to their conservation status, ranging from making it an offence to take a species from the wild for profit, to full protection of a species and its habitat. The Act also gives guidance and instruction on statutory sites, such as sites of Special Scientific Interest (SSSI). License exempting specific works can be granted by Natural England. Such licenses are only granted once a full assessment has been made and an appropriate, sustainable mitigation package devised.

Protection of Badgers Act 1992

Allied to the Wildlife and Countryside Act, 1981 are subsidiary Acts such as the Protection of Badgers Act, 1992 which consolidated and added to previous legislation. According to the PBA it is an offence to wilfully kill, injure or maim a badger. Badger setts are also protected from interference unless such activities are licensed through Natural England. Any mitigation packages devised for badgers found on development sites must be agreed by Natural England and all mitigation activities must be fully licensed.

Countryside and Rights of Way Act 2000

As well as providing measures to improve countryside access for walkers, ramblers and horse riders, this Act also strengthens the protection of species and designated sites made in the Wildlife and Countryside Act 1981. This Act also gives the importance of biodiversity conservation statutory basis requiring government departments to have regard for biodiversity in carrying out their functions, and to take positive steps to further the conservation of listed species and habitats.

Natural Environment and Rural Communities Act (NERC), 2006 – Biodiversity Duty

NERC received royal assent in March 2006. Section 40 of the Act replaces and extends a duty, from Section 74 of the Countryside and Rights Of Way Act 2000, on Ministers and Government which already requires them to have regard to the purpose of conserving biodiversity. Section 40(1) states that, "*Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.*"

EC Habitats Directive (92/43/EEC)

This Directive aims to give Europe-wide protection to certain rare and threatened habitats on land and at sea. It builds on legislation already established under the Birds Directive of 1979, and aims to establish a series of protected sites known as Natura 2000 series. These sites are intended to protect the unique and special wildlife of Europe and to preserve it for future generations. In Britain these Natura 2000 sites include those areas designated as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The Habitats Directive is implemented in the UK through the Conservation of Habitats and Species Regulations 2017.

EC Birds Directive (79/409/EEC)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievements are at the discretion of each Member State (in the UK delivery is via several different statutes). The Directive applies to the UK and to its overseas territory of Gibraltar.

The main provisions of the Directive include:

The maintenance of the favourable conservation status of all wild bird species across their distributional range with the encouragement of various activities to that end;

The identification and classification of Special Protection Areas (SPAs) for the rare and vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance;

The establishment of a general scheme of protection for all wild birds; Restrictions on the sale and keeping of wild birds.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 were made under Section 97 of the Environment Act 1995 and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

For species-specific legislation, please refer to *Appendix 06* for further information.

Policy

National Planning Policy Framework (2018)

The National Planning Policy Framework replaces Planning Policy Statement 9 (PPS 9) Biodiversity and Geological Conservation but the accompanying guidance document (ODPM 06/2005: Biodiversity and Geological Conservation-Statutory Obligations and their impact within the Planning System) has not been withdrawn.

The NPPF sets out the Government's policies on the protection of biodiversity and sites of geological interest through the planning system. It required local planning authorities, when taking decisions, to ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species and to biodiversity and sites of recognised geological interest within the wider environment. It states:

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

- protecting and enhancing values landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and,
 - remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

'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 reasons⁵⁸ and a suitable compensation strategy exists; and,
- 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 encouraged, especially where this can secure measurable net gains for biodiversity.”

Biodiversity Action Plan (BAP)

In 1993, the UK government consulted over three hundred organisations throughout the UK and held a two day seminar to debate the key issues raised at the Convention of Biological Diversity. The product of this was the launch of Biodiversity: the UK Action Plan in 1994 which outlined the UK Biodiversity Action Plan for dealing with biodiversity conservation in response to the Rio Convention.

The UK Biodiversity Steering Group was created in 1994 and published Biodiversity: the UK Steering Group Report – meeting the Rio challenge. This established the framework and criteria for identifying species and habitat types of conservation concern.

From this list, action plans for 391 species and 45 broad habitat types were produced. As well as having national priorities and targets, action was also taken at a local level. The Steering Group drew up a set of guidelines that were discussed with the Local Authority Association and the Local Government Board.

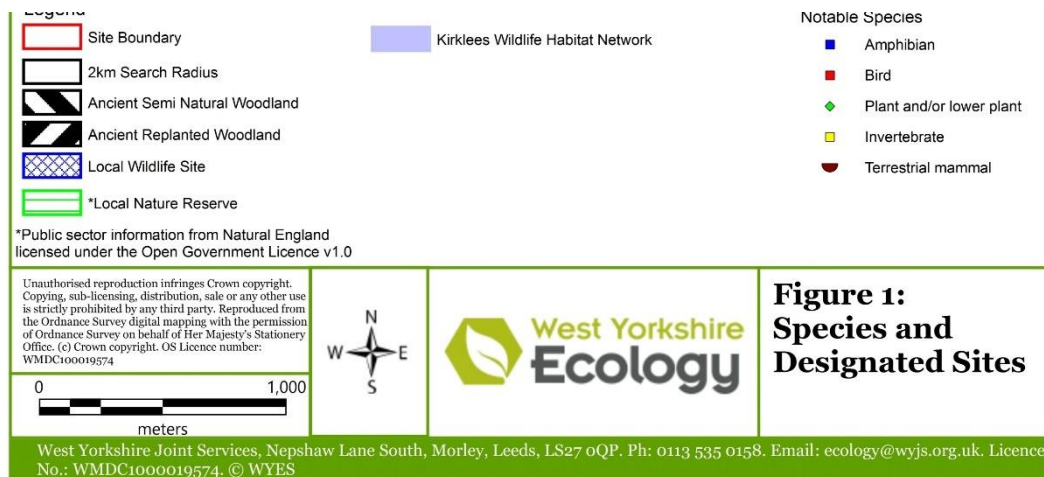
Today there are 162 Local Biodiversity Action Plans in the UK. A review of the UK BAP was undertaken between 2003 and 2006.

APPENDIX 02: WILDLIFE HABITAT NETWORK



APPENDIX 03: DESIGNATED SITE MAP

Redacted



APPENDIX 04: SITE PHOTOGRAPHS AND CONDITION ASSESSMENTS

HABITATS			
Ref 1: Modified grassland (low distinctiveness) g4 (Condition Sheet 5)			
Condition Assessment Criteria			PASSED/FAILED CRITERIA
1	There must be 6-8 species per m ² . If a grassland has 9 or more species per m ² it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.		Fail
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.		Pass
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.		Pass
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.		Fail
5	Cover of bare ground between 1% and 10%, including localised areas, for example, a concentration of rabbit warrens.		Fail
6	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.		Pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).		Pass
	SCORE	TOTAL PASSED CRITERIA	4
		CONDITION	Poor
Passes 6 or 7 of 7 criteria including passing essential criterion 1		Good (3)	
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1		Moderate (2)	
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1		Poor (1)	



Ref 2: Modified grassland (low distinctiveness) g4 (Condition Sheet 5)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	There must be 6-8 species per m ² . If a grassland has 9 or more species per m ² it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.	Fail
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Pass
5	Cover of bare ground between 1% and 10%, including localised areas, for example, a concentration of rabbit warrens.	Pass
6	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
SCORE		TOTAL PASSED CRITERIA
		6
		CONDITION
		Poor
Passes 6 or 7 of 7 criteria including passing essential criterion 1		Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1		Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1		Poor (1)



Ref 3: Modified grassland (low distinctiveness) g4 (Condition Sheet 5)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	There must be 6-8 species per m ² . If a grassland has 9 or more species per m ² it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.	Fail
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Pass
5	Cover of bare ground between 1% and 10%, including localised areas, for example, a concentration of rabbit warrens.	Pass
6	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
SCORE		TOTAL PASSED CRITERIA
		6
		CONDITION
		Poor
Passes 6 or 7 of 7 criteria including passing essential criterion 1		Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1		Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1		Poor (1)



Ref 4: Modified grassland (low distinctiveness) g4 (Condition Sheet 5)				No photograph
Condition Assessment Criteria			PASSED/FAILED CRITERIA	
1	There must be 6-8 species per m². If a grassland has 9 or more species per m² it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.		Fail	
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.		Pass	
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.		Pass	
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.		Pass	
5	Cover of bare ground between 1% and 10%, including localised areas, for example, a concentration of rabbit warrens.		Pass	
6	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.		Pass	
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).		Pass	
SCORE		TOTAL PASSED CRITERIA	6	
CONDITION			Poor	
Passes 6 or 7 of 7 criteria including passing essential criterion 1		Good (3)		
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1		Moderate (2)		
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1		Poor (1)		

Ref 5: Modified grassland (low distinctiveness) g4 (Condition Sheet 5)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	There must be 6-8 species per m ² . If a grassland has 9 or more species per m ² it should be classified as a medium distinctiveness grassland habitat type. NB - this criterion is essential for achieving moderate condition.	Fail
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Fail
5	Cover of bare ground between 1% and 10%, including localised areas, for example, a concentration of rabbit warrens.	Fail
6	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Pass
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
SCORE		TOTAL PASSED CRITERIA
		3
		CONDITION
		Poor
Passes 6 or 7 of 7 criteria including passing essential criterion 1		Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1		Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1		Poor (1)



Ref 6: Vegetated Garden u 231			No photograph
Condition pre-set to N/A.			
Ref 7: Mixed scrub h3h (Condition Sheet 19)			
Condition Assessment Criteria			PASSED/FAILED CRITERIA
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).		Pass
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.		Pass
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover.		Pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).		Fail
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.		Fail
SCORE		TOTAL PASSED CRITERIA	3
CONDITION			Moderate
Passes 5 of 5 criteria including non-negotiable criterion 1		Good (3)	
Passes 3 or 4 of 5 criteria		Moderate (2)	
Passes 0, 1 or 2 of 5 criteria		Poor (1)	



Ref 8: Blackthorn scrub h3a (Condition Sheet 19)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Fail
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	Pass
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species make up less than 5% of ground cover.	Pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).	Fail
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail
SCORE		TOTAL PASSED CRITERIA
		2
		CONDITION
		Poor
Passes 5 of 5 criteria including non-negotiable criterion 1		Good (3)
Passes 3 or 4 of 5 criteria		Moderate (2)
Passes 0, 1 or 2 of 5 criteria		Poor (1)



Ref 9: Pond r 39 (Condition Sheet 17)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Fail
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	Fail
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	Pass
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Pass
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Pass
6	There is an absence of non-native plant and animal species.	Pass
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:		
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.	Fail
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	Pass
SCORE		TOTAL PASSED CRITERIA
		6
		CONDITION
		Moderate
Passes 9 of 9 criteria		Good (3)
Passes 6, 7 or 8 of 9		Moderate (2)
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria		Poor (1)



Ref 10: Ruderal / Ephemeral s 17 (Condition Sheet 21)				
Condition Assessment Criteria			PASSED/FAILED CRITERIA	
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.		Pass	
2	"There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife."		Fail	
3	NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife)."		Fail	
	SCORE	TOTAL PASSED CRITERIA	1	
		CONDITION	Poor	
If 3 Criteria Assessed				
• Passes 3 of 3 core criteria; AND • Meets the requirements for good condition within criteria 2 and 3		Good (3)		
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3		Moderate (2)		
• Passes 0 or 1 of 3 core criteria		Poor (1)		
Ref 11: Bare Ground u 73 (Condition Sheet 21)				No photograph
Condition Assessment Criteria			PASSED/FAILED CRITERIA	
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.		Fail	
2	"There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife."		Fail	
3	NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife)."		Fail	
	SCORE	TOTAL PASSED CRITERIA	0	
		CONDITION	Poor	
If 3 Criteria Assessed				

• Passes 3 of 3 core criteria; AND • Meets the requirements for good condition within criteria 2 and 3	Good (3)		
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3	Moderate (2)		
• Passes 0 or 1 of 3 core criteria	Poor (1)		
Ref 12: Introduced shrub Condition pre-set to N/A.		No Photograph	
Ref 13: Developed land; sealed surface Condition pre-set to N/A.			

Ref B1 – B8: Developed land; Buildings

Condition pre-set to N/A.



Individual trees u 1170, u 1171, u 1172 (Condition Sheet 22)

Condition Assessment Criteria			PASSED/FAILED CRITERIA													
			Tree Ref. T1	Tree Ref. T2	Tree Ref. T3	Tree Ref. T4	Tree Ref. T5	Tree Ref. T9	Tree Ref. T17	Tree Ref. T28	Tree Ref. T29	Tree Ref. T30	Tree Ref. T32	Tree Ref. T33	Tree Ref. T34	Tree Ref. T36
1	The tree is a native species (or more than 70% within the block are native species).		Fail	Pass	Fail	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass
2	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide (individual trees automatically pass this criterion).		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
3	The tree is mature or veteran (or more than 50% within the block are mature or veteran).		Pass	Fail	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass	Pass	Pass	Pass	Fail
4	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.		Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
5	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark.		Fail	Pass	Pass	Fail	Fail	Pass	Fail	Fail	Pass	Pass	Fail	Pass	Fail	Fail
6	More than 20% of the tree canopy area is oversailing vegetation beneath.		Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
	SCORE	TOTAL PASSED CRITERIA	4	5	5	4	3	5	4	4	6	5	5	6	5	4
	CONDITION		Moderate	Good	Good	Moderate	Moderate	Good	Moderate	Moderate	Good	Good	Good	Good	Good	Moderate
Condition Assessment Result		Score														
Passes 5 or 6 of 6 criteria		Good (3)														
Passes 3 or 4 of 6 criteria		Moderate (2)														
Passes 0, 1 or 2 of 6 criteria		Poor (1)														



LINEAR HABITATS			
Ref H1: Native hedgerow h2b (Condition Sheet 8)			
Condition Assessment Criteria			PASSED/FAILED CRITERIA
A1	Height	>1.5 m average along length	Pass
A2	Width	>1.5 m average along length	Fail
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	Pass
B2	Gap - hedge canopy continuity	· Gaps make up <10% of total length and · No canopy gaps >5 m	Pass
C1	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	Pass
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Fail
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Fail
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	Pass
TOTAL PASSED CRITERIA			5
CONDITION			Moderate
For hedgerows without trees			
No more than 2 failures in total; AND No more than 1 in any functional group.			Good (3)
No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).			Moderate (2)
Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).			Poor (1)



Ref H2: Native hedgerow h2b (Condition Sheet 8)

Condition Assessment Criteria			PASSED/FAILED CRITERIA
A1	Height	>1.5 m average along length	Pass
A2	Width	>1.5 m average along length	Pass
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	Pass
B2	Gap - hedge canopy continuity	· Gaps make up <10% of total length and · No canopy gaps >5 m	Pass
C1	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	Pass
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Fail
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Pass
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	Pass
TOTAL PASSED CRITERIA			7
CONDITION			Good
For hedgerows without trees			
No more than 2 failures in total; AND No more than 1 in any functional group.			Good (3)
No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).			Moderate (2)
Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).			Poor (1)

Ref H3: Native hedgerow with ditch h2b 191 (Condition Sheet 8)

Condition Assessment Criteria			PASSED/FAILED CRITERIA
A1	Height	>1.5 m average along length	Pass
A2	Width	>1.5 m average along length	Pass
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	Pass
B2	Gap - hedge canopy continuity	· Gaps make up <10% of total length and · No canopy gaps >5 m	Fail
C1	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	Pass
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Fail
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Pass
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	Pass
TOTAL PASSED CRITERIA			6
CONDITION			Good
For hedgerows without trees			
No more than 2 failures in total; AND No more than 1 in any functional group.			Good (3)
No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).			Moderate (2)
Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).			Poor (1)

LT1: Line of Trees w1g6 (Condition Sheet 15)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	More than 70% of trees are native species.	Pass
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Pass
3	Includes one or more mature or veteran trees.	Fail
4	There is an undisturbed naturally vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other anthropogenic operations.	Fail
5	At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Pass
SCORE		TOTAL PASSED CRITERIA
		3
		CONDITION
		Moderate
If 3 Criteria Assessed		
Passes 5 of 5 criteria		Good (3)
Passes 3 or 4 of 5 criteria		Moderate (2)
Passes 0, 1 or 2 of 5 criteria		Poor (1)



LT2: Line of Trees w1g6 (Condition Sheet 15)

Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	More than 70% of trees are native species.	Pass
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Fail
3	Includes one or more mature or veteran trees.	Fail
4	There is an undisturbed naturally vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other anthropogenic operations.	Fail
5	At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Pass
SCORE		TOTAL PASSED CRITERIA
		2
		CONDITION
		Poor
If 3 Criteria Assessed		
Passes 5 of 5 criteria		Good (3)
Passes 3 or 4 of 5 criteria		Moderate (2)
Passes 0, 1 or 2 of 5 criteria		Poor (1)

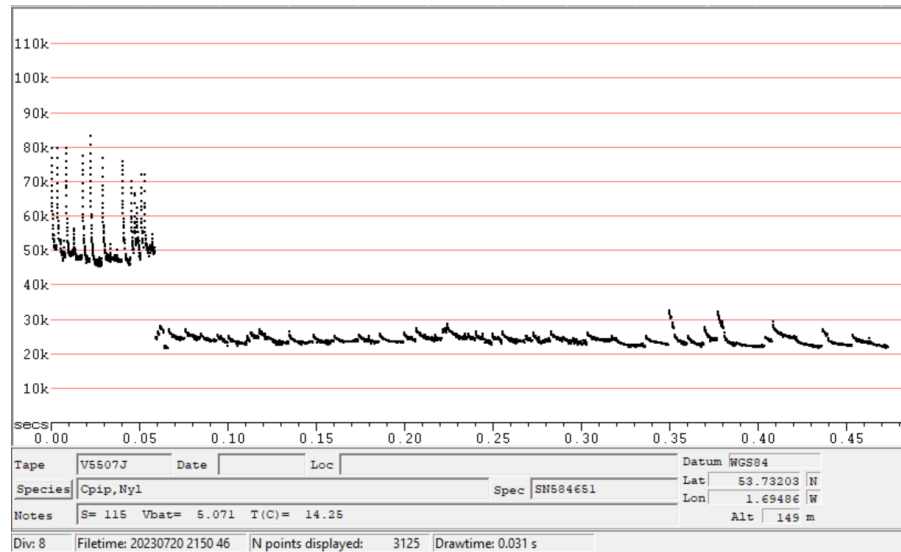


LT3: Line of Trees w1g6 (Condition Sheet 15)

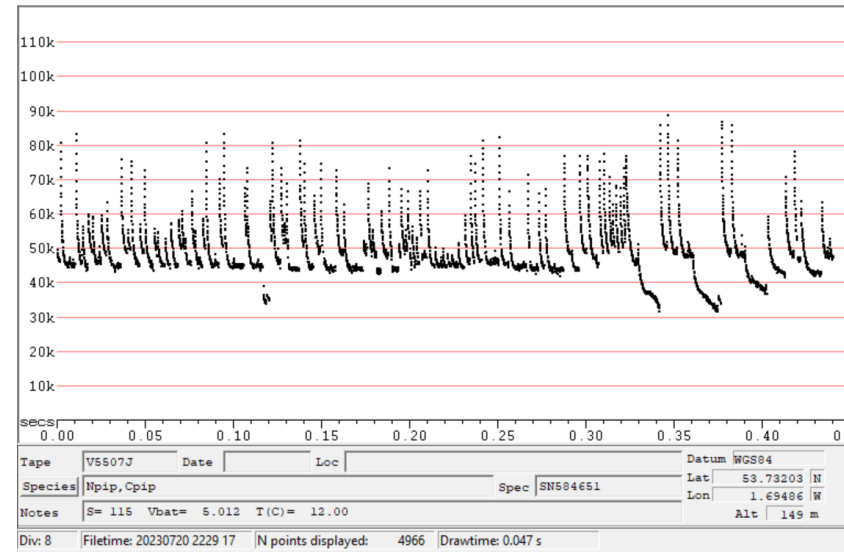
Condition Assessment Criteria		PASSED/FAILED CRITERIA
1	More than 70% of trees are native species.	Fail
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Pass
3	Includes one or more mature or veteran trees.	Fail
4	There is an undisturbed naturally vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other anthropogenic operations.	Fail
5	At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Pass
SCORE		TOTAL PASSED CRITERIA
		2
		CONDITION
		Poor
If 3 Criteria Assessed		
Passes 5 of 5 criteria		Good (3)
Passes 3 or 4 of 5 criteria		Moderate (2)
Passes 0, 1 or 2 of 5 criteria		Poor (1)



APPENDIX 05: NATHUSIUS'S PIPISTRELLE AND LEISLER'S BAT SONOGRAMS



Leisler's bat sonogram (Analook F6 Compressed)



Nathusius's pipistrelle sonogram (Analook F6 Compressed)

APPENDIX 06: PROTECTED SPECIES LEGISLATION

Bats

Bats and their roosts are afforded full legal protection under both UK and European legislation. Conservation of Habitats and Species Regulations 2017 transpose the Habitats Directive into UK law, making it an offence to:

- deliberately disturb a bat;
- deliberately kill, injure or capture a bat;
- damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).

The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to:

- intentionally kill, injure or take a bat ;
- damage, destroy or obstruct a bat roost *;
- disturb a bat at a roost *;
- possess or control a bat or any part thereof;
- sell, offer for sale, possess or transport for sale any bat or part thereof;
- set traps for catching, killing or injuring bats;
- possess articles for the purposes of committing offences against bats;

[*= intentional and reckless offences covered].

Legal protection under the Habitats Directive applies to the animals and their breeding sites and resting places. This means that bat roosts are fully protected, whether they are in use at the time or not. Where roosts or resting/breeding sites are identified, any works which may contravene the protection afforded to them require derogation from the provisions of the legislation in the form of a licence from Natural England..

Great crested newts

The Wildlife and Countryside Act 1981 (as amended) transposes into UK law and the Convention on the Conservation of European and Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). The 1981 Act was amended by the Countryside and Rights of Way ['CRoW'] Act 2000.

The great crested newt is listed on Schedule 5 of the 1981 Act, and is therefore subject to the provisions of Section 9, which make it an offence to:

- Intentionally kill, injure or take a great crested newt [Section 9 (1)];
- Possess or control any live or dead specimen or anything derived from a great crested newt [Section 9 (2)];
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt [Section 9 (4)(a)];
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose [Section 9(4)(b)].

The Conservation of Habitats and Species Regulations 2017 transpose into the UK law Council Directive 92/43/EEC of 21st May 1992 on the conservation of Natural Habitats and of Wild Fauna and Flora (often referred to as the 'Habitats [and Species] Directive'). The great crested newt is listed on Annex II and Annex IV of the Directive. The former Annex relates to the designation of Special Areas of Conservation (SACs) for this species; even where great crested newts occur outside SACs, the inclusion on Annex II serves to underline their conservation significance. Inclusion of the Annex IV ('European Protected Species') means that member states are required to put in place a system of strict protection as outlined in Article 12, and this is done through inclusion on Schedule 2 of the Regulations. Regulation 43 makes it an offence to:

- Deliberately capture or kill a great crested newt [Regulation 43(1)(a)]
- Deliberately disturb a great crested newt [Regulation 43(1)(b)]
- Deliberately take or destroy the eggs of a great crested newt [Regulation 43(1)(c)]
- Damage or destroy a breeding site or resting place of a great crested newt [Regulation 43(1)(d)]

The legislation applies to all life stages of great crested newts.

Breeding birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built or,
- take or destroy an egg of any wild bird.

This protection applies from the moment the nest is being built. Additional protection against disturbance on the nest or of dependent young is provided for birds included on Schedule 1.

Badger

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:

- Wilfully kill, injure or take a badger or attempt to do so;
- Cruelly ill-treat a badger; and,
- Interfere with a sett by doing any of the following:
 - (i) damaging a badger sett or any part of it;
 - (ii) destroying a badger sett;
 - (iii) obstructing access to a badger sett;
 - (iv) causing a dog to enter a sett; and,
 - (v) disturbing a badger while it is occupying a sett.

Otter

Otter are afforded full legal protection under both UK and European legislation. The Conservation of Habitats and Species Regulations 2017 transpose the Habitats Directive into UK law, making it an offence to:

- deliberately capture, injure or kill an otter;
- deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young; or,
- damage or destroy an otter holt.

The otter is also protected under Section 9(4)(b) of the Wildlife and Countryside Act 1981

- intentionally or recklessly disturb any otter whilst it is occupying a holt; or,
- intentionally or recklessly obstruct access to a holt.

APPENDIX 07: ECOLOGICAL ASSESSMENT METHODOLOGY

The assessment of the impact of the proposed development on ecological features is based upon the Chartered Institute of Ecology and Environmental Management publication Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (2018).

The baseline condition of the site is established through a combination of desk study and site survey.

This identifies the ecological features present on and within the vicinity of the site. These features are evaluated to establish their level of importance and their potential to be significantly affected by the proposed development. Features which are judged to be important and likely to be significantly affected by the proposed development are assessed.

The importance of an ecological feature is based upon consideration of the following:

- *Designation: European, national and local designated wildlife sites;*
- *Listing: Country Biodiversity, Biodiversity Action Plan, Red Listed, Rare and Legally Protected Species;*
- *Function: e.g. as a buffer, corridor or 'stepping stone' etc.;*
- *Characteristics: naturalness, rarity, diversity, connectivity, trend, assemblage, typicality, range.*

The guidelines suggest that the importance of the ecological feature is considered within a defined geographical context. The following frame of reference is recommended:

- *International and European e.g Ramsar sites;*
- *National e.g. Sites of Special Scientific Interest;*
- *Regional e.g. North West England;*
- *Metropolitan, County vice-county or other local authority wide area e.g. West Yorkshire;*
- *Local.*

The following table illustrates how the concept of importance of the ecological features has been applied to assess the impacts of the development.

<i>Level of importance</i>	<i>Description of ecological features</i>
<i>International</i>	<i>Internationally designated sites (Special Protection Area (SPA), Ramsar, Special Area for Conservation (SAC))</i> <i>Habitats listed on Annex 1 of the Habitats Directive.</i> <i>Species listed on Annexes II, IV and V of the Habitats directive.</i> <i>Species listed on Annex 1 of the Birds Directive.</i> <i>e.g. A significant population of a European protected species in this geographical region (a population of bird species representative of more than 1% of the international population).</i>
<i>National</i>	<i>Nationally designated sites (Site of Special Scientific Interest (SSSI), National Nature Reserve).</i> <i>Habitats listed as habitats of principle importance under section 41/42 of the NERC Act 2006.</i> <i>Species listed as species of principle importance under section 41/42 of the NERC Act 2006.</i> <i>e.g. A significant population of a more common and widespread European protected species in this geographical region (a population of bird species representative of more than 1% of the national population).</i> <i>e.g. A significant population of a protected species under all parts of Schedule 1, 5 or 6 of the Wildlife and Countryside Act 1981 e.g. water vole.</i>
<i>Regional</i>	<i>e.g. A good/typical example of a UK BAP Priority Habitat that satisfies all the criteria in the Priority Habitat definition but is in some way slightly enhanced (e.g. presence of a species that is localised in the region).</i> <i>e.g. A regularly occurring, locally significant population of a species listed as being nationally scarce.</i>
<i>County</i>	<i>Sites of county importance (non-statutory) designated by local authorities to allow their importance to be considered within the planning system. Names vary between authorities including Local Wildlife Sites (LWS), Sites of Interest for Nature Conservation (SINC).</i> <i>Local Biodiversity Action Plan (LBAP) Priority Habitats and Species considered to be exceptional or of significance in the local (county/district) geographical area.</i>
<i>Local</i>	<i>Populations of BAP Priority Species which are not considered to be exceptional or of significance in the local geographical area.</i> <i>Areas of habitat which contribute towards habitat resources at the local level but are not of significant ecological importance e.g. local greenspaces and wildlife corridors within an urban area.</i> <i>Priority habitats and species listed on the LBAP (but not already listed under UK BAP).</i>
<i>Negative</i>	<i>Presence of a legally controlled animal or plant species listed under Schedule 9 of the wildlife and Countryside Act 1981 or other non-native invasive/injurious species that have potential to have a significant impact on the native flora and fauna and could be considered to have an ecological commercial or social adverse effect, usually at the local or site level.</i>

Site level has been used for ecological features of less than local importance such as:

- species-poor vegetation communities;
- typical populations of common and widespread mammal, bird, amphibian and/or invertebrate species;
- habitats common and abundant within the local area, where that within the site does not represent a significant concentration.

Once the important ecological features are identified, consideration is given to the likelihood of change to these features as a result of the development and associated activities i.e. the predicted impacts of the development.

This change may be either positive or negative and includes consideration of the following characteristics of the impact:

- *Extent*
- *Magnitude*
- *Duration*
- *Timing*
- *Frequency*
- *Reversibility*

Positive and negative effects are defined as follows:

- *Positive impact: a change that improves the quality of the environment e.g. by increasing species diversity, extending habitat or improving water quality; halting or slowing an existing decline.*
- *Negative impact: a change which reduces the quality of the environment e.g. destruction of habitat, removal of species foraging habitat, habitat fragmentation, pollution.*

The identification of whether these effects are significant is based upon whether the effect supports or undermines biodiversity conservation objectives of the features which have been judged to be 'important' and is considered at the relevant geographical scale. It is generally the case that no significant effect can occur to features of less than local importance, other than in exceptional circumstances such as where a feature has high social or economic value, or the magnitude of effect is particularly high.

The identification of a significant effect then forms the basis for further consideration of the effects on the feature concerned and the potential to reduce effects by employing appropriate mitigation measures or providing compensation. The 'mitigation hierarchy' is applied to reduce identified impacts, and provide enhancements, by avoidance in the first instance, then mitigation and finally compensation.

The overall effects of the proposed development with appropriate mitigation and/or compensation incorporated within the project proposals provide the residual impacts of the scheme.