

Wincote, Cow Lane, Steeple Aston

Ecological Appraisal

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Squire and Partners LLP in April 2021 to undertake an Ecological Appraisal in respect of proposed redevelopment at Wincote, Steeple Aston, Oxfordshire.
- ii) **Proposals.** The proposals are for the demolition of the existing house and outbuildings within the site and construction of a replacement dwelling.
- iii) **Survey.** The site was surveyed in April 2021 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger and Great Crested Newt.
- iv) **Ecological Designations.** The site itself is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Middle Barton Fen Site of Special Scientific Interest located approximately 3.1km to the west of the site. The nearest non-statutory designation is Rush Spinney Local Wildlife Site, located approximately 1.6km east of the site. All of the ecological designations in the surrounding area are physically well separated from the site and are therefore unlikely to be adversely affected by the proposals.
- v) **Habitats.** The site comprises buildings and hardstanding surrounded by areas of amenity grassland and planting. Hedgerows are present along the southern and eastern boundaries and a number of young to mature trees are scattered throughout the site. The hedgerows are features of ecological importance of local level value and are to be retained under the proposals and will be protected during construction. The remaining habitats within the site are not considered to be important ecological features and their loss to the proposals is of negligible significance.
- vi) **Protected Species.** Building B1, a two storey stone residential dwelling with a pitched slate roof, supports a Natterer's Bat hibernation roost of moderate conservation significance and Soprano Pipistrelle and Common Pipistrelle summer day roosts of low conservation significance. The hibernation roost will be retained under the proposed development through the retention of the cellar in B1; however, a Natural England mitigation licence will be required to enable the demolition of the remainder of building B1, in respect of the summer day roosts. Subject to the implementation of appropriate mitigation measures and safeguards, the conservation status of local bat populations will be maintained under the proposals. There is potential for birds to nest within suitable habitat/buildings at the site and they could therefore potentially be adversely affected by the proposals. Appropriate mitigation measures will therefore be implemented to safeguard nesting birds during relevant site clearance/building demolition works. Long-term nesting opportunities will be maintained, if not enhanced, under the proposals through provision of bird nest boxes. There is also potential for mammals to move through the site on occasion and, accordingly, a number of precautionary measures have been outlined to ensure this species group is protected during construction.
- vii) **Enhancements.** The proposals present the opportunity to secure a number of biodiversity net gains, including additional native planting, the creation of new wetland habitat within the site, new roosting opportunities for bats, and more diverse nesting habitats for birds.
- viii) **Summary.** In summary, the proposals have sought to minimise impacts on biodiversity and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm.

1 Introduction

1.1 Background and Proposals

1.1.1 Aspect Ecology was commissioned by Squire and Partners LLP in April 2021 to undertake an Ecological Appraisal in respect of proposed redevelopment at Wincote, Cow Lane, Steeple Aston, centred at grid reference SP 4773 2602 (see Plan 6193/ECO1).

1.1.2 The proposals are for the demolition of the existing house (with the exception of the underground cellar which is to be retained) and outbuildings within the site and the subsequent construction of a replacement dwelling.

1.2 Site Overview

1.2.1 The site is located in north Oxfordshire within the village of Steeple Aston, in the Cherwell District. The site is bound to the north, south and west by existing residential development and allotments. To the east the site is bound by grassland and a tennis court, beyond which lies a grassland field. The River Cherwell runs north to south approximately 1.2km to the north-east of the site at its closest point.

1.2.2 The site itself comprises a detached residential property with a number of associated outbuildings/sheds. The buildings are surrounded by areas of amenity grassland and planting, hedgerows, trees and hardstanding. Two off-site ponds are present within 250m of the site.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are proposed so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are identified with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

2 Methodology

2.1 Desktop Study

- 2.1.1 In order to compile background information on the site and its immediate surroundings Thames Valley Environmental Records Centre was contacted in April 2021, with data requested on the basis of a search radius of 2km.
- 2.1.2 Where information has been received from the above organisation, this is reproduced on Plan 6193/ECO2, where appropriate.
- 2.1.3 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (25km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site. Relevant information is reproduced on Plan 6193/ECO2, where appropriate.
- 2.1.4 In addition, the Woodland Trust database was searched for any records of ancient, veteran or notable trees within or adjacent to the site.

2.2 Habitat Survey

- 2.2.1 The site was surveyed in April 2021 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology¹, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal² to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats, Badger and Great Crested Newt, as described below.

¹ Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

² Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

Bats³

Visual Inspection Surveys

- 2.3.2 **Buildings.** Buildings within the site were subject to specific internal and external inspection surveys using ladders, torches and binoculars where necessary in April 2021.
- 2.3.3 During the external inspections, particular attention was given to any potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, weatherboarding, hanging tiles, etc. and for any external signs of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect any inaccessible areas more closely where appropriate.
- 2.3.4 During the internal inspections, evidence for the presence of bats was searched for with particular attention paid to any loft voids and relevant potential roost features and locations, such as ridge boards, rafters, purlins, gable walls, and mortise joints. Specific searches were made for bat droppings that can indicate present or past use and extent of use, whilst other signs that can indicate the possible presence of bats were also searched for, e.g. presence of stained areas, feeding remains, corpses, etc. Any droppings collected during the course of the surveys were visually assessed and attributed to a species where possible on the basis of size/shape/texture⁴. Where appropriate, samples of similar droppings were collected with gloved hands and put into labelled eppendorfs, and forwarded to Swift Ecology, in partnership with Ecotype Genetics Limited, based at the University of Sussex for DNA analysis.
- 2.3.5 **Trees.** Trees were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁵ as:
- Negligible;
 - Low;
 - Moderate; or
 - High.
- 2.3.6 Any potential roost features identified were also inspected for any signs indicating possible use by bats, e.g. staining, scratch marks, bat droppings, etc.

Dusk Emergence/ Dawn Re-entry Survey

- 2.3.7 Dusk emergence and dawn re-entry surveys were carried out on 19th May 2021, 3rd June 2021 and 16th June 2021 to identify any bats roosting in the buildings highlighted to have potential to support roosting bats.
- 2.3.8 Surveyors employed Anabat Scout, Echometer EM3 and Echo Meter EM Touch handheld bat detectors to aid identification of any bats observed. An infrared (IR) camera set-up, comprising a 1080p IR sensitive camera and two Evolva T38 IR lights, were utilised alongside the surveyors to aid in the identification of roosting locations and confirm the number of any emerging/re-entering bats recorded.

³ Surveys based on: English Nature (2004) '*Bat Mitigation Guidelines*' and Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

⁴ Stebbings, RE, Yalden DW and Herman, JS (2007). '*Which bat is it? A guide to bat identification in Great Britain and Ireland.*' The Mammal Society

⁵ Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

2.3.9 At dusk, surveyors were in position 15-30 minutes prior to sunset, remaining in place for approximately 2 hours. At dawn, surveyors were in place approximately 1 hour 30 minutes to 2 hours before sunrise and remained in place until 15 minutes after sunrise. This survey method aims to identify any roosting bats emerging from or returning to potential roost sites.

2.3.10 This survey work was carried out during suitable weather conditions, as set out in Tables 2.1 and 2.2 below.

Table 2.1. Dusk survey details.

Date	Start & end times & time of sunset	Structure reference / location	Equipment used	Weather
19/05/2021	Start time: 20.43 End time: 22.58 Sunset: 20.58	B1, B2 and B4	Anabat Scout and IR camera.	Dry, 20% cloud, BF1, 10°C
Comments: The survey was undertaken by 6 surveyors under direction of licence holder 2020-50021-CLS-CLS.				
16/06/2021	Start time: 21.12 End time: 23.27 Sunset: 21.27	B1	Echo Meter EM3 and Anabat Scout.	Dry, 90% cloud, BF1, 22°C
Comments: The survey was undertaken by 5 surveyors under direction of licence holder 2020-50021-CLS-CLS.				

BF0 = calm, BF12 = hurricane force.

Table 2.2. Dawn survey details.

Date	Start & end times & time of sunrise	Structure reference / location	Equipment used	Weather
03/06/2021	Start time: 03.20 End time: 04.50 Sunrise: 04.50	B1	Echo Meter EM Touch, Anabat Scout and IR camera.	Dry, 100% cloud, BF1, 17°C
Comments: The survey was undertaken by 3 surveyors under direction of licence holder 2020-50021-CLS-CLS.				

BF0 = calm, BF12 = hurricane force.

Analysis of Bat Survey Recordings

2.3.11 All bat calls were analysed using Analook W v4.4a and Anabat Insight to verify the species recorded during the survey work. Where recordings could not be reliably attributed to species (such as for *Myotis* species) or where overlaps between otherwise distinguishable species occur (such as in Pipistrelle bat calls around 40kHz or 50kHz) calls were identified to genus level; in the case of calls which could not be distinguished between *Nyctalus* sp. and Serotine, these have been labelled as 'unidentified big bat' species.

Badger (*Meles meles*)⁶

2.3.12 A detailed Badger survey was carried out in April 2021. The survey comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

Great Crested Newt (*Triturus cristatus*)

Habitat Suitability Index (HSI)

⁶ Based on: Mammal Society (1989) 'Occasional Publication No. 9 – Surveying Badgers'

2.3.13 As a first step in identifying the potential presence of Great Crested Newt at the site, a Habitat Suitability Index (HSI) study was undertaken of all relevant water bodies within 250m⁷ of the site boundary (based on a review of Ordnance Survey mapping and satellite imagery). Guidance set out within Natural England's Method Statement template, to be used when applying for a Great Crested Newt development licence, states that surveys of ponds within 500m of the site boundary are only required when '(a) data indicates that the pond(s) has potential to support a large Great Crested Newt population, (b) the footprint contains particularly favourable habitat, (c) the development would have a substantial negative effect on that habitat and (d) there is an absence of dispersal barriers.' Given that in this instance, the development footprint is confined to small areas of less favourable habitat (buildings, hardstanding and intensively managed amenity grassland and planting) it is considered that survey of ponds within 500m of the site boundary is not required, and that survey of ponds within 250m represents adequate survey effort.

2.3.14 An HSI study is used to assess the potential of water bodies to support Great Crested Newt. It is undertaken by attributing a score to a number of factors that can affect the presence or absence of this species. Ten factors are utilised in an HSI assessment, as described below:

- *SI1 Location.* The location of the water body within Great Britain;
- *SI2 Pond area.* The size of the water body;
- *SI3 Permanence.* How often the water body dries out;
- *SI4 Water Quality.* The water quality, based primarily on invertebrate diversity;
- *SI5 Shade.* The percentage of the perimeter of the water body that is shaded;
- *SI6 Fowl.* The presence or absence of water fowl;
- *SI7 Fish.* The presence or absence of fish;
- *SI8 Pond Count.* The number of water bodies within 1km of the surveyed water body (not counting those on the far side of major barriers such as roads);
- *SI9 Terrestrial.* The quality of terrestrial habitat surrounding the water body; and
- *SI10 Macrophytes.* The percentage cover of the surface area of the water body covered by macrophytes (aquatic plants).

2.3.15 The overall suitability of the water body is then determined by entering these figures into an equation devised by Oldham *et al.* (2000)⁸. The suitability of water bodies is classed into one of five categories, either 'poor', 'below average', 'average', 'good' or 'excellent'.

2.3.16 This HSI study was undertaken in line with the guidelines developed by Oldham *et al.* and subsequently adapted by ARG UK (2010)⁹. A suitably experienced ecologist undertook the assessment in line with these guidelines, with the study also supplemented by desktop research where appropriate.

Environmental DNA (eDNA)

⁷ 250m is the typical maximum migratory range of this species, see English Nature (2004) '*An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*'. English Nature Research Report 576

⁸ Oldham RS, Keeble J, Swan MJS & Jeffcote M (2000) '*Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*'. Herpetological Journal 10 (4), 143-155

⁹ Amphibian & Reptile Groups of the UK (2010) '*ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index*'

2.3.17 An eDNA survey was carried out to determine the presence/absence of Great Crested Newt within one off-site pond, P2 (see Plan 6193/ECO4). Water samples were collected on the 17th May 2021 following the procedure outlined in the methods manual prepared for DEFRA by Biggs *et al.* (2014)¹⁰. The survey fell within the acceptable seasonal window set out by Natural England (15th April to 30th June)¹¹. Samples were collected by suitably licensed Aspect Ecology staff. The water samples were sent for laboratory analysis which was conducted by 'Cellmark' and also followed the procedure set out by Biggs *et al.* (2014)¹⁴.

2.4 Survey Constraints and Limitations

2.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was undertaken within the optimal season therefore allowing a robust assessment of habitats and botanical interest across the site.

2.4.2 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

2.5 Ecological Evaluation Methodology

2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)¹², which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). For full details refer to Appendix 6193/1.

2.6 National Policy Approach to Biodiversity in the Planning System

2.6.1 The National Planning Policy Framework (NPPF)¹³ describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter 15). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' and ODPM Circular 06/2005¹⁴.

2.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss¹⁵, as set out at Paragraph 170, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

¹⁰ Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson J., Arnett A., Williams P. and Dunn F. (2014). 'Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA'. Freshwater Habitats Trust, Oxford.

¹¹ Natural England (2015) 'Great crested newts: surveys and mitigation for development projects. Standing advice for local planning authorities who need to assess the impacts of development on great crested newts'. Last updated at www.gov.uk on 24/12/2015.

¹² CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester

¹³ Ministry of Housing, Communities & Local Government (2019) 'National Planning Policy Framework'

¹⁴ ODPM (2006) 'Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice'

¹⁵ DEFRA (2011) 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services'

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

2.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 175:

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

- a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

2.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019¹⁶, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

¹⁶ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

2.7 Local Policy

2.7.1 The principal planning document guiding future development within the Cherwell District is set out within the Cherwell Local Plan 2011 – 2031 (adopted July 2015). Part of the Local Plan was subject to review in 2020; however, this related to Oxford's unmet housing need and therefore does not relate to the site. The following policies are of relevance to ecology:

2.7.2 Policy ESD 9: Protection of the Oxford Meadows SAC.

'Developers will be required to demonstrate that:

- *During construction of the development there will be no adverse effects on the water quality or quantity of any adjacent or nearby watercourse.*
- *During operation of the development any run-off of water into adjacent or surrounding watercourses will meet Environmental Quality Standards (and where necessary oil interceptors, silt traps and Sustainable Drainage Systems will be included).*
- *New development will not significantly alter groundwater flows and that the hydrological regime of the Oxford Meadows SAC is maintained in terms of water quantity and quality.*
- *Run-off rates of surface water from the development will be maintained at greenfield rates.'*

2.7.3 Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment.

'Protection and enhancement of biodiversity and the natural environment will be achieved by the following:

- *In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources.*
- *The protection of trees will be encouraged, with an aim to increase the number of trees in the District.*
- *The reuse of soils will be sought.*
- *If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted.*
- *Development which would result in damage to or loss of a site of international value will be subject to the Habitats Regulations Assessment process and will not be permitted unless it can be demonstrated that there will be no likely significant effects on the international site or that effects can be mitigated.*
- *Development which would result in damage to or loss of a site of biodiversity or geological value of national importance will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site and the wider national network of SSSIs, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity.*

- *Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity.*
- *Development proposals will be expected to incorporate features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value within the site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.*
- *Relevant habitat and species surveys and associated reports will be required to accompany planning applications which may affect a site, habitat or species of known or potential ecological value.*
- *Air quality assessments will also be required for development proposals that would be likely to have a significantly adverse impact on biodiversity by generating an increase in air pollution.*
- *Planning conditions/obligations will be used to secure net gains in biodiversity by helping to deliver Biodiversity Action Plan targets and/or meeting the aims of Conservation Target Areas. Developments for which these are the principal aims will be viewed favourably.*
- *A monitoring and management plan will be required for biodiversity features on site to ensure their long term suitable management.'*

2.7.4 Policy ESD 11: Conservation Target Areas

'Where development is proposed within or adjacent to a Conservation Target Area biodiversity surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a Conservation Target Area being achieved will not be permitted. Where there is potential for development, the design and layout of the development, planning conditions or obligations will be used to secure biodiversity enhancement to help achieve the aims of the Conservation Target Area.'

2.7.5 The Mid Cherwell Neighbourhood Plan (made May 2019) also contains a policy of relevance to ecology, of which an extract is reproduced below:

Policy PD5: Building and Site Design

'New development should be designed to a high standard which responds to the distinctive character of the settlement and reflects the guidelines and principles set out within the Heritage and Character Assessment (see Appendix K). Development proposals should have full regard to the following criteria:

- a) Proposals should wherever possible include appropriate landscape mitigation measures to reduce the impact of the built form, to ensure that development is in keeping with the existing rural character of the village, and to provide a net gain in biodiversity.'*

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 6193/ECO2. The nearest statutory designation designated for ecological interest is Middle Barton Fen SSSI located approximately 3.1km to the west of the site. This SSSI is designated for its calcareous fen-meadow bordering a small tributary of the River Glyme, together with adjacent limestone grassland and hedgerows. It is the most extensive example of calcareous fen-meadow currently known in Oxfordshire, and supports a rich community of invertebrates. The next nearest statutory designation is Bestmoor SSSI located approximately 3.8km to the north-east of the site. The SSSI is designated for its semi-improved floodplain meadow adjacent to the reaches of the River Cherwell which is managed by traditional methods. The site supports one of the largest known British populations of Narrow-leaved Water-dropwort *Oenanthe silaifolia* and also supports a range of wintering wildfowl.
- 3.1.2 Natural England has developed Impact Risk Zones (IRZs) as an initial tool to help assess the risk of developments adversely affecting SSSIs, taking into account the type and scale of developments. The site sits within an IRZ in relation to Middle Barton Fen SSSI, however the IRZ does not apply to residential development.

Evaluation

- 3.1.3 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are physically well separated from the site by existing development and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.2 Non-statutory Designations

Description

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6193/ECO2. The nearest non-statutory designation is Rush Spinney Local Wildlife Site (LWS), located approximately 1.6km east of the site. The LWS is designated for its Lowland Fen Priority Habitat which supports a rich diversity of floral species. No other non-statutory designations of nature conservation interest are present within 2km of the site. The Upper Cherwell Valley Conservation Target Area (CTA) which runs north to south approximately 0.9km to the east of the site at its nearest point. CTAs in Oxfordshire have been mapped by TVERC in consultation with local authorities and nature conservation organisations. The Upper Cherwell Valley CTA encompasses the flat wet riverside land and the Oxford Canal and supports several BAP bird species including curlew, lapwing, tree sparrow, skylark and yellowhammer. The Glyme and Dorn Valleys CTA is located approximately 1.5km to the south-west of the site and contains a number of biodiverse habitats such as limestone grassland, lowland meadow, fen, swamp and reedbed and includes a number of SSSIs and Local Wildlife Sites (LWS) located beyond 2km from the site.

Evaluation

- 3.2.2 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are well distanced from the site and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.3 **Priority Habitats, Ancient Woodland and Notable Trees**

Description

- 3.3.1 A small area at the south of the site is identified on the MAGIC database as the Priority Habitat 'Traditional Orchard'. This is discussed further within the relevant habitat section in Chapter 4 below. There are no other records of Priority Habitats or records of any notable or veteran trees within or adjacent to the site.

Evaluation

- 3.3.2 Subject to the implementation of appropriate mitigation measures (as discussed below in Chapter 4) it is unlikely that any Priority Habitats or any notable or veteran trees will be significantly affected by the proposals.

3.4 **Summary**

- 3.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations and it is unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 No specific records of any protected, rare or notable plant species from within or immediately adjacent to the site are included within the information returned from the Records Centre. A single record of the Priority Species Tubular Water-dropwort *Oenanthe fistulosa* was returned from the data search, located approximately 1.5km south-east of the site along the River Cherwell, dated 1998. No evidence for the presence of this species within the site was recorded during the survey work undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats/ecological features were identified within/adjacent to the site:

- Amenity Grassland
- Amenity Planting
- Hedgerows;
- Orchard;
- Trees;
- Tall Ruderal; and
- Buildings and Hardstanding.

4.2.3 The locations of these habitat types and features are illustrated on Plan 6193/ECO3 and described in detail below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the site, the hedgerows are considered to qualify as Priority Habitats and therefore constitute important ecological features. This is discussed further in the relevant habitat sections below.

4.4 Amenity Grassland

Description

- 4.4.1 The amenity grassland within the site appears to be regularly mown to a height of ~5cm and is dominated by Perennial Rye-grass *Lolium perenne* (see Photograph 1). Other species within the sward include False Oat-grass *Arrhenatherum elatius*, Cock's-foot *Dactylis glomeratus*, Yorkshire-fog *Holcus lanatus*, Germander Speedwell *Veronica chamaedrys*, Daisy *Bellis perennis*, Hogweed *Heracleum sphondylium*, Creeping Buttercup *Ranunculus repens*, *Viola* sp., Dandelion *Taraxacum officinale* agg., Lesser Celandine *Ficaria verna*, Ribwort Plantain *Plantago lanceolata*, White Clover *Trifolium repens* and Yarrow *Achillea millefolium*.

Evaluation

- 4.4.2 Overall, the amenity grassland supports a low diversity of common and widespread species. The grassland is dominated by a single species (Perennial Rye-grass) and exhibits a low abundance of herbs. The grassland is intensively managed and, overall, is not considered to be an important ecological feature. The loss of some of the grassland to the proposals is therefore of negligible ecological significance.

4.5 Amenity Planting

Description

- 4.5.1 Large areas of amenity planting are present within the site (see Photograph 2) comprising species such as Daffodils *Narcissus* sp., *Heuchera* sp., Catmint *Nepeta* sp., Rose *Rosa* sp., Rosemary *Rosmarinus officinalis*, Lungwort *Pulmonaria* sp., *Clematis* sp., *Tulipa* sp., Lavender *Lavandula* sp., Grape Hyacinth *Muscari* sp., Hellebore *Helleborus* sp., Oregon Grape *Mahonia aquifolium*, Japanese Anemone *Anemone hupehensis* and *Forsythia* sp.

Evaluation

- 4.5.2 The majority of the amenity planting on-site comprises non-native ornamental shrub species which are intensively managed, none of which are important ecological features. At any rate, the majority of the amenity planting will be retained under the proposals.

4.6 Hedgerows

Description

- 4.6.1 Four hedgerows are present within the site, labelled H1-H4 on Plan 6193/ECO3 (see Photographs 3-6). The hedgerows are described in more detail in Table 4.1 below.

Table 4.1. Hedgerow descriptions.

No.	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify [#]
H1	2.5m	2.5m	<u>Beech (D)</u> , <u>Hazel</u>	2	<u>Lords-and-ladies</u> , Ivy, <u>Viola sp.</u> , Herb Robert, Dandelion	<10% gaps	Box cut and regularly managed	N
H2	2.5m	1.5m	<u>Hawthorn (D)</u> , <u>Hazel</u> , Sycamore, <u>Elder</u> , <u>Holly</u>	4	<u>Lords-and-ladies</u> , Ground-ivy, Ivy, Bramble, Nettle, Flowering Currant	<10% gaps	Box cut	N
H3	5-10m	1-2m	Sycamore (sm), <u>Ash (sm)</u> , <u>Hazel</u> , <u>Holly</u> , <u>Elder</u> , <u>Hawthorn</u>	4	Dog Rose, Ivy, Lords-and-ladies, Common Nettle, Ground-ivy, Herb Robert, Cow Parsley	<10% gaps, standard trees	Line of trees, unmanaged	N
H4	2m	1.5m	<u>Hawthorn (D)</u> , <u>Hazel</u> , <u>Elder</u>	3	Ivy, White Dead-nettle, Common Nettle, Dandelion, Cleavers, Ground-ivy, Garlic Mustard, Bramble, <u>Lords-and-ladies</u> , Red Dead-nettle.	<10% gaps	Box cut and regularly managed. Evidence of historic laying	N

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

* estimated average number of woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) in any one 30m stretch

[#] likely to qualify – as ‘important’ under the wildlife and landscape criteria of the Hedgerows Regulations 1997

Evaluation

4.6.2 From a preliminary appraisal, none of the hedgerows are considered to be species-rich¹⁷ and they are all unlikely to qualify as ecologically ‘important’ under the Hedgerows Regulations 1997, given that they fall within the curtilage of a dwelling. All of the hedgerows within the site are likely to qualify as a Priority Habitat based on the standard definition¹⁸, which includes all hedgerows (>20m long and <5m wide) consisting predominantly (≥80%) of at least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in Great Britain qualify as a Priority Habitat under this definition.

4.6.3 On this basis, the hedgerows within the site constitute important ecological features, although given the relatively limited network present, are only of importance at the local level. It is understood that the proposals include a small loss (<15m) of hedgerow H3 on the southern boundary for temporary construction access. After the works have been completed, replanting with native species shall occur. Retained hedgerows will be protected during the construction phase of the proposals as per the recommendations included at Chapter 6 below.

¹⁷ i.e. five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

¹⁸ Based on: Biodiversity Reporting and Information Group (2011) ‘UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions’, ed. Ant Maddock

4.7 Orchard

Description

- 4.7.1 The site contains an area of amenity grassland with a small number of fruit trees that is identified on the MAGIC database as the Priority Habitat 'Traditional Orchard' (see Photograph 7 and Plan 6193/ECO3). The area contains three semi-mature to mature fruit trees; two Apple *Malus* sp. and a single Cherry *Prunus* sp. In addition to the three fruit trees, a number of other trees are set within the amenity grassland including Silver Birch *Betula pendula* and Beech *Fagus* sp. The amenity grassland appears to be regularly mown to a height of ~5cm and comprises a low diversity of common and widespread species, dominated by Perennial Rye-grass.

Evaluation

- 4.7.2 To meet the definition of the Priority Habitat 'Traditional Orchard', an orchard must be managed in a low intensity way, which the orchard within the site is not, as it is subject to regular mowing to a short sward. Furthermore, the grassland is not subject to grazing which is a form of management for traditional orchards. The amenity grassland beneath the trees supports a low diversity of common and widespread species and is dominated by Perennial Rye-grass. This grassland type is typical of residential gardens and is likely to be well-represented within the local urban setting.
- 4.7.3 The biodiversity value of traditional orchards depends on the mosaic of habitats they encompass including scrub, hedgerows, orchard floor habitats, fallen deadwood and associated features such as ponds and streams. The orchard within the site contains amenity grassland with a low number of fruiting and non-fruiting trees. Little deadwood is present on the trees and none was recorded on the floor beneath the trees. There are four hedgerows within the site, none of which are species-rich¹⁹ or ecologically 'important' under the Hedgerows Regulations 1997. No other ecological features are associated with the orchard, such as streams or ponds, limiting the mosaic of habitats within the orchard.
- 4.7.4 Overall, taking into consideration the management of the orchard, the lack of a mosaic of habitats and the isolation of the orchard from other ecologically valuable habitats, the orchard is not considered to meet the definition of the Priority Habitat 'Traditional Orchard' and is therefore not considered to be an important ecological feature. Nonetheless, the proposals include the retention of the orchard and the trees will be protected during development (as detailed in Chapter 6 below). Furthermore, the proposals present the opportunity to enhance the orchard through enhancement of the grassland by introducing a more sensitive management regime.

4.8 Trees

Description

- 4.8.1 A number of trees were recorded within the site, largely associated with the hedgerows (as set out at Table 4.1 above). A small number of additional young to mature trees located outside the hedgerows were also recorded, largely associated with amenity planting (see Photograph 8 for example). Species present include Apple, Hazel and Copper Beech *Fagus sylvatica* f. *purpurea*.

¹⁹ i.e. five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

Evaluation

- 4.8.2 The mature trees are of ecological interest in their own right, whilst the younger trees are currently of limited ecological interest given their small size. However, none of the trees are ancient or veteran, therefore the trees do not constitute an important ecological feature. A small number of trees are set to be removed as part of the proposals, as detailed in the Aspect Arboriculture Tree Protection Plan dated June 2021. The majority of trees within the site will be retained and protected under the proposals and the losses proposed are of negligible ecological significance.

4.9 Tall Ruderal

Description

- 4.9.1 Small areas of tall ruderal are present within the site, largely located at the western site boundary. The vegetation is dominated by Common Nettle *Urtica dioica*, Cleavers *Galium aparine* and Ivy *Hedera helix*. The tall ruderal vegetation is interspersed with young scattered scrub comprising Hazel, Elder *Sambucus nigra* and Bramble *Rubus fruticosus* agg.

Evaluation

- 4.9.2 The tall ruderal habitat within the site covers just a small area and is dominated by a low number of common and widespread species. As such, this habitat is not an important ecological feature. At any rate, the tall ruderal will be retained under the proposed development.

4.10 Buildings and Hardstanding

Description

- 4.10.1 A number of buildings are present within the site, identified as buildings B1-B5 on Plan 6193/ECO3 (see Appendix 6193/3 for detailed descriptions and photographs). Building B1 is a two-storey detached residential property of stone construction with a flat roof single storey extension to the south. Building B2 is a single-storey red brick outbuilding utilised for storage. Building B3 is a glass house structure which is in a state of disrepair and has become fully encroached by Bramble. Building B4 is a wooden outbuilding with large glass windows on the eastern elevation. Building B5 is a cargo carriage of a train which has been utilised for storage and is becoming overgrown with Ivy.

- 4.10.2 The buildings are surrounded by areas of hardstanding, including car parking and paths comprised of gravel and paving slabs. The hardstanding is generally in good condition and is largely devoid of vegetation. The gravel hardstanding is becoming colonised at the edges by species from the adjacent grassland, in addition to Groundsel *Senecio vulgaris*, Willowherb *Epilobium* sp. and Great Mullein *Verbascum thapsus* which are also colonising.

Evaluation

- 4.10.3 The buildings and hardstanding support a limited range of common and widespread floral species and are inherently of negligible ecological value. As such, they do not form important ecological features and their removal/alternation under the proposals is of negligible ecological significance. Potential for the buildings to support faunal species such as roosting bats is discussed below in Chapter 5.

4.11 Habitat Evaluation Summary

- 4.11.1 On the basis of the above, the hedgerows within the site are considered to form an important ecological feature, of value at the local level. Other habitats present within the site include amenity grassland/planting, orchard, trees, tall ruderal vegetation, buildings and hardstanding. However, these habitats are not important ecological features.

5 Faunal Use of the Site

5.1 Overview

5.1.1 During the survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats, Badger and Great Crested Newt, with the results described below.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, the Priority Species Soprano Pipistrelle *Pipistrellus pygmaeus* was recorded within the site. This is discussed further below.

5.3 Bats

5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6193/2 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also considered S41 Priority Species.

5.3.2 **Background Records.** No specific records of bats from within or adjacent to the site were returned from the desktop study. Information received from the LRC returned records of Brown Long-eared Bat *Plecotus auritus* and Common Pipistrelle *Pipistrellus pipistrellus* within 2km of the site. The closest record is a field recording of a single Common Pipistrelle, recorded in 1997, located approximately 0.2km west of the site boundary. A more recent record from 2014 of a Brown Long-eared Bat was noted 0.6km north of the site.

5.3.3 Previous survey work undertaken by a third-party consultancy in 2011 confirmed the presence of Brown Long-eared Bat and Natterer's Bat *Myotis nattereri* hibernation roosts within the cellar of building B1 and also a Soprano Pipistrelle day roost in the roof structure of building B1.

5.3.4 Survey Results

Visual Inspection Surveys

Buildings

5.3.5 A detailed visual inspection was undertaken of all the buildings within the site, the results of which are detailed at Appendix 6193/3, and summarised below.

5.3.6 In summary, building B1 is a two-storey stone dwelling with a pitched slate roof. Building B2 is a single-storey outbuilding with a sloped corrugated asbestos roof adjoined to the eastern end of building B1. Building B3 is a glass house which is in a state of disrepair and has become completely encroached by Bramble. Building B4 is a wooden outbuilding with large glass windows on the eastern elevation. Building B5 is a cargo carriage of a train which has been utilised for storage and is becoming overgrown with Ivy.

5.3.7 Building B1 offers suitable roosting opportunities in the form of lifted tiles, lifted lead flashing at the base of chimneys, gaps at the eaves where the wooden wall plate has rotted away (particularly in the south-western corner), gaps behind fascia boards, gaps in the brickwork at the eastern gable end and missing mortar at the ridge. Two loft voids are present within building B1 but no evidence of roosting bats was recorded within the voids, albeit not all of the loft space was accessed due to the presence of wasps. Access is available into the loft through gaps in the brickwork at the eastern gable end, gaps at the eaves where the wall plate is missing and through lifted tiles. In addition, a cellar is present within building B1 which provides suitable roosting habitat in the form of crevices at the top of the walls behind wooden beams and small cavities behind the false wooden ceiling of the cellar. Two small piles of droppings were recorded on the floor of the cellar, near to the walls. Each pile contained approximately 20 droppings and DNA analysis has confirmed the droppings are from Natterer's Bat. A low number of butterfly wings were also recorded on the floor of the cellar. Overall, building B1 is considered to afford high potential for roosting bats.

5.3.8 Roosting opportunities afforded by building B2 are limited to potential crevices between the corrugated asbestos roof and the wooden boarding of the ceiling below. Building B4 is constructed from wooden boarding which is generally in good condition, albeit a small number of the boards are lifted, providing potential crevice opportunities. Buildings B2 and B4 are considered to offer low suitability for roosting bats. No evidence of bat occupation, e.g. droppings, staining, feeding remains, etc., were recorded during the inspection surveys.

5.3.9 Buildings B3 and B5 were found to offer negligible opportunities for roosting bats and no evidence of roosting bats was recorded within these buildings.

Trees

5.3.10 A number of semi-mature and mature trees are present on site. The results of the tree assessment work undertaken at the site are illustrated on Plan 6193/ECO3 and summarised in Table 5.1 below:

Table 5.1. Tree inspection results.

Tree No.	Species	Age	Potential Roost Features	Suitability
T7	Apple	Mature	2 x Woodpecker holes, rot hole and cavity in trunk	High
T8	Cherry	Semi-mature	2 x limb cavities and a rot hole	High
T10	Apple	Mature	Numerous rot holes	High
T12	Apple	Mature	Dense Ivy	Low
T13	Hawthorn	Semi-mature	Dense Ivy	Low
T14	Hawthorn	Semi-mature	Dense Ivy	Low
T15	Hazel	Mature	Dense Ivy	Low
T19	Apple	Semi-mature/ Mature	Lifted/gnarled bark	Low
T22	Apple	Semi-mature	Rot hole leading to potential cavity in trunk	Moderate
Ta	Hawthorn	Mature	Dense Ivy	Low
Tb	Hawthorn	Mature	Dense Ivy	Low
Tc	Hawthorn	Mature	Dense Ivy	Low
Td	Hawthorn	Mature	Dense Ivy	Low
Te	Hawthorn	Mature	Dense Ivy	Low
Tf	Hawthorn	Mature	Dense Ivy	Low
Tg	Hawthorn	Mature	Dense Ivy	Low
Th	Hawthorn	Mature	Dense Ivy	Low
Ti	Hawthorn	Mature	Dense Ivy	Low
Tj	Hawthorn	Mature	Dense Ivy	Low

Dusk and Dawn Surveys

Emergence / re-entry surveys (buildings)

- 5.3.11 Building B1 exhibits high suitability for roosting bats and evidence of roosting bats was found in the form of Natterer's Bat droppings in the cellar, indicating that the Natterer's hibernation roost recorded in 2011 is still present. Buildings B2 and B4 exhibit low suitability for roosting bats. Therefore, buildings B1, B2 and B4 were subject to further survey work in the form of dusk emergence and dawn re-entry surveys. The results of the dusk emergence and dawn re-entry surveys are summarised in Table 5.2 below.

Table 5.2. Emergence / re-entry survey results.

Building	Date	Sunset/ sunrise	Emergence/ re-entry	Summary of other activity
B1	19/05/2021 (Dusk)	Sunset: 20:58	<p>21:10: Emergence A single Soprano Pipistrelle emerged from behind a fascia board on the southern elevation at 21:10.</p> <p>21:16: Emergence A single Soprano Pipistrelle emerged from the verge at the eastern gable end at 21:16</p>	Occasional passes by Common Pipistrelle and Soprano Pipistrelle, with some foraging activity noted in the surrounding area. Infrequent commuting passes of <i>Nyctalus/Eptesicus</i> sp. high above the building. Very occasional passes of <i>Myotis</i> sp.
	03/06/2021 (Dawn)	Sunrise: 04:50	04:41 Re-entry Four Soprano Pipistrelles re-entered a gap in the eaves at the south-west corner of the building where the wall plate is partially missing.	Regular passes of a low number of Common Pipistrelle, with foraging activity noted. Occasional passes of Soprano Pipistrelle, <i>Nyctalus/Eptesicus</i> sp. and <i>Myotis</i> sp.
	16/06/2021 (Dusk)	Sunset: 21:27	<p>21:52 Emergence One Soprano Pipistrelle emerged from the northern elevation at 21:52.</p> <p>22:07 Emergence A single Common Pipistrelle emerged from a hole in the wall below the roof tiles at the corner of the eastern elevation.</p>	Regular passes of Soprano Pipistrelle and occasional passes of Common Pipistrelle. Infrequent commuting passes of <i>Nyctalus/Eptesicus</i> sp. high above the building.
B2 and B4	19/05/2021 (Dusk)	Sunset: 20:58	None	Occasional passes by Common Pipistrelle and Soprano Pipistrelle, with some foraging activity noted in the surrounding area. Infrequent commuting passes of <i>Nyctalus/Eptesicus</i> sp. high above the building. Very occasional passes of <i>Myotis</i> sp.

5.3.12 Evaluation and Assessment of Likely Effects

Roosting

Buildings

5.3.13 During the building inspection surveys undertaken in April 2021, Natterer's Bat droppings were recorded in the cellar of building B1. The droppings were not fresh and no evidence of the bats themselves was recorded during the inspection survey and no emergences or re-entries of Natterer's Bat were recorded during the dusk emergence/dawn re-entry surveys of building B1. The 2011 survey work undertaken by a third-party consultancy recorded Natterer's Bats in the cellar during February 2011 along with a Brown Long-eared Bat and the report concluded that the cellar supports hibernation roosts for these species. Accordingly, given the presence of Natterer's Bat droppings in the cellar in 2021, combined with the lack of activity from this species during the dusk emergence/dawn re-entry survey work undertaken in 2021, it is likely that the Natterer's Bat hibernation roost remains present. No evidence of Brown Long-eared Bat was recorded within the cellar in 2021 and no activity from this species was recorded during the dusk emergence/dawn re-entry surveys. Given that just a single Brown Long-eared Bat was recorded in the cellar in 2011 and no evidence of this species was recorded in 2021, it is possible that the Brown Long-eared Bat hibernation roost is no longer present.

- 5.3.14 During the dusk emergence survey on the 19th May 2021, a total of two bats were recorded emerging from building B1. The first was a Soprano Pipistrelle which emerged from behind a fascia board on the southern elevation of the building at 21:10. The second was also a Soprano Pipistrelle which emerged from a crevice at the verge of the building at the eastern gable end at 21:16. During the dawn re-entry survey of building B1 on 3rd June 2021, four Soprano Pipistrelles re-entered at the eaves on the south-western corner of the building where the wall plate is rotten and partially missing. During the dusk emergence survey on 16th June 2021, a total of two bats were recorded emerging from B1. The first was a Soprano Pipistrelle which emerged from the northern elevation at 21:52. The second was a Common Pipistrelle that emerged from a hole in the wall below the roof tiles at the corner of the eastern elevation. The results from the dusk/dawn surveys are visualised in Plan 6193/ECO5.
- 5.3.15 Given that only low numbers of Soprano Pipistrelle and Common Pipistrelle bats were recorded emerging/re-entering building B1, it is considered likely that the building supports non-breeding summer day roosts for a low number of individuals of common and widespread species. The Soprano Pipistrelle and Common Pipistrelle roosts are therefore considered to be of low conservation significance in accordance with best practice guidance.
- 5.3.16 Natterer's Bats are uncommon, albeit they are widely distributed throughout Britain. The hibernation roost was reportedly utilised by just two individuals in 2011 and, indeed, only small numbers of droppings were recorded within the cellar in 2021. Overall, the Natterer's Bat hibernation roost is considered to be of moderate conservation significance in accordance with best practice guidance, of value at the District level.
- 5.3.17 The proposals include the demolition of building B1 (with the exception of the cellar) which will result in the loss of the Soprano and Common Pipistrelle day roosts. Accordingly, a Natural England mitigation licence will be required, with appropriate mitigation measures implemented to safeguard bats and ensure the conservation status of the local bat population is maintained (see Chapter 6 below). The underground cellar in B1 is to be retained, such that the Natterer's Bat hibernation roost will be retained as is. The existing roost access is provided through a grille at ground level adjacent to the southern wall of the building and this will be relocated to the western elevation to facilitate the proposed replacement dwelling. The new grille will provide equivalent access to the Natterer's Bat hibernation roost, such that the continued ecological functionality of the roost will be fully retained under the proposals. As such, a mitigation licence from Natural England is unlikely to be required in respect of the hibernation roost, as the proposals are unlikely to result in an offence under the Conservation of Habitats and Species Regulations 2017 (as amended).
- 5.3.18 No bats were recorded emerging or re-entering buildings B2 or B4 during the dusk emergence survey on 19th May 2021 and these buildings are therefore considered unlikely to contain roosting bats. Buildings B3 and B5 exhibit negligible potential for roosting bats and no evidence of roosting bats was recorded within these buildings. As such, the demolition of buildings B2-B5 to facilitate the proposals is of negligible ecological significance.
- 5.3.19 It is understood that all trees with moderate and high bat potential within the site are to be retained under the proposals. The scheduled removal of a small number of trees with low bat potential will be carried out in a sensitive manner such that in the event bats are present within the trees they will be safeguarded. As such, subject to the implementation of the recommendations outlined at Chapter 6 below, it is considered that roosting bats will be fully safeguarded under the proposals.

Foraging/Commuting

- 5.3.20 The site comprises buildings, hardstanding and well-managed amenity habitats of low value to foraging and commuting bats. Low levels of bat activity were recorded from the common species Soprano Pipistrelle and Common Pipistrelle, with a few of passes from *Myotis* sp. and *Nyctalus/Eptesicus* sp. during the dusk/dawn surveys. The surrounding environment contains superior habitat for foraging and commuting bats including long-sward grassland, pockets of woodland and an extensive network of hedgerows. Overall, the site is considered to be of value at no more than the site to local level for foraging and commuting bats and it is considered unlikely that the proposals will result in the loss of any important commuting flight paths or feeding grounds. At any rate, the majority of trees, hedgerows and amenity grassland/planting within the site will be retained under the proposals, with the development footprint largely limited to existing buildings and hardstanding. As such, it is considered that the conservation status of local bat populations will be fully safeguarded under the proposals.

5.4 Badger

- 5.4.1 **Legislation.** Badger *Meles meles* receives legislative protection under the Protection of Badgers Act 1992 (see Appendix 6193/2 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.
- 5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance.^{20, 21}
- 5.4.3 **Background Records.** Records of Badger were returned from a number of locations within the 2km search area. The most recent and closest record is dated 2018 and is for a Badger sett located approximately 500m to the north-east of the site.
- 5.4.4 **Survey Results and Evaluation.** During the survey no Badger setts were found within or immediately adjacent to the site, nor were any latrines or dung pits found. There were no signs of Badgers foraging in, or commuting through, the site. Given that no signs of Badgers were recorded within or adjacent to the site, it is considered highly unlikely that Badgers will be adversely affected by the proposals. Nonetheless, a number of precautionary safeguards are proposed below in Section 6 in the unlikely event that Badgers make use of the site during future construction works.

5.5 Other Mammals

- 5.5.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are S41 Priority Species and should be assessed as important ecological features.
- 5.5.2 **Background Records.** No specific records of other mammals from within or immediately

²⁰ English Nature (2002) 'Badgers and Development'

²¹ Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

adjacent to the site were returned from the desktop study. A number of records of other mammals were returned from the 2km search area. Otter *Lutra lutra* observations, including field signs such as droppings and spraints, were regularly identified in the Upper Cherwell Valley CTA from 2004-2006 by WILD CRU researchers, and most recently from a field record in 2016. Hedgehog *Erinaceus europaeus* was recorded in the area, the closest being approximately 1.2km to the west of the site, dated 2017. A single record of Polecat *Mustela putorius* was returned from 2015, located approximately 1.7km to the north-west of the site.

5.5.3 Survey Results and Evaluation. No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to utilise the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species to the proposals is of negligible significance.

5.5.4 A single record of Polecat was returned from the records centre. The site contains habitats which are largely unsuitable for Polecat, which prefers farmland, woodland, grassland and wetlands. Similarly, the site is unsuitable for Otter, with no watercourses within the immediate area. Although the records of Hedgehog (Priority Species) were relatively recent, they were over 1.2km from the site. The site offers some potential opportunities for Hedgehog in the form of hedgerows, flower beds and grassland; however, abundant similar, or more suitable, opportunities are present within the local area and there is no evidence to suggest the proposals will significantly affect local populations of this species. However, it is recommended that precautionary safeguards are put in place to minimise the risk of harm to Hedgehog in the event this species is present, as detailed in Chapter 6 below.

5.6 Amphibians

5.6.1 Legislation. All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 6193/2 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.6.2 Background Records. No specific records of Great Crested Newt from within or immediately adjacent to the site were returned from the desktop study. A single record of a Great Crested Newt *Triturus cristatus* was returned from the 2km search area surrounding the site. This dates from 2002 at Rousham House which is located approximately 1.8km to the south of the site.

5.6.3 Survey Results. Two off-site ponds have been identified within 250m of the site, labelled P1 and P2 on Plan 6193/ECO4. Pond P1 is a duck pond set within an area of short mown amenity grassland. The pond contains marginal and aquatic vegetation including Yellow Iris *Iris pseudacorus*, Water Lily *Nymphaea* sp. and Hard Rush *Juncus inflexus*. Pond P2 is a field pond with a silt substrate and few aquatic plants. The pond is heavily shaded by Willow *Salix* sp. which is present in and around the pond. The banks of the pond have become colonised with vegetation from the surrounding grassland with areas of dense and scattered Bramble scrub. An initial appraisal of each pond was made using the HSI

system to identify potential suitability to support Great Crested Newt, see Table 5.3, below.

Table 5.3. HSI survey results.

Pond	Suitability Indices										HSI Score	Suitability
	SI 1 Location	SI 2 Pond Area	SI 3 Pond Drying	SI 4 Water Quality	SI 5 Shade	SI 6 Water Fowl	SI 7 Fish	SI 8 Ponds	SI 9 Terrestrial Habitat	SI 10 Macrophytes		
Onsite Ponds												
P1	1	0.05	0.9	0.67	1	0.01	0.67	0.95	0.67	0.6	0.39	<i>Poor</i>
P2	1	0.95	1	0.33	0.2	1	0.67	0.95	1	0.35	0.65	<i>Average</i>

5.6.4 In summary, pond P1 was found to be of ‘poor’ suitability to support Great Crested Newts, while pond P2 was found to be ‘average’. Due to the potentially suitable terrestrial habitat within the site and the favourable HSI score for pond P2, this pond was subject to an environmental DNA (eDNA) survey in May 2021 to establish the presence/absence of Great Crested Newts. The eDNA survey confirmed the likely absence of Great Crested Newt within pond P2. No further survey work was undertaken in respect of pond P1 due to its poor suitability to support Great Crested Newts.

5.6.5 **Evaluation and Assessment of Likely Effects.** The site does not contain suitable breeding habitat for Great Crested Newts and, whilst the amenity grassland, planting and hedgerows offer some limited terrestrial opportunities for this species, the results of the eDNA survey for pond P2 were negative, confirming the likely absence of Great Crested Newts from pond P2. Pond P1 was found to offer ‘poor’ suitability for Great Crested Newts and no further known waterbodies are present within 250m of the site. Accordingly, it is considered that Great Crested Newt is likely absent from the site and therefore the proposals are unlikely to adversely impact this species.

5.7 Reptiles

5.7.1 **Legislation.** All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 6193/2 for detailed provisions. All six reptile species are also S41 Priority Species. As such, all reptile species should be assessed as important ecological features.

5.7.2 **Background Records.** Information returned from the NBGRC returned a single record of a Grass Snake *Natrix natrix* located in the grounds of Rousham House located approximately 1.5km to the south of the site. The record was dated 2012.

5.7.3 **Evaluation and Assessment of Likely Effects.** The site contains sub-optimal habitat for reptiles, as it lacks a diversity of habitat structure, being dominated by buildings, hardstanding and areas of amenity planting/grassland. Furthermore, the intensive management of the habitats reduces the likelihood of reptiles being present within the site and no specific records of reptiles from within or adjacent to the site were returned from the desktop study. Overall, it is considered unlikely that reptiles are present within

the site and, therefore, the local conservation status of reptiles is unlikely to be adversely affected by development at the site.

5.8 Birds

5.8.1 Legislation. All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 6193/2 for detailed provisions).

5.8.2 Conservation Status. The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status²². Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

5.8.3 Background Records. Information from the data search included a relatively large number of records of birds within 2km of the site, including a number of red listed and Priority Species. A number of these records were returned from a 1km x 1km grid square contain the site and include Linnet *Linaria cannabina*, Marsh Tit *Poecile palustris*, Reed Bunting *Emberiza schoeniclus* and Yellowhammer *Emberiza citronella*. The records date from 1996 to 2012 and the precise location of the records was not available.

5.8.4 Survey Results. The site is likely to support a range of common garden bird species and, indeed, Blackbird *Turdus merula*, Blue Tit *Cyanistes caeruleus* and Wood Pigeon *Columa palumbus* were recorded within the site during the Phase 1 survey.

5.8.5 Evaluation. The birds recorded at the site are not listed as having any special conservation status. The habitats present within the site are typical of residential gardens and are common in the surrounding area and there is no evidence to suggest the site is of elevated value at a local level for any rare/notable birds. The hedgerows, trees, amenity planting and building offer suitable foraging and nesting habitat for a range of birds. It is understood that the majority of trees, hedgerows and amenity planting will be retained under the proposal. However, a number of the buildings within the site will be demolished under the proposals and this could potentially affect any nesting birds that may be present at the time of works. Accordingly, a number of safeguards in respect of nesting birds are proposed, as detailed in Chapter 6 below. In the long-term, new nesting opportunities will be available for birds as described in Chapter 6 below.

5.9 Invertebrates

5.9.1 Legislation. A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 6193/2 for detailed provisions. A

²² Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 108, pp.708-746

number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.9.2 Background Records. No specific records of invertebrates were returned from within or immediately adjacent to the site. A number of Priority Species invertebrate were returned from TVERC, including but not limited to Small Heath *Coenonympha pamphilus*, Wall *Lasiommata megera*, Buff Ermine *Spilosoma lutea*, Blood-vein *Timandra comae*, Deep-brown Dart *Aporophyla lutulenta*, Garden Tiger *Arctia caja*, Oak Hook-tip *Watsonalla binaria* and Rosy Rustic *Hydraecia micacea*. The closest recent record is for a Small Heath, located approximately 1.7km east of the site, dated 2018.

5.9.3 Survey Results and Evaluation. The site is dominated by buildings and hardstanding, with areas of well-managed amenity planting/grassland which are likely to support only a limited diversity of invertebrates. The site contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that the proposals will result in significant harm to any protected, rare or notable invertebrate populations, and the site is not considered to support an important invertebrate assemblage.

5.10 Summary

5.10.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.4. Evaluation summary of fauna forming important ecological features.

Species/Group	Supported by or associated with the site	Level of Importance
Bats – Roosting	Confirmed presence on site	Local to District
Bats – Foraging/Commuting	Confirmed presence on site	Site to Local
Badger	Likely absent	N/A
Great Crested Newt	Likely absent	N/A
Reptiles	Likely absent	N/A
Birds	Confirmed presence on site	Local

5.10.2 Other fauna supported by the site include non-priority species of mammals, amphibians and invertebrates. However, these species do not form important ecological features.

6 Mitigation Measures and Biodiversity Net Gains

6.1 Mitigation

6.1.1 Based on the habitats, ecological features and associated fauna identified within/adjacent to the site, it is proposed that the following mitigation measures (**MM1 – 7**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2019).

Hedgerows and Trees

6.1.2 **MM1 – Hedgerow and Tree Protection.** All hedgerows and trees to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees and hedgerows.

Bats

6.1.3 **MM2 – Update Survey.** Depending on timescales to commencement of works, an update may be required to inform Natural England licensing, as licence applications are typically required to be supported by survey work from the current or immediately preceding survey season.

6.1.4 **MM3 – Demolition of Building B1.** The survey work undertaken at the site in April – June 2021 confirmed the presence of Soprano Pipistrelle and Common Pipistrelle summer day roosts within building B1. As such, the demolition of this building (with the exception of the cellar which will be retained) will need to be carried out under a European Protected Species (EPS) development licence obtained from Natural England, with implementation of an appropriate mitigation strategy; this strategy will be detailed within the method statement that accompanies the licence application. In summary, mitigation measures will include the following:

6.1.5 **Replacement Roosting Opportunities.** The demolition of building B1 (with the exception of the cellar which is to be retained) will result in the loss of Soprano and Common Pipistrelle day roosts and as such, new roosting opportunities will be required. Full details of the replacement roosting opportunities will be set out in detail within the Natural England licence application, although outline details are provided below.

6.1.6 *Soprano Pipistrelle and Common Pipistrelle Summer Day Roosts* - Replacement roosting opportunities for Soprano and Common Pipistrelle will be provided through the inclusion of three bat access tiles within the pitched roof of the new building housing the Air Source Heat Pump (ASHP) and the installation of three integrated bat boxes, such as Schwegler 1F Bat Tubes (see Appendix 6193/3 for example specifications). This provides crevice opportunities for Soprano and Common Pipistrelles and will also act as an enhancement by providing additional void roosting opportunities for species such as Brown Long-Eared Bat. In addition, a Schwegler 2F bat box (or similar) will be installed on a suitable tree within the wider garden of the property to allow for any bats encountered during the development works to be safely relocated.

6.1.7 **Soft-strip of building B1.** Any structures with potential to support or conceal roosting bats (e.g. roof tiles, lifted lead flashing, fascia boards, etc.) will be removed by hand, or with the

careful use of hand tools, during favourable weather conditions (e.g. not during heavy rain, high winds or unseasonable low temperatures) under a Natural England mitigation licence and ecological supervision. It is advised that the demolition of building B1 be undertaken outside of the main bat hibernation months (typically December – February) to reduce the risk of disturbance to hibernating bats within the retained cellar. However, if undertaken in summer months then consideration must be given to nesting birds, as detailed in 6.1.17.

- 6.1.8 MM4 – Felling of Trees Supporting Bat Roosting Potential.** A number of trees with potential to support roosting bats were recorded within the site. As such, the following measures must be adhered to in order to safeguard any roosting bats.
- 6.1.9** *Trees with Low Potential for Roosting Bats* - Any trees with low potential for roosting bats that require removal to facilitate the proposals should be felled under a watching brief, and using the 'soft-felling' technique, whereby sections of the tree will be cut and lowered to the ground, followed by leaving the felled sections on the ground for a period of at least 24 hours to allow any bats, should these be present, to escape.
- 6.1.10** If any evidence for the presence of roosting bats is recorded, works on that tree will be suspended and consideration will be given to the need to undertake works under a European Protected Species (EPS) development licence, and a licence application will be made to Natural England as required.
- 6.1.11** *Trees with Moderate/High Potential for Roosting Bats* - A number of trees supporting moderate or high potential for roosting bats are present within the site. None of these trees are anticipated to be removed under the proposals. However, should this change or should any tree works, e.g. pruning, be required affecting potential bat roost features, any such trees will be subject to inspection immediately prior to felling/works in the form of climbing inspections, with use of an endoscope, to ensure that bats are absent and that no evidence of a roost (e.g. droppings) is present.
- 6.1.12** Should features remain which cannot be fully investigated (e.g. deep cavities or numerous areas of lifted bark), the features will be subject to an emergence / dawn re-entry survey (May – September) immediately prior to works to confirm absence of roosting bats.
- 6.1.13** Works will then proceed under a precautionary approach. This will involve measures such as 'soft-felling' of sections of the tree identified as providing bat roosting opportunities (e.g. limbs with splits or holes), by lowering and cushioning these sections to reduce any potential effects caused by hard impact with the ground, followed by leaving the felled sections on the ground for a period of at least 24 hours to allow any bats, should these be present, to escape. This will be undertaken under the supervision of a suitably qualified ecologist.
- 6.1.14** If any evidence for the presence of roosting bats is recorded, works on that tree will be suspended and consideration will be given to the need to undertake works under a European Protected Species (EPS) development licence, and a licence application will be made to Natural England as required.
- 6.1.15 MM5 – Sensitive Lighting.** Light-spill onto retained and newly created habitat, in particular the retained hedgerows/trees will be minimised in accordance with good practice guidance²³ to reduce potential impacts on light-sensitive bats (and other

²³ Bat Conservation Trust and Institute of Lighting Professionals (2018) 'Guidance Note 08/18: Bats and artificial lighting in the UK'; Stone, E.L. (2013) 'Bats and lighting: Overview of current evidence and mitigation guidance.'; ILP (2011) 'Guidance notes for the reduction of obtrusive light' Institution of Lighting Professionals, GN01:2011.

nocturnal fauna). This may be achieved through the implementation of a sensitively designed lighting strategy, with consideration given to the following key factors:

- **Light exclusion zones** – ideally no lighting should be used in areas likely to be used by bats.
- **Appropriate luminaire specifications** – consideration should be given to the type of luminaires used, in particular luminaries should lack UV elements and metal halide and fluorescent sources should be avoided in preference for LED luminaries. A warm white spectrum (ideally <2,700K) should be adopted to reduce the blue light component;
- **Light barriers / screening** – new planting (e.g. hedgerows and trees) or fences, walls and buildings can be strategically positioned to reduce light spill;
- **Light intensity** – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination; and
- **Directionality** – to avoid light spill lighting should be directed only to where it is needed. Particular attention should be paid to avoid the upward spread of light so as to minimise trespass and sky glow.

Wild Mammals

6.1.16 **MM6 – Wild Mammal Construction Safeguards.** In order to safeguard wild mammals should they enter the site during construction works, the following measures will be implemented:

- Any trenches or excavations within the site that are to be left open overnight will be provided with a means of escape should a mammal enter. This could simply be in the form of a gently graded ramp or roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any temporarily exposed open pipes should be blanked off at the end of each working day so as to prevent mammals gaining access as may happen when contractors are off-site;
- Any trenches/pits will be inspected each morning to ensure no mammals have become trapped overnight. Should a Badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped Badger be encountered a suitably qualified ecologist will be contacted immediately for further advice;
- The storage of topsoil or other 'soft' building materials in the site will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections with consideration given to temporarily fencing any such mounds to exclude Badgers;
- The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over by any roaming mammals;
- Fires will only be lit in secure compounds and not allowed to remain lit during the night; and
- Unsecured food and litter will not be left within the working area overnight.

- A watching brief should be maintained for Hedgehog and other small mammals throughout any clearance works;
- Any piles of material already present on site, particularly vegetation/leaves, etc. and any areas of dense scrub or hedgerows, shall be dismantled/removed by hand and checked for Hedgehog prior to the use of any machinery/disposal;
- Any material to be disposed of by burning, particularly waste from vegetation clearance and tree works, should not be left piled on site for more than 24 hours in order to minimise the risk of Hedgehogs occupying the pile. If this cannot be avoided, material should be stored within a container such as a skip to prevent animals from gaining access. Any material which has been stored on the ground overnight should be moved prior to burning to allow a thorough check for any animals which may have been occupying the pile;
- In the event that an injured Hedgehog is found, the animal should be wrapped carefully in a towel, the British Hedgehog Preservation Society (BHPS) phoned (01584 890 801) and the Hedgehog taken to a local vet immediately;

Nesting Birds

- 6.1.17 **MM7 – Timing of Works.** To avoid a potential offence under the relevant legislation, no clearance of suitable vegetation/demolition of buildings should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

6.2 Biodiversity Net Gains

- 6.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP). The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Through implementation of the following ecological enhancements (**EE1 – EE5**), the opportunity exists for the proposals to deliver a number of biodiversity net gains at the site.

Habitat Creation

- 6.2.2 **EE1 – New Planting.** It is recommended that where practicable, new planting within the site be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Beech *Fagus sylvatica*, Silver Birch *Betula pendula* and Field Maple, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn, Hawthorn, Crab Apple *Malus sylvestris*, Hazel *Corylus avellana* and Elder. Where non-native species are proposed, these should include species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.

- 6.2.3 **EE2 – Wildflower Grassland.** It is recommended that consideration be given to the creation of areas of wildflower grassland within the site such that, in combination with new native landscape planting, opportunities for biodiversity will be maximised under the proposals. The creation of wildflower grassland in the orchard through the introduction of an appropriate management regime would improve the condition of this habitat.
- 6.2.4 **EE3 – Wetland Features.** The proposals include the creation of a ‘wild swimming pool’ which has the potential to benefit biodiversity if designed with ecological principles in mind. The sinuous margins of the pool could be seeded with a suitable native marginal species mix and native aquatic plants could be included. The pool will include areas of permanent water which will provide a constant habitat for aquatic species and consideration should be given to the creation of shallower areas of water/inundation zones to support different assemblages of species. This new habitat will provide seasonal opportunities for a range of amphibian and invertebrate species, along with foraging habitat and water supply for mammals and birds.

Bats

- 6.2.5 **EE4 - Bat Boxes.** A number of bat boxes will be provided on trees (in addition to those required to compensate for loss of existing bat roosts). The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle and Brown Long-Eared Bat, which are national Priority Species. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south-east or south-westerly direction. The precise number and locations of boxes/roost features should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved. In addition, a dedicated bat loft space is to be provided within the ASHP building, which will benefit species such as Brown Long-Eared Bat.

Birds

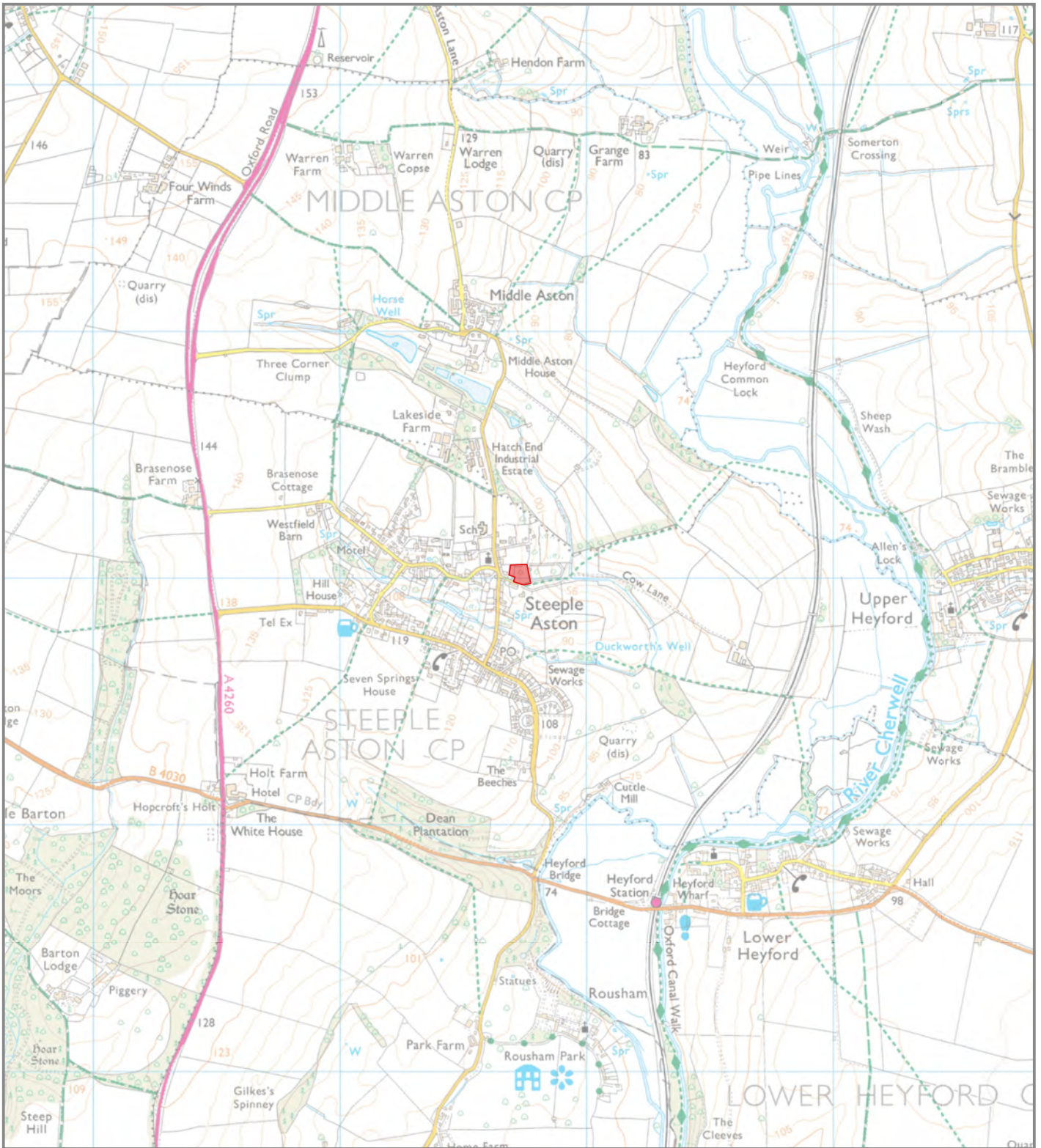
- 6.2.6 **EE5 - Bird Boxes.** A number of bird nesting boxes are to be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. Ideally, the bird boxes will have greater potential for use if sited on suitable, retained trees, situated as high up as possible and facing a north-east or north-westerly direction. The precise number and locations of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

7 Conclusions


- 7.1 Aspect Ecology has carried out an Ecological Appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and a number of detailed protected species surveys.
- 7.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within or adjacent to the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals.
- 7.3 The Phase 1 habitat survey has established that the site is dominated by habitats not considered to be of ecological importance, whilst the proposals have sought to retain those features identified to be of value. Where it has not been practicable to avoid loss of habitats, new habitat creation has been proposed to offset losses, in conjunction with the landscape proposals.
- 7.4 The habitats within the site support several protected species, including species protected under both national and European legislation. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations.
- 7.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of biodiversity net gains as part of the proposals.

Plan 6193/ECO1:

Site Location



Key:

 Site Location



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Wincote, Steeple Aston

Site Location

6193/ECO1

A

June 2021

PROJECT

TITLE

DRAWING NO.

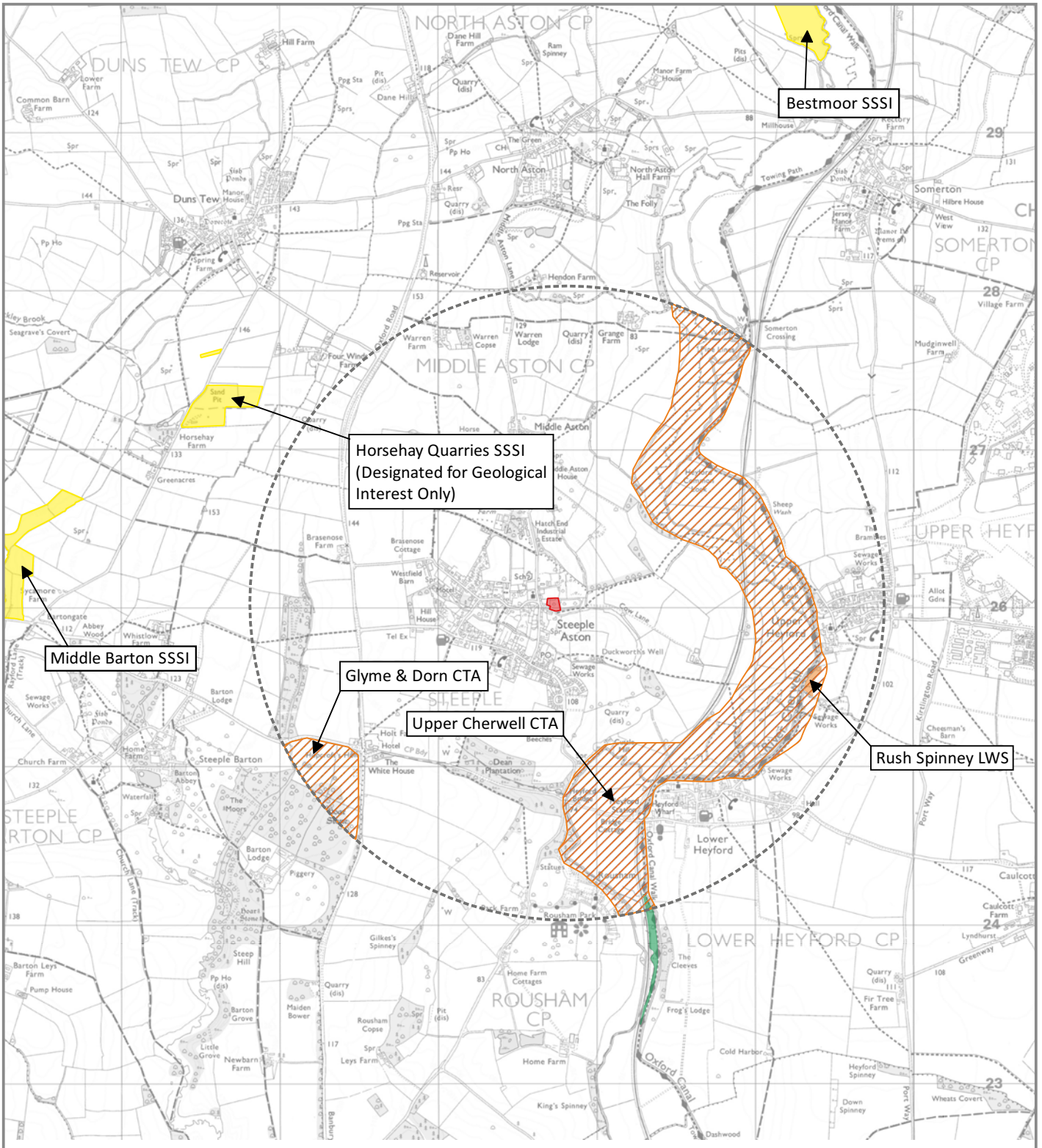
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Plan 6193/ECO2:

Ecological Designations



Key:

- Site Location
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)
- Conservation Target Area (CTA)
- Ancient Semi-Natural Woodland (ASW)
- Local Records Centre 2km Search Area



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Ecological Designations

6193/ECO2

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TITLE

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DATE



Plan 6193/ECO3:

Habitats and Ecological Features



- Key:
- Site Boundary
 - Amenity Grassland
 - Amenity Planting
 - Tall Ruderal
 - Hardstanding
 - Building
 - Orchard
 - Hedgerow
 - Scattered Scrub
 - Tree
 - Tree with Low Bat Roosting Potential
 - Tree with Moderate Bat Roosting Potential
 - Tree with High Bat Roosting Potential

aspect ecology

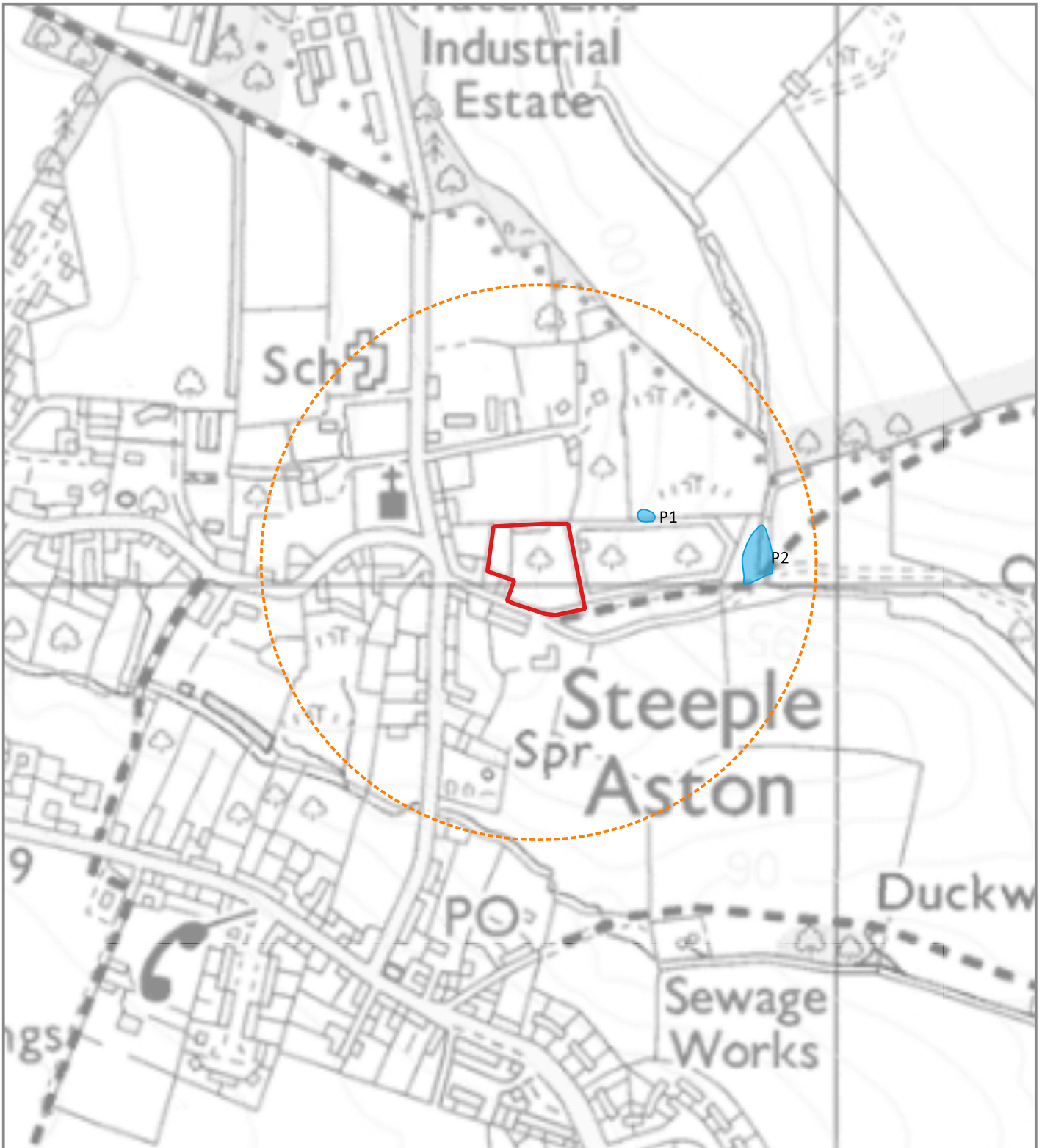
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Habitats and Ecological Features	TITLE
6193/ECO3	DRAWING NO.
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June 2021	DATE






Plan 6193/ECO4:

Pond Plan



Key:

-  Site Boundary
-  Pond
-  250m Buffer



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Pond Plan

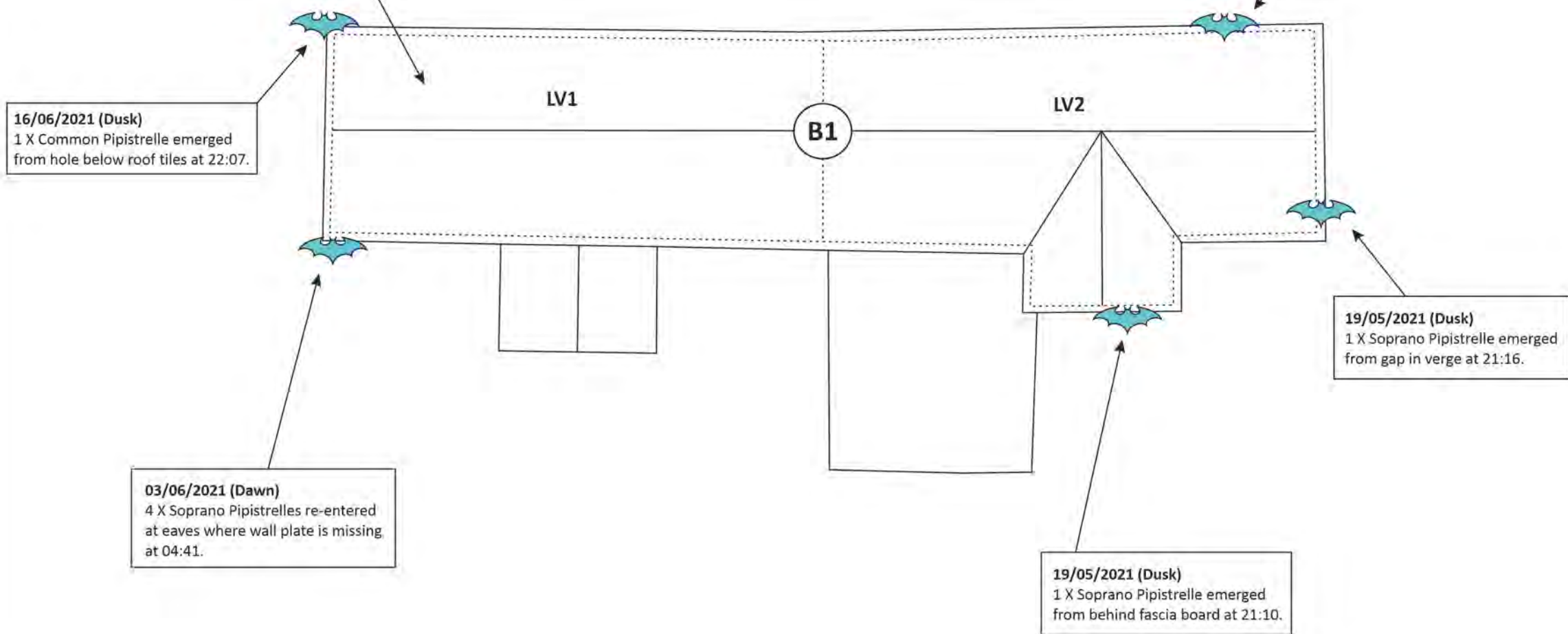
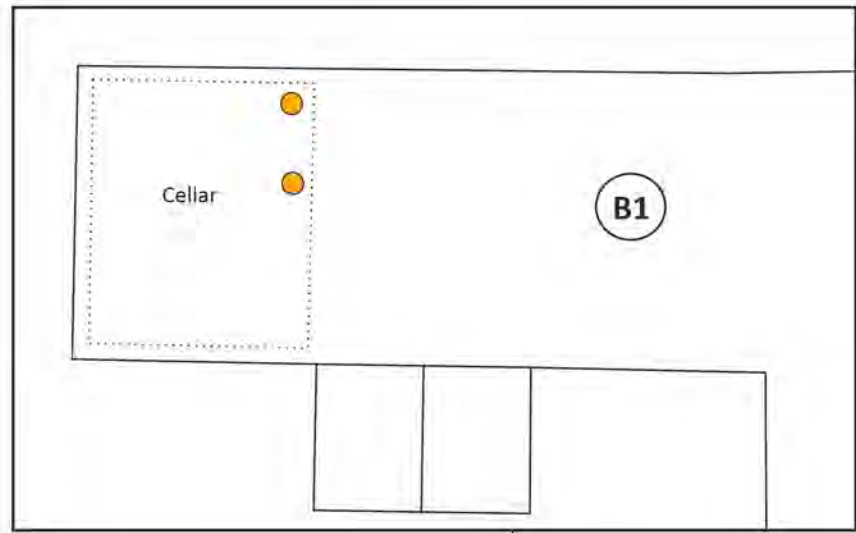
6193/ECO4

PROJECT	
TITLE	
DRAWING NO.	
REV	A
DATE	June 2021



Plan 6193/ECO5:

Bat Survey Results



Key:

- Soprano and Common Pipistrelle Roost Access
- Natterer's Bat Droppings



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Wincote, Steeple Aston PROJECT

Bat Survey Results TITLE

6193/EC05 DRAWING NO.

A REV.

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Photographs

Photograph 1 : Amenity Grassland



Photograph 2 : Amenity Planting



Photograph 3 : Hedgerow H1



Photograph 4 : Hedgerow H2



Photograph 5 : Hedgerow H3



Photograph 6 : Hedgerow H4



Photograph 7 : Orchard



Photograph 8 : Tree



Appendix 6193/1:

Evaluation Methodology

Principles of Ecological Evaluation

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland'¹.

Importance of Ecological Features

2. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
3. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);
- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

¹ Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal'

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
 - Birds of Conservation Concern;
 - Nationally rare and nationally scarce species;
 - Legally protected species.
4. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

5. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
- International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
6. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
7. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of site importance.
8. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

9. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

10. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
11. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
12. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

13. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
14. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
15. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
16. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6193/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.


17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017.** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.


Appendix 6193/3:

Building Descriptions Table



Appendix 6193/3: Building Descriptions

Building Number	Photo	Description	Bat Roosting Potential
B1		<p>B1 is a two storey stone dwelling with a pitched slate roof. Red brick chimneys are present at the gable ends of the building with lead flashing at the bases which is lifted in places. A single storey stone porch with a pitched slate roof is present on the southern elevation as well as a single storey kitchen extension with a flat bitumen felt roof. The stonework of the building is in good overall condition with the exception of the eastern gable end where gaps are present in the stonework near the verge of the roof. There are a number of lifted/slipped slates on the main roof and mortar is missing beneath the slate ridge tiles providing potential crevice opportunities. The wooden wall plate at the eaves of the building on the northern and southern elevations is in a poor state of repair and has rotted away in places, particularly at the south-wester corner of the building. Fascia boards are present on a small section of the building on the southern elevation and also on the single storey kitchen extension. The boards are in good condition but small gaps are present behind them providing a small crevice space.</p> <p>Two loft voids are present within building B1 (labelled LV1 and LV2 on Plan 6193/ECO5). LV1 is approximately 10m x 5m and ~1.5m in height. The gable ends are constructed from stone and the chimney breast at the western gable end comprises red brick. The loft void is of wooden framework with wooden ridge board, purlins, rafters, joists and support beams. Poor condition fibreglass insulation is present behind the rafters. The loft void is heavily cobwebbed but otherwise uncluttered. Evidence of rodents and wasps was recorded within LV1. Potential access into LV1 is provided by a section of missing wall plate on the south-western corner of the building, although no daylight was observed from within the loft void.</p> <p>LV2 is approximately 10m x 5m and is set at two different levels, such that the western-most end is ~0.75m in height,</p>	<p>Roosting opportunities are afforded by lifted tiles, lifted lead flashing at the base of chimneys, gaps at the eaves where the wooden wall plate has rotted away (particularly in the south-western corner), gaps behind fascia boards, gaps in the brickwork at the eastern gable end and missing mortar at the ridge. Access into the loft spaces is provided by gaps in the brickwork at the eastern gable end, gaps at the eaves where the wall plate is missing and through lifted tiles. The cellar offers crevice dwelling opportunities behind beams and above the false wooden ceiling, with access provided by metal and wooden grilles.</p> <p>No evidence of roosting bats was recorded within LV1 or LV2, albeit not all of the loft space could be fully accessed.</p> <p>Two piles of bat droppings were recorded within the cellar of B1 and these have been confirmed as Natterer's Bat droppings through DNA analysis. The droppings were not fresh and each pile contained ~20 droppings.</p> <p>A low number of butterfly wings were recorded on the floor of the cellar.</p> <p>A small area of staining was noted on the central beam within the cellar which could potentially be attributed to roosting bats.</p> <p>High Bat Roosting Potential.</p>

Appendix 6193/3: Building Descriptions

Building Number	Photo	Description	Bat Roosting Potential
		<p>while the eastern end is ~1.5m in height. LV2 is of the same construction as LV1 and is similarly cobwebbed but otherwise uncluttered. Access is provided into the loft space by missing/damaged brickwork at the eastern gable end providing a gap ~3 inches in diameter through which daylight could be seen. In addition, the fibreglass insulation and bitumen felt liner behind the rafters are in poor condition and lifted slates above provide potential access. Evidence of rodents, wasps and nesting birds was recorded within LV2.</p> <p>A cellar is present below ground level in the western end of building B1. The cellar is approximately 2m x 3m and 2m in height. The walls are constructed from stone which has been painted and painted brick support pillars are present in the corners. A false ceiling constructed from wooden panelling is present and two large wooden beams are present at the tops of the northern and southern walls. These beams are set out away from the wall slightly, such that a gap approximately 10cm in width is present, leading to a cavity space above the false ceiling. The floor of the cellar comprises flagstones and a set of stone stairs are present in the north-western corner which have been boarded off with wooden panelling. A wooden beam is also present in the centre of the room. Access into the cellar is afforded by a horizontal metal grille at ground level at the southern side of the building which leads to a vertical wooden grille in the wall of the cellar.</p>	

Appendix 6193/3: Building Descriptions

Building Number	Photo	Description	Bat Roosting Potential
B2		<p>Building B2 is a single storey red brick outbuilding adjoined to the eastern end of building B1. The building has a sloped corrugated asbestos roof with wooden boarding beneath and is utilised for storage. A single red brick chimney is present on the eastern end. Two wooden doors and two wooden framed glass windows are present on the southern elevation. A wooden fascia board is present on the southern elevation which is well-fitted and in good condition.</p>	<p>Roosting potential is afforded by potential crevice opportunities beneath corrugated asbestos roof.</p> <p>No evidence of roosting bats recorded.</p> <p>Low Bat Roosting Potential.</p>
B3		<p>Building B3 is a derelict glass house comprising a rotten wooden framework and broken/missing glass windows. The building is heavily overgrown with Bramble and open to the elements internally.</p>	<p>The building is very light and draughty and does not exhibit features suitable for roosting bats.</p> <p>No evidence of roosting bats recorded.</p> <p>Negligible Bat Roosting Potential.</p>

Appendix 6193/3: Building Descriptions

Building Number	Photo	Description	Bat Roosting Potential
B4		<p>Building B4 is a single storey outbuilding with a pitched bitumen felt tile roof. Two skylights are present in the roof and large floor to ceiling glass windows are present on the eastern elevation such that the building is very light internally and subject to changing daily temperatures. The walls of the building are constructed from wooden boarding which is generally in good condition with the exception of a few boards which are lifted.</p>	<p>Roosting opportunities afforded by small crevices behind wooden boards which are slightly lifted.</p> <p>No evidence of roosting bats recorded.</p> <p>Low Bat Roosting Potential.</p>
B5		<p>Building B5 is a single storey cargo carriage from a train. The building is constructed from wooden boards and exhibits a curved bitumen felt roof. Windows are present on the southern elevation making the building very light internally. The building is utilised for storage and is becoming encroached with Ivy.</p>	<p>The building is very light and draughty and does not exhibit features suitable for roosting bats.</p> <p>No evidence of roosting bats recorded.</p> <p>Negligible Bat Roosting Potential.</p>

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