18-19 Dianmer Close, Hook, SN4 8EB

Construction Environment Management Plan (CEMP) - Biodiversity

Document Control

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1. Introduction

Background

1.1. Elton Ecology Ltd was commissioned by Mr Habib Aslam to produce a Construction Environment Management Plan (CEMP) relating to ecological receptors at the site known as 18-19 Dianmer Close, Hook, SN4 8EB.

1.2. This CEMP has been prepared by TE BSc (Hons) MCIEEM. TE has professional experience in ecological consultancy since 2013, including Protected Species Survey, Extended UKHab Habitat Survey and report writing. TE is trained in a wide variety of protected species survey, including holding Natural England class licences for bats (Level 2 Licence CL18), barn owl *Tyto alba*, great crested newt *Triturus cristatus* (level 1), and dormice *Muscardinus avellanarius* (level 1).

Site description

1.3. The site comprises two residential dwellings with associated outbuildings set within an area of grassland and hardstanding, located at 18 & 19 Dianmer Close, Hook, Royal Wootton Bassett, Swindon, SN4 8EB (Figure 1: Site Location Plan) (central OS grid reference: SU 07697 84485). A dividing wall through the centre of the site from the north to the southeast boundary separates property 18 to the west from property 19 to the east. A drainage ditch is present at the west site boundary. The site is bound by treelines and hedgerows.

Development Proposals

1.4. The development proposals include the erection of three 4-bedroom houses and garages with associated vehicular access drive.

1.5. Relevant documents used to inform the assessment include:

- Proposed Site Layout Drawing No. 09 1026 02C (John Turner Plan & Design, 2009)
- Preliminary Ecological Appraisal Report. Ref P2337_01, dated 03.05.2022. (Elton Ecology Ltd, 2022)

Report Purpose and Scope

1.6. The present report has been prepared in response to the ecology Wiltshire Council Planning Consultation Response dated 27/03/2023 in relation to Application Number PL/2022/09533. The comment requested:

"Prior to the commencement of works, including demolition, ground works/excavation, site clearance, vegetation clearance and boundary treatment works, a Construction Environmental Management Plan (CEMP) shall be submitted to the local planning authority for approval in writing. The Plan shall provide details of the avoidance, mitigation and protective measures to be implemented before and during the construction phase in relation to ecological receptors only, including but not necessarily limited to, the following:

a) Identification of ecological protection areas/buffer zones and tree root protection areas and details of physical means of protection, e.g. exclusion fencing.

b) Working method statements for protected/priority species, such as nesting birds and reptiles.

c) Mitigation strategies already agreed with the local planning authority prior to determination, such as for great crested newts, dormice or bats; this should comprise the pre-construction/construction related elements of strategies only.

d) Work schedules for activities with specific timing requirements in order to avoid/reduce potential harm to ecological receptors; including details of when a licensed ecologist and/or ecological clerk of works (ECoW) shall be present on site.

e) Key personnel, responsibilities and contact details (including Site Manager and ecologist/ECoW).

f) Timeframe for provision of compliance report to the local planning authority; to be completed by the ecologist/ECoW and to include photographic evidence."

1.7. The scope of the present CEMP is to provide guidance to the construction team in carrying out the biodiversity mitigation outlined within the Preliminary Ecological Appraisal (Elton Ecology Ltd, 2022) for the site (Appendix 3), which should be read in conjunction with the present CEMP.

1.8. The British Standard BS 42020:2013 Biodiversity. Code of practice for planning and development provides additional guidance on the purpose and scope of CEMPs relating to biodiversity, which has been used to inform the present report.

1.9. The contents of this document will be made available to all site operatives.

Limitations

1.10. The present Construction Environmental Management Plan (CEMP) relates to biodiversity only. It does not risk assess or mitigate any other environmental discipline constraints such as air quality, noise, or hydrology.

1.11. The present document has not been prepared in direct consultation with the construction team and the contact details of the construction team have not been provided. Where the measures outlined in the present CEMP cause conflicts with any other site aims and objectives including health and safety, Elton Ecology Ltd must be consulted and amendments to the present document sought.

1.12. No Arboricultural reports have been made available for the site, and therefore the appropriate root protection areas are not known and have not been included within the present CEMP.

1.13. All dimensions, locations and distances provided are approximate.

2. Risk Assessment of Potentially Damaging Development Activities

Ecological Risk Assessment

2.1. A risk assessment of ecological receptors and construction activities which could have potentially adverse impacts or risk breaches in wildlife legislation, is provided in Table 1 overleaf.

Table 1: Ecological Risk Assessment

Ecological Feature	Description of ecological feature	Potential Adverse Impacts	Risk	Risk Avoidance Measure (See Section 5)
Retained hedgerows, tree line, and trees	Hedgerows and tree lines are present at the site boundaries. Scattered trees present within the site.	Accidental physical (mechanical) damage to trees and hedgerows, including disturbance (direct or indirect) of any species using these features. Soil compaction within root protection areas and associated effects.	Damage to retained habitats	Biodiversity Zones Protective Fencing
Retained ditch	Ditch at west site boundary	Accidental physical (mechanical) damage to ditch or ditch-side habitat.	Damage to retained habitats	Biodiversity Zones Protective Fencing
Badgers (commuting and foraging) & Hedgehog	No badger setts were previously recorded on site. Badgers may travel through or forage on site due to rural location	Destruction or damage of any recent setts built since original ecology survey. Accidental injury/ mortality of badgers due to becoming trapped in excavations/ site materials or collision with vehicles.	Contravention of Protection of Badgers Act 1992	Badger Method Statement
Nesting birds	Nesting birds likely to be present in hedges, trees and scrub.	Damage or destruction of bird nests, and/ or disturbance of nesting birds during activities such as woody vegetation clearance.	Contravention of Wildlife and Countryside Act 1981 (As Amended)	Nesting Bird Method Statement
Reptiles & Amphibians	Low risk of presence of amphibians and reptiles.	Accidental killing or injury during woody vegetation clearance near ground level, grassland and debris clearance.	Contravention of Wildlife and Countryside Act 1981 (As Amended)	Amphibian & Reptiles Method Statement

3. Identification And Protection of Biodiversity Protection Zones

3.1. With reference to Figure 3: Phase 1 Habitat Plan and the Proposed Site Plan, the following habitat features are considered biodiversity protection zones for the site:

- Retained hedgerows, treelines and trees,
- Dry ditch
- No 18 and associated garage, No 19

4. Practical Measures to Avoid or Reduce Impacts During Construction

4.1. The following pages detail several method statements to be followed during works to avoid or reduce risk of adverse ecological impacts during construction.

Biodiversity Zones Protective Fencing

Scope & Objective

4.2. To protect the Biodiversity Protection Zones identified in Section 4 during works, and in accordance with the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012), protective fencing should be installed to protect the retained tree line, trees, hedgerow and ditch from physical damage or soil compaction.

Timing

4.3. Prior to construction works including site clearance, and to remain in situ throughout the duration of the construction phase.

Method

4.4. Fencing (Heras fence or similar, minimum 1.2m high) should be installed with at least a 2m standoff away from the hedgerows and ditch on site. The fencing should allow a standoff around trees such that the appropriate root protection area is incorporated at an appropriate distance, as per any Arboricultural recommendations for the site and/or the British Standard BS 5837: 2012.

4.5. On installation, weather-proof signage must be put up on the fences (minimum A4 size) stating “Biodiversity Protection Zone – No Access”.

4.6. The fence must not be moved without the permission of the site manager or Ecological Clerk of Works.

4.7. The fence will be removed upon completion of the construction phase and after all site machinery and materials have been removed from site.

Maintenance & Monitoring

4.8. Upon installation, the fence should be checked for its effectiveness by the site manager.

4.9. When operational, the fence should be checked by the site manager or Ecological Clerk of Works on at least a weekly basis to ensure it remains effective.

4.10. Any damage to the fence which reduces its effectiveness should be reported and repaired.

Badger & Hedgehog Method Statement

Scope & Objective

4.11. To avoid harm to badgers as a result of construction activities which would constitute an offence under the Protection of Badgers Act 1992.

4.12. To ensure no changes in badger use at the site including the continued absence of setts prior to works.

4.13. To avoid the accidental killing or injury of badgers which may travel through the site during the construction phase.

Timing

4.14. Updated badger survey to be carried out prior to works.

4.15. Protective measures during the construction phase.

Method

4.16. Prior to works an updated badger survey will be carried out by the ECoW within one month prior to works commencing on site, to ensure the continued absence of setts at the site. Should any badger setts be present, the ECoW will compile a suitable mitigation strategy. A licence from Natural England may be required to proceed with works lawfully.

4.17. During works, protective measures will be incorporated to avoid entrapment, killing and injury of badgers which may travel through the site, including:

- Foundation ditches and other ditches or trenches, which can be hazardous to badgers and other small mammal such as hedgehog, should be closed overnight or fitted with sloping boards or steps to allow animals to escape should they become trapped.
- Concrete should not be left unset overnight, or suitable barriers erected to prevent animals accessing the concrete.
- Pipework with a diameter greater than 120mm should have the ends closed off overnight to prevent entrapment.

4.18. In the unlikely event of a badger (or any other animal) becoming trapped or injured during construction, the Ecological Clerk of Works must be contacted immediately, and the appropriate action undertaken.

4.19. To avoid the disturbance of crepuscular/ nocturnal species including badgers, hedgehog and bats, a wildlife sensitive lighting strategy should be employed during works. Artificial lighting will be avoided within the summer months (May – September inclusive) and if required during winter months, lighting will be limited to the working hours within which it is necessarily required and lighting will be turned away from any site boundary habitats such as retained hedgerows or treelines.

Maintenance & Monitoring

4.20. Any features fitted in accordance with the above should be monitored for their effectiveness on a daily basis.

Nesting Bird Method Statement

Scope & Objective

4.21. To avoid the damage or destruction of bird nests and avoid the disturbance of nesting birds. Avoid an offence occurring under the Wildlife and Countryside Act (1981).

Timing

4.22. Vegetation clearance should take place from October to February inclusive to avoid the nesting bird season. If this timing is not possible, vegetation works must be preceded by a nesting bird survey carried out by the Ecological Clerk of Works.

4.23. It is recommended that vegetation is firstly cleared down to a height of no less than 150mm outside of the main nesting bird season if possible. The vegetation can then be cleared to ground level within the active reptile season in accordance with the Amphibian and Reptile Method Statement overleaf.

Method

4.24. Where vegetation works cannot be carried out outside of the nesting bird survey season, the habitat to be subject to works should be surveyed for nesting birds immediately prior to removal by the Ecological Clerk of Works. If nesting birds are recorded, a suitable no-works biodiversity protection zone should be defined by the ecologist and implemented until the ecologist confirms the chicks have fledged. The biodiversity protection zone will be demarcated by barrier tape or appropriate temporary fencing (e.g. High Visibility Netlon or Heras), along with weather proof signage informing site staff that the excluded area must not be disturbed.

4.25. If species identification of the nesting birds is possible, this can be used to inform the typical egg incubation and fledging period, giving an indication of an appropriate time for re-survey to confirm fledging.

Maintenance & Monitoring

4.26. Monitor any nests found and protect until completion of nesting.

Amphibian & Reptiles Method Statement

Scope & Objective

4.27. Identify measures to as far as practicably possible reduce the risk of disturbing, killing or injuring reptiles during works at the site. Avoid an offence occurring under the Wildlife and Countryside Act (1981).

Timing

4.28. To minimise potential impacts, the works to remove suitable amphibian and reptile hibernacula habitat should be timed to avoid periods of the year when reptiles and amphibians are hibernating. The works to remove potential reptile hibernacula at site should be undertaken outside of the core hibernation period of November to February, inclusive.

4.29. Other habitat clearance works which could affect reptiles such as clearance of vegetation at ground level should not be undertaken during periods when overnight temperatures are consistently below 5 oC.

4.30. Where possible, and not withstanding nesting bird constraints habitat clearance to ground level should be undertaken during suitable weather for reptile movement and within the active reptile season of March – September inclusive.

Method

4.31. A suitably qualified ecologist would communicate the working methods to all site operatives prior to the start of works, via the Toolbox talk detailed in the following sections. The ecologist would remain on site to supervise key high-risk activities.

4.32. Vehicles or machinery will be kept on hardstanding/ unsuitable habitat and must not encroach the grassland or hibernacula habitats, except during works and in accordance with the working methods.

4.33. Immediately prior to vegetation clearance or removal of reptile hibernacula, the area of suitable habitat to be subject to works will be subject to a search by an ecologist for the presence of amphibians or reptiles. Work will not be permitted until a search has been completed. The search will include hand searching within and beneath suitable refuges such as grassland tussocks, brash piles and rubble. Works will then take place via use of hand tools only where possible.

4.34. Any hibernacula such as stone walls, rubble or brash piles will be dismantled by hand and immediately removed from the working area.

4.35. Any grassland or vegetation removal down to bare earth at the site should be undertaken in a staged process as follows:

- Firstly, the vegetation is to be cut or strimmed to a height no less than 150mm and in a directional manner such as to displace reptiles into suitable adjacent retained habitats (where possible). It should be noted that not all species of reptile will be displaced in this way (e.g. slow worm are a less mobile species).
- All arisings will be gently raked and removed from the works area.
- The remaining vegetation of 150mm height should then be subject to a repeated fingertip search for amphibians or reptiles.
- Finally, the vegetation may be cleared to ground level once the absence of amphibians and reptiles has been established. If the presence of reptiles or amphibians can't be discounted at this stage, it may be necessary to carry out a second or third vegetation strim of intermediate height, such as 75mm dependant on the density of vegetation present.

- The vegetation can then be stripped to bare ground via use of a toothed bucket under the supervision of an ecologist.

- The vegetation should then be maintained as unsuitable for amphibians and reptiles (bare ground or very short vegetation) to avoid re-colonisation.

4.36. The storage of materials and plant within suitable amphibian and reptile habitat will be avoided (i.e. utilise hard standing or bare ground for storage). Materials or plant left on site overnight should be checked for amphibians or reptiles prior to moving.

4.37. In the highly unlikely event that great crested newt Triturus cristatus (GCN) are encountered during works, all works must cease immediately, and the Ecological Clerk of Works consulted. The animal(s) will be left undisturbed in their place of shelter, and the location restored to its original condition if required (i.e. if the animal is in danger). Works must cease and a Natural England mitigation licence will likely be required to proceed with works to GCN habitat lawfully.

4.38. If other common amphibians (e.g. smooth newt, common toad, and common frog), or common reptiles (e.g. grass snake, common lizard, and slow worm), are encountered during works these will be left to migrate to adjacent suitable habitat of their own accord or relocated by the Ecological clerk of Works to nearby areas of suitable habitat.

Maintenance & Monitoring

4.39. Once suitable reptile habitat has been cleared for the proposed development, the habitat must be maintained as unsuitable for reptiles (i.e. maintained as bare ground) until construction begins within that area, to prevent the re-colonisation of animals which could result in the requirement for the Method Statement works to be repeated.

5. Responsible Persons and Lines of Communication

5.1. It will be the main works contractor/ site manager's (contact details TBC) responsibility to ensure the measures detailed within this CEMP are adhered to and supervised by the Ecological clerk of Works as required.

5.2. It will be the responsibility of the appointed Ecological clerk of Works (contact details TBC) to explain the contents of this CEMP to the relevant site operatives via a Toolbox Talk, provide on-site advice and guidance, and provide documented evidence that the CEMP has been followed.

5.3. Failure to follow this CEMP could result in an offence being committed.

6. The Role of An Ecological Clerk of Works

6.1. Prior to works, all site operatives including contractor and sub-contractor staff will receive a toolbox talk from a suitably experienced ecologist, to include:

- The legal protection afforded to ecological receptors present or potentially present
- The precautionary methods of working (outlined in the present document)
- The identification of ecological receptors including bird nests, amphibians and reptiles
- The procedure to follow should fauna be encountered during works
- Completion of a signed record of attendance of the Toolbox Talk by all relevant site contractors.

6.2. The Toolbox Talk Attendance sheet to be signed is provided in Appendix 2.

7. Provision Of Compliance Report to The Local Planning Authority

7.1. The Ecological Clerk of Works will keep a site diary including photographic evidence during the carrying out of works in compliance with this CEMP. Upon the completion of the applicable construction works relating to the CEMP, the ECoW will prepare a compliance report for submission to the local planning authority.

8. References

British Standards Institute (BSI) (2012). Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012),

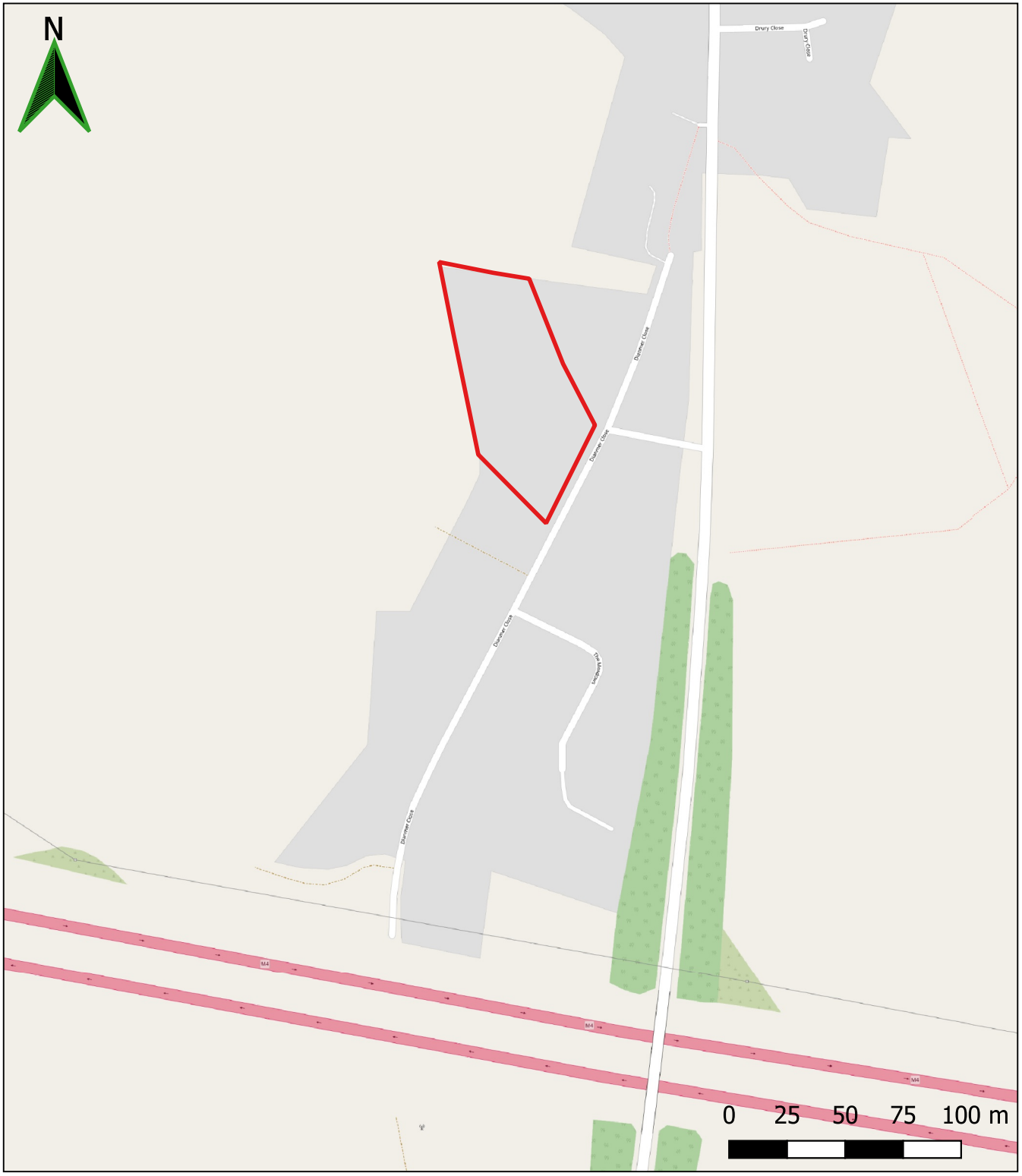
British Standards Institute (BSI) (2013). BS 42020:2013 Biodiversity. Code of practice for planning and development. British Standards Institute, London.

9. Figures

Figure 1: Site Location Plan (Overleaf)

Figure 2: Surrounding Landscape Plan

Figure 3: Phase 1 Habitat Plan



Legend

Site Boundary

Project:

18 Dianmer Close, Hook

Drawing:

Figure 1: Site Location Plan

Date: 25-04-2022

Version: FINAL

Author: PH

Job No: P2337

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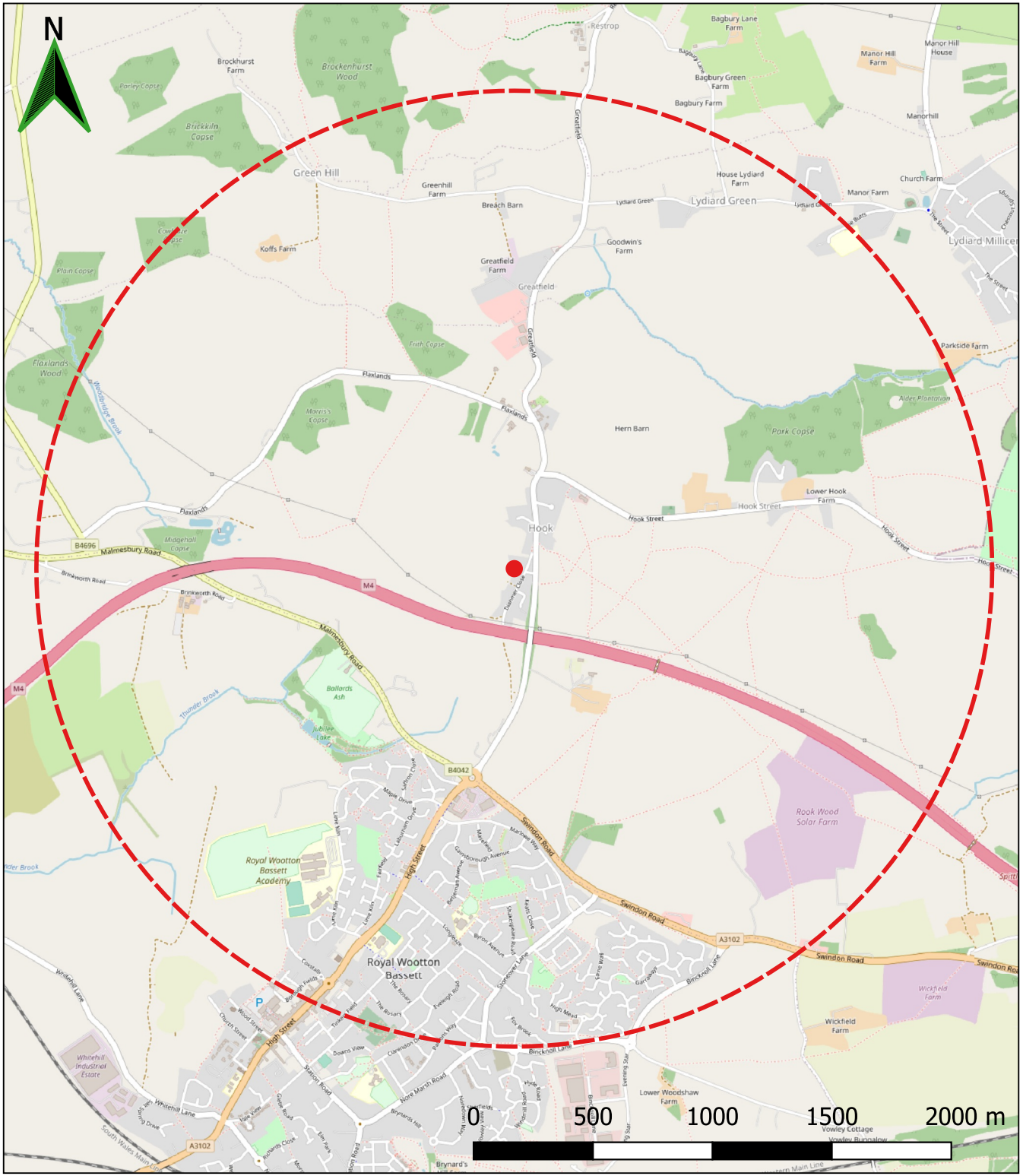

Legend

- Site Location
- 2km Buffer

Project:

18 Dianmer Close, Hook

Drawing:

Figure 2: Surrounding Landscape Plan

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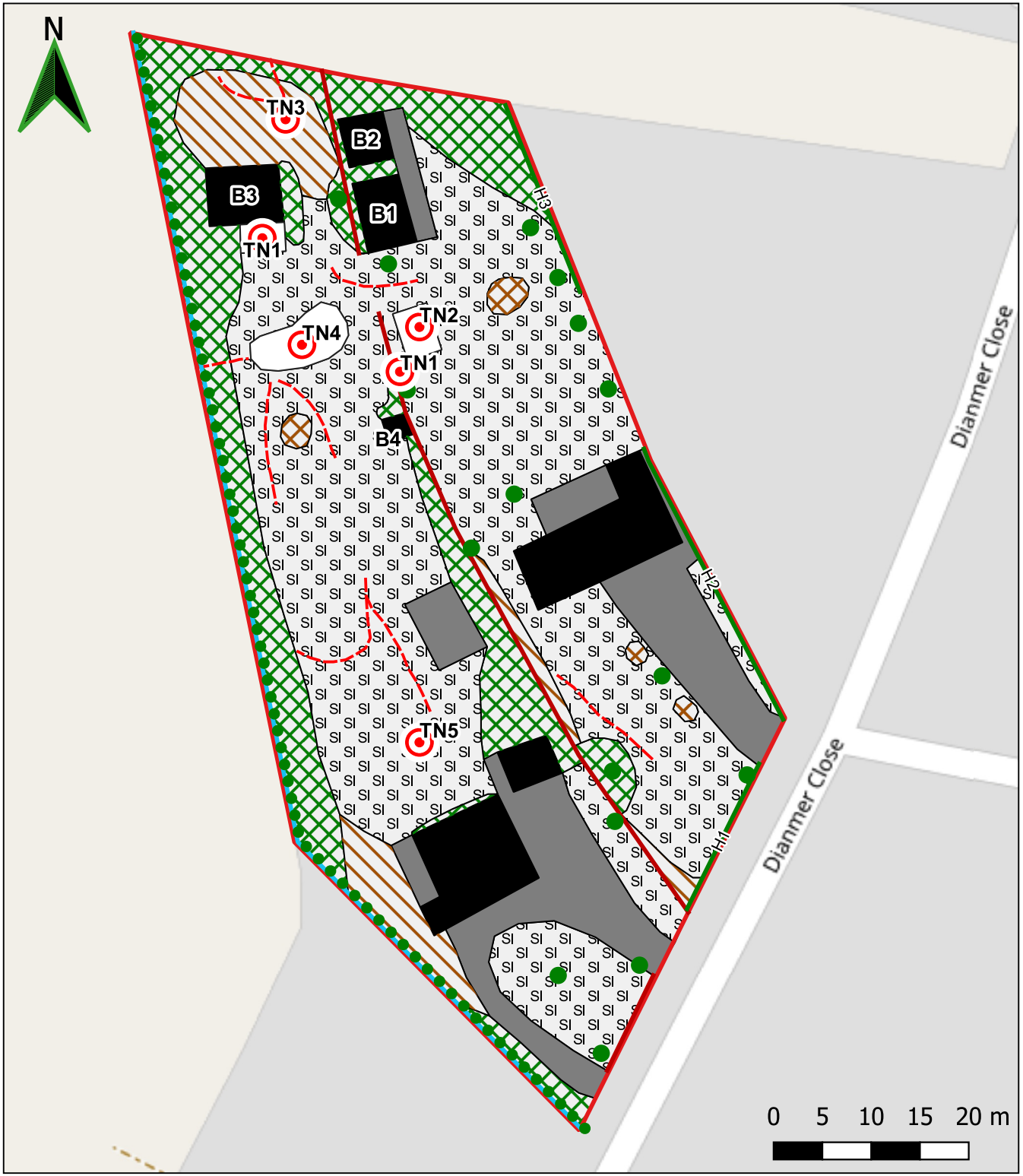

Legend

- Site Boundary
- Scrub - dense/continuous
- Poor semi-improved grassland
- Other tall herb and fern - ruderal
- Introduced shrub
- Buildings
- Hardstanding

Phase 1 Lines

- Hedgerows with reference number
- Wall
- Dry ditch
- Target Notes with reference number
- Target Note Extent
- Trees
- Tree Line
- Mammal Paths

Project:

18 Dianmer Close, Hook

Drawing:

Figure 3: Phase 1 Habitat Plan

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Appendix 1: Planning Policy & Legislation Summary

This appendix serves as a summary of relevant policy and legislation. It is not intended to supersede the policy or legislation documents to which it refers, and the relevant full documents should always be consulted prior to decision making.

National Planning Policy Framework 2019

Biodiversity is a material consideration under the National Planning Policy Framework (2019). Relevant text to biodiversity from the NPPF is described below.

In Section 2 of the NPPF 'Achieving sustainable development', paragraph 8(c), the NPPF sets an environmental objective:

"To contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

In Section 15 'Conserving and enhancing the natural environment', the NPPF states that:

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

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; […]
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. […]"

The NPPF, in paragraph 174. sets out that to protect and enhance biodiversity, plans should:

- "Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

In determining planning applications, the NPPF sets guidance that local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted […];

- 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

- 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."

Paragraph 176 states that the following sites should be given the same protection as habitats sites:

- "Potential Special Protection Areas and possible Special Areas of Conservation;

- listed or proposed Ramsar sites; and

- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."

Paragraph 177 states that "The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or projects will not adversely affect the integrity of the habitats site."

Paragraph 180 states that planning policies and decisions should ensure new development is appropriate to its location and take into account likely effects of pollution on the natural environment, and in doing so:

- "Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development; […]

- limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

Government Circular ODPM 06/05 Biodiversity and Geological Conservation

The government circular provides administrative guidance on the application of statutory obligation and legislation relating to planning and nature conservation in England. It complements the National Planning Policy Framework. The document includes guidance on designated sites (international and national), habitats, and protected species.

Relating to protected species and the requirement for their consideration in planning applications, the government circular, in paragraph 98 details that:

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult English Nature [now Natural England] before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned."

Paragraph 99, relating to the requirement and timing of protected species survey and mitigation, the government circular states that:

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted. However, bearing in mind the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development. Where this is the case, the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/or planning obligations, before the permission is granted. In appropriate circumstances the permission may also impose a condition preventing the development from proceeding without the prior acquisition of a [Natural England] licence."

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The term 'European Protected Species' (EPS) is used to describe species listed on Schedule 2 of the The Conservation of Habitats and Species Regulations 2017 (as amended). Regarding these species, Regulation 43 of the Regulations make guilty of an offence a person who:

- "Deliberately captures, injures or kills any wild animal of a European protected species;
- Deliberately disturbs wild animals of any such species;
- Deliberately takes or destroys the eggs of such an animal, or;
- Damages or destroys a breeding site or resting place of such an animal […]"

Regulation 43 defines that the disturbance of animals includes any disturbance which is likely to:

- Impair their ability:
    - to survive, to breed or reproduce, or to rear or nurture their young; or
    - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
    - to affect significantly the local distribution or abundance of the species to which they belong.

A person guilty of an offence under Regulation 43 is liable on summary conviction to imprisonment for a term not exceeding six months or to a fine, or to both.

Wildlife and Countryside Act 1981 (As Amended)

The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) lists species on Schedule 5 for which the Act make it an offence to:

- Intentionally kill, injure or take;
- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included uses for shelter or protection;

- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

Some species receive partial protection under the Act, which limits their protection under the Act to intentional killing or injury.

All wild nesting birds are protected under the Act, making it an offence to:

- Intentionally kill, injure or take any wild bird; and
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

Some bird species are afforded special protection via their inclusion in Schedule 1 of the Act, which makes an offence to intentionally or recklessly disturb any schedule 1 bird building a nest or which is in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird, or whilst such a bird 'leks' (i.e. congregates for community courtship behaviour).

Schedule 9 of the Act makes it an offence to cause any plant listed to grown in the wild, unless all reasonable steps were taken to prevent an offence and due diligence was exercised.

The Act sets out provisions to protect Sites of Special Scientific Interest (SSSI).

Natural Environment and Rural Communities Act 2006

Section 40 of the Act places a legal duty on public authorities (including planning authorities) to have regard to biodiversity conservation in their normal functions (including planning applications).

Under Section 41 of the Act, lists of Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI), of principal importance for the purpose of conserving biodiversity, are produced which serve to guide public authorities in carrying out their functions with consideration for biodiversity conservation.

Wild Mammals (Protection) Act 1996 (as amended)

The Act protects wild mammals against certain cruel acts, including intentional crushing, downing or asphyxiation.

Appendix 2: Toolbox Talk Attendance Sheet

Record of attendance for Toolbox Talk in relation to CEMP biodiversity methods to be employed during works.

Staff Member Name	**Company**	**Role**	**Date Toolbox Talk Received**	By signing I agree to comply with this CEMP and have received a briefing on its contents. **Signature**

Appendix 3: Preliminary Ecological Appraisal Report

Overleaf is the Preliminary Ecological Appraisal Report for the site, which details the baseline ecological features at the site. The PEA report should be read in conjunction with the present CEMP report.

18 & 19 Dianmer Close, Hook

Preliminary Ecological Appraisal Report

Document Control

Client:	Mr Habib Aslam
Project Title:	18 & 19 Dianmer Close, Hook
Report Title:	Preliminary Ecological Appraisal Report
Report Ref.:	P2337_01
Version:	V0
Status:	Final
Revision Comments:	-
Author:	Petrina Harris BSc (Hons), MSc / Tim Elton BSc (Hons) MCIEEM
Technical Review:	Tim Elton BSc (Hons) MCIEEM
Issued to Client:	03 May 2022

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Built structures and trees are assessed within the context of ecological matters only, nothing in this report constitutes structural or arboriculture opinion or advice.

Where/ if this report contains record locations of species protected due to human interference, such as badger (Protection of Badgers Act (1992)) these records are confidential. Prior to release into the public domain any specific mention of the locations of the species must be removed.

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1. Summary

Table 1: Summary

Report Purpose	With reference to the development proposals and the applicable planning policy & legislation, the scope of the present report is to: • Identify key ecological constraints associated with the project. • Identify avoidance, mitigation or compensation measures likely to be required in accordance with the mitigation hierarchy. • Identify any additional surveys that may be required to inform the above. • Identify likely opportunities to deliver ecological enhancement.
Methodology	A desk study was carried out including a study of the UK Government MAGIC[1] website for designated sites of nature conservation, Natural England licensing, and the site in the context of habitat connectivity to the surrounding landscape. The field survey included a Phase 1 Habitat survey of the site, extended to consider protected species. A Preliminary Bat Roost Assessment was also carried out.
Conclusions	**Mitigation Measures** Where hedgerow or tree removal is required, it is recommended that any plants lost through removal should be mitigated for through the planting of native shrub and tree species within the landscaping for the site, at a 1:1 basis. To prevent the killing and injury of reptiles during the development, it is recommended that vegetation and hibernacula clearance at the site is carried out under a Precautionary Working Method Statement for reptiles. Precautionary methods should be implemented during works to protect foraging and commuting badger. Works affecting nesting bird habitat at the site should avoid the nesting bird season of March to August (inclusive), and September in mild years. Where this is not possible, the habitat to be subject to works should be surveyed for nesting birds immediately prior to removal by a suitably experienced ecologist. If nesting birds are recorded, a suitable buffer zone should be defined by the ecologist and implemented until the ecologist confirms the chicks have fledged. If species identification is possible, this can be used to inform the typical egg incubation and fledging period, giving an indication of an appropriate time for re-survey to confirm fledging.

[1] Multi-agency Geographic Information for the Countryside: www.magic.gov.uk.

	To mitigate for the loss of nesting bird habitat, two generic bird boxes should be installed on any retained tree or building on the property. Any construction work that may cause damage to the mammal holes present on site should be done so in a sensitive manner to not cause any unnecessary harm. Any new fencing should include a 13cm square hole at the base to allow for hedgehog migration through the site. **Site Enhancements** The site can be enhanced through additional hedgerow and tree planting, species should be predominantly native woody shrubs. The installation of bird and insect boxes post-development also offers opportunity for enhancement.

2. Introduction

Background

2.1. Elton Ecology Ltd was commissioned by Mr Habib Aslam to conduct a Preliminary Ecological Appraisal (PEA) of the site known as 18 & 19 Dianmer Close, Hook.

Relevant Documents

2.2. The present assessment has been informed by the following documents:

- Proposed Site Layout, John Turner Plan & Design (Drawing No. 09 1026 02C), September 2009

Site description

2.3. The site comprises two residential dwellings with associated outbuildings set within an area of grassland and hardstanding, located at 18 & 19 Dianmer Close, Hook, Royal Wootton Bassett, Swindon, SN4 8EB (Figure 1: Site Location Plan) (central OS grid reference: SU 07697 84485). A dividing wall through the centre of the site from the north to the southeast boundary separates property 18 to the west from property 19 to the east. A drainage ditch is present at the west site boundary.

Development Proposals

2.4. The development proposals include the demolition of the existing outbuildings in the north of the site, and the construction of three new dwellings. The main residential buildings of numbers 18 & 19 will be retained.

Report Purpose and Scope

2.5. With reference to the Development Proposals, the purpose and scope of the present report is to:

- Identify key ecological constraints associated with the project.
- Identify avoidance, mitigation or compensation measures likely to be required in accordance with the mitigation hierarchy.
- Identify any additional surveys that may be required to inform the above.
- Identify likely opportunities to deliver ecological enhancement.

Planning Policy and Legislation

2.6. A summary of biodiversity planning policies and wildlife legislation relevant to the site is provided in Appendix 3: Planning Policy and Legislation Summary. The relevant planning policy and legislation includes:

- National Planning Policy Framework 2021.
- Government Circular ODPM 06/05 Biodiversity and Geological Conservation.
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
- The Wildlife and Countryside Act 1981 (as amended).

- Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and species of principal importance.
- The Hedgerow Regulations 1997;
- Protection of Badgers Act 1992; and
- The Wild Mammals (Protection) Act 1996 (as amended).

2.7. A summary of the key local planning policy and other relevant documents is provided in Table 2 below.

Table 2 Key Local Planning Policy and Relevant Documents

Document	**Relevance**
Wiltshire Core Strategy Adopted January 2015	*'Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale'.* *'All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development'.* *'All development should seek opportunities to enhance biodiversity'.*
Wiltshire Biodiversity Action Plan	*'Wiltshire is a stronghold for bats - existing roosts, hibernation sites and key flight lines are protected.'*

3. Methodology

Personnel

3.1. The survey was carried out by Ecologist Petrina Harris BSc (Hons), MSc. Petrina holds a Natural England Level 1 Bat Licence (CL17) (reference number: 2021-54491-CLS-CLS) and is suitably trained and experiences to undertake Extended Phase 1 Habitat surveys. Petrina is a Qualifying member of CIEEM and is experienced in assisting and undertaking ecology surveys, GIS mapping, and report writing.

Desk Study

3.2. The sources of information and study areas of the desk study data are provided in Table 3.

Table 3: Desk study sources and areas

Feature		**Study Area**	**Data Source**
Designated sites of nature conservation	International (e.g. Special Area of Conservation, Special Protection Area, and Ramsar)	5 km radius of the site boundary	UK Government MAGIC[2] website
	National (e.g. Site of Special Scientific Interest (SSSI), SSSI Impact Risk Zones (SSSI IRZ)), Local Nature Reserves, National Nature Reserves	2 km radius of the site boundary	
Granted Natural England Bat Mitigation Licences		2 km radius of the site boundary	UK Government MAGIC website
The site in the context of habitat connectivity to the surrounding landscape		2 km radius of the site boundary	Satellite and OS map data

Field Survey

Phase 1 Habitat Survey

3.3. The Phase 1 Habitat survey was carried out on the 6th April 2022 and was extended to include an assessment for Natural Environment and Rural Communities Act (2006) Section 41 Habitats of Principal Importance (HPI) and of the sites potential to be used by protected or notable species as described below. The study area included the site boundary and a 30m radius for evidence of mobile protected species such as badger, access permitting. Weather conditions were appropriate for field survey with good visibility.

3.4. The site was walked over, and botanical species lists of representative and notable plant species for each habitat type were recorded. Habitats were classified and mapped with reference to industry guidelines (JNCC, 2010). The nomenclature used for botanical species lists broadly follows that of Stace, (2019). Protected or notable plant species where recorded where observed.

Hedgerow Survey

3.5. During the Phase 1 Habitat Survey, the hedgerow(s) at the site were assessed for their importance under the Hedgerow Regulations 1997 and determined as either species poor (fewer than five woody species per 30m length) or species rich (greater than five woody

[2] Multi-agency Geographic Information for the Countryside: www.magic.gov.uk.

species per 30m length). Notes were also made on other features of the hedgerow such as height and width, ground flora, standard trees, percentage gaps, structure and connectivity.

3.6. A Hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m long. Any bank, wall, ditch or tree within 2m of the centre of the Hedgerow is considered to be part of this habitat, as is the herbaceous vegetation within 2m of the centre.

Amphibians (Including Great Crested Newt)

3.7. The habitats at the site were assessed for their suitability to support amphibians, including a search of the site for ponds and suitable terrestrial habitat. The desk study included a search of ponds within a 250m radius of the site.

3.8. A Great Crested Newt (GCN) Habitat Suitability Index (HSI) was carried out on ponds within 250m of the site boundary (where applicable/ identified via desk study) during the Extended Phase 1 Habitat Survey.

3.9. The HSI was carried out with reference to Oldham et. al., (2000), and as refined by ARG UK, (2010). The HSI provides a numerical index between 0 and 1, whereby 0 indicates unsuitable habitat and 1 indicates optimal habitat. Ten habitat variables 'Suitability Indices (SI)' are assessed, which are known to affect the suitability of a pond for the species, as follows:

- Geographic Location (SI_1)
- Pond area (SI_2)
- Permanence (SI_3)
- Water Quality (SI_4)
- Shade (SI_5)
- Waterfowl (SI_6)
- Fish (SI_7)
- Pond Count (SI_8)
- Terrestrial habitat (SI_9)
- Macrophytes (SI_{10})

3.10. The habitat variables are each assigned a numerical score. The HSI score is then a geometric mean of the ten suitability indices: HSI = (SI1 x SI2 x SI3 x SI4 x SI5 x SI6 x SI7 x SI8 x SI9 x SI10)$^{1/10}$.

3.11. The HSI score result (i.e. the numerical index between 0 and 1) is categorised according to the pond suitability scale presented in Table 4.

Table 4 Pond Suitability Scale for Habitat Suitability Index (HSI)

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

3.12. There is a general positive correlation between HSI scores and great crested newt presence. HSI scores are useful as a guide, however this relationship is not sufficiently strong to determine great crested newt presence/ likely absence.

Badger

3.13. The badger walkover survey included a search for evidence of badger at the site, such as sett entrances (normally 25 to 35cm wide and shaped like a 'D' on its flat edge), large spoil heaps outside sett entrances, bedding, footprints, mammal paths, latrines, hairs, scratching posts, and signs of digging for food or 'snuffle holes'. The survey included a search of the site and 30m radius (access permitting) for badger setts.

Bats – Ground Level Assessment of Trees

3.14. The preliminary Ground Level Bat Roost Assessment of trees was carried out with reference to best practice industry guidelines (Collins, 2016). The study area included all trees within the survey area.

3.15. The survey included a surveyor assessing the tree(s) from ground level aided by binoculars, noting potential bat entry/exit points, potential roosting features (PRFs), and any evidence of bats. The trees were graded for their suitability to support roosting bats, which will inform the need for further survey effort, if required, such as a potential roost feature (PRF) inspection via rope and harness access and/or nocturnal survey.

3.16. The suitability of the trees for roosting bats was then categorised with reference to best practice industry guidelines (Collins, 2016) (Table 5) as either negligible, low, moderate, or high, which informs the need for further survey effort to establish the presence/ likely absence of roosting bats.

Bats - Preliminary Bat Roost Assessment

3.17. The Preliminary Bat Roost Assessment (PBRA) was carried out on the 6th April 2022 with reference to best practice guidelines (Collins, 2016).

3.18. The survey involved a Natural England bat licenced surveyor making a detailed external and internal inspection of the building(s) on-site, compiling information on potential bat entry/exit points, roosting features, and any evidence of bats found (such as actual bat sightings, droppings, urine staining and fur-oil staining). The nomenclature used for bat species lists broadly follows that of Dietz and Kiefer, (2018).

3.19. The PBRA was aided as required by binoculars, a high-powered torch and an endoscope to view features on the building and/ or search accessible cracks and crevices for the presence of bats where required.

3.20. The suitability of the building(s) for roosting bats was categorised with reference to best practice industry guidelines (Collins, 2016) (Table 5: Guidelines for Assessing the Potential Bat Roosting Suitability of Structures and Trees) as either negligible, low, moderate, or high. Suitability grading of buildings requires consideration of the potential roosting features on the building within the context of the suitability of the surrounding landscape to support commuting and foraging bats.

Table 5: Guidelines for Assessing the Potential Bat Roosting Suitability of Structures and Trees (Adapted from Collins, (2016))

Suitability	Description of Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible features likely to be used by roosting bats. An absence of accessible voids, cracks and crevices.	Negligible features likely to be used by commuting or foraging bats. A lack of landscape habitat features.
Low	A structure or tree with a potential roost site which could be used by individual bats, which does not provide enough space, shelter, protection, or appropriate conditions (i.e.	Habitat that could be used by small numbers of commuting bats such as a hedgerow with gaps or unvegetated stream, but

Suitability	Description of Roosting Habitats	Commuting and Foraging Habitats
	temperature, humidity, height above ground level, light levels, disturbance) or suitable surrounding habitat to be used on a regular basis by larger numbers of bats.	isolated (i.e. not very well connected to the surrounding landscape by habitat). Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with a potential roost site that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but is unlikely to support a roost of high conservation status (such as a maternity colony).	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees, and woodland edge. Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Sites which are close to and connected to known roosts.

Bats – Commuting and Foraging

3.21. With reference to Table 5, an assessment of the habitats at the site to support commuting and foraging bats was made, within the context of habitat connectivity to features in the wider landscape. The site was assessed as either negligible, low, moderate, or high suitability for commuting and foraging bats.

Birds

3.22. An assessment of the suitability of the site to support breeding, migrating and wintering birds was made, and the site was searched where accessible and practical to do so for active or historical bird nests.

Hazel Dormouse

3.23. An assessment of the suitability of the habitats at the site to support hazel dormouse was made with reference to Bright et al., (2006), and any incidental sightings of dormouse evidence recorded where encountered.

3.24. Factors increasing suitability for dormouse include habitat features within the known range for the species such as woodland, coppice, and hedgerows with good landscape connectivity and including a diverse mix of trees and shrub species of value to dormouse such as hazel, oak, honeysuckle, and bramble.

Terrestrial Invertebrates

3.25. An assessment was made of the suitability of the habitats at the site to support notable assemblages of invertebrates, such as vegetation structure, vegetation species diversity, deadwood, and host plants/ animals.

Reptiles

3.26. An assessment was made of the suitability of the habitats at the site for reptiles. Optimal habitat for reptiles includes rough grassland, moorland, heathland, woodland and scrub, sub-urban areas such as railway embankments, golf courses and allotments, and sympathetically managed farmland. Favourable features for reptiles include sunny south facing banks for basking, ecotones such as the transition between grassland and scrub, and hibernacula such as stone, log, and brash piles.

Other Mammals

3.27. An assessment of the site to support other mammals including brown hare, harvest mouse, and hedgehog was also made.

Invasive Species

3.28. Invasive plant species such as those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (As Amended) were recorded where encountered during the Phase 1 Habitat survey.

Assessment

3.29. The present assessment has been carried out with reference to best practice guidelines for Preliminary Ecological Appraisal provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017).

Limitations

3.30. It must be noted that survey effort has been made to provide detailed descriptions of the site within the context of potential usage by protected species, however a fully comprehensive assessment and prediction of natural factors cannot be made. The protected species assessment provides a professional view of the likelihood of such species being present and cannot be taken as a definitive presence or absence of the same. Systematic presence/ likely absence surveys for such species, which typically require multiple survey visits, have not been undertaken and are outside of the scope of Preliminary Ecological Appraisal. Such surveys are recommended in the present report if considered proportionate to the potential ecological impacts of the development proposals.

3.31. A full search of crevices and cavities on buildings typically cannot be made without specialist access equipment and in most cases intrusive works, and therefore accessible areas only have been searched for evidence of protected species and a negative result of evidence does not conclusively equate to absence of such species which may occupy inaccessible crevices on the building. However, provided any recommended nocturnal emergence/ re-entry bat survey(s) are undertaken, this is not considered a significant limitation to assessing the presence/ likely absence of roosting bats at the site.

3.32. The Phase 1 Habitat survey was undertaken outside of the optimal survey period of April to October. However, species identification of plants present outside of the optimal period is typically still possible based on the vegetative characteristics. Where additional surveys during the optimal period are required to assess the habitat type present, these are be recommended.

3.33. Third party desk study data is not exhaustive, and an absence or a negative result of a species does not indicate the absence of protected species from the site/ search area.

3.34. All dimensions, locations and distances provided are approximate.

4. Results

Desk Study

Surrounding Landscape

4.1. The surrounding landscape is primarily rural (Figure 2: Surrounding Landscape Plan).

4.2. Habitat features and connectivity in the wider landscape includes hedgerows, woodland blocks, pasture grassland and arable fields throughout.

4.3. Landscape features which may limit habitat quality and connectivity include the M4 motorway approximately 0.2km south of the survey site.

Statutory Designated Sites

4.4. The site does not form part of an international or national designated site for nature conservation.

4.5. A summary of designated sites identified via the desk study are presented in Table 5 below.

Table 6: Summary of Designated Sites.

Site Name	Designation	Description/ Main Reasons for Designation	Distance & Direction from Site
Jubilee Lake	Local Nature Reserve (LNR)	Wetland habitats, ancient woodland, and grassland. Rich in bird life.	0.8km southwest
Restrop Farm and Brockhurst Wood	Site of Special Scientific Interest (SSSI)	Unimproved hay meadows, mature hedgerows, scrub, and ancient woodland	1.6km north

4.6. The site lies within a Site of Special Scientific Interest Impact Risk Zone (SSSI IRZ), requiring the Local Planning Authority to consult with Natural England on any risks which may affect the SSSI sites as a result of certain development types. However, the current development type is not listed in the SSSI IRZ citation as requiring consultation.

Field Survey

Phase 1 Habitat Survey

4.7. The habitats recorded at the site during the Phase 1 Habitat survey are presented in Table 8 and mapped on Figure 3, Phase 1 Habitat Plan.

Table 7: Phase 1 Habitat Survey Results

Habitat Code	Habitat Type	Description	(NERC) Act 2006 HPI*	Photograph Ref No. (Appendix 2: Photographs)
A2.1	Scrub – Dense/Continuous	Dense bramble *Rubus sp.* scrub was present at the north and west site boundaries, and along the wall through the centre of the site.	No	1 & 3
A3	Scattered Trees	Scattered trees were present on site. Species included cherry *Prunus sp.*, lime *Tilia sp.*, hazel *Corylus avellana*, blackthorn *Prunus spinosa*, and apple *Malus sp.*	No	2
A3	Tree Line	A coniferous tree line was present along the length of the west site boundary comprising pine trees.	No	1
B6	Poor Semi-improved Grassland	Poor semi-improved grassland was present throughout the site, the poor semi-improved grassland at property 18 to the west of the stone wall was less managed than at property 19. Species at property 18 included frequent cock's foot *Dactylis glomerata*, *Fescue sp*., creeping buttercup *Ranunculus repens*, broad leaved dock *Rumex obtusifolius,* cleavers *Galium aparine*, moss species, and cow parsley *Anthriscus sylvestris*. Also present was occasional red dead nettle *Lamium purpureum*, daisy *Bellis perennis*, common nettle *Urtica dioica*, and ground ivy *Glechoma hederacea*, with rare dandelion *Taraxacum officinale agg.,* creeping thistle *Cirsium arvense*, lesser celandine *Ranunculus ficaria*, daffodil *Narcissus sp.*, cowslip *Primula veris*, and forget me not *Myosotis sp.* Species at property 19 included frequent cock's foot, Fescue sp., creeping buttercup, and moss species, occasional cow parsley, red dead nettle, daisy, and common nettle, with rarely dandelion, creeping thistle, lesser celandine, and daffodil.	No	1 & 2
C3.1	Other Tall Herb and Fern – Ruderal	Areas of tall ruderal vegetation were present at the north and west site boundaries, and along the wall through the centre of the site and comprised dominant common nettle and locally dominant cleavers.	No	3
J1.4	Introduced Shrub	Areas of introduced shrub were scattered throughout the site. Species included primrose *Primula vulgaris*, daffodil, and pampas grass *Cortaderia selloana*.	No	4
	Hedgerows	For hedgerow survey results, see Table 9 overleaf.		2, 5 & 6
J2.5	Wall	A stone wall was present through the centre of the survey site, with a damaged portion towards building B1 providing access between properties. A second stone wall was present at the southeast boundary of property 18.	No	7 & 8
J2.6	Dry Ditch	A drainage ditch was present at the west site boundary and was dry at the time of survey.	No	9
J3.6	Buildings	Seven buildings were present on site. Outbuildings B1-B4 were subject to a Preliminary Bat Roost Assessment. For PBRA survey results, see Table 11. The two residential dwellings and an associated garage were not subject to a PBRA as these buildings will be retained and not impacted by the works.	No	10-22
J5	Hardstanding	Areas of gravel hardstanding were present at the driveways of both properties at the southeast site boundary. Areas of concrete hardstanding were present throughout the site.	No	10 & 23
	Target Note TN1	Target Note TN1 relates to the sheets of corrugated metal located near the central wall and the south elevation of building B3 and at the stone wall.	No	7
	Target Note TN2	Target Note TN2 related to the allotment area with the poor semi-improved grassland in property 19.	No	24
	Target Note TN3	Target Note TN3 relates to the mammal hole observed near the north site boundary of property 18.	No	25
	Target Note TN4	Target Note TN4 relates to the brash pile in the poor semi-improved grassland of property 18.	No	26
	Target Note TN5	Target Note TN5 relates to the small mammal hole observed in the poor semi-improved grassland of property 18.	No	27

*Natural Environment and Rural Communities Act (2006) Section 41 Habitat of Principal Importance (HPI). As defined with reference to habitat descriptions provided in Maddock, A. (ed) (2011).

Hedgerow Survey

4.8. The results of the hedgerow survey are provided in Table 9.

Table 8: Hedgerow Survey Results

Hedgerow number*	Description	Phase 1 Code	Important under Hedgerow Regulations (1997)	NERC Act HPI*	Photo Number
H1	Approximately 2-3m in height and 1m in width. Species were dominated by box *Buxus sp.* with occasional hazel. Ground flora included occasional lords and ladies *Arum maculatum*, common nettle, and cleavers.	J2.1.2 Intact hedgerow – species poor	No. Boundary of residential dwelling.	No	5
H2	Over 3m in height, 2m in width and dominated by Leyland cypress *Cupressus macrocarpa x Xanthocyparis nootkatensis = X Cuprocyparis leylandii* with rare bramble. Ground flora included occasional ivy *Hedera helix*, and lords and ladies.	J2.1.2 Intact hedgerow – species poor	No. Boundary of residential dwelling.	No	6
H3	Over 3m in height, 2m in width and comprised Leyland cypress.	J2.1.2 Intact hedgerow – species poor	No. Boundary of residential dwelling.	No	2

*See Figure 3: Phase 1 Habitat Plan for hedgerow reference numbers.

Protected/ Notable Species

4.9. The results of the protected/ notable species assessment undertaken during the Extended Phase 1 Habitat Survey are provided in Table 10 overleaf.

4.10. A summary of desk study results is provided. Additional species records were returned by the LERC within the search radius, which are considered unlikely to be impacted by the proposed development and are therefore not included. These include species for which there is no suitable habitat present on site or the surrounding area.

Table 9: Protected/ Notable Species Assessment

Species/ Species Group	Desk Study	Evidence Observed During Extended Phase 1 Habitat Survey	Suitability of Habitats Present
Amphibians (including great crested newt)	One record of Granted European Protected Species Applications relating to great crest newts was noted within 2km of the survey site. The licence allowed for the destruction of a non-breeding resting place for GCN between 2010 and 2012 at a location approximately 1.95km northeast from the survey site. Four Great Crested Newt Class Survey Licence Returns were observed within 2km of the survey site, recording GCN as present at locations approximately 1.3km east, 1.5km east, 1.75km southeast, and 1.85km southeast of the survey site in 2015. One pond survey recorded GCN as present at a location approximately 1.85km northeast of the survey site in 2018.	None	One dry ditch was present at the west site boundary (D1, Photo 9). Three ponds were located within 250m of the site, at approximately 40m east (P1, Photo 28), 160m northeast (P2, Photo 29), and 220m east (P3, Photo 30) of the survey site. Four further drainage ditches were identified during the survey at approximately 60m east (D2, Photo 31), 80m east (D3, Photo 32), 195m south (D4, Photo 33), and 240m east (D5, Photo 34) of the survey site. P1 was an ornamental fishpond, and P2, P3, and D1-D4 were dry at the time of survey. The drainage ditches and brook were considered unsuitable for GCN due to the presence of flowing water when not seasonally dry. The HSI for P1 resulted in a score of 'Average,' however the pond was an ornamental pond with raised sides and plastic lining, and no vegetation at the edges. P1 is therefore considered unsuitable for GCN. See Table 12 for a summary of Habitat Suitability Index Results for P1. Hedgerows, dense scrub, tall ruderal vegetation, and poor semi-improved grassland on site offered suitable terrestrial habitat for amphibians.
Badger	N/A	Well-worn mammal paths were noted at the survey site (Photo 35). However, no evidence of badger was observed. The mammal holes at the site were considered too small for badger occupation.	The site offers suitable habitat for commuting and foraging badger.
Bats – ground level bat assessment of trees	No records of Granted European Protected Species Applications relating to bats were noted within 2km of the survey site.	None	No trees with bat roosting suitability were observed on site.
Bats - preliminary bat roost assessment		For full details of the Preliminary Bat Roost Assessment, see Table 11	
Bats – commuting and foraging		None	The site offered moderate habitat for commuting and foraging bats, comprising linked hedgerows and treelines with access to suitable habitat in the wider landscape.
Birds	N/A	None	The trees, dense scrub, and hedgerows on site offer suitable nesting and foraging habitat for a range of bird species.
Hazel dormouse	N/A	None	The site offers limited commuting, foraging and nest building habitat for this species including dense scrub, hedgerow, and trees. The site is not within an area of dense dormouse populations and has generally poor habitat connectivity to the wider landscape for this species.
Fish	N/A	N/A	The drain present at the west site boundary was dry at the time of survey and therefore unsuitable for fish populations.
Terrestrial invertebrates	N/A	None	The site offers small areas of common and widespread habitats of limited botanical diversity or interest. It is therefore considered unlikely that the site would support notable invertebrate populations.
Otter	N/A	None	The site offers negligible suitability for otter.
Reptiles	N/A	None	Pieces of corrugated metal on the floor at Target Note TN1 and the stone wall through the centre of the site offer suitable hibernacula for reptiles.

			Hedgerows, scrub, poor semi-improved grassland, and the brash pile at Target Note TN4 on site offered suitable habitat for reptiles.
Water vole	N/A	None	The site offers negligible suitability for water vole.
Aquatic Invertebrates (including White-clawed Crayfish)	N/A	N/A	The drain present at the west of the site was dry at the time of survey and therefore unsuitable for aquatic invertebrates including white clawed crayfish.
Other Mammals (Including brown hare, harvest mouse, and hedgehog)	N/A	A medium sized mammal hole likely attributable to rabbits was recorded at Target Note TN3 (Photo 25). A small mammal hole was present within the poor semi-improved grassland of number 18 at Target Note TN5 (Photo 26).	The site offers suitable habitat for hedgehog.
Invasive species	N/A	None	N/A

Table 10: Preliminary Bat Roost Assessment Results

Building Ref	Building Description	Potential Bat Access Points & Potential Roosting Locations	Evidence of Bats Recorded	Suitability Grading	Photo Number
B1	B1 related to the outbuilding to the north of the site, and was approximately 7m in length, 5m in width, and 3m in height to the roof pitch. It comprised of timber panel walls with a pitched roof of corrugated metal. Internally, B1 was open to the roof pitch with no loft void present. The roof structure consisted of timber beams and no lining was present under the roof.	The building was of single material thickness materials lacking in crevices.	None	Negligible	10-14
B2	B2 related to the outbuilding immediately north of B1. The building was approximately 6m in length, 4m in width and 2m in height to the roof pitch. It comprised stone walls with an external render, and a flat roof of bitumen felt. Internally, B2 was open to the roof with no loft void present. The roof structure consisted of timber beams, and timber cladding was present at the roof.	No potential bat access or roosting locations were observed.	None	Negligible	15-17
B3	B3 related to the outbuilding in the northwest corner of the survey site. The building was approximately 10m in length, 5m in width and 3m in height. It comprised Corrugated metal and composite material walls, with a corrugated clear plastic and material mono pitched roof. A corrugated metal panel at the south elevation was laid on the floor, leaving half the elevation open. Internally, B3 was open to the roof with no loft void present. The roof structure consisted of timber beams, and no internal lining was present. The clear plastic roof panels allowed for a large amount of light ingress.	Potential bat access points included through the open south elevation, and through gaps under the corrugated roof sheets. No potential roosting locations were observed.	None	Negligible	18-20
B4	B4 related to the small shed near the stone wall through the centre of the site. The building was approximately 3m in length, 2m in width, and 2m in height to the roof pitch. It was composed of timber panels walls and a pitched roof of bitumen felt lined timber panels. A window was present at the south elevation, and an open doorway was present at the west elevation. Internally, B4 was open to the roof pitch with no loft void present. The internal roof structure comprised the underside of the timber panels. The open doorway and window allowed for a large amount of light ingress.	Potential bat access points included through the gaps in the timber panels at the east elevation and through the open doorway at the west elevation. No potential bat roosting locations were observed, and the light ingress made the building of negligible suitability for roosting bats.	None	Negligible	21 & 22

4.11. The results of the Habitat Suitability Index assessment of ponds accessed within a 250m radius of the site are presented Table 12 below. One pond only (P1) was holding water at the time of survey.

Table 11: Summary of Habitat Suitability Index Results

Pond Number	Distance From Site	HSI Score	HSI Result	Description	Photo Ref
P1	40m east	0.66	Average	Ornamental pond	28

5. Ecological Constraints & Opportunities

5.1. The ecological constraints and opportunities, and recommendations for avoidance, mitigation, or further survey (where required) are provided in Table 13 overleaf.

Table 12: Ecological Constraints & Opportunities

Ecological Constraint	Potential Ecological Impact & Level of Constraint	Potential Avoidance, Mitigation and/or Compensation Measures	Further Survey Required To Inform an Ecological Impact Assessment	Enhancement/ Biodiversity Gain Opportunities
Habitats	The hedgerows on site are of non-native species and low conservation value, however these should be retained where possible. The trees and tree line on site are of moderate conservation value and should be retained where possible.	Where hedgerow removal is required, it is recommended that any shrubs lost through hedgerow removal should be mitigated for through the planting of native shrub species elsewhere within the proposed development. Species can include hawthorn *Crataegus monogyna*, blackthorn, rowan *Sorbus aucuparia,* beech *Fagus sylvatica* and hazel. Where it is not possible to retain trees, any removed trees should be replaced with native tree species on at least a 1:1 basis. Suitable species include rowan, hazel, field maple *Acer campestre,* and beech.	N/A	Additional hedgerow planting on site would provide ecological enhancements. Any additional planting should be of native woody species of value to wildlife. New hedgerows should aim to achieve a mix of at least 5 such species.
Amphibians (including great crested newt) and Reptiles	The site is considered of negligible value for great crested newt due to an absence of suitable ponds within the area. Reptiles are partially protected under the Wildlife and Countryside Act 1981 (as amended), protecting them from killing or injury. There will be some removal of suitable reptile habitat at the site to facilitate the proposed works, comprising the removal of areas of poor semi-improved grassland, dense scrub, tall ruderal vegetation, and hedgerows. There will also be some removal of suitable reptile hibernacula, including the stone wall through the centre of the site and the corrugated metal sheets at Target Note TN1.	To prevent the killing and injury of reptiles during the development, it is recommended that vegetation clearance at the site is carried out under a Precautionary Working Method Statement for reptiles under the supervision of an ecologist, to include staged and directional vegetation removal encouraging the safe displacement of reptiles into retained habitats to the north and west of the site, and a fingertip search for reptiles prior to the removal of suitable hibernacula such as the stone wall and corrugated metal sheeting.	N/A	
Badger	Badgers are afforded legal protection under the Protection of Badgers Act 1992. There will be some removal of suitable commuting and foraging badger habitat at the site to facilitate the proposed works, including the removal of areas of poor semi-improved grassland.	Precautionary methods should be implemented during works to protect foraging and commuting badger. Foundation ditches and other ditches or trenches, which can be hazardous to badgers, should be closed overnight or fitted with sloping boards or steps to allow animals to escape should they become trapped. Concrete should not be left unset overnight, or suitable barriers erected to prevent animals accessing the concrete. Pipework with a diameter greater than 120mm should have the ends closed off overnight to prevent entrapment.	N/A	
Bats	Bats are fully protected as a European Protected Species (EPS) under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).	N/A	N/A	

Birds	Nesting birds are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended). The proposed works will require the loss of nesting bird habitats in the form of hedgerows, dense scrub, and trees.	Works affecting nesting bird habitat at the site should avoid the nesting bird season of March to August (inclusive), and September in mild years. Where this is not possible, the habitat to be subject to works should be surveyed for nesting birds immediately prior to removal by a suitably experienced ecologist. If nesting birds are recorded, a suitable buffer zone should be defined by the ecologist and implemented until the ecologist confirms the chicks have fledged. If species identification is possible, this can be used to inform the typical egg incubation and fledging period, giving an indication of an appropriate time for re-survey to confirm fledging. In the unlikely event that nesting birds are encountered during works, works should cease immediately, and the advice of a suitably experienced ecologist sought. To mitigate for the loss of nesting bird habitat, two generic bird boxes should be installed on any retained tree or building on the property. A suitable model is the *1B Schwegler Nest Box*, one with a 32mm hole, and another with a 26mm hole. The use of woodcrete nest boxes will ensure a longer box lifespan of 20-25 years. Boxes should be hung at a height of 1.5m or higher, and angled so they face away from prevailing wind, the chances of occupation are higher if there is a good tree or hedge cover nearby.	N/A	
Other Mammals	The medium and small mammal holes on site will be impacted under the current proposals. Hedgehog habitat will be fragmented under the current development proposals due to the construction of new boundary fencing.	Any construction work that may cause damage to the mammal holes present on site should be done so in a sensitive manner to not cause any unnecessary harm. Any new fencing should include a 13cm square hole at the base to allow for hedgehog migration through the site.	N/A	
Invertebrates	N/A	N/A	N/A	A method of site enhancement for invertebrates would include the installation of an insect house on site. A suitable model is the National Trust Apex Insect House. Boxes will be hung at a height of less than two meters from the ground or placed in a sheltered position amongst vegetation.

6. Conclusions

Mitigation Measures

6.1. The following avoidance, mitigation and compensation measures should be in place:

- Where hedgerow or tree removal is required, it is recommended that any plants lost through removal should be mitigated for through the planting of native shrub and tree species within the landscaping for the site, at a 1:1 basis.
- To prevent the killing and injury of reptiles during the development, it is recommended that vegetation and hibernacula clearance at the site is carried out under a Precautionary Working Method Statement for reptiles.
- Precautionary methods should be implemented during works to protect foraging and commuting badger.
- Works affecting nesting bird habitat at the site should avoid the nesting bird season of March to August (inclusive), and September in mild years. Where this is not possible, the habitat to be subject to works should be surveyed for nesting birds immediately prior to removal by a suitably experienced ecologist. If nesting birds are recorded, a suitable buffer zone should be defined by the ecologist and implemented until the ecologist confirms the chicks have fledged. If species identification is possible, this can be used to inform the typical egg incubation and fledging period, giving an indication of an appropriate time for re-survey to confirm fledging.
- To mitigate for the loss of nesting bird habitat, two generic bird boxes should be installed on any retained tree or building on the property.
- Any construction work that may cause damage to the mammal holes present on site should be done so in a sensitive manner to not cause any unnecessary harm.
- Any new fencing should include a 13cm square hole at the base to allow for hedgehog migration through the site.

Site Enhancements

- The site can be enhanced through the proposed additional hedgerow planting, species should be limited to native woody shrubs. The installation of an insect house also offers opportunity for enhancement.

7. References

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8. Figures

Figure 1: Site Location Plan (Overleaf)

Figure 2: Surrounding Landscape Plan (Overleaf)

Figure 3: Phase 1 Habitat Plan (Overleaf)

Figure 4: Pond Plan (Overleaf)

Appendix 1: Planning Policy & Legislation Summary

This appendix serves as a summary of relevant policy and legislation. It is not intended to supersede the policy or legislation documents to which it refers, and the relevant full documents should always be consulted prior to decision making.

National Planning Policy Framework 2019

Biodiversity is a material consideration under the National Planning Policy Framework (2019). Relevant text to biodiversity from the NPPF is described below.

In Section 2 of the NPPF 'Achieving sustainable development', paragraph 8(c), the NPPF sets an environmental objective:

"To contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

In Section 15 'Conserving and enhancing the natural environment', the NPPF states that:

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

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; […]
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. […]"

The NPPF, in paragraph 174. sets out that to protect and enhance biodiversity, plans should:

- "Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

In determining planning applications, the NPPF sets guidance that local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted […];

- 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

- 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."

Paragraph 176 states that the following sites should be given the same protection as habitats sites:

- "Potential Special Protection Areas and possible Special Areas of Conservation;

- listed or proposed Ramsar sites; and

- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."

Paragraph 177 states that "The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or projects will not adversely affect the integrity of the habitats site."

Paragraph 180 states that planning policies and decisions should ensure new development is appropriate to its location and take into account likely effects of pollution on the natural environment, and in doing so:

- "Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development; […]

- limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

Government Circular ODPM 06/05 Biodiversity and Geological Conservation

The government circular provides administrative guidance on the application of statutory obligation and legislation relating to planning and nature conservation in England. It complements the National Planning Policy Framework. The document includes guidance on designated sites (international and national), habitats, and protected species.

Relating to protected species and the requirement for their consideration in planning applications, the government circular, in paragraph 98 details that:

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult English Nature [now Natural England] before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned."

Paragraph 99, relating to the requirement and timing of protected species survey and mitigation, the government circular states that:

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted. However, bearing in mind the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development. Where this is the case, the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/or planning obligations, before the permission is granted. In appropriate circumstances the permission may also impose a condition preventing the development from proceeding without the prior acquisition of a [Natural England] licence."

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The term 'European Protected Species' (EPS) is used to describe species listed on Schedule 2 of the The Conservation of Habitats and Species Regulations 2017 (as amended). Regarding these species, Regulation 43 of the Regulations make guilty of an offence a person who:

- "Deliberately captures, injures or kills any wild animal of a European protected species;
- Deliberately disturbs wild animals of any such species;
- Deliberately takes or destroys the eggs of such an animal, or;
- Damages or destroys a breeding site or resting place of such an animal […]"

Regulation 43 defines that the disturbance of animals includes any disturbance which is likely to:

- Impair their ability:
    - to survive, to breed or reproduce, or to rear or nurture their young; or
    - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
    - to affect significantly the local distribution or abundance of the species to which they belong.

A person guilty of an offence under Regulation 43 is liable on summary conviction to imprisonment for a term not exceeding six months or to a fine, or to both.

Wildlife and Countryside Act 1981 (As Amended)

The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) lists species on Schedule 5 for which the Act make it an offence to:

- Intentionally kill, injure or take;
- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included uses for shelter or protection;

- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

Some species receive partial protection under the Act, which limits their protection under the Act to intentional killing or injury.

All wild nesting birds are protected under the Act, making it an offence to:

- Intentionally kill, injure or take any wild bird; and
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

Some bird species are afforded special protection via their inclusion in Schedule 1 of the Act, which makes an offence to intentionally or recklessly disturb any schedule 1 bird building a nest or which is in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird, or whilst such a bird 'leks' (i.e. congregates for community courtship behaviour).

Schedule 9 of the Act makes it an offence to cause any plant listed to grown in the wild, unless all reasonable steps were taken to prevent an offence and due diligence was exercised.

The Act sets out provisions to protect Sites of Special Scientific Interest (SSSI).

Natural Environment and Rural Communities Act 2006

Section 40 of the Act places a legal duty on public authorities (including planning authorities) to have regard to biodiversity conservation in their normal functions (including planning applications).

Under Section 41 of the Act, lists of Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI), of principal importance for the purpose of conserving biodiversity, are produced which serve to guide public authorities in carrying out their functions with consideration for biodiversity conservation.

Wild Mammals (Protection) Act 1996 (as amended)

The Act protects wild mammals against certain cruel acts, including intentional crushing, downing or asphyxiation.

Appendix 2: Photographs



Photo 1: Tree line, dense scrub, and poor semi-improved grassland at propoerty 18.



Photo 2: Scattered trees, poor semi-improved grassland at propoerty 19, and hedgerow H3 at the east site boundary.



Photo 3: Tall ruderal vegetation and dense scrub at the north site boundary.



Photo 4: Introduced shrub present on site.



Photo 5: Hedgerow H1.



Photo 6: Hedgerow H2.



Photo 7: Stone wall through the centre of the site and corrugated metal at Target Note TN1.



Photo 8: Stone wall at the south site boundary.



Photo 9: Dry ditch at the west site boundary D1.



Photo 10: East and south elevations of building B1 and concrete hardstanding.



Photo 11: South and west elevations of building B1.



Photo 12: Internal roof structure of building B1.



Photo 13: Light ingress showing potential access point into building B1.



Photo 15: East and south elevations of building B2.



Photo 16: West elevation of building B2.



Photo 17: Internal view of building B2.



Photo 18: North and east elevations of building B3.



Photo 19: East and south elevations of building B3.



Photo 20: Internal view of building B3.



Photo 21: North and west elevations of building B4.



Photo 22: Internal view of building B4.



Photo 23: Hardstanding at the driveway of property 19.



Photo 24: Target Note TN2 allotment at property 19.



Photo 25: Target Note TN3 mammal hole



Photo 26: Target Note TN4 brash pile.



Photo 27: Target Note TN5 small mammal hole



Photo 28: Pond P1, an offsite ornamental pond.



Photo 29: Pond P2 (dry).



Photo 30: Pond P3 (dry).



Photo 31: Ditch D2 (dry)



Photo 32: Ditch D3 (dry)



Photo 33: Ditch D4 (dry)



Photo 34: Ditch D5 (dry)



Photo 35: Well-worn mammal path on site.