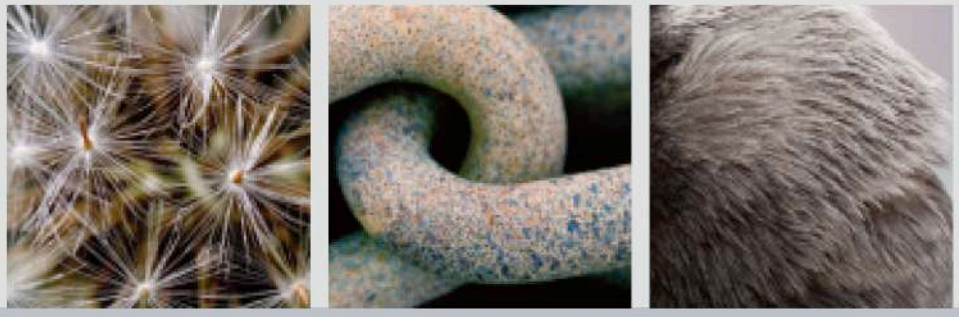
Land at Eastfield Shepley, Huddersfield Ecological Appraisal and BNG Assessment

4th September 2025



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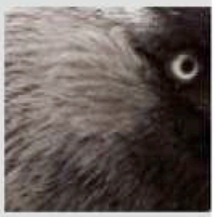

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Project	Land at Eastfield Shepley, Huddersfield
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Where field investigations have been carried out, these have been restricted to the agreed scope of works and carried out to a level of detail required to achieve the stated objectives of the services. Natural habitats and species distributions may change over time and further data should be sought following any significant delay from the publication of this document.

Report Contents

1 Summary

1.1 The Proposed Development

1.1.1 This document provides an ecological appraisal of the site at Eastfield, Shepley, related to proposals for a development project on the land at Eastfield Shepley, Huddersfield.

1.1.2 This report describes and assesses features of ecological value found to be present at the site. It also provides advice to help minimise any adverse ecological impacts, thereby enabling the development to comply with current nature conservation policy and legislation.

1.2 Ecological Receptors

1.2.1 The ecological assessment, set out in detail below, has found a low level of nature conservation interest on the site, mostly including the surrounding trees, hedgerows and nearby off-site habitats.

1.3 Recommended Actions

1.3.1 If trees T1, T3 and T4 require felling or significant pruning, bat surveys should be undertaken in advance. Depending on the results, targeted mitigation may be needed during the construction process.

1.3.2 Prior to any demolition of the farm buildings (B1–B3; TN16–18), further bat surveys will be required to establish their use by bats.

1.3.3 A pre-commencement badger survey is recommended to update the badger status on site.

1.3.4 Ecological impacts on features of interest will need to be avoided, or appropriate mitigation put in place to reduce the effects of development.

1.4 Conclusions

1.4.1 Overall, the conclusion of this report is that there are no significant constraints to development that cannot be addressed through appropriate mitigation measures. The proposed development has the potential to deliver a Biodiversity Net Gain of 23.09% habitat units and 109.39% hedgerow units through the creation and enhancement of high-quality habitats. The opening up of a culvert onsite and creating a SUDS/open ditch provides a 57.82% watercourse gain.

1.4.2 It is anticipated that these measures will be fully incorporated into the masterplan, the detailed design of the scheme and through ecological management plans that will be implemented prior to, during and after construction.

2 Introduction

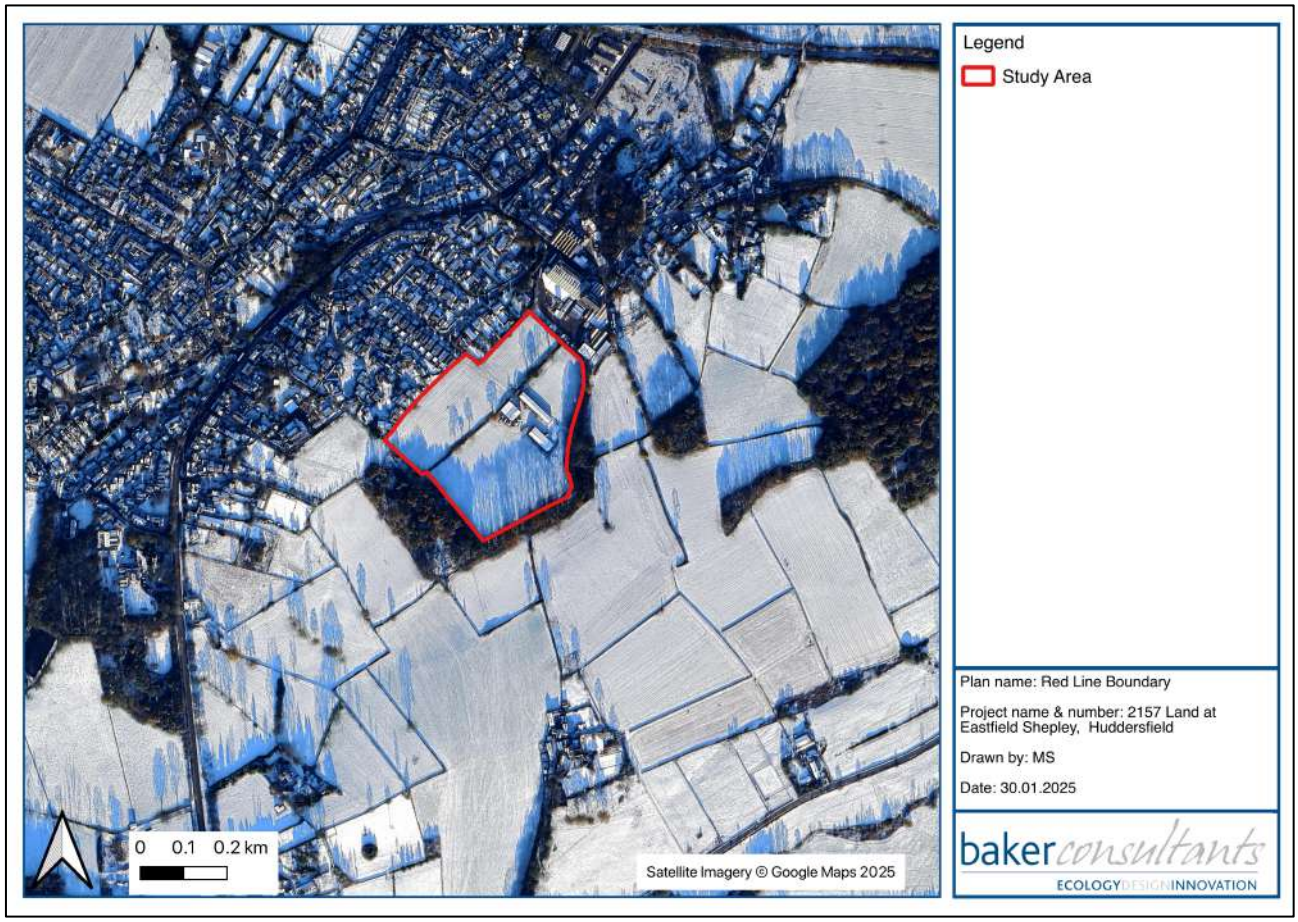
2.1 Site Description

2.1.1 The study site is located east of Shepley, Huddersfield (Central Grid Reference SE 19720 09678), see Figure 1 below.

2.1.2 The site is approximately 5 hectares and is composed of predominantly arable fields, with three barn buildings and unvegetated land making up the farmyard area. There are four bordering native hedgerows and one bordering ornamental hedgerow.

2.1.3 The site is located in an urban context to the north, with roads, buildings and gardens to the north-west, and an industrial estate to the north-east. The remaining boundaries of the site are bordered by woodland, with agricultural fields and hedgerows beyond the woodland.

Figure 1. Site Location



2.2 Study Scope

2.2.1 Baker Consultants was commissioned by the client to undertake the following works in relation to the Site:

- Desk-based study with local records centres and online databases to identify

designated sites of nature conservation importance, areas of priority habitats and records of protected and/or notable species
- Extended UK Habitat Classification survey to record the habitats and their condition, within and adjacent to the Site
- Appraisals for protected and/or notable flora and fauna
- Biodiversity Net Gain (BNG) baseline assessment
- Badger survey
- Water vole survey of the stream and pool
- Great crested newts eDNA survey
- Barn owl survey of the three buildings
- Automated Bird Detector Survey
- Climbed bat assessment of five trees
- BNG river condition assessment (MoRPH)

2.2.2 This report takes into account standard guidance from a variety of sources including the Chartered Institute of Ecology and Environmental Management *1 2 3*, British Standards Institution *4*, and www.gov.uk *5*.

2.2.3 The report considers, in particular, potential effects on the following biodiversity features:

- Designated Sites (international, national and local)
- European Protected Species
- National Protected Species
- Habitats and Species of Principal Importance for Conservation
- Habitats and species of local interest

1 CIEEM (2024, v1.3). Guidelines for Ecological Impact Assessment In The UK And Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.
2 CIEEM (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
3 CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
4 BSI (2013). BS42020:2013 Biodiversity – Code of Practice for Planning and Development
5 https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications

3 Methods

3.1 Surveyor Qualifications and Experience

3.1.1 Ecologist Rae Smith is a qualifying member of CIEEM, and has three years of professional consultancy experience. In that time Rae has carried out several ecological appraisals and is a competent botanical surveyor (FISC Level 4). She is also experienced in carrying out appraisals for a range of species including for Badger, bats, reptiles and amphibians. Rae carried out the habitat survey and condition assessments.

3.1.2 Invertebrate Ecologist Meg Skinner BSc (Hons) MSc ACIEEM, Mem.RES has over 6 years' consultancy experience of undertaking invertebrate surveys and holds a Natural England survey license for great crested newts. Meg carried out the BNG calculations and authored this report.

3.1.3 Senior Invertebrate Ecologist David Goddard BSc (Hons) MCIEEM, Mem.RES has over 16 years' consultancy experience of undertaking bird and invertebrate surveys and also holds Natural England survey licences for great crested newt (NE:2016-22418-CLS-CLS), white-clawed crayfish (2016-20703-CLS-CLS), barn owl (CL29/00151) and dormouse (NE:2019-42874-CLS-CLS).

3.1.4 Principal Ecologist James Longley BSc MCIEEM who has over 20 years' experience in nature conservation and ecology. He has undertaken numerous habitat surveys, is an experienced botanist and ornithologist, and holds Natural England licences to survey for bats, barn owl, and great crested newts. He is an NPTC Level 2/CS38 Tree climber.

3.1.5 Jonathan Jones ACIEEM, an experienced Senior Ecologist with over 10 years' experience in botanical and protected species surveys and holds NPTC NPTC Level 2/CS38 accreditation.

3.1.6 Wherever appropriate during surveys, Natural England's Standing Advice on Protected Species [6] was taken into account, along with a wide range of other best practice guidance on survey methods. These are referenced in the text below. However, the professional judgement of the surveyors was also applied in relation to the site conditions and target species/habitats being considered. This may have required changes to the published guidance.

3.2 Desk-study

3.2.1 A data search was undertaken for designated sites of nature conservation interest, priority habitats and records of protected and priority species. Data for these was gained through the sources listed in Table 1 below:

[6] https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications

Table 1. Desk-study Data Sources

Organisation/source	Data sought	Search area
Multi-Agency Geographic Information for the Countryside (MAGIC)	Statutory designated sites, Habitats of Principal Importance	2km
Local Biological Records Centre	Non-statutory designated sites of nature conservation and records of protected/notable species.	2km

3.2.2 Natural England's online Impact Risk Zone tool was utilised [7]. This identifies whether developments are likely to have an impact on Sites of Special Scientific Interest (SSSIs), based upon their type and location, and whether Natural England should be consulted as part of proposals.

7 Available at: http://www.magic.gov.uk

3.3 Extended UKHab Habitat Classification Survey

3.3.1 A UKHab Habitat Classification Survey *8* was carried out by Rae Smith on the 11th of February 2025. Additional notes and ad-hoc checks of the habitats were made during other site visits in spring and summer to verify the previous findings. The vegetation types and habitats present were described and mapped during a walkover of the site, using the standard published guidelines for UKHab Habitat surveys. The condition of each habitat parcel was assessed using the Statutory Biodiversity Metric Technical Annex 1 methodology *9*. Features of particular interest were recorded s Target Notes (TNs).

3.3.2 In addition, the habitats within the site and surrounding land were appraised for their suitability to support protected or notable species, or assemblages that could be sensitive to the development proposals, in accordance with 'Guidelines for Preliminary Ecological Appraisal' *10*.

3.3.3 During the survey, consideration was given to features such as potential breeding bird habitat, bat roosting locations, badger sett locations, reptile habitat and the suitability of water features for amphibians and riparian mammals.

3.3.4 Invasive species, such as Japanese knotweed *Reynoutria japonica* and giant hogweed *Heracleum mantegazzianum*, were noted by the surveyor if present. These species can have implications for development activity and human health respectively.

3.3.5 Weather conditions during the survey were cold (4°C) with broken cloud cover, light rain and a gentle breeze (12mph).

3.3.6 The survey approach taken is designed to identify broad habitat types at a site and the potential of these habitats to support notable/protected species, and to assist in providing an overview of the ecological interest at a site. It is the most widely used and professionally recognised method for initial ecological site appraisal.

3.4 River Condition Assessment

3.4.1 To assess the condition of the adjacent watercourse a MoRPh river survey was carried out on 25th April 2025. The survey captures channel dimensions, physical features/habitats, vegetation structural features, and human interventions to assess the condition of the river.

3.4.2 The survey includes a sequence of MoRPh surveys conducted along a length of river (module). For the purpose of this study, the river was surveyed one sub-reach, with a total of five grouped modules (MoRPh5) surveyed to cover >20% of the total site river length.

3.4.3 The weather conditions were dry, with light winds and temperature of 17˚C. The river levels were low due to low levels of rainfall in the preceding weeks, with much of the

8 UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://www.ukhab.org)
9 The Statutory Biodviersity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology. July 2024(v1.0.2)
10 CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

riverbed dry at the time of the survey. Access could be gained to each module area.

3.4.4 Following the field survey, a desk-based reach-scale assessment was carried out using Google Earth and Cartographer software to define the river type. The Cartographer software was then used to combine the results of the field survey and desk study to provide a final condition assessment for the defined watercourse.

3.5 Biodiversity Net Gain Baseline Calculation

3.5.1 The UK Habitat Classification survey, condition assessment and Morph survey informed the assessment of the baseline habitat and watercourse value on site. The vegetation types and habitats present were described and mapped during a walkover of the site. They were then mapped using GIS software to provide areas (ha) and lengths (km) for the habitat and watercourse compartments.

3.5.2 To provide a baseline biodiversity score the following information was entered into the Statutory DEFRA Biodiversity Metric Calculator:

- Habitat, Hedgerow, Watercourse types and area measurements (see Appendix 2);
- The ecological condition of each habitat or watercourse parcel according to the Biodiversity Net Gain Technical Annex *11* and Morph Assessment, and
- The strategic significance of on-site habitats (determined by reference in the Local Plan and/or local priority habitats).

3.6 Bat Survey

Daytime Bat Walkover Survey

3.6.1 A daytime bat walkover (DTW) was carried out during the UK Habitat Survey in accordance with current guidelines *12*. This included an inspection of structures, trees and other features which may be suitable for roosting bats, as well as assessing suitability of habitats for bats to commute, forage or swarm in/ at. The habitats within the site were assessed for their potential to support foraging and commuting bats using the categories in Table 2.

3.6.2 To more accurately assess potential bat roosting resource, a Ground Level Tree Assessment (GLTA) survey of the trees on and adjacent to site was carried out during the DBW.

Ground Level Tree Assessment

3.6.3 A GLTA was carried out to establish if trees have potential roost features (PRFs). Trees were inspected from all sides for the presence of rot holes, scar crevices, loose bark and covering of dense ivy.

11 The Statutory Biodiversity Metric -Technical Annex 1: Condition Assessment Sheets and Methodology, November 2023.
12 Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London.

3.6.4 Following the GLTA, trees were categorised according to the criteria in Table 2.

Table 2. Tree Roost Assessment Categories

Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be
FAR	Further assessment required to establish if PRFs are present in the tree
PRF-I	PRF is only suitable for individual bats or very small number of bats either due to size or lack of suitable surrounding habitats
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony

Preliminary Roost Assessment

3.6.5 A Preliminary Roost Assessment was carried out by Rae Smith on 25th April 2025. The weather conditions were dry, with light winds and temperature of 17˚C.

3.6.6 This includes systematically inspected buildings from all sides. A high-powered torch and close-focusing binoculars were used, where necessary, to inspect cavities and features in shaded areas and/or at height. Buildings were searched externally and internally for cavities in masonry, the eaves or roof spaces that might offer potential roosting opportunities for bats.

3.6.7 Structures were systematically searched for potential bat access points, and for any evidence of roosting bats. Evidence indicating the presence of bats would normally include droppings, characteristic staining, scratch marks, feeding remains, or the presence of live or dead bats.

3.6.8 Following the PRA, structures were assessed using the categories in Table 3 below.

Table 3. Structure Roost and Habitat Assessment Categories

Category	Roosting Habitats in Structures	Commuting and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/ suitable shelter at all ground/ underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time or the year (i.e. no habitats that provide continuous lines of shade/ protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by large numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats)	That could be used by small numbers of bats as flight paths such as gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

Category	Roosting Habitats in Structures	Commuting and foraging habitats
Moderate	A structure with one or more potential roost sites that could be used by bats due to the size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost type of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after present is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by large numbers of bats on a regular basis and potentially for long periods of time due to the size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roost, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High quality habitat that as well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to know roosts

Bat Activity Survey

3.6.9 Automated Bat Detection Surveys involve detectors being deployed at locations around the site. These detectors record nearby bat calls automatically, with each digital file being appropriately date and time-stamped. The data then can be analysed to establish species richness, relative abundance and establish the importance of landscape features for bats.

3.6.10 To record bat activity within the survey area, the surveys listed in Table 4 below were carried out. Given the small size of the site and the non-complex habitats present within the site, it was considered that a single deployment of a single Wildlife Acoustics SM static bat detector (SM Mini 2) during the spring and summer would be sufficient to determine bat activity on site.

3.6.11 This survey method has been adapted from the standard survey guidance *13* to be proportionate to the site and scale of likely impacts. Likewise, it was not considered proportionate to carry out walked transect surveys of the site.

3.6.12 The locations of the bat detector is shown on a plan in Appendix 1.to a

Table 4. Automated Bat Surveys

Season	Survey Dates	Detector ID	Overnight Weather
Spring	25/04/2025 – 30/04/2025	2MU05302	High of 17°C, low of 4°C, varied cloud cover, dry, BF1-3
Summer	17/06/2025 – 22/06/2025	2MU05302	High of 25°C, low of 11°C, varied cloud cover, dry, BF1-3

Bat Call Analysis

3.6.13 Bat call data was analysed using Wildlife Acoustics Kaleidoscope software, which separated the recording into segments of up to 15 seconds, to be identified to species/group and counted.

13 Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

3.6.14 The identification of bat calls was based on the experience of the analysts and reviewers (including bat survey licence holders). This experience was backed up by the use of an identification spreadsheet and published guidance on recognised call parameters *14 15 16 17*.

Bat Aerial Inspection Survey - Trees

3.6.15 Trees assessed to have potential roost features from ground-level were climbed for further inspection by Jonathon Jones and James Longley on 7th August 2025. The surveyors hold appropriate survey licences from Natural England and are accredited for Level 2 bat survey techniques. They are also trained and qualified in tree climbing and aerial rescue (NPTC Level 2 -formally CS38). Roped-access tree climbing methods were used to inspect any features with bat roost potential, using a torch, flexible fibre-optic video endoscope and thermal imaging camera.

3.6.16 Weather during the August tree climbing surveys was occasional light rain, and cloudy with little wind and a temperature of 19˚C.

3.7 Badger

3.7.1 A survey for badger *Meles meles* was undertaken by David Goddard and Rae Smith on 25th April 2025. The survey included areas within the Site and up to 50m beyond in order to check for nearby badger setts. Survey methods used were in accordance with published guidance *18*, and involved walking across the survey area, looking for signs of badgers, including their setts.

3.7.2 Evidence of badger is often characteristic and can include tufts of hair caught on barbed wire fences, conspicuous badger paths, footprints, small excavated pits or latrines in which droppings are deposited, scratch marks on trees, and snuffle holes, where badgers have searched for insects and plant tubers.

3.7.3 Active badger setts normally have entrances 25 - 35cm in diameter and shaped like a 'D' on its side, with large spoil heaps and bedding outside.

3.8 Water Vole

3.8.1 A survey for water voles *Arvicola amphibius* was undertaken by David Goddard and Rae Smith on 25th April 2025. For the purposes of this survey, the entire length of the watercourse within the study area was surveyed using standard methods *19*. Waterway and pond banks were closely inspected, up to at least 2m from the water. Any evidence of water vole presence was recorded, including sightings of water voles, sounds of them

14 Russ, J. (1999). The Bats of Britain and Ireland: Echolocation calls, sound analysis and species identification. Alana Books.
15 Vaughan, N., Jones, G. & Harris, S. (1997). Identification of British Bat Species by Multivariate Analysis of Echolocation Call Parameters. The International Journal of Animal Sound and its Recording 7: 189-207.
16 Middleton, N., Froud, A. & French, K. (2014). Social Calls of the Bats of Britain and Ireland. Pelagic Publishing, Exeter.
17 Russ, J. (2012). British Bat Calls: A Guide to Species Identification. Pelagic Publishing, Exeter.
18 Harris, S, Cresswell, P & Jeffries, D. (1989). Surveying Badgers. An occasional publication of the Mammal Society – No 9. Mammal Society, London.
19 Strachan, R. & Moorhouse, T. (2011). Water Conservation Handbook (3rd edn). Wildlife Conservation and Research Unit, Oxon.

entering water, latrines showing discrete piles of droppings, tunnel entrances (above and below water), cropped 'gardens' or 'lawns' around tunnel entrances, feeding stations of chopped vegetation, paths at the water's edge, runs in the vegetation and footprints in the mud.

3.9 Great Crested Newt

Habitat Appraisal

3.9.1 A survey for amphibians, in particular great crested newt *Triturus cristatus*, was undertaken by David Goddard and Rae Smith on 25th April 2025. The habitats within and adjacent to the site were assessed for their potential to support populations of amphibians according to published guidance [20]. Great crested newts need both aquatic and terrestrial habitat, and the survey area was assessed for suitable areas such as ponds, ditches, rough grassland, woodland, scrub and piles of debris. Ordnance Survey mapping was reviewed to identify the presence of any waterbodies within 250m of the site boundary that could be potential breeding sites.

3.9.2 The quality of the ponds for great crested newts was assessed using the Habitat Suitability Index (HSI) [21] [22]. This provides a numerical score to grade the quality, between 0 and 1, with 0 indicating unsuitable habitat and 1 representing optimal habitat.

Environmental DNA surveys:

3.9.3 The pond was surveyed for the presence or absence of great crested newts on 25th April 2025 using an eDNA (environmental DNA) sampling kit, in reasonable weather conditions (includes light rain). The field sampling protocol followed the steps outlined in the Technical Guidance [23], with 20 samples of pond water being taken from around the pond edge before being mixed and stored in sample tubes. Individual kits were used for each pond sample to prevent cross-contamination.

3.9.4 The collected samples were then sent to a Natural England-approved laboratory for analysis. As eDNA persists in waterbodies (excluding sedimentary deposits) for a relatively short period of time, collected samples should contain the DNA fragments of great crested newts that were recently present within the waterbody.

3.10 Automated Bird Detector Survey

3.10.1 Due to the small size of the Site and the limited availability of suitable breeding bird habitat, standard transect-based breeding bird surveys were not undertaken. Instead, a single automated acoustic recorder was deployed throughout the breeding season to record bird vocalisations. The survey followed Passive Acoustic Survey methods outlined

[20] English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature.
[21] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4), 143-155.
[22] ARG UK (2010). Advice Note 5. Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom.
[23] Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R. A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. (2014). Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.

in the Bird Survey Guidelines.[24]

3.10.2 The single Wildlife Acoustics Song Meter Mini recorder was deployed at O.S. Grid Ref SE1969109655. The static recorder was set out on the 25th April with the SD cards being changed on the 18th June and then the recorders were collected in on the 10th July.

Barn Owl

3.10.3 The three farm buildings onsite were inspected on the 25th April 2025 to look for any signs of occupation by barn owl and to assess their breeding or roosting status should any evidence be recorded.

[24] Bird Survey & Assessment Steering Group. (2024). Bird Survey Guidelines for assessing ecological impacts, v.1. https://birdsurveyguidelines.org [13 August 2024].

4 Results

4.1 Study Limitations

4.1.1 It is important to note that, even where data is returned for a desk-study, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest since the area may simply be under-recorded. Equally, due to the level of recording, some species should be considered more frequent than indicated by the records provided within a desk-study.

4.1.2 Whilst every effort was made in the field survey to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment. Also, natural and semi-natural habitats are subject to change, species may colonise the site after surveys have taken place and results included in this report may become less reliable over time.

4.1.3 Survey data is generally only considered valid if it is from the current or previous active season. In some cases, surveys up to 3 years old may be considered acceptable by consultees if the habitats have not significantly changed in the intervening period.

4.1.4 Access was available across the site except for access inside of two of the barn buildings.

4.1.5 The original walkover survey was undertaken outside of the optimal survey season, therefore habitat condition assessment and identification of plants was limited to winter availability. However, subsequent visits were undertaken to the site in spring and summer in relation to other species surveys. These provided additional opportunities to observe habitats and flora, and would have identified any notable features or species missed during the initial winter survey.

4.2 Designated Sites

4.2.1 The desk-study provided information on the designated sites listed below in Table 3.

Table 5. Designated Sites

Name	Status	Location/distance	Interest
Yew Tree Wood	Local Wildlife Site (LWS)	0.3km east	Species rich acid woodland, county rare species (Fen bedstraw Galium uliginosum)
Lower Jane Well	LWS	0.8km south-east	Species rich grassland
Gelder Wood	LWS	0.9km north	Species rich acid woodland
Shepley Mill Wood	LWS	0.9km north-west	Native Bluebell cover in the ground flora
Upper and Lower Stones Wood	LWS	1.2km north-west	Ancient & semi-natural woodland, species rich acid woodland
Birks Wood	LWS	1.6km north-west	Native Bluebell cover in the ground flora
Turpin Hill	LWS	1.7km south-east	Rare grassland habitat, species rich acid to neutral grassland
Shelley Wood	LWS	1.8km north	Ancient semi-natural woodland, species rich acid woodland

4.2.2 Natural England's online MAGIC tool identified that no Sites of Special Scientific Interests (SSSIs) were within 2km of the site.

4.2.3 There are no internationally designated sites within the 2km search radius of the site. However, the site falls within the risk zone of multiple SSSIs within 10km:

4.2.4 Honley Station Cutting SSSI is the closest at 5.6km north-west of the site, and is designated for its geological features.

4.2.5 The next closest is Dark Peak SSSI at 7.7km south-west of the site, and is designated for a range of habitats, including upland bogs, coniferous woodland, acid grassland and dwarf shrub heath.

4.2.6 Denby Grange Colliery Ponds SSSI is located 8.2km north-east of the site and is designated for its amphibian assemblage, standing water and lowland mixed woodland.

4.2.7 Pye Flatts Meadows SSSI is located 8.4km south-east of the site and is designated for its lowland neutral grassland.

4.2.8 Spring Meadows, Alderman's Head & Cow Croft Meadows SSSI, located 8.7m south of the site is designated for its lowland neutral grassland.

4.3 Habitats

4.3.1 Scientific names are provided in Appendix 3. Standard nomenclature [25] is used for vascular plant species.

Habitats Overview

4.3.2 The habitat types recorded on site during the UKHab Habitat survey are described in turn below. Particular features of interest, recorded during the survey, are listed as Target Notes in Appendix 3, with their locations shown in the Appendix 2 Baseline Habitats plan.

Cropland

4.3.3 The site is predominantly arable fields, with cereal crops at the time of survey. The field margins varied from 0.5-2m wide, with grassland species such as red fescue, false oat grass, creeping buttercup and cocks'-foot grass present.

Hedgerows and Boundaries

4.3.4 The site includes five hedgerows: one short non-native ornamental hedgerow along the north-west boundary, three native hedgerows with trees in the central and north-east field boundaries, and one native hedgerow along the south-east boundary (Figures 2 and 3).

[25] Stace, C. (2019). New Flora of the British Isles. Fourth Edition. Cambridge University Press, Cambridge.

Figure 2. Native Hedgerow with Trees

Figure 3. Native Hedgerow

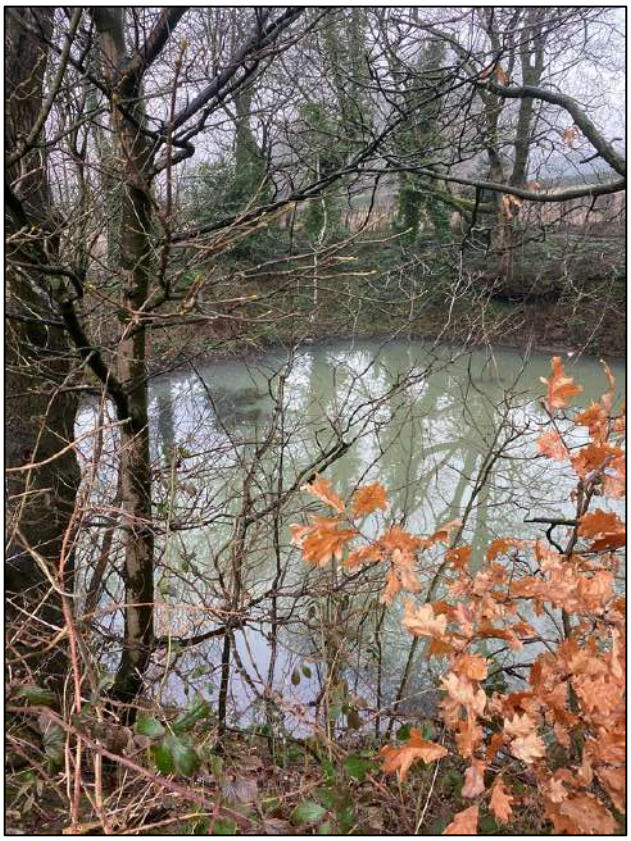
Watercourses

4.3.5 The site includes an on-site culvert between the two north-eastern fields, running alongside the hedge with stone sides (Figure 4).

4.3.6 During the survey, an off-site stream to the east and an off-site pond to the south-east were noted (Figure 5).

Figure 4. Culvert

Figure 5. TN9 Off-site Pond



Buildings

4.3.7 The site includes three farm buildings in the central area; two barns with timber panelling and one structure composed of breezeblocks with asbestos cladding (Figures 6 and 7). The buildings all have roofs composed of corrugated asbestos or metal sheets.

Figure 6. TN16 Barn

Figure 7. TN17 Building

4.4 River Condition Assessment

4.4.1 The results of the River Condition Assessment are summarised in Table 6 below. Figure 9 shows the location of each MoRPh survey module. Further details of the assessment are provided in Appendix 4.

Table 6. River Condition Assessment Results:

Feature Name: Shepley	
A1 – Braiding Index	1
A2 – Sinuosity Index	1.037
A3 – Anabranching Index	1
A4 – Level of Confinement	Partly Confined
A5 – Reach Valley Gradient	0.0963
A6 – Bedrock Reach?	No
A7 – Coarsest Bed Material	Boulder
A8 – Average Bed Material	Gravel/ pebble
River Shape	1.439
Average Width	0.82
River Type	Type D - Straight/sinuous to plane bed
Average Of Positive Indicators	2.368
Average Of Negative Indicators	-0.231
Condition Score (Preliminary)	2.138
Condition Class (Preliminary)	Fairly Good
Overdeep?	Yes
Condition Class (Final)	**Moderate**

4.4.2 The moderate condition of the watercourse can be attributed to being over deep, and lacking several positive indicators, primarily categories B5 (bank top management), D1-4 (channel margin) and E7 (siltation).

Figure 8. River Survey Plan

4.5 Biodiversity Net Gain

Baseline

4.5.1 The habitats described in Section 4.3 and 4.4 above were used to inform the baseline biodiversity net gain calculations. The baseline habitats are shown in Appendix 2 with Target Notes set out in Appendix 3. Appendix 5 provides a habitats distinctiveness plan which shows the distinctiveness of the habitats, hedgerows and watercourses on the site from low to high. These distinctiveness values correspond to the unit value of the habitat; this plan is a useful tool to inform design decisions for retention of the higher distinctiveness habitats.

4.5.2 The baseline biodiversity value of the site is **8.93** habitat units, **3.88** hedgerow units, and **1.45** watercourse units as summarised in Tables 7, 8, and 9 below.

Table 7. Baseline Habitat Calculation Summary

Habitat Type	Area (ha)	Distinctiveness	Condition	Baseline Habitat Units
Developed land; sealed surface	0.1472	V. Low	N/A	0.00
Artificial unvegetated, unsealed surface	0.3904	V. Low	N/A	0.00
Cropland	4.4650	Low	N/A	8.93
			Total Habitat Units**	**8.93**

Table 8. Baseline Hedgerow Calculation Summary

Hedgerow Type	Length (Km)	Distinctiveness	Condition	Baseline Hedgerow Units
Native hedgerow	0.144	Low	Good	0.86
Native hedgerow with trees	0.249	Medium	Good	2.99
Non-native and ornamental hedgerow	0.023	V.Low	Poor	0.02
			Total Hedgerow Units*	**3.88**

* Total includes hidden rounding within metric calculation sheet

Table 9. Baseline Rivers Calculation Summary

Rivers Type	Length (Km)	Distinctiveness	Condition	Watercourse Encroachment	Riparian Encroachment	Baseline Watercourse Units
Culvert (on-site)	0.270	Low	Poor	N/A	N/A	0.37
Culvert (within 10m of boundary)	0.018	Low	Poor	N/A	N/A	0.02
Other rivers and streams (within 10m of boundary)	0.090	High	Moderate	No encroachment	Minor/ no encroachment	1.06
					Total Watercourse Units*	**1.45**

* Total includes hidden rounding within metric calculation sheet

Post Development

4.5.3 The proposed habitats were calculated as illustrated in the landscape masterplan (File reference: DRWG No: P24-1419_EN_0001). The post-development habitats are shown in Appendix 6. Appendix 7 provides a habitats distinctiveness plan which shows the distinctiveness of the proposed habitats, hedgerows and watercourses on the site from low to high. These distinctiveness values correspond to the unit value of the habitat; this plan is a useful tool to inform design decisions for retention of the higher distinctiveness habitats.

4.5.4 The post-development biodiversity value of the site is **10.99** habitat units, **8.11** hedgerow units, and **1.45** watercourse units as summarised in Tables 10, 11 and 12 below.

Table 10. Post Development Habitat Calculation Summary

Habitat Type	Area (ha)	Distinctiveness	Proposed Condition	Post-development Habitat Units
Developed land; sealed surface (buildings)	0.6617	V. Low	N/A	0.00
Artificial unvegetated, unsealed surface (footpaths)	0.1913	V. Low	N/A	0.00
Built linear features (roads and parking)	0.8025	V. Low	N/A	0.00
Vegetated gardens	2.0652	Low	N/A	3.99
Modified grassland	0.1249	Low	Poor	0.24
Other neutral grassland	0.1265	Medium	Poor	0.47
Other neutral grassland	0.813	Medium	Moderate	5.44
SUDs/ditch footprint	0.0749	Low	Moderate	0.18
Introduced shrub	0.0595	Low	N/A	0.11
Mixed scrub	0.083	Medium	Moderate	0.56
			Total Habitat Units**	**10.99**

Table 11. Post Development Hedgerow Calculation Summary

Hedgerow Type	Length (Km)	Distinctiveness	Condition	Post-development Hedgerow Units
Species rich native hedgerow (created)	0.316	Medium	Moderate	2.12
Species rich native hedgerow with trees (enhanced and created)	0.355	High	Good	5.05
Non-native and ornamental hedgerow (created)	0.061	V.Low	Poor	0.07
Non-native and ornamental hedgerow (retained)	0.023	V.Low	Poor	0.02
Native hedgerow (retained)	0.144	Low	Good	0.86
			Total Hedgerow Units*	**8.11**

* Total includes hidden rounding within metric calculation sheet

Table 12. Post-development Rivers Calculation Summary

Rivers Type	Length (Km)	Distinctiveness	Condition	Watercourse Encroachment	Riparian Encroachment	Post-development Watercourse Units
Culvert (on-site - lost)	0.270	Low	Poor	N/A	N/A	0.00
Culvert (within 10m of boundary)	0.018	Low	Poor	N/A	N/A	0.02
Other rivers and streams (within 10m of boundary)	0.090	High	Moderate	No encroachment	Minor/ no encroachment	1.06
Ditches (created by opening up onsite culvert)	0.270	Low-Medium	Moderate	Minor	Minor/Moderate	1.21

Rivers Type	Length (Km)	Distinctiveness	Condition	Watercourse Encroachment	Riparian Encroachment	Post-development Watercourse Units
					Total Watercourse Units*	**2.29**

* Total includes hidden rounding within metric calculation sheet

4.6 Species Overview

4.6.1 The notable species recorded on or near the site by desk-study or field survey are summarised in the following sections. Further details of the desk-study results are also provided in Appendix 8.

4.7 Bats

4.7.1 The desk study returned 45 records of bats within 2km of site, species included Common Pipistrelle, Soprano Pipistrelle, Daubenton's bat, Noctule, Brown Long-Eared Bat and a species of *Myotis* bat. The closest records were 425m from the site, recorded in 2011.

4.7.2 An interrogation of MAGIC revealed one European Protected Species (EPS) licences [26] for bats within 2km of the site. This license was from 2011 for common pipistrelle bat and allowed the destruction of a resting place, located 0.5km north-west of the site.

Daytime Bat Walkover Survey

4.7.3 A summary of the bat roost assessment is provided as target notes in Appendix 3. This shows the trees that had potential for bat roosts based on the features noted, such as knot holes and loose bark. These included on-site trees (TN1-TN5) and off-site trees in the bordering woodland (TN7 & TN8, TN10-12 and TN15).

4.7.4 The hedgerows within the Site provide some foraging and commuting opportunities for bats; however, their limited extent, when compared with more extensive and higher-quality habitats in the surrounding landscape, reduces their overall potential value for bats.

4.7.5 The buildings on the site can be assessed for their bat roosting potential using the factors listed in Table 7 below, and with reference back to the BCT categories in Table 2.

Table 13. Bat Roost Building Assessment

Positive indicators for roosting bats	Negative indicators for roosting bats
Cluster of old buildings with varied structure	Modern, active industrial premises, built after the 1970s
Not affected by artificial light levels	Potential roost sites with high levels of artificial light
In rural location, close to woodland or water	In a heavily urbanised area with few green spaces
Immediately connected to commuting habitats	Isolated from commuting habitat
In sheltered lowland location	Exposed site at high altitude
Has numerous cracks or crevices present	Intact and tightly sealed structure
Pitched roof with an uneven clay tile/slate covering	Flat roof with sheet material construction

[26] https://www.gov.uk/government/publications/european-protected-species-apply-for-a-mitigation-licence

Positive indicators for roosting bats	Negative indicators for roosting bats
Large internal roof space, with clear flying spaces	Small or cluttered roof space
Large rough roof timbers with cracks, joints and holes	Modern smooth timber roof trusses
Hanging tiles or wood cladding, esp. on south-facing walls	Walls prefabricated with steel and sheet materials

4.7.6 The assessment concluded that potential roost features are present on the buildings within the site.

Bat Roost Assessment – Trees

4.7.7 The ground level tree assessment identified a total of 11 trees within the survey area with potential bat roost features.

4.7.8 Of these 11 trees, five were considered likely to be impacted by the proposed development and, as a result, were subject to a single aerial inspection survey undertaken in August 2025.

4.7.9 Following the additional surveys, no confirmed bat roost was identified with any trees. A total of two trees were assessed to be PRF-M and further trees was assessed to be PRF-I. The results of the bat tree roost assessment are summarised in Table 14 below. A plan showing the tree locations is provided in Appendix 3.

Table 14. Bat Tree Roost Assessment Results

Tree Ref:	Tree Species:	Feature	Survey Type	Survey Findings:	Bat Suitability
1	Ash	Knot holes	Aerial Inspection	5 x knotholes around 6-8m on east side hedge. 1 x woodpecker hole at 6m on west side of hedge	PRF – M
2	Oak	None	Aerial Inspection	Well-sealed with no PRF.	None
3	Ash	Frost cracks, Wounds, Knot hole	Aerial Inspection	2 main stems, one with frost crack, one with knothole	PRF - M
4	Ash	Knot holes, Wounds	Aerial Inspection	2 knotholes at 8m, south east facing. Knothole at 10m, north west facing. 2 rot holes on dead limb, toward base and end. 50cm crack	PRF - I
5	Rowan	None	Ground Inspection	Well-sealed with no PRF.	None

Bat Roost Assessment – Buildings

4.7.10 The preliminary roost assessment identified that buildings TN16-TN18 all have **low bat roosting potential.** Further details of each building assessment are provided below.

TN16

4.7.11 Building TN16 is a hay store with slatted timber walls, with gaps between each of the timbers allowing air flow, meaning the internal temperature is generally consistent with the external conditions. The structure has a gable end roof with corrugated asbestos(?) sheeting. The gable ends also have corrugated asbestos cladding (Figure 10), providing several roosting opportunities for individual bats between the asbestos/composite sheeting and the underlying timber.

4.7.12 Internally, the structure provides limited roosting opportunities between the roofing

timbers and overlaying roof sheeting (Figure 11). No signs of roosting bats such as droppings or feeding remains were found within the structure, or on the external walls.

4.7.13 The structure provides limited roosting potential, associated with the asbestos cladding and internal timbers, and is therefore assessed as having low bat roosting potential (BRP).

TN17

4.7.14 Building TN7 is a breezeblock structure, with a corrugated asbestos gable end roof. The structure has two rooms used for machinery storage (Figure 12). No signs of roosting bats such as droppings or feeding remains were found within the structure, or on the external walls.

4.7.15 Similar to TN16, some areas of external walls have asbestos cladding. Internal roosting opportunities are limited to the exposed timber beams associated with the roof. It may also be possible for individual bats to access the wall plate from inside the structure.

4.7.16 The structure provides limited roosting potential and is therefore assessed as having low bat roosting potential (BRP).

TN18

4.7.17 Building TN18 is bult similar to TN16, however the northeast aspect of TN18 is open (Figure 13). No signs of roosting bats such as droppings or feeding remains were found within the structure, or on the external walls.

4.7.18 The structure provides limited roosting potential, associated with the asbestos cladding and internal timbers, and is therefore assessed as having low bat roosting potential (BRP).

Figure 9. TN16 external

Figure 10. TN16 internal

Figure 11. TN17 internal

Figure 12. TN18 open aspect

Bat Activity Surveys

4.7.19 Results of the spring and summer automated bat survey are detailed in Table 15 below, detailing the total number of call registrations from each species, and the number of nights (out of 5) which the species was recorded.

4.7.20 Common Pipistrelle appear to be the most abundant species on site, with regular use recorded on each night of the deployments, with lower levels of activity also recorded for Myotis spp., Brown Long-eared bat and Soprano Pipistrelle bats.

Table 15. Number of registrations (number of nights recorded)

Deployment	Common Pipistrelle	Soprano Pipistrelle	Noctule	Myotis spp.	Brown Long-eared bat
Spring	369(5)	2(2)	1(1)	15(5)	5(3)
Summer	388(5)	2(2)	7(3)	19(5)	4(3)

4.8 Badger

4.8.1 There are no badger records from within 200m of the study area, the nearest record of badger setts are within 900m. West Yorkshire Ecology Service do not provide details of badger records (unless within 200m of the study area) due to record sensitivity.

4.8.2 The walkover survey identified potential snuffle holes just outside of the north-eastern site boundary (TN13), which could be a sign of badger activity. No badger setts were identified within the site.

4.8.3 The badger walkover of the site and the 50m buffer around the site on the 25th April 2025 found no evidence of badger setts or feeding activity.

4.9 Water Voles

4.9.1 The desk study returned two records of water vole within 2km of site. The most recent record was from 2019, 1.km from the study area.

4.9.2 The site includes a culvert separating the two north-eastern fields and a small off-site stream in the woodland immediately to the east. These are unlikely to support water voles but a detailed survey of the extent of these water bodies is recommended, to identify any signs of water vole activity or potential to support this species.

4.9.3 The survey of the stream and pool on the 25th April 2025 found no evidence of water voles. Therefore, water vole is not considered further in this report.

4.10 Other Mammals

4.10.1 The desk study returned one record of brown hare and one record of European hedgehog within 2km of site. These records were both from 2019, 1.5km from the study area.

4.10.2 The arable fields in the site could offer some suitable habitat for brown hares to use but due to the small size and lack of habitat diversity across the site, the site is unlikely to support breeding populations.

4.10.3 There is suitable hedgerow corridor habitat that may provide foraging and commuting opportunities for hedgehog, but hedgerow bases were not observed to offer an abundance of dense cover for overwintering. The wider landscape adjacent to the site, comprising of gardens, is considered likely to provide better opportunities for hedgehogs.

4.11 Amphibians

4.11.1 The desk study returned ten records of amphibians; smooth newt, common toad and common frog. These records were all 1.5km - 1.9km from the study area, the most recent record from 2019.

4.11.2 The site includes limited terrestrial habitat for amphibians, however the off-site pond (TN9) within the eastern woodland could support small populations, even as a transitionary habitat.

Habitat Appraisal

4.11.3 The Habitat Suitability Index (HSI) survey was undertaken to determine suitability for supporting great crested newt populations (Table 8). The pond was found to be of 'good' suitability (HSI = 0.7).

Table 16. Habitat Suitability Index Assessment

Feature	Category	Pond HSI score
SI1 - Location	Zone A - Optimal	1.00
SI2 - Pond area	1000m2	1.00
SI3 - Pond drying	Never	0.90
SI4 - Water quality	Bad	0.67
SI4 - Shade	Up to 80%	0.20
SI6 - Fowl	Minor	0.67
SI7 - Fish	Absent	0.67
SI8 - Ponds	5 per 1km	1.00
SI9 - Terrestrial habitat	Poor	1.00
SI10 - Macrophytes	0%	0.50
Habitat Suitability Index		**0.70**

Environmental DNA

4.11.4 The eDNA results returned 0/12 results for presence of great crested newt DNA, a negative result showing they are not present in the pond on the site, see Appendix 9.

4.12 Reptiles

4.12.1 The desk study returned two records of grass snake from 2014, 1.8km and 1.9km from the study area.

4.12.2 The site does not include suitable habitats to support breeding populations of reptiles, therefore, reptiles are not considered further in this report.

4.13 Birds

4.13.1 The desk study returned 227 records of protected or notable birds within 2km of the study area; 17 of these records were within 1km.

4.13.2 The small size and type of the habitats on site were considered unlikely to support notable populations of breeding birds. Static detectors were deployed between 25th April and 22nd June to record the bird species in and around the site.

4.13.3 A total of 6143 bird vocal registrations were identified during the automated recorder survey in 2025. The highest number of vocalisations recorded were of blackbird *Turdus merula*, woodpigeon *Columba palumbus* and dunnock *Prunella modularis*.

4.13.4 A total of 43 species were recorded on the recorders. The total number of vocalisations recorded for each bird species are shown in Table 17 below.

Table 17. Total Number of Vocal Detections per Species

Scientific name	Common name	WCA Species	NERC S41 Species	BoCC Status	Total calls	Confidence
Turdus merula	Blackbird			Green	1834	1.00
Columba palumbus	Woodpigeon			Amber	1237	1.00
Prunella modularis	Dunnock		Yes	Amber	647	1.00
Erithacus rubecula	Robin			Green	595	1.00
Pica pica	Magpie			Green	384	1.00
Cyanistes caeruleus	Blue tit			Green	308	1.00
Corvus monedula	Jackdaw			Green	242	1.00
Strix aluco	Tawny owl			Amber	148	1.00
Troglodytes troglodytes	Wren			Amber	134	1.00
Corvus frugilegus	Rook			Amber	129	1.00
Carduelis carduelis	Goldfinch			Green	115	1.00
Corvus corone	Carrion crow			Green	108	0.96
Dendrocopos major	Great spotted woodpecker			Green	41	0.99
Curruca communis	Whitethroat			Amber	25	1.00
Emberiza citronella	Yellowhammer		Yes	Red	18	0.96
Columba oenas	Stock dove			Amber	17	0.99
Phasianus colchicus	Pheasant			-	15	0.99
Sitta europaea	Nuthatch			Green	13	0.97
Turdus philomelos	Song thrush		Yes	Amber	13	0.96
Passer domesticus	House sparrow		Yes	Red	12	0.96
Periparus ater	Coal tit			Green	11	0.95
Curruca curruca	Lesser whitethroat			Green	10	0.94
Chloris chloris	Greenfinch			Red	8	0.94
Phylloscopus collybita	Chiffchaff			Green	8	0.84
Aegithalos caudatus	Long-tailed tit			Green	7	1.00
Anas platyrhynchos	Mallard			Amber	6	0.98
Apus apus	Swift			Red	6	1.00
Pyrrhula pyrrhula	Bullfinch		Yes	Amber	6	0.91
Parus major	Great tit			Green	5	0.89
Turdus viscivorus	Mistle thrush			Red	5	0.99
Ardea cinerea	Grey heron			Green	4	0.99
Gallinula chloropus	Moorhen			Amber	4	1.00
Garrulus glandarius	Jay			Green	4	0.88

Scientific name	Common name	WCA Species	NERC S41 Species	BoCC Status	Total calls	Confidence
Branta canadensis	Canada goose			-	3	0.87
Motacilla cinerea	Grey wagtail			Amber	3	0.99
Regulus regulus	Goldcrest			Green	3	0.96
Streptopelia decaocto	Collared dove			Green	3	0.96
Tyto alba	Barn owl	Yes		Green	3	0.99
Sylvia atricapilla	Blackcap			Green	2	0.88
Certhia familiaris	Treecreeper			Green	1	0.76
Phylloscopus trochilus	Willow warbler			Amber	1	0.77
Sylvia borin	Garden warbler			Green	1	0.78
Tachybaptus ruficollis	Little grebe			Green	1	0.80

Barn Owl

4.13.5 The barn owl survey undertaken on the 25th of April 2025 found no evidence of barn owls e.g., feathers, pellets, faeces, dead birds within any of the three buildings on site. Barn owl is therefore not considered further within this report.

4.14 Invertebrates

4.14.1 The desk study returned 239 records of protected or notable invertebrates within 2km of the study area; none of these records were within 1km.

4.14.2 The study site is dominated by arable fields and hardstanding and therefore does not include suitable habitats likely to support a notable invertebrate assemblage, such as species-rich grassland or high quality, permanent aquatic habitats. Invertebrates are therefore not considered further in this report.

4.15 Plants

4.15.1 The desk study returned 165 records of protected or notable invertebrates within 2km of the study area; 29 of these records were within 1km.

4.15.2 No plant species of note were recorded on site at the time of survey or any subsequent site visits. As such, plants are not considered further in this report.

4.16 Invasive Species

4.16.1 The desk study returned 24 records of invasive non-native species, 18 of which were flowering plants; Japanese Knotweed, Himalayan Balsam and Variegated Yellow Archangel. The most recent records are from 2015 (all three species) and the nearest 0.8km from the study area (for Himalayan Balsam and Japanese Knotweed). The desk study also returned two records of Canada goose and three records of grey squirrel, all over 1.2km from the study area.

4.16.2 No Invasive species were observed on site during the initial walkover or subsequent site visits.

5 Assessment

5.1 National Policy

5.1.1 The National Planning Policy Framework (NPPF 2024) sets out the Government's planning policies for England and how these should be applied. It states that the purpose of the planning system is to contribute to the achievement of sustainable development, combining economic, social and environmental objectives, and 'protecting and enhancing our natural --- environment; including ---helping to improve biodiversity'. Within this framework, the requirements in relation to biodiversity are included within several policies. The two most relevant to individual planning decisions are Paragraphs 187 and 193, shown below:

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

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) 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;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

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

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

a) 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;

b) 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;

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

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

5.1.2 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on every public authority to have regard to conserving biodiversity. Section 41 of the same Act requires that the Secretary of State must publish a list of the living organisms and types of habitats that are of 'Principal Importance' for the purpose of conserving biodiversity. The Secretary of State must take steps, as appear reasonably practicable, to further the conservation of those living organisms and habitats in any list published under this section. The list of species and habitats of principal importance currently includes 943 species and 56 habitats.

5.2 Local Policy

5.2.1 The Local Plan is made up of several planning documents built around a Core Strategy. The Local Plan along with the NPPF sets out how to manage sustainable development in the area.

5.2.2 The Kirklees Local Plan is in the process of being updated. The current 2019 Local Plan policy LP30 aims to protect and enhance the quantity and quality of biodiversity in the district through the measures set out below.

5.2.3 *"The council will seek to protect and enhance the biodiversity and geodiversity of Kirklees, including the range of international, national and locally designated wildlife and geological sites, Habitats and Species of Principal Importance and the Kirklees Wildlife Habitat Network.*

Development proposals will be required to:

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

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

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

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

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

5.3 Legislation

5.3.1 The Wildlife and Countryside Act 1981 (as amended) provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs). These sites are identified for their flora, fauna, geological or physiographical features by Natural England. The Act also contains measures for the management of SSSIs and protection against damaging operations. Impact Risk Zones (IRZs) define zones around each site which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts [27].

5.3.2 The Wildlife and Countryside Act 1981 (as amended) is the primary legislation which protects native animals, plants and habitats in the UK. The Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also makes it an offence to intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant.

5.3.3 European Protected Species (EPS), such as bats and great crested newts, are protected under both the Wildlife and Countryside Act 1981 (as amended) and under the Conservation of Habitats and Species Regulations 2017 (as amended). Taken together, these make it an offence to:

a) Deliberately capture, injure or kill a EPS;

b) Deliberately disturb any EPS, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.

c) To be in possession or control of any live or dead EPS or any part of, or anything derived from a EPS;

d) Damage or destroy a breeding site or resting place of a EPS;

e) Intentionally or recklessly obstruct access to any place that a EPS uses for shelter or protection;

f) Intentionally or recklessly disturb a EPS while it is occupying a structure or place that it uses for shelter or protection.

5.4 Impacts on Designated Sites

5.4.1 The section below provides an evaluation, description of potential impacts and assessment of ecological effects for designated sites relevant to the study area. This information is summarised in Table 7.

27 Available at: http://www.magic.gov.uk

Table 18. Designated Sites Potential Impacts Summary

Is the development within 10km of a Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar Site?	No
Is the development within the Impact Risk Zone of a Site of Special Scientific Interest (SSSI)?	Yes
Is the development within 250m of a Local Wildlife Site and/or Ancient Woodland?	No

5.4.2 The closest designated site to the study area is Yew Tree Wood LWS located 0.3km east of the site. As none of the non-statutory designated sites fall within the development site boundary or are located immediately adjacent to the site, no direct impacts are anticipated to arise from a proposed development. However, direct and indirect impacts will need to be reconsidered when development plans are finalised.

5.4.3 The site falls within the 10km impact zone of numerous SSSIs (as listed in Section 4.2). However, an interrogation of the IRZ tool indicated that due to the proposed development type, Natural England do not require consultation.

5.4.4 No statutory sites are present within 10km of the site.

5.5 Impacts on Habitats

Habitats Overview

5.5.1 The sections below provide an evaluation, description of potential impacts and assessment of ecological effects for each habitat type relevant to the study area.

5.5.2 56 Habitats of Principal Importance are included on the Section 41 list under the NERC Act. These are all the habitats in England that are regarded as conservation priorities in the UK 2024 Biodiversity Framework *28*.

5.5.3 The hedgerows on site are habitats of principal importance.

Trees

5.5.4 Development of the site could without mitigation, result in damage during the construction phase to the trees through destruction of the trees themselves, their roots; by compacting soil, polluting the ground or increasing dust levels, and increased light pollution.

Hedgerows and Boundaries

5.5.5 Unlike most other habitat types, hedgerows have specific legislation affording them protection. The Hedgerows Regulations 1997 are intended to protect 'important' countryside hedgerows from destruction or damage. A hedgerow is considered important if (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority.

5.5.6 The loss of hedgerows on the site will have an adverse ecological impact as they are

28 JNCC on behalf of the Four Countries' Biodiversity Group (4CBG). 2024. UK Biodiversity Framework. JNCC, Peterborough. https://hub.jncc.gov.uk/assets/19a729f6-440e-4ac6-8894-cc72e84cc3bb.

priority habitats and are likely to provide habitat for other receptor species.

5.5.7 Development could potentially affect the hedgerow through complete or partial removal, trimming, and increased pollution.

5.5.8 Avoidance, mitigation and compensation measures will be required to reduce and offset the loss of this habitat.

Watercourses

5.5.9 The watercourse on site and adjacent off-site waterbodies could provide valuable habitat to other receptor species on site.

5.5.10 The opening up of the onsite culvert to create a ditch/SUDS feature has the potential to provide a significant biodiversity gain.

5.5.11 Development of the site could without mitigation, result in damage during the construction phase to the water bodies through destruction of the water bodies themselves, pollution of the water and surrounding ground, and destruction of adjacent vegetation.

5.5.12 Avoidance, mitigation and compensation measures will be required to reduce and offset impacts of these habitats.

5.6 Assessment of Biodiversity Net Gain

5.6.1 The post-development calculation has been used to assesses what impact the planned development of the site will have. The proposed development includes creation of grassland, a linear sustainable drainage system and small areas of both mixed native scrub and introduced non-native scrub. Additionally, the proposed development includes creation of new ornamental and native hedgerows and retention or enhancement of existing hedgerows. The culvert onsite will be opened up to create a ditch/SUDS feature.

5.6.2 Overall, the proposed development will result in a 23.09% gain in habitat units, 109.39% gain in hedgerow units and a gain of 57.82% watercourse units.

5.7 Species Overview

5.7.1 The sections below provide an evaluation, description of potential impacts and assessment of ecological effects for European and nationally protected species/group, or priority species/group, relevant to the study area.

5.7.2 There are 943 Species of Principal Importance included on the Section 41 list under the NERC Act. These are the species found in England which are regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

5.8 Bats

5.8.1 Bats and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as

amended). Seven bat species are also listed as Species of Principal Importance under the provisions of the NERC Act 2006.

5.8.2 A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, current legal opinion is that a bat roost is protected whether or not the bats are present at the time.

5.8.3 Buildings TN16–18 have been assessed as having low potential to support roosting bats. Trees TN1 and TN3 contain potential roost features (PRF-M) but are due to be retained, while TN4, which supports a low-value PRF-I feature, will be lost under current plans.

5.8.4 If confirmed roosts are present within these features, the proposed development could result in the loss of a roost and potential harm to individual bats. However, given the low suitability of the buildings and trees surveyed, the overall risk is considered to be low, and any roosts present are expected to be of low conservation status.

5.8.5 Further survey will need to be undertaken for the buildings (TN16–18) prior to demolition or alteration, and for TN1 and TN3 if felling or pruning becomes necessary. TN4 should be felled only following close inspection by a suitably qualified ecologist, with proportionate compensation provided for the loss of its PRF-I feature.

5.8.6 Automated bat activity surveys recorded low levels of activity across the Site, dominated by common pipistrelle, with fewer than 100 registrations per night. This indicates that the Site is regularly used by only a small number of individual bats and does not support high levels of bat activity.

5.8.7 Based on the survey results, the presence of a high-status roost (e.g. maternity colony) in close proximity is considered unlikely. Any roosts potentially affected by the development would therefore be of low conservation status, and appropriate mitigation would be readily achievable either within the Site or in the immediate locality.

5.8.8 Overall, risks to bats is considered low and appropriate mitigation measures can be secured through condition or licensing, ensuring that impacts on bats can be fully assessed and addressed at the reserved matters stage.

5.9 Badger

5.9.1 Badgers are protected under the Badgers Act 1992. This makes it an offence to willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it. Removal of significant areas of badger foraging habitat may also contravene the Act, as it could be regarded as cruelty.

5.9.2 Given the lack of field signs and recent records, it is considered that the Site is unlikely to be important for badger. As such, an adverse impact arising from development is not anticipated.

5.9.3 However, if there are delays to the commencement of the proposed development, further

checks for badger may be required because they are mobile animals that will readily colonise suitable sites.

5.10 Birds

5.10.1 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to intentionally or recklessly disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

5.10.2 The Birds of Conservation Concern initiative [29] publishes lists of Red and Amber species. Birds on the Red list are of high conservation concern within the UK, while those on the Amber list are of medium conservation concern. In addition, a number of bird species are also included as Species of Principal Importance under the provisions of the NERC Act 2006.

5.10.3 To supplement the desk study, automated acoustic detectors were deployed between 25 April and 22 June 2025. A total of 6,143 bird vocalisations were recorded, representing 43 species. The most frequently detected were blackbird *Turdus merula* (1,834 calls), woodpigeon *Columba palumbus* (1,237 calls) and dunnock *Prunella modularis* (647 calls).

5.10.4 Species of higher conservation concern were also detected, including yellowhammer *Emberiza citronella* (BoCC Red, S41), house sparrow *Passer domesticus* (BoCC Red, S41), greenfinch *Chloris chloris* (BoCC Red), mistle thrush *Turdus viscivorus* (BoCC Red), and swift *Apus apus* (BoCC Red). Amber-listed species included dunnock, song thrush, whitethroat, rook and tawny owl.

5.10.5 The assemblage recorded is considered typical of the habitats present within and around the Site, with the higher frequency of detections (e.g. Blackbird, Dunnock, Robin) most likely associated with the wider landscape and boundary habitats rather than the central fields.

5.10.6 While the results do not confirm breeding, they demonstrate that the Site is regularly used by a range of common and widespread bird species, with occasional records of species of conservation concern.

5.10.7 Site clearance or construction works, if undertaken during the bird breeding season and impacting the hedgerows and trees on site, could potentially damage active nests and result in an offence under the legislation. Impacts to consider include damaging or removing breeding sites, disturbing birds and their young, removing vegetation and changing habitats.

5.10.8 Overall, while the change in site context may deter certain species such as yellowhammer, the retention and buffering of boundary habitats, combined with enhancement measures such as additional planting and the provision of bird boxes, has the potential to deliver a

[29] Stanbury, A.J. et al (2021). Birds of Conservation Concern 5: The status of all regularly occurring birds in the UK, Channel Islands and the Isle of Man. British Birds 114, pg 723-747.

net benefit for birds.

5.11 Amphibians

5.11.1 Great crested newts and their habitats in water and on land are protected under the Wildlife and Countryside Act 1981 (as amended) and under the Conservation of Habitats and Species Regulations 2017 (as amended). In addition, great crested newt is listed as a Species of Principal Importance under the provisions of the NERC Act 2006.

5.11.2 eDNA surveys of ponds within 250 m of the Site returned negative results for great crested newt, and no suitable breeding ponds are present within the Site itself. As such, the proposed development is assessed as having no adverse impact on great crested newts.

5.11.3 The Site does, however, provide suitable terrestrial habitat for more common amphibian species, including common toad, which is a Species of Principal Importance. Potential adverse effects on these species could arise from site clearance and construction activities.

5.11.4 Appropriate mitigation, such as phased vegetation clearance, retention and buffering of boundary habitats, will ensure that residual impacts on common amphibians are negligible.

5.12 Invertebrates

5.12.1 Whilst the site is unlikely to support a diverse array of invertebrates, the habitats on site most suitable for invertebrates are the hedgerows and trees. Therefore, the proposed development is unlikely to cause a significant adverse effect on invertebrates. Retention of hedgerows, mature trees and the creation of green infrastructure as part of the development would provide continued and enhanced, habitat for invertebrates post-development.

5.13 Other Mammals

5.13.1 Foxes, while not covered under specific legislation are covered generally under the Wild Mammals (Protection) Act 1996. This makes it an offence to harm any wild mammal with the intent to inflict unnecessary suffering. To avoid a possible offence, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

5.13.2 Although there is suitable habitat along the hedgerows and adjacent off-site woodland, the arable fields and developed land are low quality for hedgehogs and hares. If the hedgerow habitat is to be retained as part of the development, there should be no significant impact on mammals from habitat loss, but precautionary measures during the construction phase are likely to be necessary to prevent injury or death during site clearance works.

6 Recommendations

6.1 Introduction

6.1.1 The recommendations below for further survey are based on the results and assessment set out above, taking into account standard published guidance from a number of sources (as referenced through the report), including the GOV.UK information on Planning and Development [30] [31].

6.1.2 Individual Local Planning Authorities have their own requirements for ecological information to support the validation and assessment of planning applications. These requirements often vary widely between Authorities and sometimes do not accord with national guidance- including that issued by the statutory nature conservation organisations. As a result, we have applied the more consistent national guidance to our survey and mitigation recommendations set out below.

6.2 Further Survey

6.2.1 The Phase 1 and Phase 2 surveys have provided a baseline of ecological information to describe the main characteristics of the proposed development site and to assess the potential ecological impacts. However, should there be a delay in any future proposed land use, it may be necessary to repeat the detailed species surveys to provide up-to-date data for accurate impact assessment.

6.2.2 If the trees at TN1 and TN3 (assessed as PRF-M) are to be felled or pruned, further bat roost assessment will be required prior to works. This may include aerial inspection or dusk/dawn emergence or re-entry surveys to confirm the presence/absence of roosts and ensure that no roosts are at risk.

6.2.3 The tree at TN4 (assessed as PRF-I) does not require further survey prior to works. However, if felling or pruning is proposed, a precautionary soft-felling method should be adopted under ecological supervision to minimise the risk of harm to bats potentially using features of low suitability.

6.2.4 If any of the farm buildings (TN16–18) are proposed for demolition or significant alteration, further bat surveys will be required to establish their use by bats. This may include internal inspection and/or dusk/dawn surveys, proportionate to the low potential roosting suitability identified.

6.2.5 In all cases, should a bat or evidence of roosting bats be encountered during works, activity must cease immediately, and advice sought from a licensed bat ecologist. A derogation licence from Natural England may be required before works can recommence.

[30] https://www.gov.uk/topic/planning-development/protected-sites-species
[31] https://www.gov.uk/guidance/natural-environment#biodiversity-and-ecosystems

6.3 Biodiversity Net Gain

Biodiversity Net Gain

6.3.1 For the required 10% net gain, habitat, hedgerow and watercourse units will be achieved through the creation of new habitats, hedgerow creation and enhancement of existing hedgerows, and opening up of a culvert, which are considered deliverable based on the current proposals. The overall approach to achieving 10% net gain will be set out in a Biodiversity Gain Plan and Habitat Management and Monitoring Plan, which can be secured via a pre-commencement Planning Condition once the scheme has been consented and the layout finalised.

6.3.2 The distinctiveness plan in Appendix 4 highlights hedgerows of medium distinctiveness, which should be retained where possible. If impacted by the development, these hedgerows will require compensation at the same distinctiveness band or higher. Habitats, watercourses and hedgerows recorded as 'low' distinctiveness will still require compensation of the same distinctiveness band or better.

6.4 Mitigation Measures

6.4.1 Mitigation measures should be considered through the masterplan design and planning application process, with actions during the construction and operation phases agreed and established in a Construction Environmental Management Plan (CEMP) and/or Landscape and Ecology Management Plan (LEMP) and a Habitat Mitigation and Monitoring Plan (HMMP).

6.4.2 This whole process from proposal to implementation should consider the 'mitigation hierarchy' – avoid, reduce, compensate and enhance:

- Aim to avoid negative effects, e.g. by redesigning the scheme
- If this isn't possible, use mitigation measures to reduce the impacts
- Use compensation measures if there are still negative impacts, e.g. by replacing habitats
- Seek opportunities to make enhancements for biodiversity

Habitats

6.4.3 The masterplan for the site retains important habitat features. It also includes habitat creation such as grassland, tree and hedgerow planting. The LEMP and HMMP for the scheme will include measures to effectively manage these habitats for nature conservation. Habitats to be included are hedgerows, scrub, SUDS/ditch and newly created grassland.

Bats

6.4.4 The tree with roosting features identified in the Site survey should be left undisturbed if possible. If any of the trees are to be felled or significant limbs removed, further surveys will be required, and licensing/mitigation implemented if a roost is found.

6.4.5 A sensitive lighting scheme will be incorporated into the design, following current ILP/BCT GN08/23 guidance on bats and artificial lighting. Key measures include:

- No lighting of key habitats such as hedgerows, woodland edges, and the on-site ditch. These areas will be maintained as dark corridors.
- Use of warm white LEDs (≤2700 K, no UV, peak wavelength >550 nm) to reduce disturbance.
- Lighting will be low intensity, with modelling demonstrating compliance with ≤0.2 lux on horizontal planes and ≤0.4 lux on vertical planes at sensitive boundaries.
- All luminaires will be fully shielded, mounted horizontally, with zero upward light ratio to prevent spill.
- Glare reduction through careful siting, cowls or louvres where needed.
- Lighting controls (motion sensors, timers, dimming, and curfews) will ensure lighting is only on when necessary.
- Bollard or low-level lights will be avoided unless carefully designed to prevent scatter and glare.

6.4.6 Construction lighting will be kept to the absolute minimum. No floodlighting or night working is proposed, and any temporary/security lighting will be motion-activated, downward-directed, and short-duration.

6.4.7 Other measures to enhance the site for bats will include bat boxes or bat bricks for roosting (on trees and within 10% of the new built houses), and the native planting mentioned above, to preserve and extend the current foraging and commuting value of the site.

6.4.8 If bats are unexpectedly discovered after development has started, then all work that could harm bats or damage/obstruct their roosts must stop. Expert help should be sought as soon as possible from a qualified and licensed ecologist, before works continue.

Badgers

6.4.9 During works, deep, open excavations must be covered at night to prevent animals such as badgers (and other animals) from falling in and becoming trapped or injured. Shallower excavations may be left uncovered but with sloped edges or ramps to allow animals to escape unharmed.

Amphibians

6.4.10 Potential impacts on amphibians will be avoided by retaining and managing terrestrial habitats (boundary habitats). Any works to modify the hedgerows will be carried out between late autumn and mid-winter in order to reduce overall impacts and disturbance. Major, unavoidable impact on amphibians can be addressed by capturing and moving them away from the affected area to a location with the same or better habitats.

Birds

6.4.11 During construction activities, the hedgerows should be buffered and protected to minimise disturbance to birds, and any damage to the hedgerows themselves.

6.4.12 Impacts on nesting birds should be avoided in particular, by carrying out site clearance and similar operations outside of the bird breeding season (March – August inclusive). Construction activities that might directly impact upon breeding birds should hence be limited to the September-February period.

6.4.13 If the timing or location of work activities cannot be changed to avoid affecting birds, then birds may be prevented from starting to nest by blocking access to nest sites, clearing vegetation or structures used for breeding, or using deterrents they can see or hear, e.g. tapes or flashing lights. These techniques cannot be used, however, once a nest is established.

6.4.14 Enhancement and maintenance of the boundary hedgerows will provide a dense, wide-based cover for nesting, as well as associated margin vegetation to provide additional cover, feeding opportunities, and some protection from a possible increase in domestic cat presence.

6.4.15 The provision of a variety of bird nest boxes within at least 10% of the new built properties will provide nesting opportunities for a number of birds species, including red listed species such as song thrush, dunnock and swift, not currently known to breed on site.

Hedgehogs

6.4.16 During the construction phase open excavations should either be covered overnight, or a slope left on one side to enable hedgehogs to escape.

6.4.17 Enhancement of the site for hedgehogs can be realised through the habitat measures described above and more specifically, the provision of at least ten nest boxes to provide winter shelter. In addition, garden fences should be made permeable to enable the movement of hedgehogs (and other small mammals and amphibians) between properties. This can be done by not installing gravel boards, or by cutting access holes in these.

Appendix 1: Static Detector Location

Legend

- Red Line Boundary
- Static Detector Location

Rev	Date	Drawn by	Notes
A	02/09/2025	RS	

Project Name: Land at Eastfield, Shepley
Project Number: 2157.01
Project Location: Eastfield, Shepley, Huddersfield

Plan Title: Static Detector Location (Bats and Birds)

Client: Banks Group

Scale: 1750 @ A4

Date: 02/09/2025

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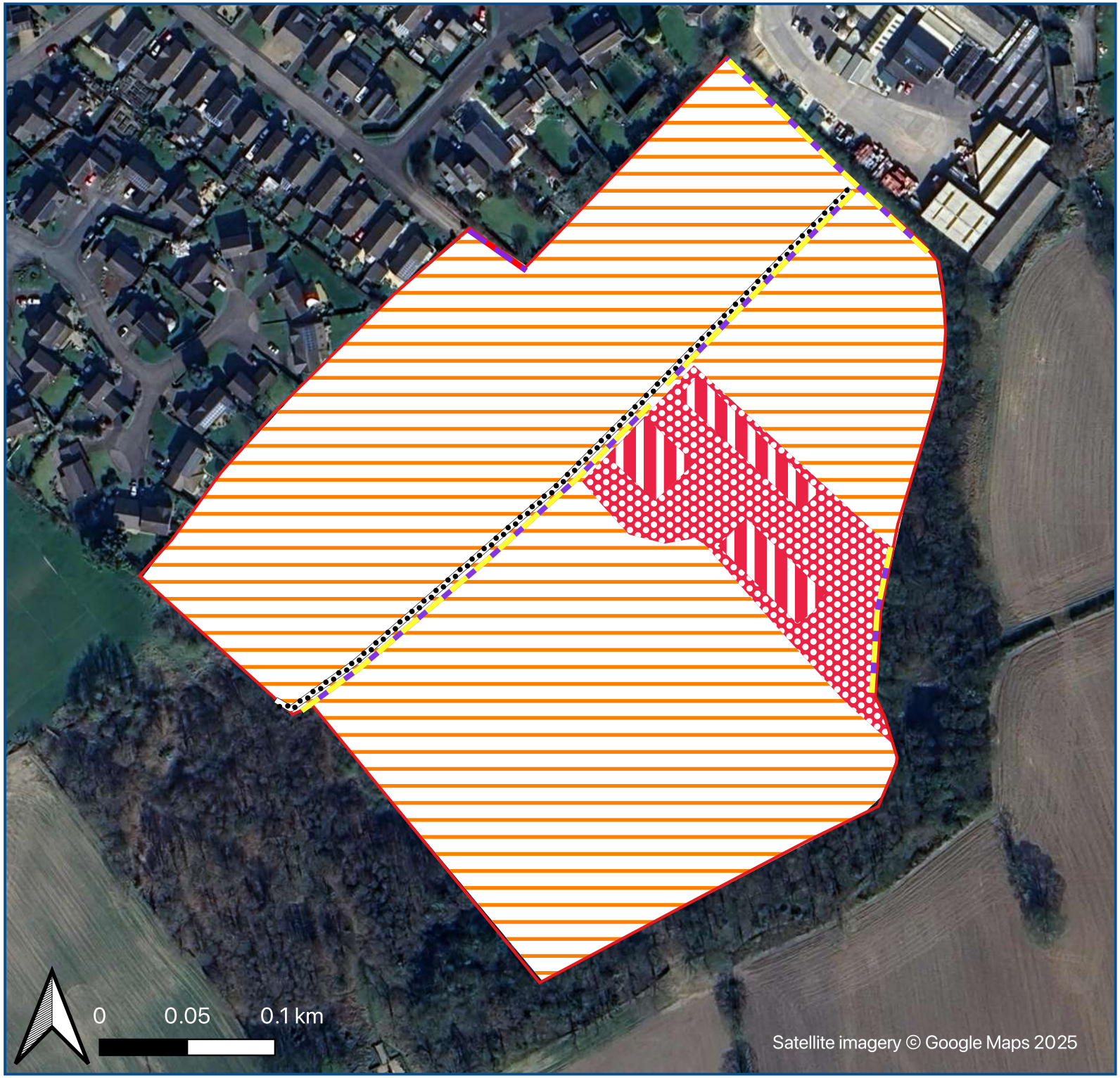
Appendix 2: Baseline Habitats Plan



Legend

Red Line Boundary

Hedgerow Baseline

Non-native and ornamental hedgerow

Native hedgerow

Native hedgerow with trees

Watercourse Baseline

Culvert

Habitats Baseline

Artificial unvegetated, unsealed surface

Cereal crops

Developed land; sealed surface

Plan name: Baseline Habitats

Project name & number: 2157 Land at Eastfield Shepley, Huddersifeld

Drawn by: MS

Date: 30.06.2025

baker consultants

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Appendix 3: Target Notes

No.	Description
1	Urban tree within hedgerow. Large ash tree (*Fraxinus excelsior*) with some fallen branches, possible signs of Ash die back, cracked branches at the top could have potential roost features (PRFs) for bats.
2	Urban tree within hedgerow. Medium oak tree (*Quercus*), knot hole on north facing branch with some flaking bark on other limbs. Further assessment required to inspect for PRFs.
3	Rural tree within hedgerow. Medium ash tree with no obvious signs of ash dieback or PRFs visible.
4	Rural tree within hedgerow. Large mature ash tree, some of the upper limbs with missing twigs and large knot holes. Further assessment required to inspect for PRFs.
5	Rural tree, good condition. Small ash tree in good health.
6	Stone wall along western site boundary.
7	Urban tree. Mature beech (*Fagus sylvatica*) tree on the edge of the adjacent woodland with some knot holes present. Further assessment required to inspect for PRFs.
8	Urban tree. Oak with split branch showing a hazard beam. Further assessment required to inspect for PRFs.
9	Pond – priority habitat. Large woodland pond with water flowing in south and flowing out the north from a small stream.
10	Urban tree with cracked bark. Further assessment required to inspect for PRFs.
11	Urban tree. Oak (*Quercus*) with a woodpecker hole (possible PRF).
12	Urban tree. Beech (*Fagus*) with potential PRFs. Further assessment required.
13	Snuffle holes in woodland edge, indicating possible badger activity.
14	Small stream within woodland, possibly flowing into TN9 pond.
15	Urban tree with knot hole. Further assessment required to inspect for PRFs.
16	Barn currently used for hay storage. External timber panelling and clad with corrugated iron/asbestos sheeting, possible bat roosting opportunity.
17	Breezeblock structure with asbestos cladding, possible roost features include holes in bricks providing access for bats.
18	Barn currently used for hay storage. Lowest structure includes concrete blocks with timber cladding and flashing over edge, north-east aspect is open. Main frame is metal with asbestos/metal sheeting for roofing with timber beams along the length providing lots of possible features for individual bats possibly used as feeding perch but unlikely to have a major roost.

Appendix 4: MoRPh Survey Results

Legend

- Red Line Boundary
- 10m Buffer
- Morph Survey Locations - central points

Watercourse Type

- Culvert
- Other rivers and streams

Rev	Date	Drawn by	Notes
A	19/08/2025	RS	

Project Name: Land at Eastfield, Shepley
Project Number: 2157.01
Project Location: Eastfield, Shepley, Huddersfield, West Yorkshire

Plan Title: Morph Survey Plan

Client: Banks Group

Scale: 1750 @ A4

Date: 19/08/2025

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Appendix 5: Baseline Habitat Distinctiveness Plan

Legend

Hedgerows

Baseline Hedgerow Distinctiveness

- Medium
- Low
- V.Low

Watercourses

Baseline Watercourse Distinctiveness

- Low

Habitats

Baseline Habitat Distinctiveness

- Low
- V.Low

Plan name: Baseline Distinctiveness

Project name & number: 2157 Land at Eastfeld Shepley, Huddersfield

Drawn by: MS

Date: 01.06.2025

baker consultants
ECOLOGY DESIGN INNOVATION

Appendix 6: Post Development Habitats Plan

Legend

Hedgerows

- Non-native and ornamental hedgerow
- Native hedgerow
- Species-rich native hedgerow
- Species-rich native hedgerow with trees

Watercourses

- Culvert
- Lost

Habitats

- Artificial unvegetated, unsealed surface
- Built linear features
- Developed land; sealed surface
- Introduced shrub
- Mixed scrub
- Modified grassland
- Other neutral grassland
- Sustainable drainage system
- Vegetated garden

Plan name: Post Development Plan

Project name & number: 2157 Land at Eastfield Shepley, Huddersfield

Drawn by: MS

Date: 29.09.2025

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ECOLOGY DESIGN INNOVATION

Appendix 7: Post Development Distinctiveness Plan

Legend

Proposed Hedgerow Distinctiveness

- High
- Medium
- V.Low

Proposed Habitats Distinctiveness

- Medium
- Low
- V.Low

Plan name: Post Development Distinctiveness

Project name & number: 2157 Land at Eastfield Shepley, Huddersfield

Drawn by: MS

Date: 29.09.2025

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Appendix 8: Desk-study

Common Name	Scientific Name	Conservation Status	Latest Record
Brown Hare	*Lepus europaeus*	Sect.41	2019
Brown Long-eared Bat	*Plecotus auritus*	EPS, Sect.41, WCA5	2011
Common Pipistrelle	*Pipistrellus pipistrellus*	EPS, WCA5	2019
Daubenton's Bat	*Myotis daubentonii*	EPS, WCA5	2018
European Water Vole	*Arvicola amphibious*	Sect.41	2019
Myotis Bat species	*Myotis sp.*	EPS, WCA5	2011
Noctule Bat	*Nyctalus noctula*	EPS, Sect.41, WCA5	2018
Soprano Pipistrelle	*Pipistrellus pygmaeus*	EPS, Sect.41, WCA5	2019
West European Hedgehog	*Erinaceus europaeus*	Sect.41	2019
Grass Snake	*Natrix natrix*	Sect.41, WCA5	2014
Common Frog	*Rana temporaria*	WCA5	2019
Common Toad	*Bufo bufo*	Sect.41, WCA5	2019
Smooth Newt	*Lissotriton vulgaris*	WCA5	2014
Bluebell	*Hyacinthoides non-scripta*	WCA8	2015
Japanese Knotweed	*Fallopia japonica*	ALIEN	2016

Key	
EPS	European Protected Species (listed in Annex 4 of the EC Habitats Regulations and Schedule 2 of the Habitats Regulations)
PBA	Protection of Badgers Act 1992
Sect.41	Section 41 species on Natural Environment and Rural Communities Act (2006)
WCA5	Listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)
WCA8	Listed in Schedule 8 of the Wildlife and Countryside Act 1981 (as amended)
ALIEN	Non-native invasive species

Appendix 9: GCN eDNA Results

Client:
Robin Denton, Baker Consultants
1040079-RD Baker, version 1

RSK ADAS Ltd
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Redacted

Email

www.adas.uk

Sample ID: ADAS-8753			
Client Identifier: Shepley		Grid references/coordinates: SE1983309578	
Description: pond water samples in preservative		Condition on Receipt: Good	
Date of Receipt : 25/04/2025		Volume: Passed	

Determinant	**Result**	**Method**	**Date of Analysis**
Inhibition Control[†]	2 of 2	Real Time PCR	05/07/2025
Degradation Control[§]	Within limits	Real Time PCR	05/07/2025
Great Crested Newt*	0 of 12 (negative)	Real Time PCR	05/07/2025
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µL)[#]	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed: Redacted		Signed: Redacted	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	07/05/2025	Date of issue:	07/05/2025

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for GCN if all of the replicates are negative; positive for GCN if one or more of the replicates are positive.*

[†] Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not

[§] No degradation is expected within time frame of kit preparation, sample collection and analysis.

[#] Additional positive controls (10^{-1}, 10^{-2}, 10^{-3} ng/µL) are also routinely run, results not shown here.

Appendix 1: Interpretation of results

Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

1. evidence of decay - meaning that the degradation control was outside of accepted limits
2. evidence of degradation or residual inhibition - meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)

baker consultants