



Ecological Impact Assessment

Ollerton Depot, Newark Road, New Ollerton,
NG22 9PZ

Presented to: J. Murphy & Sons Limited

Issued: February 2024

Delta-Simons Project No: 87854.579674

Report Details

Client	J. Murphy & Sons Limited
Report Title	Ecological Impact Assessment
Site Address	Ollerton Depot, Newark Road, New Ollerton, NG22 9PZ
Project No.	87854.579674
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Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
1	Final	8 th February 2024		[REDACTED]	[REDACTED]	[REDACTED]
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Non-Technical Summary

Delta-Simons Ltd was instructed by J. Murphy & Sons Limited (the 'Client') to undertake an Ecological impact Assessment (EclA) of an area of land at Ollerton Depot, Newark Road, New Ollerton, NG22 9PZ (hereafter referred to as the 'Site') to inform a planning application for the redesign of the existing J. Murphy & Sons site to create a new layout and expansion (the 'Proposed Development') at the Site.

This EclA addresses the potential effects of the Proposed Development on ecology and nature conservation. The Report describes the methods used to assess the effects; the baseline conditions currently existing at the Site and within the immediate surrounding area; the mitigation measures required to prevent, reduce or offset any significant adverse effects and the likely residual effects after these measures have been adopted, as well as any proposed enhancement measures. A summary of residual effects is provided overleaf.

An ecological desk study undertaken in October 2022 identified one internationally designated statutory site within 6 km of the Site; Birklands & Bilhaugh Special Area of Conservation (SAC) located 2.81 km north-west of the Site, two nationally designated statutory sites within 2 km of the Site; Wellow Park Site of Special Scientific Interest (SSSI) and located 0.02 km south-east of the Site and Birklands West and Ollerton Corner SSSI 1.68 km north-west of the Site. One locally designated statutory site was also identified within 2 km of the Site; Sherwood Heath Local Nature Reserve (LNR) 1.69 km west of the Site. The Site also falls within one or more SSSI Impact Risk Zones (IRZ) for which the proposed development potentially meets the criteria of infrastructure, rural non-residential, discharges and water supply.

Ten non-statutory designated sites are present within 2 km of the Site centre. All of these are Local Wildlife Sites (LWS) including Broughton Railway Banks LWS, which includes the woodland/scrub embankment bisecting the Site, along the southern Site boundary and extending off-Site to the north-east, Willow Dam and Grassland LWS adjacent to the southern Site boundary, Wellow Wood LWS 0.02 km south-east of the Site and Ollerton Colliery LWS 0.02 km north of the Site.

Owing to the size and existing nature/use of the Site, the type of development, the urban location and the relative separation of the Site, no impacts are anticipated to the majority of designated sites.

The majority of Broughton Railway Banks LWS on-Site is to be retained and protected during the development. The Proposed Development will result in the direct loss of a small section of habitat within the LWS to facilitate the access between the eastern and western portions of the Site, and installation of a viewing platform. The location of these features have been determined on-Site with the aim to avoid the most ecologically valuable features such as the woodland and more mature individual trees within the scrub. This also represents a small proportion of the overall LWS area (<0.05 %). However, proposed landscape planting is considered to provide alternative connective corridors between areas of LWS designation and with the application of environmental best practice and sensitive lighting plan, no significant impacts are anticipated.

With the application of environmental best practice and a sensitive lighting design no significant impacts are anticipated on Wellow Wood LWS, Willow Dam and Grassland LWS or Ollerton Colliery LWS.

The Site also lies within the 5 km buffer identified for Sherwood Forest pSPA, with the closest Important Bird Area (IBA) being Ollerton Colliery LWS to the north of the Site. A risk-based approach has been considered to assess potential direct, indirect, and cumulative impacts, with no likely adverse impacts identified.

The baseline for the EclA has been established through a combination of desk study and field surveys. The Site covers an area of 24 ha and is currently occupied by J. Murphy & Sons Ltd in the west, comprising predominantly sealed surface and buildings with a patch of mixed scrub bordering a drainage ditch. A strip of woodland characterises the southern Site boundary and extends into the Site separating the existing developed area in the west from agricultural land in the east. The eastern area of the Site comprises both arable and agricultural grassland, divided by a drainage ditch and parallel hedgerow. The habitats present on Site are widespread, in both a local and national context. The mitigation hierarchy has been followed such that those habitats with the greatest ecological value (i.e. the woodland, scrub hedgerows, individual trees and ditch) are to be retained within the development, wherever possible. The Proposed Development

includes habitat creation in the eastern portion of the Site, with a large proportion of the arable field proposed for ecological enhancements, including meadow grassland, native scrub, hedgerows, tree planting and the creation of wildlife ponds and Suds features. Landscape planting is also proposed within the areas of built development. Overall this is considered to compensate for the loss of habitat on-Site and provide biodiversity enhancements. With the application of habitat protection measure, environmental best practice and an appropriate long-term management plan the Proposed Development is anticipated to have a minor beneficial effect in relation to habitats.

Following the initial Site assessment, further targeted species surveys were undertaken, including reptile presence/absence surveys in August-September 2023, bat roost presence/absence surveys of two buildings in August 2023 and bat activity transect surveys and automated bat detector surveys in August-September 2023.

The construction phase of the Proposed Development will result in the loss of terrestrial habitat suitable to support reptiles and amphibians, with a 'low' population of common lizard recorded, although the presence of GCNs is considered highly unlikely. Furthermore, there is a risk of harm to individuals as a result of vegetation clearance and from open excavations. However, with the application of mitigation measures including precautionary working methods, habitat management, best practice measures during both the construction and operational phase of the development and on-Site habitat creation, no significant impacts are anticipated.

The construction phase will result in the loss of suitable bird nesting habitat. Suitable habitat will be removed either outside the main nesting bird season, or subsequent to a nesting bird check by a suitably experienced ecologist immediately prior to removal.

The proposed Development includes the demolition of B1 and B5 assessed as having low suitability to support roosting bats. Whilst no evidence of a bat roost has been recorded to be associated with these structures, bats are mobile animals which often change roost sites at different times of year. A precautionary approach to demolition will therefore be applied. The Site offers commuting and foraging opportunities for a range of bat species, with relatively low numbers recorded during the surveys. Whilst the proposed development will result in a loss of grassland, arable and small sections of mixed scrub habitat, key vegetated corridors are to be retained and the proposed landscape scheme is considered to compensate for the loss of habitat and provide enhanced opportunities. With the application of a sensitive lighting design, no significant impacts are anticipated.

Whilst no evidence of hedgehogs has been recorded at the Site, there is potential for this species to occur on Site. With the application of best practice in relation to excavations, open pipework, and precautionary working methods to vegetation clearance, no significant effects are anticipated.

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1.0 Introduction

1.1 Purpose and Scope of the Survey

Delta-Simons Ltd was instructed by J. Murphy & Sons Limited (the 'Client') to undertake an Ecological Impact Assessment (EclA) of land at Ollerton Depot, Newark Road, New Ollerton (hereafter referred to as the 'Site') to inform a planning application for the redesign of the existing J. Murphy & Sons site to create a new layout and expansion.

The purpose of this report is to:

- Establish baseline ecological conditions at the Site.
- Provide details of ecological mitigation measures incorporated through design evolution as an intrinsic part of the project design.
- Detail any ecological mitigation measures to be implemented during Site clearance, construction and operation.
- Identify any residual ecological effects after avoidance and mitigation measures have been considered.
- Identify any compensation measures required to offset residual effects.
- Provide recommendations for how mitigation and compensation may be secured and monitored.
- Set out details of ecological enhancement measures to be included within the Proposed Development.
- Provide sufficient information to determine whether the project accords with relevant nature conservation policies and legislation and, where appropriate, to allow conditions or obligations to be proposed by the relevant authority.

The Site location and the red line boundary are shown in Figure 1.

1.2 Site Description

The Site is centred at Ordnance Survey (OS) grid reference SK 67090 67074 south of New Ollerton in Nottinghamshire. The Site covers an area of 24 ha and is currently occupied by J. Murphy & Sons Ltd in the west, comprising predominantly sealed surface and buildings with a patch of mixed scrub bordering a drainage ditch. A strip of woodland characterises the southern Site boundary and extends into the Site separating the existing developed area in the west from agricultural land in the east. The eastern area of the Site comprises both arable and agricultural grassland, divided by a drainage ditch and parallel hedgerow.

The Site is situated on the south-eastern edge of New Ollerton. Newark Road and residential housing associated with Kelsey Avenue defines the western Site boundary, with further residential and commercial properties beyond. An active railway line borders the northern boundary, separating the Site from Ollerton Pit Wood/Ollerton Colliery Local Wildlife Site (LWS). Further woodland and agricultural land extends to the east and south.

The habitats present on Site are shown in Figure 2.

1.3 Proposed Development

The Proposed Development includes the redevelopment of the Site including the relocation of the existing workshop facilities. The Proposed Development includes:

- New office and training building/facilities;
- New workshop facilities;

- New staff and visitor's car parking;
- HGV parking; and
- Reconfiguration of existing open storage areas.

The development in the eastern half of the Site includes a new workshop with vehicular access proposed via a cut through of the existing central embankment/tree belt with associated hardstanding storage areas and a training area. The southern field of the Site also proposes a new training area and the construction of high voltage electricity pylons, however, the majority of the field is to be used for landscape planting and ecological enhancements.

The development in the western half of the Site would see the demolition of the existing office buildings to the north and replacement office/training building. The remaining areas of the western half of the Site would continue in use for container preparation and storage as well as storage of machinery and materials.

The landscape proposals are based around the retention of the majority of the existing vegetation and focused on maximising ecological function and preserving the existing visual enclosure and ecological connectivity.

The construction phase will comprise:

- Demolition of several buildings and required vegetation clearance;
- Retention and protection of retained habitat including woodland, mixed scrub, hedgerow and ditch habitats on/off-Site;
- Construction of new builds and associated infrastructure; and
- Soft landscape planting.

The operational phase will comprise:

- Use of the Site for commercial/training purpose.

2.0 Legislation & Policy Summary

Planning guidelines, international commitments, legislation and planning policies relevant to the protection, conservation and enhancement of nature conservation interests are detailed below.

2.1 National Legislation, Policy, and Guidance

Specific habitats and species of relevance to the Site receive legal protection in the United Kingdom under various pieces of legislation, including:

- National Planning Policy Framework (NPPF, revised 2023);
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Natural Environment and Rural Communities Act (NERC) 2006;
- The Hedgerow Regulations 1997;

and

- The Environment Act 2021.

Where relevant, this assessment takes account of the legislative and policy protection afforded to specific habitats and species. Delta-Simons do not purport to provide specialist legal advice and where necessary the reader should also consult the original legislation, references to which are included in Appendix A.

2.2 Local Policy and Guidance

Local planning policies relating to ecology are generally based on national planning policy, the conservation of species protected under the above legislation and the protection of designated sites. However, relevant local policy and guidance documents are outlined below.

Newark and Sherwood Plan Amended Core Strategy (Adopted March 2019)

The Newark & Sherwood Plan Amended Core Strategy sets out the District Council's spatial policy framework for delivering the development and change needed to realise the District Council's vision for the District up to 2033.

The principle planning policies relating to nature conservation are as follows:

"Core Policy 12 Biodiversity and Green Infrastructure

The District Council will seek to conserve and enhance the biodiversity and geological diversity of the District by working with partners to implement the aims and proposals of the Nottinghamshire Local Biodiversity Action Plan, the Green Infrastructure Strategy and the Nature Conservation Strategy. The District Council will therefore:

- *Expect proposals to take into account the need for continued protection of the District's ecological, biological and geological assets. With particular regard to sites of international, national and local significance, Ancient Woodlands and species and habitats of principal importance identified in Section 41 of the Natural Environment and Rural Communities Act 2006 and in the Nottinghamshire Local Biodiversity Action Plan;*

- *Seek to secure development that maximises the opportunities to conserve, enhance and restore biodiversity and geological diversity and to increase provision of, and access to, green infrastructure within the District;*
- *Promote the appropriate management of features of major importance for wild flora and fauna;*
- *Provide for Suitable Alternative Natural Green Space to reduce visitor pressure on the District's ecological, biological and geological assets, particularly in the Newark area and for 5kms around the Birklands and Bilhaugh Special Area of Conservation;*
- *Support the development of a Green Infrastructure Network, as illustrated in the Green Infrastructure Diagram, linking together Key Strategic Routes throughout the District and providing for, in appropriate locations, visitor infrastructure that improves accessibility. The District Council will, in particular, promote improved green infrastructure linkages between:*
 - *Newark and Southwell; and*
 - *Southwell and the north-west of the District.*

Development proposals crossing or adjacent to the network should make provision for its implementation and/or enhancement;

- *Positively view proposals that seek to enhance the District's Green Infrastructure resource in support of tourism development. Proposals in the Bilsthorpe, Edwinstowe and Ollerton & Boughton areas, in connection with the Sherwood Forest Regional Park, will be supported. In Newark, new Green Infrastructure schemes that maximise the potential of the Trent Riverside area will be supported;*
- *Support the implementation of area-based Strategic Green Infrastructure interventions; and*
- *Work with partners to develop a strategic approach to managing Air Quality in the Sherwood Area, including through the development of a Supplementary Planning Document."*

3.0 Methodology

The baseline for the EclA has been established through a combination of desk study and field surveys.

3.1 Scope of the Assessment and Zone of Influence

The features considered for this assessment were designated sites, Habitats and Species of Principal Importance for conservation, and species protected by wildlife legislation.

Given the size and location of the Site, the zone of influence was taken to be the Site boundary and its immediate environs only. The exception for this was for designated sites and great crested newt (GCN) *Triturus cristatus*, details of the zone of influence for these features is provided in Section 3.2, below.

3.2 Desk Study

3.2.1 Data Search

In October 2022, available records of protected and notable species were collated from the local record centre, Nottinghamshire Biological and Geological Records Centre (NBGRC) along with the non-statutory designated sites from within 2 km of the Site centre.

A search for internationally, nationally and locally designated statutory sites for nature conservation was undertaken using the Multi-Agency Geographic Information for the Countryside (MAGIC) website. The search radius was 6 km from the Site for internationally important designated sites and 2 km from the Site centre for nationally and locally designated statutory sites. A search for non-statutory ancient woodland was undertaken within 2 km of the Site centre, and an assessment was made regarding the location of Habitats of Principal Importance (HPIs) on or near the Site using MAGIC.

In addition, free and publicly accessible Ordnance Survey maps and aerial photographs were searched for waterbodies on, or within, 500 m of the Site boundary. This information has been used to assess the Site for its potential to support GCNs, the results of which are found in Section 4.3.

3.3 Preliminary Ecological Appraisal Survey

The Site was surveyed on 16th November 2022 by a Delta-Simons ecologist.

The following was undertaken during the survey:

- Habitats were classified and mapped using the standard UK Habitat Classification and methodology (UKHab Ltd (2023)). Dominant plant species were recorded in each different habitat. The plant species nomenclature followed that of Stace (2010). The list of plant species was compiled in accordance with methodology required to establish UK Habitat Classification types up to at least level 3, and to levels 4 or 5 wherever possible. Care was taken to accurately record all habitats of priority importance (if present). Secondary codes were added to polygons where deemed appropriate.
- Habitats on-Site were surveyed for the presence of, or field signs to indicate the presence of protected or notable birds, amphibians, reptiles, mammals and widespread invasive plants. This included an external visual assessment of any trees/buildings on the Site for potential bat roost features and any evidence of bat activity, and an assessment of the Site's suitability to support commuting and foraging bats (Appendix B), in line with Collins (2016); and
- If Habitats of Principal Importance (HPIs) under the NERC Act 2006 were found to be present these were recorded. Further, an assessment of any hedgerows at the Site, which will be adversely affected by the proposed development, was undertaken using the hedgerow criteria outlined in the Hedgerow Regulations 1997. The purpose of the assessment was to ascertain whether the hedgerows are classified as 'nationally important' and, therefore, protected under the Hedgerow Regulations 1997. The

assessment involves a scoring system which relies on particular features, number of woody and floral species present within the hedgerow habitat, and the age of the hedgerow.

3.4 Reptile Survey

Survey methodologies followed recommendations in the Herpetofauna Workers' Manual (Gent and Gibson (JNCC), 2003) and comprised the placement of, and seven checks of, artificial refugia within areas of suitable reptile habitat across the Site.

A total of 70 artificial refugia were placed across suitable habitats within the Site in order to ensure a minimum density of 10 refugia per hectare as recommended by Froglife (1999). These comprised corrugated bitumen roofing sheets, each measuring 0.5 m x 0.5 m. After allowing 14 days for the artificial refugia to settle into the sward they were all checked, above and below, on seven separate occasions for reptile presence. In addition to checking artificial refugia, a cold search of natural refugia and on-Site debris was also undertaken during each check. This involved any rocks or debris being overturned to check for reptiles. Any reptiles found were identified to species, and where possible, an approximate age category and sex was determined. The location of any reptiles found was recorded to understand the general usage of the Site by reptile species.

Locations of the artificial refugia are shown in Figure 3. These were placed around the edges of the grass field in the east of the Site and around the patch of dense scrub in the west. Due to the management programme for the grass field, no refugia were placed centrally within the field, however, the management itself was considered to reduce the suitability of this area, such that the survey was still considered to provide a representative sample.

The survey was undertaken by suitably experienced ecologists during appropriate weather conditions between 21st August and 5th October 2023. A viable survey was considered to be within a temperature range of between 10 - 20 °C (Edgar et al., 2010) with no heavy rain or considerable overnight frost. Further details are provided in Table 7, below.

Estimating reptile population size from refugia surveys can be difficult (see Limitations). However, an assessment of whether or not the population is likely to be significant within the local area was undertaken based on the numbers of reptiles of each species recorded over the survey visits, the density of refugia used, and the overall size of the Site, and the extent of any surrounding suitable habitat.

3.5 Bat Roost Presence/Absence and Characterisation Surveys

A dusk emergence survey was undertaken of Building 1 and Building 5, which were assessed as having low suitability to support roosting bats. Table 1 provides details of the surveys and locations of the surveyors.

The dusk surveys commenced approximately fifteen minutes prior to sunset and ceased approximately one and a half hours following sunset. The surveyors were equipped with Echo Metre Touch 2 Pro bat detectors and i-phones. Recordings were made of any bats seen and/or heard and the species, the timing, activity, location, and direction of flight. An infra-red camera was also used to support the surveyor observing Building 1.

Table 1 –Timings, Weather Conditions and Location of Surveyors of the Building Surveys

Structure	Date	Timing	Weather	Surveyor Location
Building 1	14/08/2023	(20:19 –22:04) (sunset 20:34)	16 °C, 6/8 cloud cover, F1 wind	1 –western aspect, supported by infra-red camera
Building 5	14/08/2023	(20:19 –22:04) (sunset 20:34)	16 °C, 6/8 cloud cover, F1 wind	1 –south-east corner 2 –south-west corner

With reference to the Bat Mitigation Guidelines (2004), Collins (2016) and professional judgement, the weather conditions during the dusk survey were considered suitable for bat activity.

3.6 Bat Activity Surveys

3.6.1 Transect Surveys

Dusk transect surveys were carried out in August and September 2023 to assess bat activity associated with the different habitats at the Site. The dusk surveys commenced approximately fifteen minutes prior to sunset and ceased approximately two hours following sunset.

A surveyor walked the predetermined route shown in Figure 4. The bat transects were walked at a steady pace with eight spot counts, where the surveyors remained stationary for three minutes. The location of each stop was chosen to incorporate different areas of the Site and different habitat types. The locations of the spot counts are shown in Figure 4. The surveyors were equipped with EchoMeter Touch 2 pro bat detectors and i-phones. Records were made of any bats seen and/or heard and the species, the time, location and direction of flight. Table 2 below details timings and weather conditions at the time of surveys.

Table 2 - Timings and Weather Conditions of the Transect Surveys

Date	Timing	Weather
14/08/2023	(20:19 –22:34) (sunset 20:34)	16 °C, 6/8 cloud cover, F1 wind
21/09/2023	19:06 –21:10 (sunset 19:21)	13 °C, dry, 5/8, F1

With reference to the Bat Mitigation Guidelines (2004), Collins (2016) and professional judgement the weather conditions during the transect surveys were considered suitable for bat activity.

3.6.2 Automated Bat Detector Survey

Song meter Mini Bat remote bat detectors were deployed in two fixed locations in the months August and September for a minimum of five consecutive nights. The detectors were positioned with consideration for the current and proposed layout of the Site in order to identify bat activity associated with key habitat areas. The locations of the remote bat detectors are provided in Table 3, and in Figure 5.

Table 3 - Location of Static Detectors

Location	Grid Reference	Description
1	(SK 66990 67145)	Located at the mixed scrub edge that bisects the Site.
2	(SK 67123 66899)	Located along the woodland edge to the south of the Site.

Bat activity recorded is presented in passes per night per month. This is calculated as follows:

Bat Activity Index = Number of Bat Passes/Night

3.7 Survey Limitations

The baseline conditions described in this report were accurate at the time at which the survey was undertaken. Should at least two years pass by, and/or conditions on Site/Site usage change prior to the commencement of works, an update survey should be undertaken.

3.7.1 PEA Survey

There were no limitations to the survey in terms of access, timing and weather conditions.

3.7.2 Bat Roost Presence/Absence and Characterisation Surveys

There were no limitations to the survey in terms of access, timing and weather conditions.

3.7.3 Bat Surveys

Bat activity surveys were undertaken to sample the Summer and Autumn seasons (i.e. August and September), however, survey was not undertaken in Spring. Considering the nature of the existing Site, the western area, being existing built development subject to lighting, is considered to be of negligible value, and whilst the eastern area is of greater potential value, development in this portion of the Site is to be limited, with a large area dedicated to ecological enhancements. Furthermore, avoidance and mitigation has been considered within the development design to minimise any potential impacts on bat activity. As such, the surveys undertaken are considered to provide sufficient information on which to assess the likely impacts.

3.7.4 Reptile Surveys

In some cases the sex of the adult lizards could not be determined due to undistinguishable body patterns or fast movement of lizards out of sight.

Each reptile survey visit reveals only a sample of the population and the proportion of the population recorded varies according to complex weather conditions both during the survey and the days immediately preceding the survey and, therefore, estimating population size can be difficult.

3.8 Ecological Impact Assessment Methodology

An ecological impact assessment has been carried out following the principles set out within the Guidelines for Ecological Impact Assessment (EclA) in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine updated by the Chartered Institute of Ecology and Environmental Management (CIEEM) in 2019, the full details of which are provided in Appendix D.

4.0 Baseline Conditions

The following section describes the baseline ecological conditions at the Site, outlining the results of the desk study and field survey findings. Current management is anticipated to remain unchanged up until development and, therefore, baseline conditions at the time of writing this Report are anticipated to reflect those at the commencement of the Proposed Development. The conservation importance of the features identified have been evaluated using the geographical scale outlined in the previous section.

The pertinent information from the data search is set out in section 5.1 below for designated sites, whilst data search records and any information gathered from previous reports for the species are discussed in the relevant species sections.

4.1 Desk Study

4.1.1 Designated Sites

The results of the MAGIC data search and the NBGRC desk search indicate:

- One internationally designated statutory site, Birklands & Bilhaugh Special Area of Conservation (SAC) is present within 6 km of the Site;
- Two nationally designated statutory sites, Wellow Park Site of Special Scientific Interest (SSSI) and Birklands West and Ollerton Corner SSSI, within 2 km of the Site;
- One locally designated statutory site, Sherwood Heath Local Nature Reserve (LNR), within 2 km of the Site; and
- Ten non-statutory designated sites within 2 km of the Site centre. All of these are Local Wildlife Sites (LWS).

Tables 4, 5 and 6 below set out the statutory and non-statutory designated sites identified.

The Site also lies within the 5 km buffer identified for Sherwood Forest potential Special Protection Area (pSPA). While no conclusion has yet been reached about the possible future classification of parts of Sherwood Forest as a Special Protection Area (SPA) for its breeding bird (nightjar and woodlark) interest, consideration of potential risks from development is required. The pSPA area comprises acid grassland and heathland, oak and birch woodland and coniferous plantations in Sherwood Forest, in Nottinghamshire. It should be noted that there is currently no agreed boundary of the Sherwood Forest pSPA, instead emphasis is given to the Important Bird Areas (IBA) identified by the RSPB in consideration of other breeding species, and Indicative Core Area (ICA) identified by Natural England, which may form the basis of the SPA if the designation is confirmed. From the available information, the nearest location to the Site is Ollerton Pit Wood/Ollerton Colliery LWS which lies beyond the railway line immediately to the north of the Site.

Table 4 –International Statutory Designated Sites within 6 km of the Site

Site Name	Designation	Distance and Direction from Site	Designation Criteria Summary
Birklands & Bilhaugh	SAC	2.81 km north-west of the Site	Birklands and Bilhaugh is the most northerly site selected for old acidophilous oak woods (an Annex I habitat that is the primary reason for site selection). It is also notable for its rich invertebrate fauna, particularly spiders, and for a diverse fungal assemblage.

Table 5 - National and Local Statutory Designated Sites within 2 km of the Site

Site Name	Designation	Distance and Direction from Site	Designation Criteria Summary
Wellow Park	SSSI	0.02 km south-east of the Site	Lowland mixed deciduous woodland <i>Rubus fruticosus</i> woodland and <i>Mercurialis perennis</i> woodland.
Birklands West and Ollerton Corner	SSSI	1.68 km north-west of the Site	See SAC
Sherwood Heath	LNR	1.69 km west of the Site	Sherwood Heath supports over 2 butterfly species such as the Sr Skipper, the Speckled Wood, and the Small Heath. It is also really important for moths and there is a rare species of fly found here and only on 4 c British sites.

Table 6 - Non-Statutory Designated Sites within 2 km of the Site Centre

Site Name	Designation	Distance and Direction from Site Boundary	Designation Criteria Summary
Broughton Railway Banks	LWS	Includes the woodland/scrub embankment bisecting the Site, along the southern Site boundary and extending off-Site to the north-east	This extensive system of dismantled mineral railway embankments. The embankments, which are raised well above field level, support mature deciduous scrub and woodland interspersed with areas of grassland
Willow Dam and Grassland	LWS	Adjacent to the western extent of the southern Site boundary and connecting to Broughton Railway Banks LWS	This site comprises a mosaic of scrub and damp, species-rich grassland around a fishing pond.
Ollerton Colliery	LWS	0.02 km north of the Site	This botanically diverse colliery regeneration site, known as Ollerton Pit Wood, comprises two areas: scrub and planted coniferous woodland with some heathland, grassland and two ponds. The site has a rich assemblage of breeding birds and butterflies including the rare Dingy Skipper <i>Erynnis tages</i> .
Wellow Wood	LWS	0.02 km south-east of the Site	The wood provides habitat for breeding birds and there are many piles of dead wood which encourage invertebrates.

Broughton Scrub	LWS	1.1 km north-east of the Site	This site comprises an extensive mosaic of woodland, scattered scrub and grassland surrounding an industrial estate built on an old disused airfield. This site is botanically diverse and is known to support good populations of butterflies.
Rufford Pond, W of Wellow	LWS	1.2 km south-west of the Site	A marshy pond in cornfield, 23 water beetles have been recorded from the pond including the nationally scarce water beetle <i>Helochares punctatus</i> . The pond also supports local water beetles <i>Cercyon convexiusculus</i> and <i>Helochares lividus</i> .
Whinney Lane Grassland	LWS	1.64 km north of the Site	The site contains remnant areas of acid grassland with notable species.
New Park Wood and Scotland Bank	LWS	1.68 km south-west of the Site	This old woodland site has wide rides radiating out from a central point and is bordered by mainly arable land with Rufford Golf course and Rufford Abbey Country Park to the west.
Birklands and Bilhaugh	LWS	1.68 km north-west of the Site	See SAC
Kirton Brickworks	LWS	1.93 km north-east of the Site	Habitats range from bare ground through to grassland and developing scrub with a small pond at the northern end of the site. The site is of importance for butterflies with the rare Dingy Skipper <i>Erynnis tages</i> .

4.1.2 SSSI Impact Risk Zones

The Site falls within several SSSI Impact Risk Zones (IRZ) that require the Local Planning Authority (LPA) to consult with Natural England and assess planning applications for likely impacts on SSSIs/SACs/SPAs and Ramsar sites. The proposed development is considered to potentially meet the following criteria:

- *Infrastructure- Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals;*
- *Rural Non- Residential- Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha;*
- *Discharges– Any discharge of water or liquid waste that is discharged to ground (i.e. to seep away) or to surface water, such as a beck or stream.*
- *Water Supply- Large infrastructure such as warehousing/industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply.*

These potential impacts are discussed further in Section 5.0.

4.1.3 Priority Habitats

The MAGIC webpage identifies the woodland associated with Broughton Railway Banks LWS which partially bisects the Site and defines the southern and part of the western Site boundary as Priority Habitat Deciduous Woodland. Wellow Park SSSI/Wellow Wood LWS is also identified as Priority Habitat Deciduous Woodland. It should be noted, however, that this does not represent the confirmed status of the habitats and is based largely on available desk top information. Furthermore, this does not coincide with the associated LWS citations.

4.2 Habitats

Figure 2 shows the extent of habitat types and boundary features. Descriptions of the habitat types and dominant plant species found at the Site are provided below. Habitat descriptions and codings are as listed in the UK Habitat Classification: Habitat Definitions Version 1.1 (Butcher *et al.*, 2020). Photographs of the Site survey are located in Appendix E.

Habitats recorded on Site are:

w1g- Other Woodland; broad-leaved

A woodland belt was present inside the southern boundary and extending towards the centre of the Site partially bisecting the existing built development in the west from the agricultural land in the east (Photograph 1). The woodland consisted of a mixture of semi-mature oak *Quercus* sp., ash *Fraxinus excelsior*, hawthorn *Crataegus*, sycamore *Acer pseudoplatanus*, and birch *Betula* sp. Ground flora consisted of bramble *Rubus fruticosus* agg and ivy *Hedera helix*. A review of the woodland in summer 2023 during reptile surveys did not identify any additional notable features.

Considering its extent relative to the local area, the woodland at the Site is considered to be of Local value.

h3h –Mixed Scrub

An area of mixed scrub extended north from the wooded embankment bisecting the Site (Photograph 2). This consisted of bramble and rose *Rosa* sp. with ground flora including creeping thistle *Cirsium arvense*, willowherb *Epilobium* sp., and bracken *Pteridium aquilinum*.

A further patch of mixed scrub bordered the ditch in the western part of the Site. This was dominated by bramble and hawthorn with willowherb and teasel *Dipsacus fullonum* also frequent.

A small patch of hawthorn and elder *Sambucus nigra* occurred at the north-western corner of the Site.

A review of the scrub in summer 2023 during reptile surveys did not identify any additional notable features.

Given its context within a LWS and its connective function, mixed scrub at the Site is considered to be of Local value.

Individual Trees

A mixture of pedunculate oak *Quercus robur*, goat willow *Salix caprea*, sycamore, apple *Prunus* sp., hawthorn, silver birch and Scots pine *Pinus sylvestris* trees occurred within the scrub on the central embankment. The majority of trees present were semi-mature with a single mature goat willow and a young sycamore also present. Numerous saplings intersperse the trees and were present on the top of the embankment along the former rail bed where older trees were not present (Photograph 2).

Individual trees at the Site are considered to be of Local value.

g4- Modified Grassland

Modified grassland was present to the northern central area of the Site. The grassland comprised dominant perennial ryegrass *Lolium perenne*, with abundant dandelion *Taraxacum officinale*, ribwort plantain *Plantago*

lanceolata, creeping buttercup *Ranunculus repens*, clover *Trifolium* sp, occasional Yorkshire fog *Holcus lanatus*, yarrow *Achillea millefolium*, and rarely occurring chicory *Cichorium intybus*, creeping thistle and spear thistle *Cirsium vulgare*. It is understood the grassland is managed through both cutting and sheep grazing and is maintained to a relatively short but tussocky sward. A review of the grassland in summer 2023 during reptile surveys did not identify any additional notable features.

Modified grassland field margins were noted around all aspects of the arable field in the east, which were approximately 1-4 m wide and dominated by perennial ryegrass, with abundant white clover *Trifolium repens*, broadleaved dock *Rumex obtusifolius*, occasional ribwort plantain and rarely occurring spear thistle.

Considering its relatively low species richness and agricultural management, the modified grassland was considered to be of Local value.

r1- Standing Open Water and Canals

A ditch bisects the Site from south-west to north-east, extending beneath the wooded embankment where it is culverted. Throughout the Site surveys the water depth and flow varied. In the western area of the Site the ditch measured approximately 1 m wide at the toe of the banks and featured moderately sloped earth banks colonised by scrub and ruderal species (Photograph 3). No aquatic vegetation was recorded. In the eastern area of the Site the ditch was approximately 0.5 m wide with moderately sloped earth banks supporting grasses, ruderals and bramble (Photograph 4). Some sections were overgrown, whilst others appeared to have been recently managed and supported a shorter sward. No aquatic vegetation was recorded.

The ditch is considered to be of Local value.

c1c- Cereal Crops

An arable field characterised the southern and eastern part of the Site. This had recently been cultivated at the time of the PEA and later supported a cereal crop (Photograph 5). The arable land at the Site is considered to be of negligible geographic value.

u1f- Sparsely vegetated urban land

A large mound was present in the south-western area of the Site which had started to be colonised by vegetation at the time of the survey, including bristly oxtongue *Helminthotheca echioides*, herb Robert *Geranium robertianum*, mayweed *Matricaria* spp, nettle, ribwort plantain, dandelion and creeping thistle. Considering the disturbance/temporary nature of the bund, it is considered to be of negligible geographic value.

h2b- Other hedgerows

An intact species-poor hedgerow was noted along the ditch between the grassland and arable field in the east of the Site. The hedgerow had recently been cut at the time of the initial survey. The hedgerow was dominated by hawthorn with frequent elder, ivy and bramble (Photograph 4).

A defunct species-poor hedgerow was noted along the south of the arable field, defining the edge of the adjacent woodland. This comprised of hawthorn and had also been managed prior to the initial survey.

The hedgerows at the Site lacked sufficient woody species and other associated features such that they are not considered 'Important' against the Hedgerow Regulations.

Hedgerows at the Site are considered to be of Local value.

u1b5- Buildings

A total of 10 buildings occurred on-Site, all within the western portion of the Site and associated with the existing operations at the Site. Building B1 comprised a two-storey brick-built office with pitched tiled roof.

Building B2 comprised a single storey metal temporary office cabin structure. Buildings 3, 4, and 6-10 comprised various large single storey industrial buildings constructed of corrugated metal with pitched roofs and roller doors.

One substation was present (B5), which was a single storey building constructed of breeze block with a flat roof, wooden capping and felt roofing.

Buildings at the Site are of negligible value.

u1b- Developed land; Sealed Surface

The western area of the Site was dominated by sealed surface. It provided vehicular and pedestrian access around the operational part of the Site and was used as storage and servicing areas for various construction equipment/structures. Sealed surface is of negligible value.

4.3 Species

Birds

No bird records were provided in the data search. The blocks of woodland, dense scrub, and hedgerows provide suitable habitat to support nesting birds. At the time of the survey the arable field and grassland in the west of the Site was not considered optimal to support ground nesting birds, however its future suitability will depend on continued management practices. Several mud-built nests were located around building B1 beneath the roof line (TN1), indicating bird nesting behaviour. A rookery was also located within the woodland in the south-west corner of the Site (TN2).

The Site was not considered suitable to support nesting nightjar *Caprimulgus europaeus* or woodlark *Lullula arborea*, although the arable field in the east of the Site may offer limited foraging opportunities for woodland in Autumn depending on the crop rotation.

Birds noted at the time of the survey included snipe *Gallinago gallinago*, redwing *Turdus iliacus*, song thrush *Turdus philomelos*, wood pigeon *Columba palumbus*, mistle thrush *Turdus viscivorus*, black-headed gull *Chroicocephalus ridibundus*, dunnoek *Prunella modularis*, linnet *Linaria cannabina*, goldcrest *Regulus regulus*, robin *Erithacus rubecula*, blue tit *Cyanistes caeruleus*, carrion crow *Corvus corone*, and black bird *Turdus merula*. In addition, during the transect bat surveys tawny owls *Strix aluco* were heard calling in the woodlands on-Site and immediately to the south of the Site. Throughout the various visits to Site, no notable populations of birds was recorded.

The geographic value of birds at the Site is considered to be Local.

Amphibians

The data search identified 15 records of GCN within 2 km of the Site centre in the last 10 years. The closest and most recent record was 1.2 km south-west of the Site boundary in 2013. All records are isolated from the Site by a busy road network.

A review of aerial photographs and OS maps revealed five waterbodies within 500 m of the Site, although two are isolated from the Site by Newark Road which is considered to act as a significant dispersal barrier. One waterbody (comprising two connected pools) lies within Ollerton Colliery LWS approximately 60 m north of the Site. These ponds are separated from the Site by an active railway line and are surrounded by optimal terrestrial habitat such that should amphibians occur it is considered unlikely they would venture onto Site. Furthermore, neither the citation for the LWS, nor the records search identified the presence of GCNs. The fourth pond lies approximately 70 m south-west of the Site within Sherwood Forest Cemetery. This semi-ornament pond is surrounded by amenity grassland, representing poor terrestrial suitability and has poor connectivity to any other waterbodies such that the presence of GCN is considered unlikely. A fifth waterbody is situated approximately 180 m south of the Site within Wellow Dam and Grassland LWS. Neither the citation for the LWS, nor the records search identified the presence of GCNs associated with this waterbody despite recent records of common frog *Rana temporaria* and common toad *Bufo bufo*. According

to research undertaken by English Nature (Cresswell, 2004) (now Natural England) it is most common to encounter GCN within 50 m of a breeding pond, with few moving further than 100 m unless significant linear features are involved when GCN can be encountered at distances of between 150m – 200m. At distances greater than 200-250m GCN are hardly ever encountered. No incidental sightings of GCNs were recorded during the reptile survey at the Site. Thus, it is considered highly unlikely that GCN would be utilising the Site.

Whilst GCNs are considered unlikely to be present on-Site, the ditch does provide limited suitable habitat for other amphibian species, with numerous common toad recorded within the edges of the grass field during the reptile survey. The fluctuations in water flow is considered to provide limited breeding opportunities for common toad, and whilst the majority of the Site comprised sealed surface and arable land of negligible value, the hedgerow, scrub, grassland and woodland on-Site may offer suitable terrestrial opportunities.

The geographic value of common toad at the Site is considered to be Local.

Reptiles

The data search identified one record of adder *Vipera berus* 2 km north-west of the Site in 2016, two records of grass snake *Natrix helvetica* approximately 840 m west of the Site in 2019, and one record of slow worm *Anguis fragilis* 1 km north of the Site in 2018. All records are fragmented from the Site by a busy road network.

Habitat Suitability Assessment

The western portion of the Site offers limited opportunities for reptile species, with the majority comprising sealed surface in active use for storage and operations. The dense scrub bordering the ditch is considered to lack the structural mosaic to offer optimal habitat for reptiles, although it does have connectivity to other suitable habitat in the east of the Site. The woodland and scrub bisecting the Site offers potential foraging and shelter, whilst the grass field and field margins in the east provide further opportunities for foraging and basking, although the suitability of the grassland to support reptile populations is considered to vary in conjunction with its management regime.

Refugia Survey

The dates the survey checks were undertaken, weather conditions and the numbers of reptiles found during each survey are given in Table 7. Weather conditions were assessed using the Beaufort wind force scale and the okta scale of cloud cover.

Low numbers of common lizards *Zootoca vivipara* were found during the survey, with a peak count of three adults. Juvenile lizards were identified suggesting that the reptile population in the area is actively breeding. The location of the reptiles recorded is shown in Figure 3. In addition, common toad were recorded at several locations across the Site during the survey.

Table 7 –Reptile Survey Results

Reptile Check	Date	Start Time	Weather Conditions	Cloud Cover	Temp °C	Wind	Results
No. 1	21/08/23	09:43	Dry, sunny	2	18°C	2	2 adult common lizard 3 adult toads and 14 juvenile toads
No. 2	30/08/23	09:16	Sunny	8	17°C	1	2 adult common lizards

							1 juvenile common lizard 19 juvenile common toads
No. 3	01/09/23	09:56	Sunny	1	16 °C	1	No reptiles 23 juvenile toads and 3 adult toads.
No. 4	05/09/23	09:28	Dry	3	18 °C	1	1 adult common lizard 13 juvenile common toads and 1 adult toad
No. 5	11/09/23	09:04	Sunny	8	19 °C	1	6 juvenile common lizards 3 adult common lizards 17 juvenile toads and 3 adult toads
No. 6	14/09/23	09:23	Sunny	7	19 °C	1	1 adult common lizard, 17 juvenile common toads and 5 adult toads
No. 7	05/10/23	09:23	Dry	7	13 °C	2	No reptiles 6 adult toads

A peak count of three adults was recorded indicating a low population according to the Froglife Reptile Survey Advice Sheet criteria. These were located along the northern Site boundary and along the eastern edge of the central woodland/scrub belt, with a small number recorded around the edges of the scrub in the east of the Site.

The geographic value of Reptiles at the Site is considered to be Local.

Bats

Data records showed at least six species of bats recorded within 2 km of the Site centre in the past 10 years. Species include one record of unidentified bat species, one serotine *Eptesicus serotinus*, three Myotis *Myotis sp.*, eight noctule *Nyctalus noctule*, 21 common pipistrelle *Pipistrellus pipistrellus*, four soprano pipistrelle *Pipistrellus pygmaeus* and five brown long-eared *Plecotus auritus*.

The closest bat roost recorded was a brown long-eared roost located 670 m south of the Site in 2012.

Consultation of the MAGIC webpage identified that the closest granted European Protected Species Licence (EPSL) for bats is located over 3 km from the Site.

Preliminary Habitat Assessment

The western portion of the Site was assessed as having negligible suitability to support bats, since it was dominated by buildings and sealed surface with vegetation limited to the dense scrub along the ditch corridor. Security lighting was present throughout the operational area of the Site further reducing its suitability.

The eastern portion of the Site was considered to offer greater suitability for foraging and commuting bats. The central woodland/scrub embankment, hedgerows and boundary woodland offer potential resources for bats and connective corridors to other suitable habitat in the wider landscape.

Preliminary Roost Assessment

A total of 10 buildings were identified on Site of which four buildings were identified to offer roosting potential for bats. Figure 2 shows the locations of the buildings identified. Details of the buildings and associated potential roost features are provided in Table 8.

Table 8 –Bat Roost Potential Assessment - Buildings

Building Reference	Building Description	BRP Feature	Evidence of Bats	BRP Assessment
B1	A two-storey brick-built office building with wooden soffits and a pitched tiled roof.	The soffits in places were loose and had exposed gaps (Photograph 6)	None	Low
B5	A single storey breeze block sub-station with felt roofing and wood capping.	The roof had several gaps along the felted area and gaps within the wood capping (Photograph 7).	None	Low
B8	A single storey metal corrugated structure.	Several lifted areas around the external part of the building were noted that could lead to a void (Photograph 8).	None	Low
B10	A single storey metal corrugated structure.	Several external lifted areas of metal located around the building (Photograph 9).	None	Low

A brick culvert where the ditch passes beneath the central embankment was surrounded by dense scrub, restricting access for a full inspection, however, the dimension of the culvert is considered to limit its suitability to support roosting bats, and the dense scrub is anticipated to restrict flight lines for bats (TN3,). As such it was considered to have negligible suitability.

A bridge was present on the southern boundary of the Site, representing remnants of the former railway and providing access beneath the railway to land to the south. Cut into the embankment, retaining walls were brick built, whilst the former railway structure straddling the gap comprised metal and concrete (TN4, Photograph 10). A small number of gaps from missing mortar were identified within the brickwork although overall it appears to be in a good state of repair. As such the bridge was assessed as having low suitability to support roosting bats.

No trees were identified as offering roosting potential for bats.

Roost Presence/Absence and Characterisation Surveys

B8 and B10 are to be retained as part of the development, with no construction activities proposed within this area of the Site. As such no further surveys were considered necessary of these structures. Furthermore, the bridge on the southern Site boundary is also to be retained along with the adjacent vegetation corridor. No development works are proposed in close proximity and overall built development within the area of the Site is limited. As such no targeted surveys were considered necessary, although general bat activity surveys are considered to provide an indication of potential nearby roosting sites.

B1 and B5 were subject to presence/absence surveys, the results of which are summarised below. The raw data is included in Appendix F.

B1 Dusk 14th August 2023

The survey recorded very little bat activity for the duration of the survey. The first bat to be recorded was a noctule, recorded 21:30, 56 minutes after sunset flying above the Site. A single commuting soprano pipistrelle *Pipistrellus pygmaeus* was recorded at 21:32 and a single commuting noctule was recorded at 21:44. No bats were seen or recorded emerging from the building. The area was noted to be well lit by security lighting and adjacent street lighting.

B5 Dusk 14th August 2023

Very little bat activity was recorded for the duration of the survey. The first bat recorded was a noctule recorded 21:30, 56 minutes after sunset flying above the Site. At 21:43 a commuting soprano pipistrelle was recorded and at 22:02 a single commuting common pipistrelle *Pipistrellus pipistrellus* was recorded. No bats were seen or recorded emerging from the building. The area was noted to be well lit by security lighting.

Transect Surveys

Two dusk transect surveys were undertaken around the Site in August and September 2023. The results of the transect surveys are summarised in Table 9 below and the routes illustrated in Figure 4. The raw data is included in Appendix G.

Table 9–Summary of the Transect Survey Results

Month	Transect 1
August	Very limited bat activity was recorded during the survey. The first bat recorded noctule at 21:30, 56 minutes after sunset flying above the Site. Individual common pipistrelle were recorded along the northern and southern boundary in the eastern extent of the Site, with prolonged foraging of two bats recorded at the eastern Site boundary. No bat activity was recorded in the west of the Site.
September	The first bat to be recorded was a noctule, recorded at 19:15, nine minutes before sunset at station 3 at the northern Site boundary. Very low numbers of commuting/foraging pipistrelle species were recorded during the survey with a peak count of one bat. Activity was recorded along the central hedgerow in the east of the Site and along the southern Site boundary. Very low numbers of noctules/Lieslers <i>Nyctalus leisleri</i> were also recorded, again with a peak count of one bat and although unseen were anticipated to be above the Site at height. A single myotis species <i>Myotis sp.</i> was the last bat to be recorded at 20:49 at the southern Site boundary. Bat activity was predominately recorded in the east of the Site, with only <i>Nyctalus</i> species and a single common pipistrelle recorded to the west.

Automated Bat Detector Survey

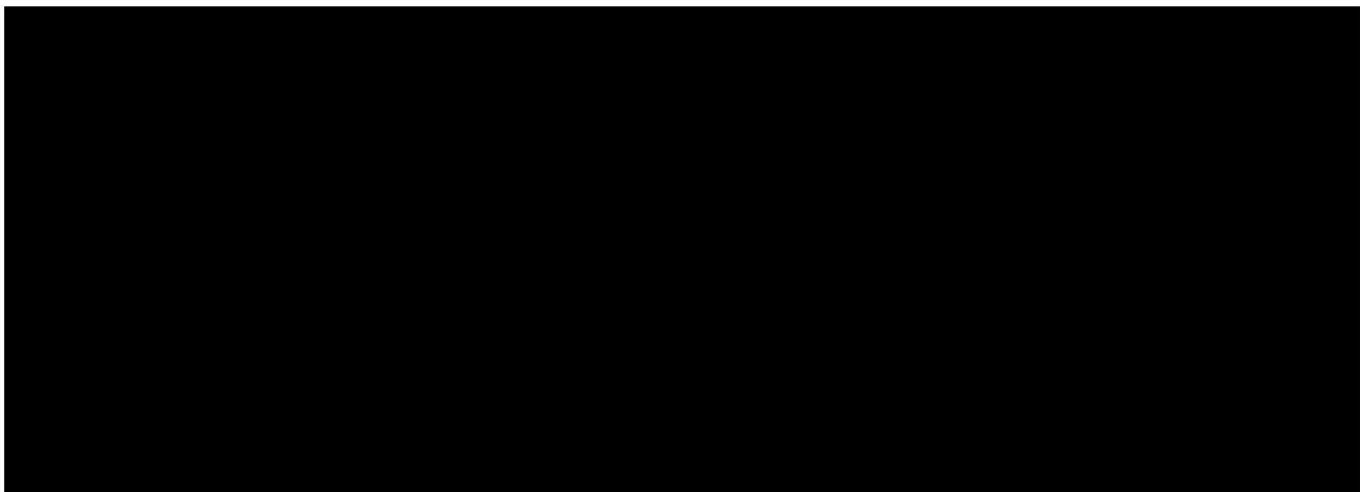
The results of the automated detector surveys are summarised in Table 10 below.

Table 10 - Summary of the Automated Bat Detector Survey Results

Month	Static Detector Location 1	Static Detector Location 2
August 2023	<p>Common and soprano pipistrelle were the most frequently recorded species. Bat activity indices recorded were:</p> <ul style="list-style-type: none"> • Soprano pipistrelle - 26.4 • Common pipistrelle - 19.6 • Noctule - 10.4 • Myotis sp - 8.6 • BLE - 0.6 	<p>Common and soprano pipistrelle were the most frequently recorded species. Bat activity indices recorded were:</p> <ul style="list-style-type: none"> • Soprano pipistrelle - 34.4 • Common pipistrelle - 31.6 • Noctule - 14.6 • Myotis sp - 11.2 <p>Overall bat activity was higher at this location</p>
September 2023	<p>Common and soprano pipistrelle were the most frequently recorded species. Bat activity indices recorded were:</p> <ul style="list-style-type: none"> • Soprano pipistrelle - 55.8 • Common pipistrelle - 38.8 • Noctule - 2.62 • Myotis sp - 13.4 <p>Overall higher levels of activity were recorded compared to August in this location.</p>	<p>Common and soprano pipistrelle were the most frequently recorded species. Bat activity indices recorded were:</p> <ul style="list-style-type: none"> • Soprano pipistrelle - 52.8 • Common pipistrelle - 34.6 • Noctule - 5.8 • Myotis sp - 11.2 <p>Higher numbers of pipistrelle were recorded compared to August, with similar levels of Myotis activity and a reduction of noctule activity. Similar levels of activity were recorded at each location.</p>

The highest level of bat activity was from pipistrelle species. Bat activity recorded in August was greatest at location 2 along the woodland edge to the south of the Site. However, similar species assemblage was recorded at both locations. Overall, higher activity levels were recorded in September, with similar at each location.

Considering the suitability of the Site and recorded activity during all survey scopes, the geographic value of bats at the Site is considered to be Local.



Water Voles

The data search provided two records of water vole *Arvicola amphibius* within 2 km of the Site centre in the past ten years. The most recent and closest record provided was in 2013, 1.4 km north-west of the Site. No evidence of water voles were noted during the survey.

The ditch on Site, whilst supporting moderately sloped earth banks, was not considered optimal to support this species. Fluctuating water levels and flow rates, as well as poor connectivity to a wider ditch network due to significant culverts is considered to reduce the suitability.

Water voles are, therefore, not considered to be a constraint at this Site and are not considered further within this Report.

Other Protected or Otherwise Notable Species

The data search identified 33 records of European hedgehog *Erinaceus europaeus* within 2 km of the Site centre in the past 10 years. The closest record was from 512 m south of the Site in 2015. The most recent record was in 2020 1.3 km north of the Site. The Site, particularly in the east and central woodland/scrub corridor, offers suitable habitat for foraging and hibernating hedgehog, with connectivity to other suitable habitat within the wider landscape. The geographic value of hedgehogs at the Site is considered to be Local.

Invasive Non-Native Species

Data records provided showed three records of New Zealand pigmy weed *Crassula helmsii*, one of which relates to a waterbody within Ollerton Pit Woods approximately 70 m north of the Site, and whilst a second record related to a grid reference on the northern Site boundary, this is considered likely to be inaccurate (due to its location within arable land) and is more likely to pertain to a second waterbody in the LWS to the north. Both records date from 2015. This species was not recorded on-Site during any of the survey visits.

Nine records of Himalayan balsam were identified in the data search, the closest and most recent record was 1.1 km north-west of the Site in 2017. This species was not recorded on-Site during any of the survey visits.

Horsetail *Equisetum* sp. was noted around building B8 in the west of the Site (TN 5, Photograph 13) and whilst not listed as a Schedule 9 invasive species under the WCA (1981, as amended), this species spreads rapidly through rhizomes which can reach a depth of 2 m, making it particularly difficult to eradicate from soils.

4.4 Summary of Important Ecological Features and Geographic Value

The species scoped out as important ecological features above due to their likely absence from Site cannot experience effects from the Proposed Development and are not therefore considered below.

The 'important ecological features' identified above with the potential to experience effects as a result of the Proposed Development are listed in Table 11 below, along with their geographic importance. These features will be the subject of the ecological impact assessment in section 5.0.

Table 11 - Identified Important Ecological Features

Important Ecological Feature	Geographic Value
Designated Sites	International, National and Local
Habitats <ul style="list-style-type: none"> • Woodland • Mixed scrub • Individual trees • Modified grassland • Ditch • Hedgerow 	Local
Birds	Local
Common Toad	Local
Reptiles	Local
Bats	Local
[REDACTED]	
Hedgehogs	Local

5.0 Assessment of Effects

The evaluation in this section is based on the baseline information presented above, review of design proposals, consultation with the design team, knowledge of likely construction practices to be employed, and reasonable assumptions regarding operation.

For purposes of the assessment, it is assumed there has been no change in the condition of the Site since the Site survey (unless otherwise stated).

5.1 Important Ecological Features for Which No Effect is Anticipated

5.1.1 Sherwood Forest Potential SPA

With reference to the Natural England Advice Note to Local Planning Authorities regarding the consideration of likely effects on the breeding population of nightjar and woodlark in the Sherwood Forest region (March 2014), a risk-based approach has been considered to assess potential direct, indirect and cumulative impacts, which includes:

- Disturbance to breeding birds from people, their pets and traffic;
- Loss, fragmentation and/or damage to breeding and/or feeding habitat;
- Bird mortality arising from domestic pets and/or predatory mammals and birds;
- Bird mortality arising from road traffic and/or wind turbines; and
- Pollution and/or nutrient enrichment of breeding habitats.

These are discussed in turn below:

Disturbance to breeding birds from people, their pets and traffic

The nearest relevant area of Sherwood Forest, Ollerton Pit Wood, is identified as a Nature Reserve with well-marked routes and signage, whilst the woodland to the west also has existing public access with designated bisecting routes. The proposed development includes green infrastructure and areas for employees/visitors to enjoy before/after works and during breaks. Should any of the employees/visitors of the proposed development visit the areas in proximity to the Site no additional disturbance to breeding birds is anticipated to occur if they follow signage and remain on well-marked routes, as would be anticipated.

Due to the non-residential nature of the Proposed Development, no impacts are anticipated from pets.

The proposed development represents a modernisation and extension to the existing operations of the Site. Traffic is not considered to significantly increase from its current levels. No additional road network is proposed with only internal access routes to navigate the various operational areas of the Site. The Site is separated from the nearest IBAs by an active railway line and Newark Road, which is already well-used for commercial and residential links to Ollerton. As such traffic associated with the proposed development is not anticipated to cause increased disturbance to breeding birds.

Loss, fragmentation and/or damage to breeding and/or feeding habitat;

There will be no loss or fragmentation to the pSPA as a result of the proposed development. The nearest relevant area of Sherwood Forest, Ollerton Pit Wood, is identified as a Nature Reserve with well-marked routes and signage, whilst the woodland to the west also has existing public access with designated bisecting routes. There is not anticipated to be any damage to breeding or foraging habitat to areas of Sherwood Forest if any of the employees of the proposed development who may visit the areas in proximity to the Site during breaks follow signage and remain on well-marked routes, as would be anticipated.

Bird mortality arising from domestic pets and/or predatory mammals and birds;

Due to the non-residential nature of the Proposed Development, no impacts are anticipated from pets.

Bird mortality arising from road traffic and/or wind turbines

The proposed development represents a modernisation and extension to the existing operations of the Site. No additional road network is proposed with only internal access routes to navigate the various operational areas of the Site. Traffic will continue to utilise the existing Newark Road which is already well-used for commercial and residential links to Ollerton. As such the proposed development is not anticipated to pose a risk of increased bird mortality.

The proposed development does not include any proposal for a wind turbine.

Pollution and/or nutrient enrichment of breeding habitats

The main pathway for significant pollution of heathland and woodland from commercial development is through contaminated surface water runoff. However, there are no identified hydrological links between the two nearest IBAs and the Site. Furthermore, the proposed drainage strategy proposes that surface water from the development will be directed either to permeable paving within the carparking areas, or to an on-Site attenuation pond, which in turn will discharge into the existing watercourse flowing off-Site to the north-east. This impact pathway is, therefore, not considered to be a concern.

Conclusion

In conclusion, there is considered to be a very low likelihood of the proposed development having an adverse impact on any future Sherwood Forest pSPA designation.

5.1.2 Designated Sites

Owing to the size and existing nature/use of the Site, the type of development, the urban location and the relative separation of the Site, no impacts are anticipated to the majority of designated sites. The possible exceptions to this are Wellow Park SSSI/LWS, Broughton Railway Banks LWS, Willow Dam and Grassland LWS, and Ollerton Colliery LWS, which are discussed in Section 5.2 below.

5.2 Important Ecological Features and Potential Effects

5.2.1 Wellow Park SSSI/LWS, Willow Dam and Grassland LWS and Ollerton Colliery LWS

Potential Impacts and Effects During Construction and Operation

During Construction

These designated sites lie adjacent to/within 20 m of the Site and there is, therefore, the potential, without mitigation, to cause degradation of adjacent off-Site habitats as a result of dust deposition, although this is anticipated to be of limited magnitude due to the distance to the designated sites from construction activities.

The construction phase of works has the potential to result in temporary disturbance through increased lighting. However, it is anticipated that during the majority of the year (April-October, inclusive), construction works will generally cease, or be winding down before dusk and will not begin before dawn. Therefore, generally additional artificial lighting will not be required. In certain circumstances, for example, in late autumn or early spring when daylight hours are limited, lighting may be required to enable the construction works to progress. However, the effects of lighting from construction works during these occasional circumstances would only be temporary in a concentrated area. Wellow Park SSSI/LWS, and Willow Dam and Grassland LWS, whilst adjacent/in close proximity to the Site boundary are at a greater distance from construction activities, with works limited in southern area of the Site, such that they are unlikely to be affected. Other temporary potential impacts such as recreational/commuter pressure from construction Site operatives are considered to be negligible due to all welfare facilities being provided on Site.

Construction activities will be limited in the south with the majority of the built development occurring in the north, thereby minimising anticipated noise and vibration levels in proximity to Wellow Park SSSI/LWS, and Willow Dam and grassland LWS. Considering the separation of the Site from Ollerton Colliery LWS to the north of the Site by the active railway line the impacts from noise and vibration are considered to be limited in magnitude.

The construction phase is considered to have a minor adverse effect on these designated sites that is not significant.

During Operation

Overall operational use of the Site is not considered to significantly differ post-development such that no additional noise or vibration impacts on the designated sites are anticipated.

The proposed development will result in increased light levels at the Site. Lighting at the Site will predominately occur within the northern extent of the western portion which is already well lit. As indicated in the Lighting Strategy prepared by WSP, no lighting is proposed in the southern area of the Site and as such no impacts from lighting are anticipated to Wellow Park SSSI/LWS, or Willow Dam and Grassland LWS.

Lighting is proposed around the new workshop in the northern extent of the eastern portion of the Site. Without mitigation, this has the potential to increase light spill towards Ollerton Colliery LWS. However, considering the distance involved and the extent of potential light spill, the impacts are considered to be minor adverse and not significant.

Without mitigation, the operational phase is therefore considered to have a minor adverse effect that is not significant.

Avoidance and Mitigation

During Construction

Environmental best practice will be applied with regards to noise and dust deposition.

The location of any Site compound, storage and use of lighting during the construction phase will be determined with input from a suitably experienced ecologist.

During Operation

As indicated in the Lighting Strategy prepared by WSP, the detailed lighting design of the Site will be designed with consideration for potentially sensitive ecological receptors and with reference to current best practice (BCT & ILP 2023). Light spill beyond the northern Site boundary will be avoided. A lighting design will be prepared at the detailed design stage. This will be reviewed by a suitably experienced ecologist to ensure that effects on sensitive habitats are avoided.

Assessment of Residual Effects

Following the application of the above mitigation measures, the potential residual effects are considered to be negligible.

5.2.2 Broughton Railway Banks LWS

Potential Impacts and Effects During Construction and Operation

During Construction

The majority of Broughton Railway Banks LWS on-Site is to be retained, however, without mitigation, any works in close proximity to retained trees have the potential to cause damage to the structure and roots, and construction activities have the potential to result in habitat degradation through dust deposition.

The Proposed Development will result in the direct loss of a small section of habitat within the LWS to facilitate the access between the eastern and western portions of the Site, and installation of a viewing platform. The location of these features have been determined on-Site with the aim to avoid the most ecologically valuable features such as the woodland and more mature individual trees within the scrub. This also represents a small proportion of the overall LWS area (<0.05 %).

The LWS citation identifies the LWS to “form a connecting corridor between the two separate parts of LWS 5/2151 Ollerton Colliery along which wildlife can disperse, while to the east is LWS 1/59 Wellow Wood.” The loss of habitat is considered to result in a severance of this corridor.

Without mitigation the construction phase is considered to have a moderate adverse effect that is significant at a Local level.

During Operation

Public access to the LWS is restricted by its topography and as such no impacts are anticipated from recreational pressures.

Overall operational use of the Site is not considered to significantly differ post-development such that no additional noise or vibration impacts on the designated sites are anticipated.

The proposed development will result in increased light levels at the Site, including at the new access bisecting the LWS. Lighting at the Site will predominately occur within the northern extent of the western portion, which is already well lit, and around the new workshop in the northern extent of the eastern portion of the Site. As indicated in the Lighting Strategy prepared by WSP, no lighting is proposed in the southern area of the Site. This is considered to have a minor adverse impact that is not significant.

Avoidance and Mitigation

During Construction

Environmental best practice will be applied with regards to dust deposition and retained habitats will be protected through the use of physical barriers where necessary.

Whilst the development will result in the severance of the LWS corridor, the development layout allows for an alternative continuous connective corridor (except a minor access track for occasional use to training pylons and sub-station in the south) extending from the central embankment, along the existing hedgerow corridor to the north-east. Strengthening this corridor through habitat creation, is considered to provide an alternative provision and once established, retain the function of the LWS as a connective corridor between Ollerton Colliery LWS and Wellow Wood. Furthermore notable habitat enhancements are proposed within the eastern portion of the Site which is considered to further enhance biodiversity opportunities and connectivity across the Site.

During Operation

As indicated in the Lighting Strategy prepared by WSP, the detailed lighting design of the Site will be designed with consideration for potentially sensitive ecological receptors and with reference to current best practice (BCT & ILP 2023). Light spill beyond the northern Site boundary will be avoided. A lighting design will be prepared at the detailed design stage. This will be reviewed by a suitably experienced ecologist to ensure that effects on sensitive habitats are avoided. Special consideration shall be given to the LWS. Lighting on the approach and within the LWS area will be kept to the absolute minimum required for safety and shall remain off when not in use through the use of PIR sensors.

Assessment of Residual Effects

Following the application of the above mitigation measures, the potential residual effects are considered to be minor adverse and not significant.

5.2.3 Habitats

Potential Impacts and Effects During Construction and Operation

During Construction

The habitats present on Site are widespread on both a local and national scale, with none of the habitats being considered rare. The Proposed Development has been designed to follow the mitigation hierarchy with habitats of greatest ecological value being retained. This includes all woodland on Site, hedgerow, ditch, and the majority of scrub and individual trees. The majority of development is proposed for the western portion of the Site which already represents habitat of low/negligible ecological value.

The Proposed Development includes habitat creation in the eastern portion of the Site, with a large proportion of the arable field proposed for ecological enhancements, including meadow grassland, native scrub, hedgerows, tree planting and the creation of wildlife ponds and Suds features. Landscape planting is also proposed within the areas of built development. Overall this is considered to compensate for the loss of habitat on-Site and provide biodiversity enhancements resulting in a minor beneficial effect that is not significant.

Whilst the development is offset from retained trees and hedgerow around the boundary of the Site in order to maintain a connective corridor, any works (including vehicular movement and equipment storage) within close proximity, have the potential to cause damage to the structure, roots and health of the trees. Without mitigation, the construction phase also has the potential to result in degradation of retained habitats through dust deposition and pollution events. This is considered to have a minor adverse effect that is not significant.

During Operation

Inappropriate management of the soft landscaping during the operation of the development also has the potential to result in a reduction of biodiversity value, and failure to meet the ecological objectives for the Site. This is considered to have a minor adverse impact which is not significant.

Avoidance and Mitigation

During Construction

The retained trees and hedgerow are to be protected during the construction phase, with the use of physical barriers, where appropriate to prevent accidental damage from machinery and equipment working in proximity. Standard environmental practice including dust reduction and pollution prevention is to be applied.

During Operation

An appropriate landscape management plan will be followed to promote the long-term biodiversity value of the retained and proposed habitats.

Assessment of Residual Effects

Following the application of the above mitigation measures, the potential residual effects are considered to be minor beneficial and non-significant.

5.2.4 Birds

Potential Impacts and Effects During Construction and Operation

During Construction

The Proposed Development will result in the loss of scrub to facilitate the access road through to the eastern area of the Site, as well as grassland and arable land in the east to facilitate built development and habitat creation. Woodland and hedgerow is to be retained and new planting proposed which is considered to

compensate these losses. Building B5, supporting mud-nests is also to be retained and will continue to provide nesting opportunities.

Without mitigation there is potential for direct adverse effects on nesting birds that are permanent in nature as a result of clearance of suitable habitat. In addition, construction works being carried out within proximity to nesting birds may affect them indirectly, depending on the works being carried out, and the species of bird affected. Noise and vibration disturbance effects may result in birds being repeatedly flushed off nests, causing disruption to feeding activity, or even abandonment of nests. This is considered to be a temporary impact.

Potential impacts specifically relating to woodlark and nightjar are discussed in relation to the Sherwood Forest pSPA above.

The construction phase of works is considered to have a minor adverse effect in birds that is non-significant.

During Operation

During operation, if habitats retained and/or planted during construction are not managed appropriately, then there is the potential for the direct temporary disturbance of nesting birds. This is considered to have a minor adverse effect that is non-significant.

Avoidance and Mitigation

During Construction

Where practicable, vegetation clearance at the Site will be undertaken outside of the main nesting bird season (i.e. clearance carried out between September and February inclusive). Conflict with the development can be avoided by managing the land to discourage nesting birds up to the works commencing.

If these works cannot be restricted to within this period, an Ecological Watching Brief will be maintained during the main bird breeding season to ensure that no nesting birds are adversely affected. This will entail checking all suitable habitat for nesting birds due to be removed, and a buffer of at least 5 m beyond that area, by a suitably qualified ecologist prior to the commencement of works. If, during the Ecological Watching Brief, birds are found to be within the area due to be cleared or the buffer zone, measures to prevent any disturbance to breeding birds, including the cessation of tree and vegetation clearance, or construction works in areas close to breeding sites until the birds have completed breeding, will be put in place until the chicks have fledged.

The retained hedgerows, trees and mixed scrub habitats are to be protected from damage during construction, including where necessary the use of physical barriers to prevent accidental damage from equipment and machinery working in close proximity. This is expected to further reduce any impacts on nesting birds from the associated noise and vibration effects.

Environmental best practice is to be applied with regards to noise, which is considered to further reduce potential impacts on nesting birds utilising habitats retained on, and immediately adjacent to the Site.

During Operation

An appropriate management plan will be in place in order to ensure retained and newly planted habitats are managed to maximise foraging opportunities for birds, and to prevent destruction or damage to nests in-use.

Assessment of Residual Effects

The potential residual impacts are expected to have a negligible effect that is of neutral significance.

5.2.5 Common Toad

Potential Impacts and Effects During Construction and Operation

During Construction

The construction phase of the Proposed Development will result in the loss of terrestrial habitat suitable to support common toad. Therefore, there is the potential for the killing/injuring of individuals, if present within the Site, as a result of this clearance. There is also the risk of harm should individuals fall into pits or trenches left open overnight during the works. Should any become trapped they may be at greater risk of predation, starvation and susceptibility to extreme weather conditions.

The construction phase is considered to have a minor adverse impact which is not significant.

During Operation

Inappropriate management of habitats during the operational phase has the potential to directly harm individual amphibians present, as well as result in reduced habitat suitability.

The operational phase of the development is anticipated to have a minor adverse effect that is not significant.

Avoidance and Mitigation

During Construction

Mitigation applied in relation to reptiles will also cover the presence of amphibians (non-GCN). Since reptiles and amphibians have similar habitat requirements, any individual found during the precautionary working methods will also be moved out of the development footprint.

During Operation

Following the construction phase and habitat creation works, the Site will be reconnected to adjacent habitats and any retained or created habitats will be available for amphibians to repopulate should they require. As such a Landscape and Ecology Management Plan (LEMP) will be applied to the operational phase in order to promote biodiversity within the Site and sensitive management of habitats to avoid potential harm to any amphibians that may subsequently occur.

The habitat enhancements within the east of the Site, comprising meadow grassland, scrub and wildlife ponds is considered to provide increased opportunities for amphibians.

Assessment of Residual Effects

The potential residual impacts are expected to have a minor beneficial effect that is not significant.

5.2.6 Reptiles

Potential Impacts and Effects During Construction and Operation

During Construction

The proposals will result in the loss of grassland within the east of the Site, where the majority of common lizard were recorded. Without appropriate mitigation, vegetation clearance has the potential to harm individual reptiles present. Considering the 'low' population recorded this is considered to have a moderate adverse impact that is significant at a local scale.

The proposals will result in the loss of habitat/resources for the population in the short term, however, the grassland margins along the ditch and the scrub/woodland belt are to be retained, and it is anticipated that the population will also rely on the habitats associated with the adjacent off-Site railway corridor such that habitat provision and connectivity will be retained throughout the development. The proposed landscape plans include notable habitat creation in the east of the Site including meadow grassland and scrub, as well

as the provision of habitat piles. This is considered to compensate for the loss of grassland and to provide enhanced resources for the reptile population. This is considered to have a minor beneficial effect that is not significant.

During Operation

During operation, inappropriate management of any retained or created habitat has the potential to directly harm individuals or to result in lower suitability habitat. Without mitigation, the operational phase is considered to have a minor adverse effect that is not significant.

Avoidance and Mitigation

During Construction

Considering the 'low' population of common lizard recorded and the scale of habitat loss relative to that retained, a precautionary approach to vegetation clearance is considered appropriate to mitigate the risk of harm to individuals present.

The following method statement will be followed:

- Prior to the commencement of any works to suitable reptile habitat, the Ecological Clerk of Works (ECoW) for the Site will provide a toolbox talk to all site operatives, including contractors and sub-contractor staff involved in any vegetation or Site clearance works. The briefing will include details of the legal protection afforded to all reptiles, the precautionary methods of working (outlined in this document), tips on the identification of reptiles, and the procedures to follow should individuals be discovered during the works.
- Initial clearance works within grassland habitat will include phased strimming and/or a fingertip search by a suitably experienced ecologist during the season that reptiles are active (between March and October inclusive, depending on weather conditions);
- The ECoW will undertake a check of the grassland within the area to be cleared/managed. Any reptiles observed will be captured by hand by the ECoW and placed in a suitable container for subsequent release at a suitable location on-Site.
- Following this, phased strimming will initially remove vegetation down to a maximum height of 15 cm to make the habitat less suitable for reptiles and enable any individuals present, to disperse. A further cut will be undertaken a week later to ground level;
- Grassland strimming/clearance should be undertaken from the Site centre towards retained boundary habitats to further encourage any remaining reptile dispersal (if present) out of the working area;
- Prior to any scrub clearance the ECoW will undertake a fingertip search of the working area to identify any reptiles present and remove them for release into the receptor area. These works will be undertaken during the season that reptiles are active (between March and October inclusive, depending on weather conditions). If the works are to proceed during the nesting bird season (March-August, inclusive) then the ecologist will first check the scrub for the presence of active nests within it;
- The vegetation will be cut to a height of 15 cm and a further check for reptiles will be made by the ECoW before the vegetation is cut/removed to ground level;
- Any common lizard captured during watching briefs will be placed in a suitable container for subsequent release at an appropriate location of retained habitat within the Site. This container will be kept in the shade until the ECoW is able to transport the reptiles across the Site. A record of the species, sex and age (where possible) of all reptiles moved will be made. Reptiles will be released as soon as practically possible to ensure individuals are not held captive for too long;
- Once cleared/managed to a short sward height, areas within the working area will be maintained as short grassland/bare ground until construction activities commence; and

- During the enabling and construction works, materials should either be stored in an area of bare ground, or alternatively on pallets, away from retained grassland and scrub, as this would encourage reptiles to seek refuge.

During Operation

Following the construction phase, any retained or created habitats will be available for reptiles to repopulate should they require. As such a Landscape and Ecology Management Plan (LEMP) will be applied to the operational phase in order to promote biodiversity within the Site and sensitive management of habitats to avoid potential harm to any reptiles that may subsequently occur.

Assessment of Residual Effects

Subsequent to the application of avoidance, mitigation, compensation and enhancement measures, the residual effects are considered to be minor beneficial and not significant.

5.2.7 Bats

Potential Impacts and Effects During Construction and Operation

During Construction

The proposed Development includes the demolition of B1 and B5 assessed as having low suitability to support roosting bats. Whilst no evidence of a bat roost has been recorded to be associated with these structures, bats are mobile animals which often change roost sites at different times of year. Given the low suitability and results of the surveys, it is anticipated that at most, the buildings would support individual/low numbers of bats using the features only on occasion. There is, therefore, the potential for direct and permanent impacts on roosting bats should they occur. Considering the low suitability and anticipated low conservation status should roost occur, this is considered to have a minor adverse effect that is not significant.

The Site offers commuting and foraging opportunities for a range of bat species. Whilst the proposed development will result in a loss of grassland, arable and small sections of mixed scrub habitat, key vegetated corridors are to be retained and the proposed landscape scheme includes biodiversity enhancements, particularly in the east of the Site such as wildflower grasslands, native scrub and hedgerow and tree planting which are considered to compensate for the loss of habitat and provide enhanced opportunities.

Bat activity was recorded along the eastern edge of the woodland/scrub embankment that separates the east and west portions of the Site and along the vegetated northern and southern boundaries in the east of the Site. With the exception of the relatively small loss of scrub within the central embankment to provide access to the eastern portion of the Site, the majority of the boundary corridors are to be retained and are anticipated to continue to provide resources for foraging and commuting bats. The majority of bat activity was recorded in the south-east of the Site, where built development is limited to four training pylons and sub-station. Landscape enhancements in this area of the Site has the potential to give rise to minor positive impacts after once vegetation becomes more established. Furthermore, no lighting is proposed within the majority of the eastern area of the Site, such that it will continue to provide opportunities for the full species assemblage recorded using the Site.

The results of the bat surveys identified relatively low levels of bat activity along the central wooded/scrub embankment. The proposed development will result in the loss of a section of scrub habitat to facilitate access between the two portions of the Site. habitat loss is to be limited to the minimum necessary to facilitate the vehicular access requirements. This is anticipated to result in only minor loss of bat foraging/commuting habitat in the context of the wider landscape, however it will result in the severance of a commuting route in terms of vegetation loss and lighting. As well as pipistrelles, this corridor was found to be used by more light intolerant species such as brown long-eared bats and Myotis species. These species were recorded in relatively low numbers at the Site indicating the corridor is not of particular value to any specific community (i.e. linking a roost to favoured foraging grounds). Vehicular movement during times of bat activity is considered to be limited and it is anticipated that the nature of the embankment will help to raise bat flight lines above the occasional vehicular movement, thereby reducing the risk of casualties. Without mitigation,

the impacts of the corridor severance are, therefore, considered to have a moderate adverse effect that is significant at a local level.

Whilst there remains a severance of this corridor, the development design incorporates an alternative provision, through the proposed landscape planting associated with the existing hedgerow. This enhanced corridor, which will remain unlit is considered to maintain a continuous vegetative corridor between habitats to the south and north of the Site.

The construction phase of works has the potential to result in temporary disturbance to bats through increased lighting, noise and vibration. However, it is anticipated that during the main active bat season (April-October, inclusive), construction works will generally cease, or be winding down before dusk when bats emerge and will not begin before dawn when bats return to roosts. Therefore, generally additional artificial lighting will not be required, and there are not anticipated to be any negative effects upon bat foraging and commuting behaviour from noise across the Site since construction works will not coincide with the timing of bat activity.

In certain circumstances, for example, in late autumn or early spring when daylight hours are limited but weather conditions may be suitable for bats to be active, there may be a brief overlap between bat activity and on-Site construction works. During this period, lighting may be required to enable the construction works to progress, and this along with any associated noise, may temporarily alter bats foraging and commuting activity across an area of the Site. The combined effects of lighting and noise from construction works during these occasional circumstances would only be a temporary deterrent to foraging and commuting bats in a concentrated area, and not across the wider Site and this is not anticipated to have any adverse impact upon bats.

During Operation

The proposed development will result in increased light levels at the Site. Lighting at the Site will predominately occur within the northern extent of the western portion which is already well lit and negligible bat activity was recorded. Increased lighting is expected to occur at the location of the access cut through and, in the east, will be limited to the workshop area in the north. Studies into the effects of lighting on bat behaviour have shown that pipistrelle bats are more resilient to certain types of lighting than other species of bats. However, slower flying broad-winged species such as brown long-eared bats, and *Myotis* sp. (which have been recorded at this Site), are more sensitive to lighting and have been found to generally avoid artificially lit areas (e.g. by streetlights) (BCT & ILP, 2023). Consequently, in the absence of mitigation, new lighting may alter the species assemblage and distribution within the Site.

Without mitigation, the operational phase is therefore considered to have a moderate adverse effect that is significant at a Local level.

Avoidance and Mitigation

During Construction

Bats are mobile animals which often change roost sites on a regular basis during varying times of the year and, therefore, it is recommended that a precautionary approach is adopted with respect to demolition of B1 and B5, as outlined below:

- Demolition of both buildings will be undertaken during the active bat season (April-October, inclusive) to ensure that no hibernating bats are disturbed;
- A 'toolbox talk' will be given to all contractors working on the Site before works commence. This will outline the law with regards to bats. They will also be briefed on the correct procedure to follow if bats are discovered on the Site;
- A dawn return bat survey will be undertaken on each of the buildings on the morning the works are due to commence, by a licenced bat ecologist and suitably experienced assistants to cover all aspects of the buildings;

- If no bats are found to be roosting within the buildings, then works to Building 1 and Building 5 will commence immediately;
- Careful dismantling and removal of suitable roosting features will be undertaken under the supervision of the licenced bat worker as deemed appropriate;
- Once the buildings have been deemed by the licenced ecologist to be unsuitable for roosting bats, works to demolish them will proceed; and
- In the unlikely event that a bat(s) is discovered, all works will stop immediately, and the licenced bat worker will be contacted to determine the most appropriate way forward. It may be necessary to stop works until a licence has been sought from Natural England.

The detailed design of the southern access will minimise the width of vegetation clearance as far as possible.

The location of any Site compound, storage and use of lighting during the construction phase will be determined with input from a suitably experienced ecologist and will avoid being in proximity to existing vegetate corridors.

During Operation

As indicated in the Lighting Strategy prepared by WSP, the detailed lighting design of the Site will be designed with consideration for potentially sensitive ecological receptors and with reference to current best practice (BCT & ILP 2023). Four existing sensitive receptors have been identified: the central embankment, woodland along the southern Site boundary, woodland along the western Site boundary and the railway corridor along the northern Site boundary. In addition, newly planting habitats are also considered.

The following measures should be implemented to reduce impacts upon ecological receptors:

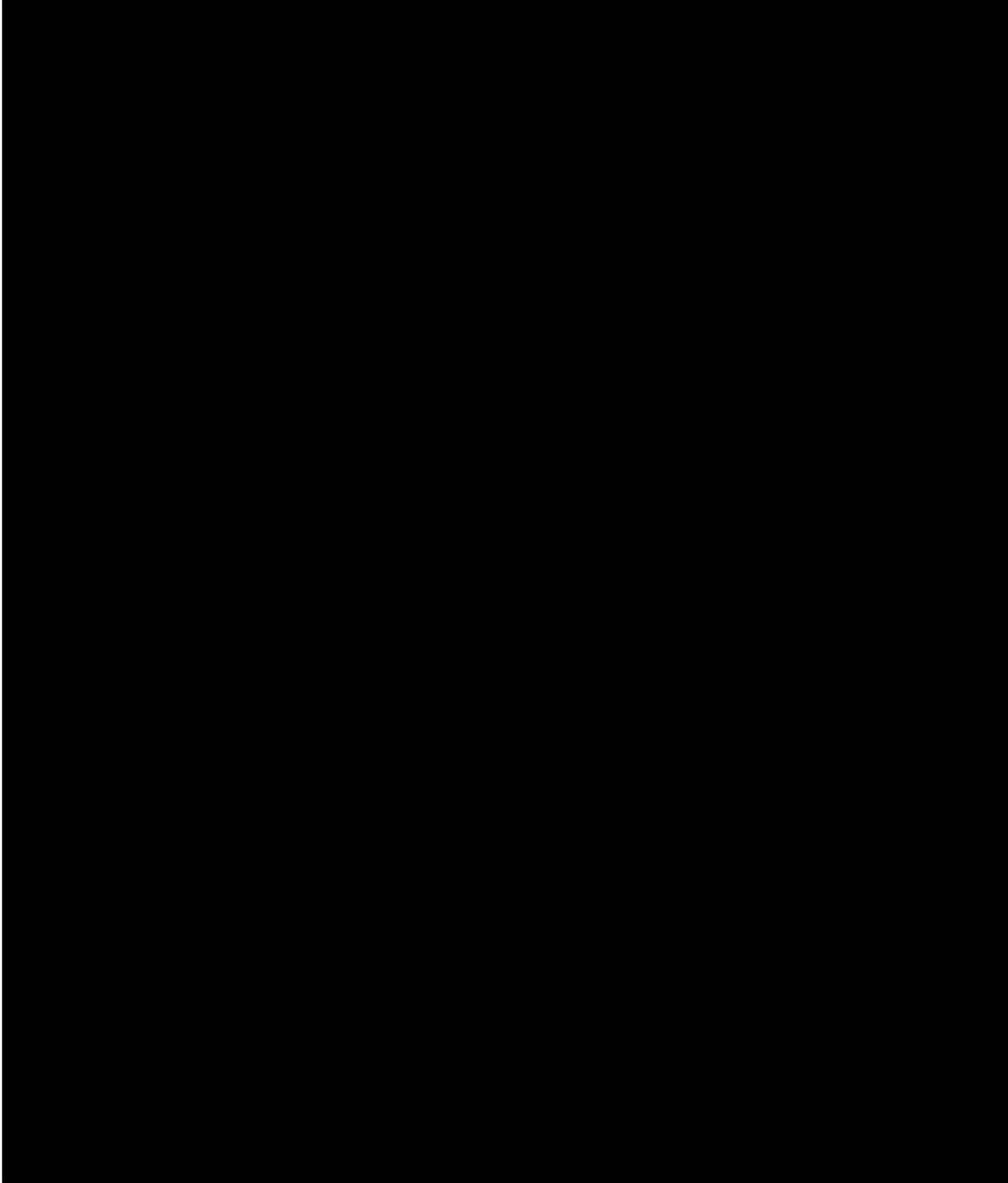
- LEDs shall have a neutral to warm colour temperature of 2,700k to 3,000k or reduced to 2,200k in areas of particular light sensitivity where lighting cannot be avoided for health and safety reasons;
- Luminaires shall be full cut-off with as high a G rating as practicable, i.e. G4 to G6 preferable in sensitive areas such as boundary hedgerows and planned planting areas which have potential to provide foraging opportunities for bats and other fauna;
- Consideration of special measures to ensure existing sensitive habitats are not directly illuminated, such as introducing additional screening or dark buffer zones/corridors to ensure that existing commuting routes are retained, or new ones can be created.
- Where lighting is required, it shall be focused to illuminate the task area only. Spill light shall be kept to a minimum and where practicable eliminated through use of shields, louvres and baffles.
- Light spill onto confirmed, suspected or introduced roosts, boxes and other key light sensitive ecological features should be avoided, primarily through good lighting design and by the implementation of shields where necessary.
- Light spill onto trees and hedgerows should be limited through good lighting design and by the implementation of shields where necessary.
- A 'buffer zone' of very low illuminance (if any) should be created where necessary to limit the potential impacts of artificial lighting on potentially sensitive receptors.
- Special consideration shall be given to the LWS running through the Site. It is recognised that an access through the LWS will be required to access the proposed area of the depot, but lighting on the approach and within the LWS area will be kept to the absolute minimum required for safety and shall remain off when not in use through the use of PIR sensors.

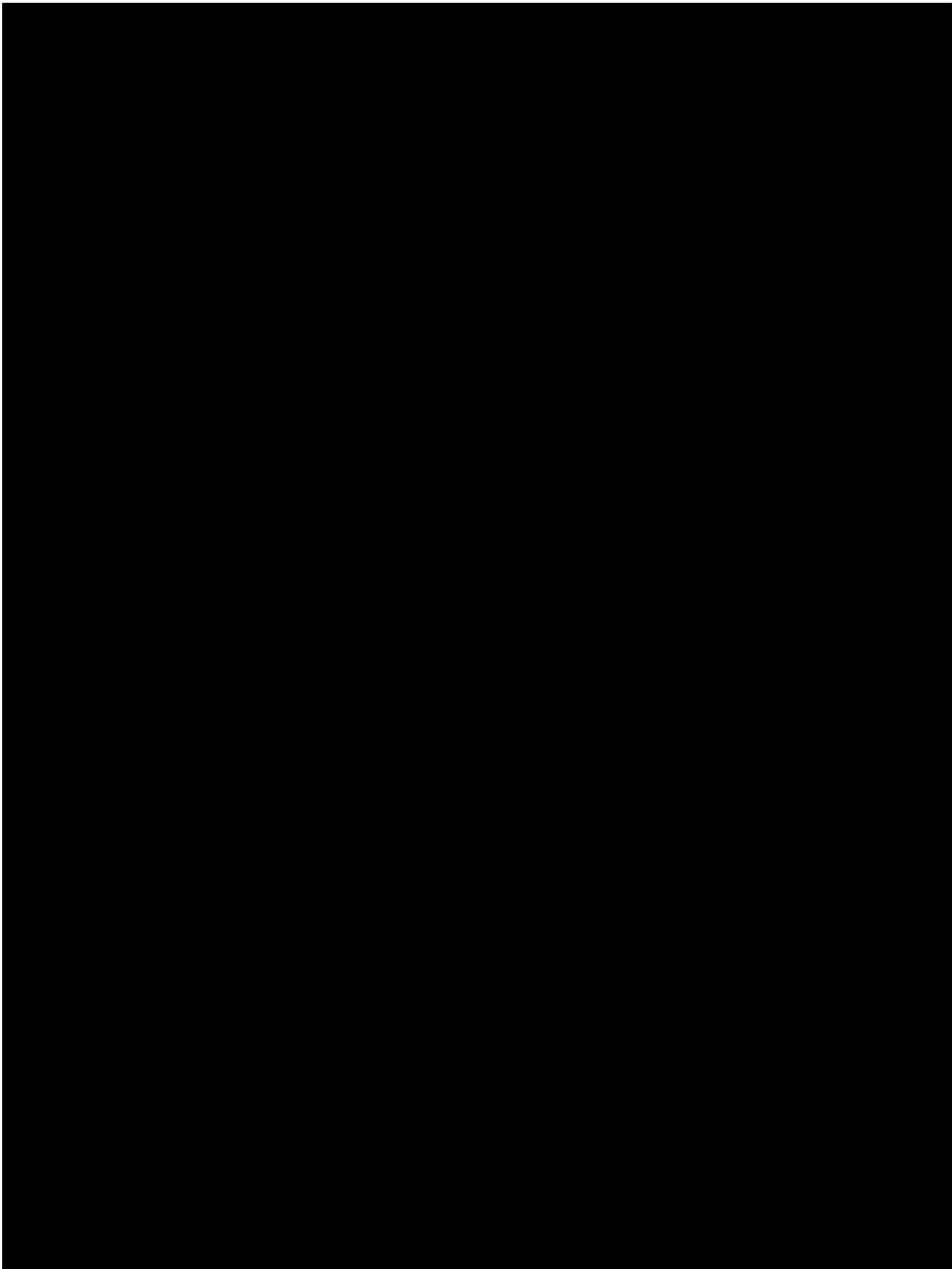
To minimise the effects on foraging and commuting bats (and other nocturnal species) as a result of light spill, a lighting design will be prepared at the detailed design stage, incorporating measures to reduce the

effects of lighting on bats. This will be reviewed by a suitably experienced ecologist to ensure that effects on sensitive habitats are avoided.

Assessment of Residual Effects

Subsequent to the application of avoidance and mitigation, the residual effects are considered to be negligible.





5.2.9 Hedgehog

Potential Impacts and Effects During Construction and Operation

During Construction

Whilst no evidence of this species was recorded during the survey, hedgehogs may occur on-Site. Therefore, there is the direct risk of harm during vegetation clearance and should they fall into pits or trenches or enter pipework left open overnight during the works. Should any become trapped they may be at greater risk of predation, starvation and susceptibility to extreme weather conditions. Despite loss of grassland in the east and scrub for the access cut through, the proposed landscape plan include notable habitat creation which is considered to compensate and enhance the Site for hedgehog.

This construction phase is considered to have a minor adverse effect that is non-significant.

During Operation

Whilst the proposed development will result in increased vehicular movement in the area of built development in the east of the Site and as such potential increased risk of road fatalities, the proposed landscaping and habitat enhancements provide resources and connectivity which is considered to minimise contact. The operational effects are considered to be negligible.

Avoidance and Mitigation

During Construction

During the construction phase of works, no open pits or trenches will be left uncovered or alternatively without a mammal escape ramp overnight, and pipework will be capped overnight to prevent hedgehogs accessing and becoming trapped.

Clearance of the vegetation should be undertaken with an awareness for the potential presence of hedgehog. Clearance should be undertaken during the active season (May-September, inclusive), and any individuals found moved carefully with gloved hands to an area of suitable habitat away from the working area.

Assessment of Residual Effects

The potential residual impacts are expected to have a negligible effect of neutral significance.

5.3 Cumulative Effects

Given the nature of the development and the assessment of impacts, no other schemes have been identified for which the Site may contribute to an in-combination cumulative effect on ecologically important features within the ZOI of the Site.

5.4 Enhancement

The revised National Planning Policy Framework (NPPF), sets out, amongst other points, how *“Planning policies and decisions should contribute to and enhance the natural and local environment by:*

‘Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressure’.

As demonstrated within the biodiversity net gain calculations for the Site (issued separately), the Proposed Development has the potential to result in a biodiversity net gain on Site in excess of 10%, provided retained habitats are adequately protected during construction, and all new habitat creation is appropriately installed and maintained for at least 30 years.

The development has been designed to include the following enhancements:

- New planting of native trees, hedgerows and scrub;
- Establishment of new species rich meadows;
- Creation of a natural pond or wetland feature;
- Clearance works and improved management to the existing watercourse;
- New ornamental planting, including species of benefit to wildlife, around the proposed office and training building;
- New planting to the boundary with the existing housing on Kelsey Avenue; and
- A commitment to secure long-term management of existing vegetation such as woodland, scrub and hedgerow.

Additional enhancement measures will be incorporated into the design which would include the creation of hibernacula/habitat piles to benefit amphibians, reptiles, invertebrates and small mammals. A variety of bird and bat boxes will be installed which will serve species of conservation concern known to occur in the local area.

6.0 Conclusions

The habitats present on Site are widespread, in both a local and national context. The mitigation hierarchy has been followed such that those habitats with the greatest ecological value (i.e. the woodland, scrub hedgerows, individual trees and ditch) are to be retained within the development, wherever possible.

Whilst there is likely to be a temporal delay in achieving the biodiversity objectives for the Site (i.e. whilst new habitats become established), it is anticipated that in the long term there will be no significant residual effects on designated sites, habitats or protected species resulting from the Proposed Development in line with current local and national policy.

7.0 Disclaimer

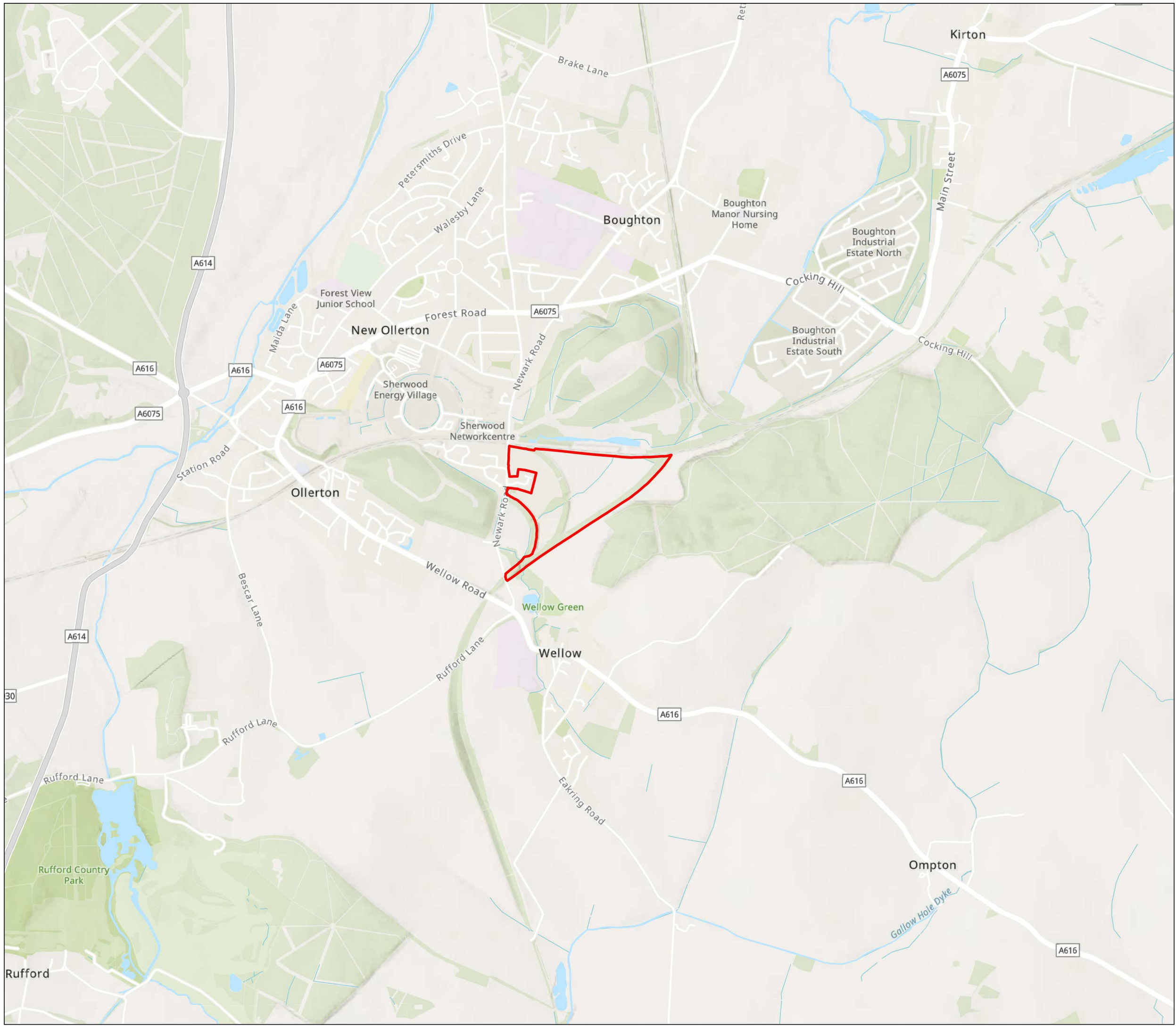
The recommendations contained in this report represent Delta-Simons' professional opinions, based upon the information referred to in Section 1.0 of this report, exercising the duty of care required of an experienced Ecology Consultant. Delta-Simons does not warrant or guarantee that the Site is free of bats or other protected species.

The behaviour of animals can be unpredictable and may not conform to characteristics recorded in current scientific literature. This report, therefore, cannot predict with absolute certainty that animal species will or will not occur in apparently suitable locations or habitats or that they will not occur in locations or habitats that appear unsuitable.

No part of the survey included an assessment of the materials and conditions of any buildings. No part of the survey included an asbestos assessment, nor did it represent an appraisal of other deleterious materials or hazardous substances.

This report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed as defined in Section 1.0 of this report. Nothing contained in this report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

Figure 1 – Site Location Plan



Legend

 Site boundary

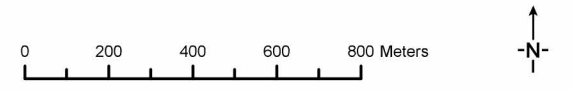


Figure	Site Location Plan		
Job	Ollerton Depot, Newark Road, New Ollerton		
Client	J. Murphy & Sons Limited		
Figure No.	1	Revision	A
		Date	13/12/2022
Drawn	KH	Checked	IT
		Scale	1:18,000 @ A3
Job No.	87854.545445		Central GR
			467143E 366926N



DO NOT SCALE.
NOT FOR CONSTRUCTION.



Figure 2 – UK Habitat Plan



- Legend**
-  Site boundary
 -  c1c - cereal crops
 -  g4 - modified grassland
 -  h3h - mixed scrub
 -  u1b - developed land, sealed surface
 -  u1b5 - buildings
 -  u1f - sparsely vegetated urban land
 -  w1g - other woodland, broadleaved
 -  h2b - other hedgerows
 -  r1 - running water
 -  Individual tree
 -  Target note

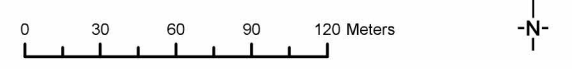


Figure UK Habitat Plan			
Job Ollerton Depot, Newark Road, Ollerton			
Client J. Murphy & Sons Limited			
Figure No.	2	Revision	A
		Date	08/02/2024
Drawn	BB	Checked	BH
		Scale	1:3,000 @ A3
Job No.	87854.579674		Central GR
			467143E 366926N



Figure 3 – Artificial Reptile Refugia and Survey Results



Legend

- Site boundary
- Reptile refugia

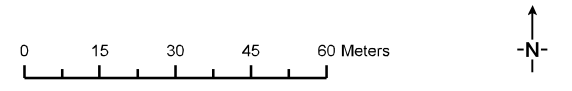
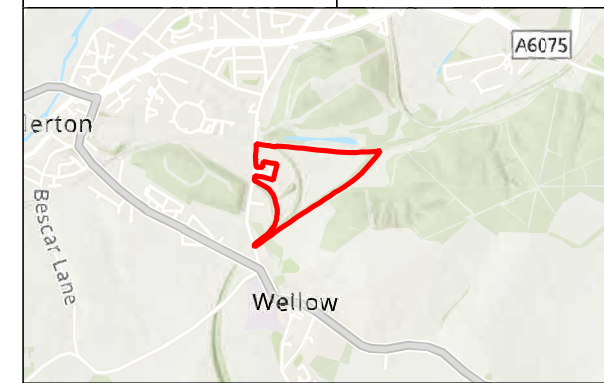


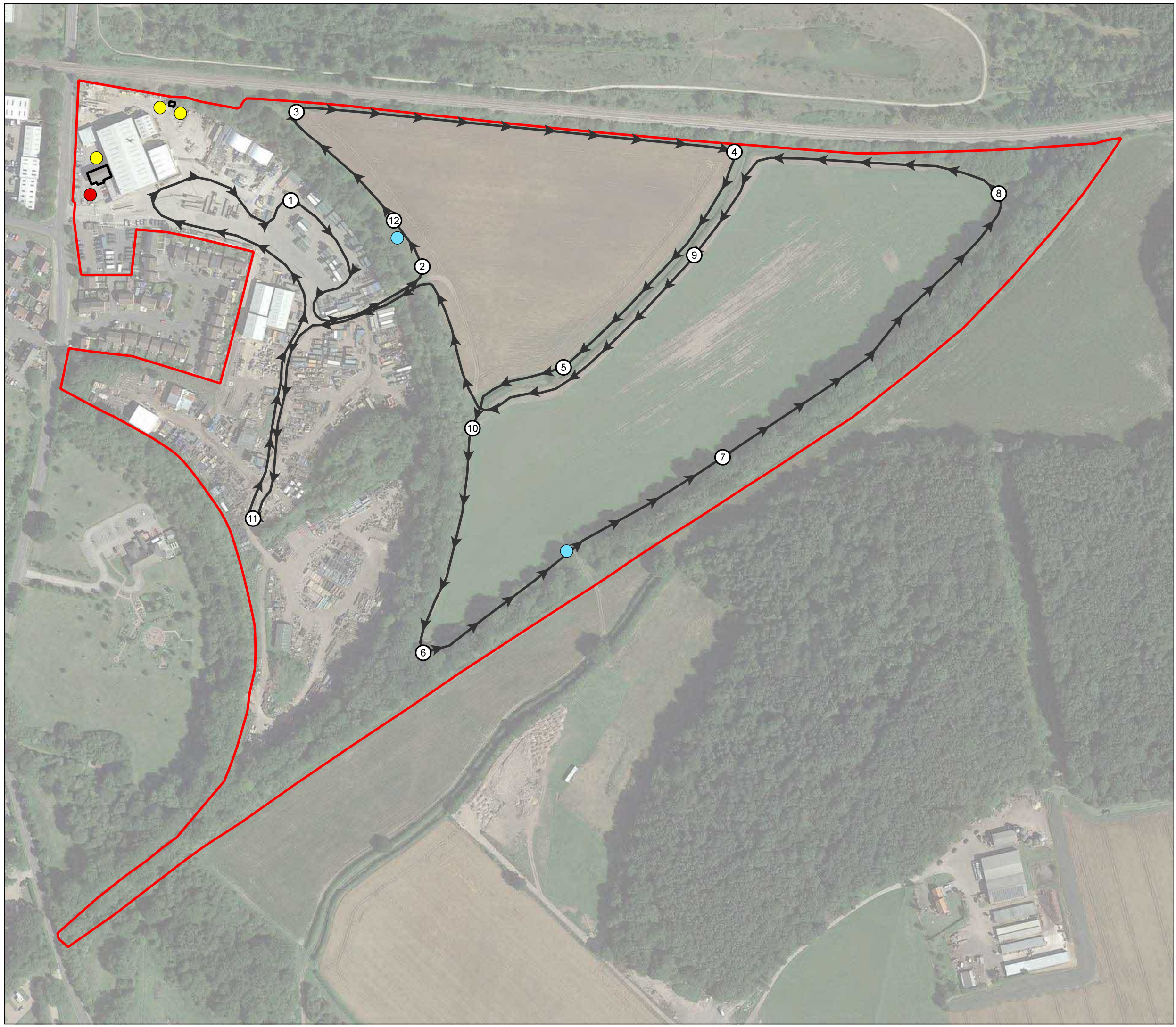
Figure			
Artificial Reptile Refugia and Survey Results			
Job			
Ollerton Depot, Newark Road, Ollerton			
Client			
J. Murphy & Sons Limited			
Figure No.	Revision	Date	
3	A	08/02/2024	
Drawn	Checked	Scale	
BB	BH	1:1,500 @ A3	
Job No.	Central GR		
87854,579674	467082E 367084N		



DO NOT SCALE.
NOT FOR CONSTRUCTION.



Figure 4 – Bat Survey Plan



- Legend**
- Site boundary
 - Building surveyed
 - Surveyor location
 - Infrared camera and static detector location
 - Static detector location
 - ➔ Transect
 - Listening stop

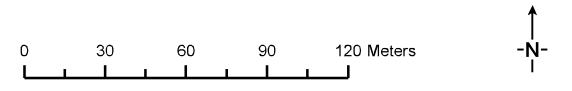
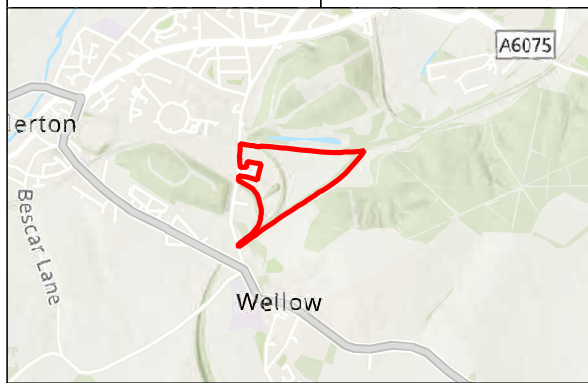


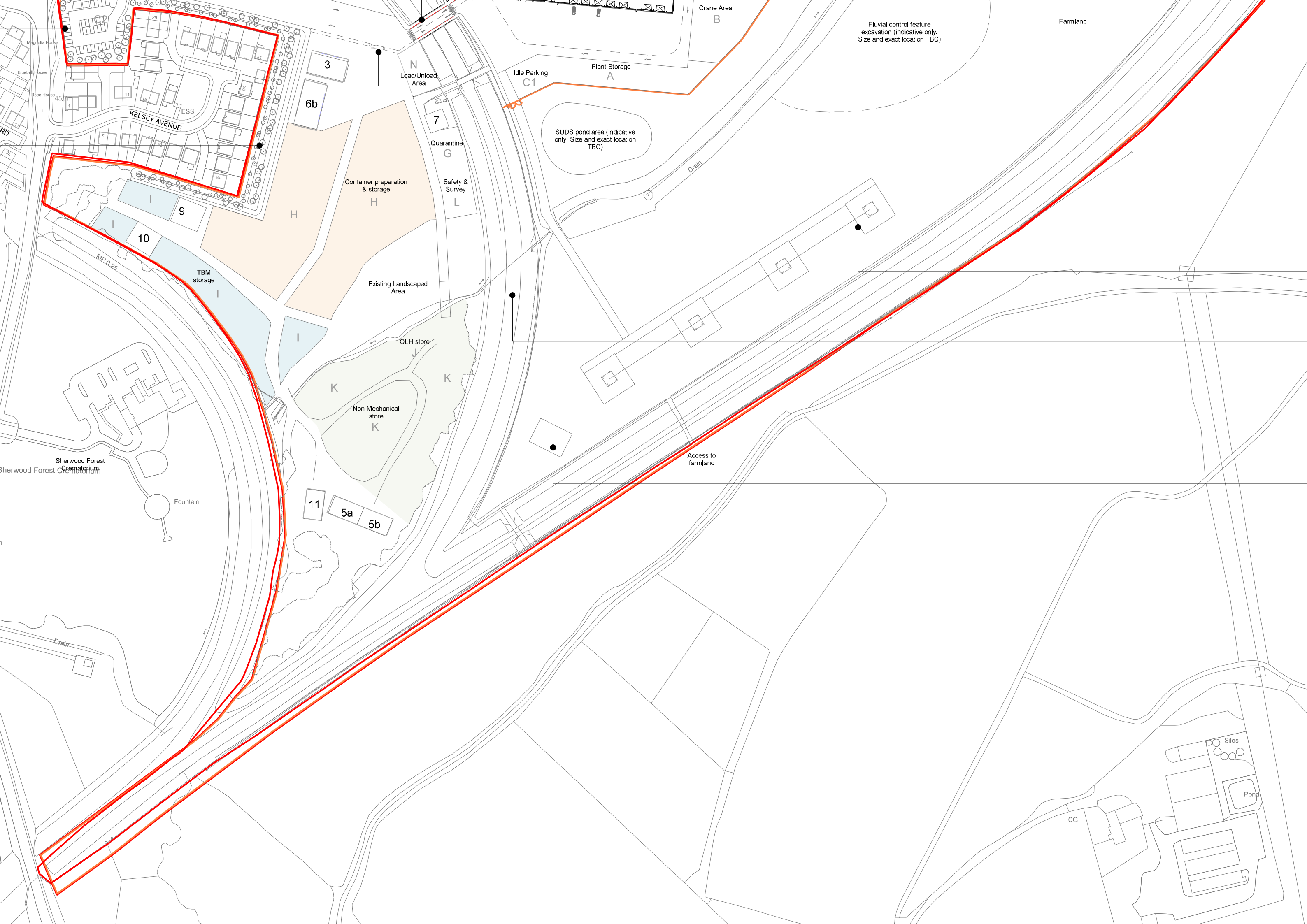
Figure Bat Survey Plan			
Job Ollerton Depot, Newark Road, Ollerton			
Client J. Murphy & Sons Limited			
Figure No.	4	Revision	A
		Date	08/02/2024
Drawn	BB	Checked	BH
		Scale	1:2,800 @ A3
Job No.	87854,579674		Central GR 467141E 366928N



DO NOT SCALE.
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Drawing 1 – Proposed Development Plan



Magnolia House

Bluebell House

Rose House

KELSEY AVENUE

ESS

29

11

16

25

18

9

10

TBM storage

MP 0.25

H

Container preparation & storage

Existing Landscaped Area

OLH store

Non Mechanical store

K

K

11

5a

5b

3

6b

7

Quarantine

Safety & Survey

L

N Load/Unload Area

Idle Parking C1

Plant Storage A

Crane Area B

SUDS pond area (indicative only. Size and exact location TBC)

Drain

Fluvial control feature excavation (indicative only. Size and exact location TBC)

Farmland

L

G

Access to farmland

Sherwood Forest Crematorium

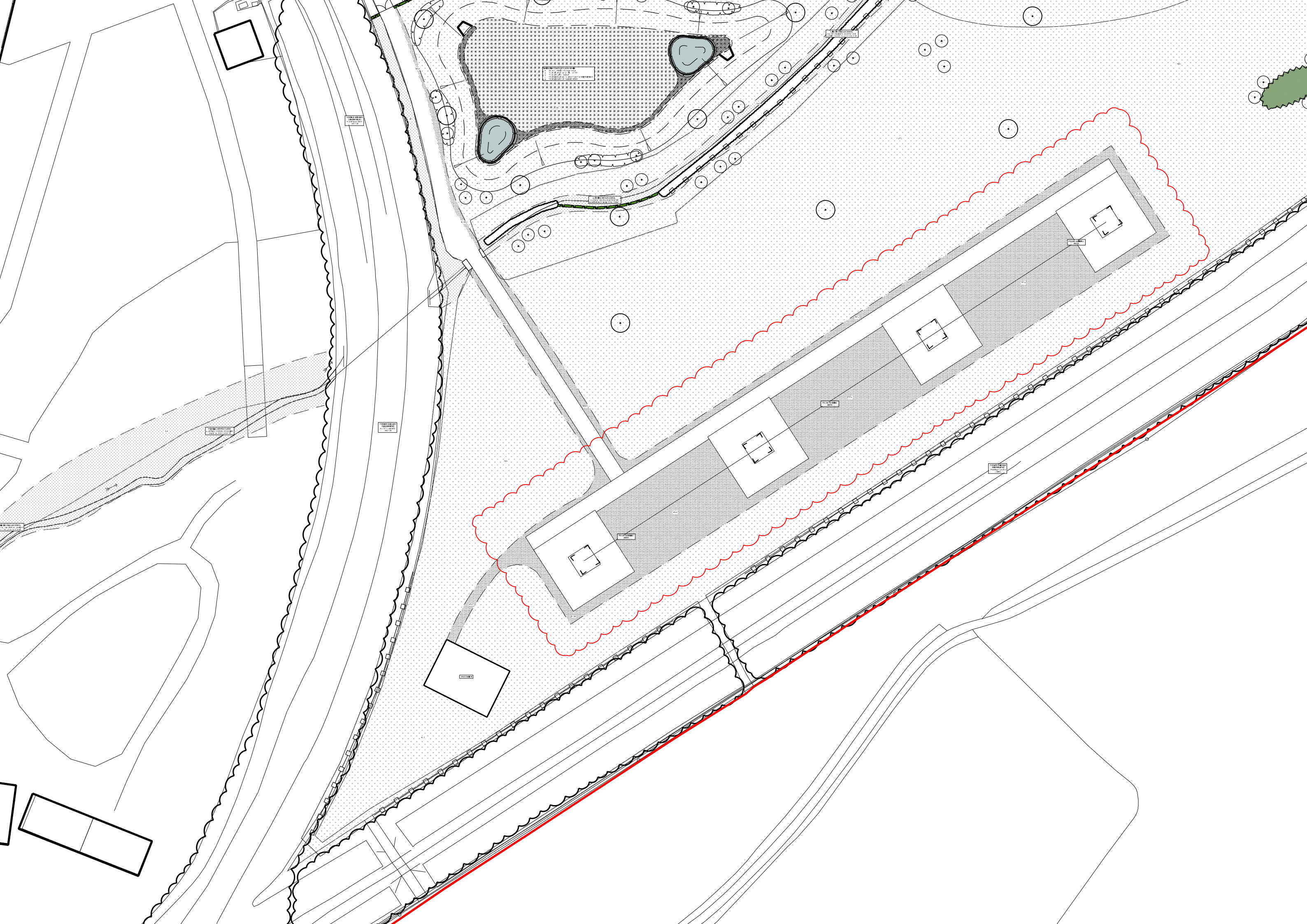
Fountain

Silos

Pond

CG

Drawing 2 –Landscape Plan



Appendix A –References

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Wildlife and Countryside Act 1981 (as amended). HMSO

Appendix B – Assessment of Structures, Trees and Habitats for Bats

Assessment of Structures, Trees and Habitats for Bats

Suitability	Description	
	Roosting	Commuting and Foraging
Negligible	<p>An inspected structure or tree which is considered to have no feature importance for roosting bats.</p> <p>No further constraints apply to method or timing of proposed works.</p>	<p>Negligible habitat features on-Site to support commuting or foraging bats.</p>
Low	<p>A structure with at least one or more features suitable to support opportunistic individual bats. However, inadequate space, shelter, protection and conditions, and the low suitability of surrounding habitats means that it is unlikely to be used as a maternity or hibernation roost site.</p> <p>A tree of adequate age and stature to support potential roosting features, however, either no features, or features of limited potential record from the ground.</p>	<p>Habitat with potential to support low numbers of commuting bats due to its quality and connectivity. For example, a gappy hedgerow or unvegetated stream that is isolated from surrounding landscape.</p> <p>Alternatively, suitable but isolated habitats suitable to support low numbers of foraging bats such as a lone tree or a patch of scrub.</p>
Moderate	<p>A structure or tree with one or more potential roost sites that are of adequate size, shelter and protection, with suitable conditions and surrounding habitat to support a roost not of high conservation status (with respect to roost type not individual species conservation status).</p>	<p>Linear habitat continuity connecting to the wider landscape offering potential to support commuting bats, such as rows of trees and scrub or linked back gardens.</p> <p>Habitat such as trees, scrub, grassland waterbody with connectivity to the wider landscape offering foraging opportunities for bats.</p>
High	<p>A structure or tree with one or more potential roost sites that are suitable for use by large numbers of bats on a regular basis and for long periods of time due to their size, shelter, protection, conditions and the surrounding habitat.</p>	<p>Continuous high-quality habitat with strong connectivity to the wider landscape that is likely to be used by commuting bats on a regular basis, such as flowing waterbodies, hedgerows, rows of trees and woodland edges.</p> <p>High quality habitat with strong connectivity to the wider landscape that is likely to be regularly used by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to, and connected to, known roost sites.</p>

Guidance on Assessing the Potential Suitability of Development Sites to Support Bats (adapted from Collins, J. (ed)).

Appendix C – Target Notes

Target Notes

Target Note 1 –Bird nests recorded on the exterior of building 1.

Target Note 2 –Rookery located within woodland.

Target Note 3 –Brick culvert location.

Target Note 4 –Bridge location.

Target Note 5 –Horsetail location.

Appendix D – Ecological Impact Assessment Methodology

Ecological Impact Assessment Methodology

The methodology for the EcIA follows the principles set out within the Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine updated by the Chartered Institute of Ecology and Environmental Management (CIEEM) in 2019 and comprises a staged approach to assessing the potential impacts resulting from the proposed development on the ecological features within the ZOI.

The EcIA has involved the following stages:

- Determination of baseline conditions;
- Identification of important ecological features;
- Identification of potential impacts and effects;
- Identifying likely significant effects;
- Designing appropriate avoidance and/or mitigation for impacts and effects;
- Assessment of residual effect significance;
- Assessment of cumulative impacts and effects; and
- Identification of compensation and enhancement measures.

Baseline Conditions

Baseline conditions have been established following the methodology outlined in the above sections.

Important Ecological Features

Important ecological features have been identified based on existing statutory, policy and conservation objectives. In accordance with the CIEEM Guidelines the value or potential value of an ecological resource has been determined within a defined geographical context in line with the table below.

Potential Impacts and Effects

The potential impacts on any important ecological features are identified during construction and operation, and prior to any mitigation, based on available baseline data, an assessment of design proposals and construction methods, and available information on the existing conservation status of the features in question.

Impacts are then characterised in terms of the following attributes:

- Positive or negative –i.e. a change that improves or reduces the quality of the environment;
- Magnitude –i.e. the size of an impact in quantitative terms where possible;
- Extent –i.e. the area over which an impact occurs;
- Duration –i.e. the time for which an impact is expected to last;
- Reversibility –i.e. is the impact permanent or temporary; and
- Timing and frequency –e.g. related to breeding seasons.

The likely effects of potential impacts on important ecological features largely depend upon their sensitivity, whilst the level of certainty that an impact will occur as predicted is based on professional judgment. Only the impacts likely to result in significant effects have been described in detail within the report. Impacts that are either unlikely to occur, or if they did occur are unlikely to be significant have been scoped out and justification for scoping out provided.

Geographic Scale	Example Criteria for Classification at each Geographic Scale
International	<p>Habitats meeting the criteria for Wetlands of International Importance (Ramsar), Special Area of Conservation (SAC) or Special Protection Area (SPA) site.</p> <p>A species present in internationally important numbers (>1% of international population).</p> <p>Notable species which is part of the cited interest of an SPA or SAC and which regularly occurs in internationally or nationally important numbers.</p>
National	<p>Habitats meeting the criteria for a Site of Special Scientific Interest, Marine Conservation Zone (MCZ), or National Nature Reserve (NNR).</p> <p>A species present in nationally important numbers (>1% of UK population).</p> <p>A species which is part of the cited interest of a SSSI and which regularly internationally or nationally important numbers.</p> <p>Rare breeding species (e.g. birds with <300 UK breeding pairs).</p>
Regional	<p>A local site with important regional habitats or significant populations of Species of Principal Importance (SPIs) under the NERC act.</p> <p>Species present in regionally important numbers (>1% of regional population).</p> <p>Species listed as priority species, which are not covered above, and which regularly occur in regionally important numbers.</p> <p>Sustainable populations of a species that is rare or scarce within a region.</p> <p>Species on the Birds of Conservation Concern (BoCC) Red or Amber List and which regularly occur in regionally important numbers.</p>
County	<p>A local site with a habitat that is characteristic of the county or rare on a county scale, or with significant populations of locally important species.</p> <p>Species present in county important numbers (>1% of county population).</p> <p>Species listed as priority species, which are not covered above, and which regularly occur in county important numbers.</p> <p>Sustainable population of a species that is rare or scarce within a county.</p> <p>A site designated for its county important assemblage of species.</p> <p>Species on the BoCC Red or Amber List and which regularly occur in county important numbers.</p>
Local	<p>A site which has wildlife corridors likely to be essential to allow viable movement of species or improve the biodiversity of the area.</p> <p>Species listed as priority species, which are not covered above, and are rare in the locality.</p> <p>Species present in numbers just under county importance (<1% of county population).</p> <p>Sustainable population of a species that is rare or scarce within the locality.</p> <p>A site whose designation is just under for inclusion for its county important assemblage of a particular species on site.</p> <p>Other species on the BoCC Red or Amber List and which are considered to regularly occur in locally important numbers.</p>

Likely Significant Effects

In accordance with the CIEEM guidelines, an ecologically significant effect is 'an effect that either supports or undermines the biodiversity conservation objectives for 'important ecological features' or for biodiversity in general'.

Using an approach to valuing impacts that involves professional judgement and reference to available conservation objectives, neutral and minor effects are considered to be not significant, while moderate and major effects are assessed to be significant. The table below provides a comparison of the terms used.

Effect Significance	Type of Effect	Equivalent CIEEM Assessment
Significant	Major beneficial	Significant positive impact on biodiversity conservation objectives given geographical context
	Moderate beneficial	Positive impact on biodiversity conservation objectives at given geographical context
Non-significant	Minor beneficial	Limited positive impact on biodiversity conservation objectives at given geographical context
Neutral	Negligible	No significant impact on biodiversity conservation objectives at given geographical context
Non-significant	Minor adverse	Limited adverse impact on biodiversity conservation objectives at given geographical context
Significant	Moderate adverse	Adverse impact on biodiversity conservation objectives at given geographical context
	Major adverse	Significant adverse impact on biodiversity conservation objectives given geographical context

The evaluation of significant effects has been based on the best available scientific evidence. Where sufficient evidence is not available, the precautionary principle has been applied. Therefore, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect has been assumed. Any uncertainty has been acknowledged within the report.

Avoidance and/or Mitigation

Negative impacts have been avoided and/or mitigated where possible, in line with the mitigation hierarchy as presented within the CIEEM Guidelines.

Assessment of Residual Effect Significance

Once the impacts of the proposed development have been assessed, and all attempts to avoid and mitigate ecological impacts have been finalised, an assessment of the residual impacts is undertaken to determine the significance of their effects upon ecological features.

Cumulative Impact Assessment

The following types of future development within the same zone of influence have been considered as part of the cumulative impact assessment in relation to each important ecological feature:

- Proposals for which consent has been applied which are awaiting determination and are visible on the local planning portal;

- Projects which have been granted planning consent, but which have not yet been started or which have been started but are not yet completed (i.e. under construction); and
- Proposals which have been refused permission but which are subject to appeal and the appeal is undetermined.

Compensation and Enhancement

Compensation measures were taken to offset residual effects resulting in the loss of, or permanent damage to ecological features despite mitigation, where required. Compensation has only been considered as a last resort, in line with the mitigation hierarchy.

Enhancement measures have been agreed over and above any mitigation or compensation measures, in order to provide a biodiversity net gain.

Appendix E – Site Photographs

Site Photographs



Photograph 1 –Woodland bisecting the Site



Photograph 2 –Dense Scrub bisecting the Site to the north with individual trees atop the embankment



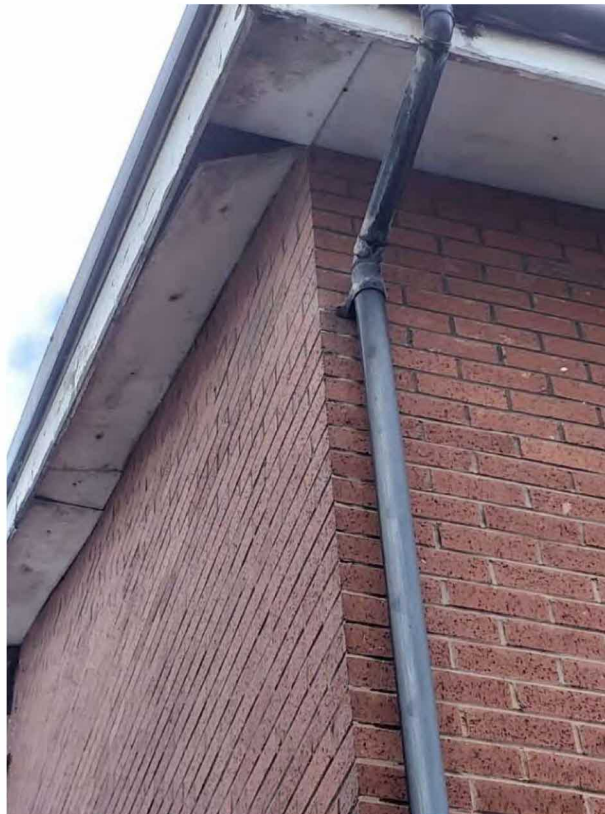
Photograph 3 –Ditch in the west of the Site



Photograph 4 –Ditch and hedgerow in the west of the Site



Photograph 5 - Arable field



Photograph 6 - Soffit gaps in B1



Photograph 7 –Soffit gaps and cracked breeze block in B5



Photograph 8 –Gaps under metal sheeting of B8



Photograph 9 – Gaps under metal sheeting of B10



Photograph 10 – Bridge at the southern Site boundary

Appendix F – Results of the Roost Presence/Absence Surveys

Results of the Roost Presence/Absence Surveys – Building 1

14/08/2023 Dusk Survey

Surveyor Location	Time of Sighting	Location of Sighting	Species	Behaviour (e.g. swarming, foraging, commuting)	No of passes within timeframe	Comments
West of Building 1	21:30	Heard Not Seen (HNS)	Noctule	Commuting	1	No bats recorded to roost. Limited overall activity
	21:32	HNS	Soprano pipistrelle	Commuting	1	
	21:44	HNS	Noctule	Commuting	1	

Results of the Roost Presence/Absence Surveys – Building 5

14/08/2023 Dusk Survey

Surveyor Location	Time of Sighting	Location of Sighting	Species	Behaviour (e.g. swarming, foraging, commuting)	No of passes within timeframe	Comments
South-east of Building 5	21:27	Heard Not Seen (HNS)	Noctule	Commuting	1	No bats recorded to roost. Limited overall activity
	21:30	HNS	Noctule	Commuting	1	
	21:42	HNS	Soprano pipistrelle	Commuting	1	
South-west of building 5	21:30	HNS	Noctule	Commuting	1	
	21:43	HNS	Soprano pipistrelle	Commuting	1	
	22:02	HNS	Common pipistrelle	Commuting	1	

Appendix G – Results of Transect Bat Surveys

Results of the Transect Bat Surveys

14/08/2023 Dusk Survey

Time	Species	Location	Activity/Comments
21:30	Noctule	Station 10	One pass, heard not seen
21:50	Common pipistrelle	Station 3	One pass, heard not seen
21:54	Common pipistrelle	Station 3-4	One pass, heard not seen
22:08	Common pipistrelle	Station 6	One bat foraging along woodland edge
22:16	Common pipistrelle	Station 8	Two bats continuously foraging at corner of field

21/09/2023 3 Dusk Survey

Time	Species	Location	Activity/Comments
19:15	Noctule	Station 3	One pass, heard not seen
19:29	Soprano pipistrelle	Station 5 - 6	One pass, heard not seen
19:32	Soprano pipistrelle	Station 5 - 6	One bat consistent foraging along treeline between stations 10 and 6
19:35	Common pipistrelle	Station 6	One bat commuting from southwest to northeast along trees
19:43	Leisler's noctule	Station 7	One pass, heard not seen
19:43	Soprano pipistrelle	Station 7	One bat commuting from trees northwest across field
19:45	Common pipistrelle	Station 7 - 8	One bat commuting northeast along treeline
19:47	Common pipistrelle	Station 7 - 8	One bat commuting northeast along treeline
20:07	Noctule	Station 10 - 11	One pass, heard not seen
20:13	Noctule	Station 11	One pass, heard not seen
20:14	Common pipistrelle	Station 11	One pass, heard not seen
20:19	Leisler's noctule	Station 11 - 1	One pass, heard not seen
20:49	Myotis	Station 7	One pass, heard not seen