

LAND EAST OF SPITFIRE ROAD, CALNE

Robert Hitchins Ltd.

Ecological Impact Assessment & Biodiversity Net Gain

Version	Created By	Approved By	Date
VF1	Josh Greene	Daniel Wood	22.05.2025

This report has been prepared by the following:

Josh Greene

Josh Greene (JG) BSc (Hons 1st Class) MA
Ecologist

This report has been reviewed and approved by the following:

Daniel Wood

Daniel Wood MCIEEM BSc (Hons 1st Class)
Director

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Contents

1. Quality Assurance	1
2. Executive Summary	2
3. Introduction	5
4. Planning Policy Context	9
5. Legislation	11
6. Methodology	17
7. Ecological Baseline	28
8. Species and Species Groups	33
9. Description of Proposed Development	42
10. Ecological Evaluation	43
11. Biodiversity Net Gain	53
12. Summary and Conclusions	68

Plans

PLAN ECO1	Site Location and Ecological Designations
PLAN ECO2	Ecological Features
PLAN ECO3	Protected Species
PLAN ECO4	Pre-Development Bat Foraging / Commuting Corridors
PLAN ECO5	Post-Development Bat Foraging / Commuting Corridors
PLAN BNG1	Pre-Development Habitats
PLAN BNG2	Post-Development Habitats

Appendices

APPENDIX 1	Illustrative Masterplan
APPENDIX 2	Habitat Photographs
APPENDIX 3	Suitable Examples of Bat Boxes
APPENDIX 4	Suitable Examples of Bird Boxes
APPENDIX 5	DEFRA Statutory Biodiversity Metric Headline Results

1. Quality Assurance

- 1.1. This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing.
- 1.2. The report author is Josh Greene. Josh Greene is an Ecologist with a BSc (Hons) in Zoology and 2 years experience working within the ecological consultancy profession. Josh has been involved in a wide variety of projects ranging from Preliminary Ecological Appraisals (PEA), Ecological Impact Assessments (EcIA), Biodiversity Net Gain (BNG) Assessments and ecology ES chapters within Environmental Impact Assessments (EIA). Josh has also been involved in multiple licence applications in regard to bats. Josh is qualified in River Condition Assessment (RCA) and tree-climbing, and has completed a various training courses focusing on grass identification, Hazel Dormice *Muscardinus avellanarius* and bats.
- 1.3. This report was reviewed by Daniel Wood.
- 1.4. Daniel Wood is a Director for Ecology Solutions and has worked in the ecological consultancy profession for 17 years. He holds a Natural England Level 2 Class Licence for bats (all species), Barn Owl *Tyto alba*, Hazel Dormouse, and Great Crested Newt *Triturus cristatus*. He is a Registered Consultant on the Bat Mitigation Class Licence (BMCL) and the Badger Class Licence. He is Named Ecologist on multiple bat EPS licences, including rare species and high conservation status roosts. He has co-authored published research on badgers and otters. He has acted as an Expert Witness at Public Inquiry and has attended planning appeal hearings. He is a Full Member of CIEEM.

2. Executive Summary

Purpose of Report	To assess the ecological impacts of a proposed development known as 'Land East of Spitfire Road, Calne', clearly identifying any 'significant effects' on important ecological features (including designated sites or protected species) and detailing any mitigation and/or compensation measures required, and how these could be secured.
Site Description	Outline permission is being sought for a residential development (up to 20 dwellings) and associated landscaping, infrastructure and sustainable drainage system (SuDS).
Key Designated Sites	Statutory. The proposed development is located 3.3km northwest of Calstone and Cherhill Downs SSSI, 4.3km north of Morgan's Hill SSSI located and 4.7km southeast of Bencroft Hill Meadows SSSI. The Application Site does not lie within any of the SSSI impact risk zones (IRZs). There are also no Local Nature Reserves (LNR), Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar within 10km of the Application Site. Non-statutory. The Proposed Development is located 0.4km west of Sands Farm Quarry LWS, 1.2km southwest of Penn Wood WWT and 1.8km north of Calne Without Meadows LWS.
Key Habitats	The Application Site (approximately 1.9ha) comprises predominantly species-poor modified grass, with a small area of more species-rich modified grassland, as well as scrub (Willow <i>Salix sp</i> and Bramble), native hedgerows and developed land; sealed surface. The adjacent habitats include a watercourse (Abberd Brook), which is adjacent to the southern boundary (within 2-3m). The Application Site is entirely all medium, low and very low distinctiveness habitats with regard to the Biodiversity Metric, whilst the adjacent watercourse is a high distinctiveness habitat.
Key Species	Bat activity surveys (off-site) have confirmed that the Wider Area supports mainly common and widespread bat species, including Common Pipistrelle <i>Pipistrellus pipistrelle</i> , Soprano Pipistrelle <i>Pipistrellus pygmaeus</i> , Nathusius' Pipistrelle <i>Pipistrellus nathusii</i> , Noctule <i>Nyctalus noctula</i> , Leisler's <i>Nyctalus leisleri</i> , <i>Myotis sp.</i> and Brown Long-eared <i>Plecotus auritus</i> were present within the local area. However, three Annex II species, including Barbastelle <i>Barbastella barbastellus</i> , Greater Horseshoe <i>Rhinolophus ferrumequinum</i> and Lesser Horseshoe <i>Rhinolophus hipposideros</i> were also recorded in very low numbers (each comprising ~0.1% of the total registrations recorded). The southern corridor is considered to be the most important due to its connectivity along Abberd Brook into the wider landscape. One off-site tree was also identified as having potential roosting features for bats adjacent to the eastern boundary of the Application Site. A low population of Slow Worm <i>Anguis fragilis</i> and Grass Snakes <i>Natrix helvetica</i> were recorded within the

	Adjacent Site during previous surveys. The off-site watercourse, adjacent to the southern boundary of the Application Site is considered to offer suitable foraging and / or dispersal opportunities to Otter <i>Lutra lutra</i> and Water Vole <i>Arvicola amphibius</i> .
Key Potential Impacts	The proposed development will result in the loss of approximately 0.69ha of modified grassland, 0.06ha of Bramble scrub and 10m of native hedgerow. A headwall will be installed to divert surface water run-off into the off-site watercourse. This has the potential to increase the amount of soil / silt transportation into the channel (which can have indirect impacts on aquatic flora and fauna), as well as the loss of approximately 2m of natural bank. The northern foraging/commuting corridors will be impacted through the provision of new road, as well as lighting impacts on this corridor.
Key Mitigation / Compensation Measures	Retained scrub and hedgerows will be fenced off and safeguarded during construction. A sympathetic lighting regime in regard to bats is proposed. Precautionary advice is also provided in relation to bats, nesting birds, Badgers <i>Meles meles</i>, reptiles, Otter, Water Voles and Hedgehogs <i>Erinaceus europaeus</i>. The off-site watercourse (Abberd Brook) can be protected through the provision of a silt management plan (which would include measures such as silt ponds, silt traps, silt fences, etc). Additionally, it is recommended to create a setback outfall which would create more natural bank and reduce the impact of a headwall on the watercourse.
Key Enhancements	Habitat creation and enhancements will be provided, including the creation and enhancement of approximately 0.026ha and 0.083ha of mixed scrub respectively, as well as enhancement of approximately 0.091ha of species-poor modified grassland to species-rich other neutral grassland and planting of 38 urban trees (including berry bearing species) within the Application Site. The creation of at least 50m of native hedgerow and 41m of wet ditch is also proposed. Foraging and commuting opportunities for wildlife such as birds, bats, Badgers, Hedgehogs, Otters, Water Voles, amphibians (Great Crested Newts) and reptiles in the form of habitats (i.e. scrub and hedgerows) are retained. New areas of species-rich wildflower grasslands, scrub and wet ditch are proposed, providing new foraging opportunities to a range of wildlife. Further enhancements such as bat boxes, bird boxes, hedgehog highways and log piles for amphibians, reptiles and invertebrates are proposed.

Biodiversity Net Gain	A Statutory Biodiversity Metric has been completed to support the planning application. The Application Site achieves an increase in BNG in excess of the 10% which is now statutory, as of the 12 th February 2024. The proposals would achieve a +33.20% increase in habitat units, +10.29% increase in hedgerow units and +10.19% increase in watercourse units.
Conclusions	The ecological mitigation, compensation and enhancements outlined in this report will comply with the NPPF and relevant policies within the Wiltshire Core Strategy (adopted January 2015) and the Emerging Wiltshire Local Plan 2020-2038.

3. Introduction

3.1. Application Site Background & Proposals

- 3.1.1. Ecology Solutions was commissioned by Robert Hitchins Limited in January 2025 to undertake a suite of ecological surveys to inform a detailed Ecological Impact Assessment (EcIA) of the land known as Land East of Spitfire Road, Calne, hereafter referred to as the 'Application Site'.
- 3.1.2. The Application Site lies adjacent to the south of land which has been given consent (planning ref. PL/2022/07893), hereafter referred to as the 'Adjacent Site'. Ecology Solutions were also involved in the ecological surveys and reports as part of this 'Adjacent Site'.
- 3.1.3. The Illustrative Masterplan for the Application Site is shown on Appendix 1 and comprises an Outline Application for a residential development (up to 20 dwellings) and associated landscaping, infrastructure and sustainable drainage system (SuDS).

3.2. Site Characteristics

- 3.2.1. The Application Site is located to the east of Calne in Wiltshire, and measures approximately 1.9ha. The Application Site is bordered to the north by the Adjacent Site (planning ref. PL/2022/07893), which has been given consent, and currently comprises modified grassland fields and boundary hedgerows. To the east, the Application Site is bordered by agricultural fields, Abberd Brook and waste management facility beyond that. The south of the Application Site is bordered by Abberd Brook, with agricultural fields beyond that. The west of the Application Site is bordered by Spitfire Road / Gregor Drive, and beyond that the urban settlement of Calne.
- 3.2.2. The wider landscape comprises agricultural land in the majority, with Calne to the west. The large settlement of Swindon is situated approximately 15km to the northeast of the Application Site. The land falls within the local planning authority area of Wiltshire Council (WC).
- 3.2.3. The Application Site comprises a modified grassland field bounded by hedgerows to the north and east, scrub and a watercourse to the south and scrub to the west. An existing road is situated along the western boundary, whilst the northern part of the Application Site comprises modified grassland and hedgerows, which form part of the Adjacent Site (planning ref. PL/2022/07893).



Image 1. Application Site location and approximate Application Site boundary shown in red, with the Adjacent Site shown in blue. Map date (2025) Google Imagery.

3.3. Ecological Impact Assessment

- 3.3.1. The habitats and species evaluations and likely effects are made with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment¹.
- 3.3.2. The importance of ecological features has been assessed by carrying out a baseline habitat survey and a suite of phase 2 surveys to determine whether 'Important Ecological Features' are present in the Application Site or its Zone of Influence (ZOI), then comparing their status at the international/national/county/regional/local scale, through the use of available contextual information, to establish the importance of those features in a geographical context. 'Important Ecological Features' can be

¹ CIEEM (2022). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.2 – Updated April 2022.* Chartered Institute of Ecology and Environmental Management, Winchester.

protected species/habitats, species/habitats of conservation concern, and/or designated nature conservation sites.

- 3.3.3. The overall effect of the proposed development on a given feature has been predicted, considering the baseline data collected through desk study and field survey, and the various impacts expected to occur. An assessment has then been made as to whether the effect on each important ecological feature is likely to be significant or not.
- 3.3.4. Significance is the weight that should be attached to effects when decisions are made. For the purpose of EcIA, a likely significant effect is an effect that either supports or undermines biodiversity conservation objectives for important ecological features (which could be species populations/groups of species, habitats, or a designated site), or for biodiversity in general. Effects have been considered significant at a wide range of scales, from international to local.
- 3.3.5. The Mitigation Hierarchy has been adopted to avoid/mitigate, and if required, compensate for significant negative ecological effects. Avoidance includes measures to change the design of the proposed development to avoid an impact occurring.
- 3.3.6. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

3.4. **Evaluation**

- 3.4.1. The importance (or conservation value) of Important Ecological Features (sites, habitats, and species) is assigned according to their scale of importance using the following terms:
- International importance – ecological features of international importance such as SPAs and SACs, and/or sites that support internationally-important populations of certain species.
 - Regional importance – ecological features of regional importance, such as a species population that is of importance at a scale greater than the County but does not meet the criteria for National Importance.
 - County importance – ecological features of county-scale importance, including features that have been designated as local wildlife sites, or meet the criteria for designation as a local wildlife site, and/or county-important populations of species.
 - Local importance – ecological features of local importance, including habitats or species populations listed as being of nature conservation importance (e.g. S41, local Biodiversity Action Plan (BAP), or listed in local planning policy), which are not considered to be of County importance by virtue of the quality, size/number, rarity, the extent to which they are threatened throughout their range, or to their rate of decline.

- 3.4.2. Ecological features which are considered to fall below the threshold to be considered of 'local importance' but are of ecological importance within context of the Site, have been assigned as having 'ecological importance within the context of the Application Site'.

4. Planning Policy Context

- 4.1. The planning policy framework that relates to nature conservation at the site is issued nationally through the National Planning Policy Framework, and locally through the Stroud District Local Plan (adopted November 2015). The proposed development will be assessed in relation to the policies contained within these documents.

4.2. National Policy

National Planning Policy Framework (December 2024)

- 4.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the NPPF, published in March 2012, revised on 24 July 2018 and updated on 19th February 2019, 20th July 2021, 5th September 2023, 20th December 2023 and 19th December 2024. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).
- 4.2.2. The key element of the NPPF is that there should be "a presumption in favour of sustainable development" (paragraph 11). It is important to note that this presumption "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 project will not adversely affect the integrity of the habitats site" (paragraph 195). 'Habitats site' has the same meaning as the term 'European site' as used in the Habitats Regulations 2017.
- 4.2.3. Hence the direction of Government policy is clear; that is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.
- 4.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 187).
- 4.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.
- 4.2.6. Paragraphs 193 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential SPAs, possible SACs, listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or

deterioration of 'irreplaceable' habitats – unless there are 'wholly exceptional reasons' (for instance, infrastructure projects where the public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

- 4.2.7. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

4.3. Local Policy

Wiltshire Core Strategy (Adopted January 2015)

- 4.3.1. Development proposals within the district are currently assessed against saved policies within the Wiltshire Core Strategy (Adopted January 2015). Those pertinent to nature conservation, in the context of the Application Site, are detailed below.
- 4.3.2. **Policy CP50: Biodiversity and Geodiversity.** This policy pertains to the protection of internationally, nationally and locally designated sites, protected species, priority species and habitats, waterbodies and wildlife corridors.
- 4.3.3. Emerging Wiltshire Local Plan 2020-2038 (Pre-Submission Draft September 2023)
- 4.3.4. The Emerging Wiltshire Local Plan 2020-2038 is currently still in the draft stages, and has not been adopted as of the time of this reports submission. The Local Plan reinforces and expands upon those policies of nature conservation concern.
- 4.3.5. **Policy 90: Woodland, hedgerows, and trees.** This policy is concerned with the retention and enhancement of Wiltshire's woodlands, hedgerows and trees.
- 4.3.6. **Policy 93: Green and blue infrastructure.** This policy pertains to the retention and enhancement of Wiltshire's green and blue infrastructure network.

5. Legislation

5.1. The following pieces of legislation are of specific relevance to this assessment:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019².
- The Environment Act 2021
- Wildlife and Countryside Act 1981 (as amended, including by the Countryside and Rights of Way Act 2000)³.
- Natural Environment and Rural Communities (NERC) Act 2006⁴. Section 31 includes list of habitats and species recognised as of 'principal importance' for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires all public bodies to have regard for biodiversity conservation when carrying out their function. This is commonly referred to as the 'biodiversity duty'.
- Water Framework Directive 2000.
- Protection of Badgers Act 1992.

5.2. More detail is provided below pertaining to the protected species relevant to this assessment.

5.3. Badgers

- 5.3.1. The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain, with particularly high populations in the southwest.
- 5.3.2. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a Badger sett an offence. A sett is defined as "any structure or place which displays signs indicating current use by a Badger"⁵. "Current use" of a Badger sett is defined by Natural England as "how long it takes the signs to disappear", or more precisely, to appear so old as to not indicate "current use".
- 5.3.3. In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a Badger.

² Great Britain. *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* No.579 [online]. Available from: <https://www.legislation.gov.uk/ukxi/2019/579/contents/made>

³ Great Britain. *Wildlife and Countryside Act 1981* [online]. Available from: <https://www.legislation.gov.uk/ukpga/1981/69/contents>

⁴ Great Britain. *Natural Environment and Rural Communities Act 2006* [online]. Available from: <https://www.legislation.gov.uk/ukpga/2006/16/contents>

⁵ Protection of Badgers Act 1992 (as amended). Guidance on 'Current Use' in the definition of a Badger Sett <http://programmeofficers.co.uk/Preston/CoreDocuments/LCC332.pdf>

- 5.3.4. 'Interim guidance' issued by Natural England in September 2007 specifically states "it is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed."
- 5.3.5. Further guidance produced by Natural England in 2009 states that Badgers are relatively tolerant of moderate levels of disturbance and that low levels of disturbance at or near to Badger setts do not necessarily disturb the Badgers occupying those setts. However, Natural England's guidance continues by stating that any activity that will, or is likely to cause one of the interferences defined in Section 3 (such as damaging a sett tunnel or chamber or obstructing access to a sett entrance) will continue to be licensed.
- 5.3.6. In addition, this guidance no longer makes reference to any 30m/20m/10m radius as a threshold for whether a licence would be required. Nonetheless, it is stated that tunnels may extend for 20m so care needs to be taken when implementing excavating operations within the vicinity of a sett and to take appropriate precautions with vibrations and noise, etc. Fires / chemicals within 20m of a sett should specifically be avoided⁶.
- 5.3.7. This interim guidance allows greater professional judgement as to whether an offence is likely to be committed by a particular development activity and therefore whether a licence is required or not. For example, if a sett clearly orientates southwards into an embankment it may be somewhat redundant to have a 30m-exclusion zone to the north.
- 5.3.8. It should be noted that a licence cannot be issued until the site is in receipt of a full and valid planning permission and that generally licences are not granted for work between December and June inclusive to avoid disruption to the Badger breeding cycle.
- 5.3.9. Local authorities are obliged to consult Natural England over any work which is considered likely to adversely affect Badgers.

5.4. **Bats**

- 5.4.1. All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These include provisions making it an offence to:
- Deliberately kill, injure or take (capture) bats;
 - Deliberately disturb bats in such a way as to be likely to significantly affect:-
 - (i) the ability of any significant group of bats to survive, breed or rear or nurture their young; or to hibernate; or

⁶ <https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects>

- (ii) to affect significantly the local distribution or abundance of the species concerned;
 - Damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
- 5.4.2. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 5.4.3. The words 'deliberately' and 'intentionally' include actions where a court can infer that the defendant knew 'the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 5.4.4. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 5.4.5. Licences can be granted for development purposes by an 'appropriate authority' under Regulation 55 (e) of the Habitats Regulations. In England, the 'appropriate authority' is Natural England (the government's statutory advisors on nature conservation). European Protected Species licences permit activities that would otherwise be considered an offence.
- 5.4.6. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
- 5.4.7. The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
- 5.4.8. There must be no satisfactory alternative; and
- 5.4.9. The favourable conservation status of the species concerned must be maintained.
- 5.4.10. Licences can usually only be granted if the development is in receipt of full planning permission (and relevant conditions, if any, discharged).
- 5.4.11. Seven species of bat are Priority Species, these are Barbastelle, Bechstein's *Myotis bechsteinii*, Noctule *Nyctalus noctula*, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe *Rhinolophus ferrumequinum* and Lesser Horseshoe *Rhinolophus hipposideros*.

5.5. **Birds**

- 5.5.1. Section 1 of the Wildlife and Countryside Act is concerned with the protection of wild birds, whilst Schedule 1 lists species which are protected by special penalties. All species of birds receive general protection whilst nesting.

5.6. Great Crested Newts

- 5.6.1. The legislative protection afforded to Great Crested Newts and the licensing provisions associated are the same as outlined above with regard to bats.

5.7. Reptiles

- 5.7.1. All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.
- 5.7.2. Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis* receive 'full protection' under the Wildlife and Countryside Act 1981 as well as protection under the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These receive protection from:
- killing, injuring, taking;
 - possession or control (of live or dead animals, their parts or derivatives);
 - damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
 - disturbance of any animal occupying such a structure or place;
 - selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).
- 5.7.3. Neither species would be present within the site given the lack of suitable habitat and geographic location and were not recorded during the surveys.
- 5.7.4. Common Lizard *Zootoca vivipara*, Grass Snake *Natrix helvetica*, Slow Worm *Anguis fragilis* and Adder *Vipera berus* are often termed 'common reptiles' and are only 'partially protected' under the Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from:
- deliberate killing and injuring;
 - being sold or other forms of trading.
- 5.7.5. The habitat of common reptiles is therefore not directly protected. However, because of their partial protection, disturbing or destroying their habitat while they are present may lead to an offence. Therefore, mitigation measures undertaken prior to development that avoids killing or injuring common reptiles will ensure that an offence is avoided.

5.8. Otter

- 5.8.1. Otters *Lutra lutra* are fully protected by law and are protected under the Conservation (Natural Habitats &c.) Regulations 2017, and the Wildlife and Countryside Act 1981, as amended. Taken together, these make it an offence in to:

- Intentionally or deliberately kill, or intentionally injure, an Otter;
- Deliberately disturb an Otter or intentionally or recklessly disturb them in a place used for shelter or protection;
- Damage or destroy a breeding site or resting place of an Otter;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by an Otter;
- Possess or control any live or dead specimen or anything derived from an Otter, unless acquired lawfully; and
- Sell, barter, exchange or transport or offer for sale Otters or part of them.

5.8.2. If proposed work could cause killing, injury or disturbance to this species or damage to its habitats, appropriate mitigation which seeks to avoid these impacts should be devised and implemented under licence from Natural England.

5.9. Water Vole

5.9.1. In England, Water Voles *Arvicola amphibius* are listed on Schedule 5 of the Wildlife and Countryside Act 1981, receiving full protection since 2008.

- The Wildlife and Countryside Act 1981 (as amended), lists the following offences:
- Intentionally killing, taking or injuring a Water Vole (Section 9(1));
- Possessing or controlling any live or dead Water Vole, or any part or derivative (Section 9(2));
- Intentionally or recklessly damaging or destroying a Water Vole's place of shelter or protection (Section 9(4)(a));
- Intentionally or recklessly disturbing a Water Vole whilst it is occupying a structure or place which it uses for shelter or protection (Section 9(4)(b));
- Intentionally or recklessly obstructing access to a Water Vole's place of shelter or protection (Section 9(4)(c));
- Selling, offering for sale, or possessing or transporting for the purposes of sale, any live or dead Water Vole, or any part or derivative, or advertising any of these for buying or selling (Section 9(5)).

5.9.2. The Water Vole Mitigation Handbook⁷ states:

"It is generally agreed that a place of shelter or protection used by water voles includes a network of active burrows and/or any nests that have been

⁷ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

constructed within the burrow system or above ground amongst dense vegetation."

- 5.9.3. The trapping and displacement of Water Voles needs to be carried out under a licence issued by Natural England and in England there is no provision for licensing development activities under the Wildlife and Countryside Act. On that basis, such works need to be carried out under a conservation licence, which requires the applicant to demonstrate a conservation benefit for Water Voles. The conservation benefit can be achieved by delivering a net gain in the amount of habitat available to the Water Vole population, enhancing the quality of the habitat or significantly improving the linkages between Water Vole colonies.
- 5.9.4. In the past, activities aimed to displace Water Voles from a development footprint (in England) were routinely undertaken without a licence, with developers relying on the 'incidental result' defence. Natural England's current stance is that displacement activities are not covered by the 'incidental result' defence, and therefore should be licensed.
- 5.9.5. In England, displacement operations can be carried out under a Class Licence as long as they conform to the licence conditions. The Water Vole Mitigation Handbook highlights the following conditions within the Class Licence:
- Only to be used for displacement over a continuous length of bank not exceeding 50m (for watercourses this equates to 50m on each bank);
 - Only to be used during the period 15th February to 15th April inclusive; and,
 - The scheme must have planning consent (for schemes requiring such consent)
- 5.9.6. Where Displacement operations which do not conform to the conditions set out in the Class Licence the activities may still be permissible in certain circumstances under a site-specific licence issued for the purpose of conservation (and must deliver a conservation benefit for Water Voles.
- 5.9.7. Water Voles are also a Priority Species.

5.10. Hedgehog

- 5.10.1. Hedgehog *Erinaceus europaeus* is Species of Principal Importance for the Conservation of Biodiversity under Section 41 (England) of the NERC Act 2006. The NERC Act 2006 requires the Secretary of State to:
- 5.10.2. "...take such steps as appear... to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any published under this section, or... promote the taking by others of such steps."

6. Methodology

6.1. The methodology utilised for the survey work can be split into five areas, namely desk study, habitat survey, faunal survey, River Condition Assessment (RCA) and Biodiversity Net Gain (BNG) assessment. These are discussed in more detail below.

6.2. Desk Study

6.2.1. In order to compile background information on the Application Site and the surrounding area, Ecology Solutions contacted Wiltshire and Swindon Biological Records Centre (WSBRC) in March 2025 for protected and notable species records and recognised statutory and non-statutory designated sites.

6.2.2. The data search area included a 2km radius centred on the site for protected species records.

6.2.3. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)⁸ database, which uses information held by Natural England and other organisations.

6.2.4. This information is reproduced on Plan ECO1 where appropriate.

6.3. Habitat Survey

6.3.1. The Application Site was surveyed in March 2025 based on UK Habitat Classification (UKHab)⁹ methodology as recommended by Natural England.

6.3.2. UKHab is a comprehensive system for mapping and recording habitats, designed to provide a simple and robust approach to survey and monitoring, and replaces the Phase 1 survey methods. UKHab comprises of a principal hierarchy ranging from level 1 (ecosystems) to level 5 (defined habitats including Annex 1 habitats) when classifying habitats, for this survey, all primary habitats were recorded to level 4 minimum. Secondary habitats are also used to provide further information on a main primary habitat where appropriate.

6.3.3. Using the above method, the Application Site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.

6.3.4. The relative abundance of plant species was assessed according to the DAFOR scale (D=Dominant, A=Abundant, F=Frequent, O=Occasional and R=Rare). The Braun-Blaque scale expresses an abundance score of presence (D=76-100%, A=51-75%, F=26-50%, O=6-25% and R=>1-5%).

⁸ <https://www.magic.gov.uk>

⁹ UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at <https://ukhab.org>)

- 6.3.5. It is important to note that all the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons.
- 6.3.6. The UKHab survey was undertaken on 19th March 2025 in suitable weather conditions and a robust botanical inventory has been collated allowing for a robust identification and classification on the habitats present.

6.4. Faunal Survey

- 6.4.1. Obvious faunal activity recorded during the Application Site survey, such as birds or mammals observed visually or by call, was recorded. Specific attention was paid to any potential use of the Application Site by protected species, priority species or other notable species.
- 6.4.2. In addition to general observations of faunal activity, specific surveys were undertaken to assess habitat suitability for Badgers, Otter and Water Voles, which are detailed within Table 1 below.
- 6.4.3. Experienced ecologists undertook the faunal surveys with regard to established best practice and guidance issued by Natural England. Details of the methodologies are given below.
- 6.4.4. It should be noted that Ecology Solutions are currently undertaking a suite of species surveys within the Application Site, including surveys for bats, birds, reptiles, Otter and Water Vole. The information from these surveys will be provided within an addendum report once they have been completed.

Table 6.1. Faunal surveys undertaken within the Application Site.

Species	Survey Type	Survey Dates
Badger	Walkover	19 th March 2025
Bats	Ground Level Tree Assessment (GLTA)	19 th March 2025
Great Crested Newt	eDNA and Habitat Suitability Index (HSI)	27 th June 2024
Otter	Walkover	19 th March 2025
Water Vole	Walkover	19 th March 2025

Badgers

- 6.4.5. The site and immediate vicinity were subject to specific surveys for Badgers on 19th March 2025.

- 6.4.6. The surveys comprised two main elements: firstly, searching thoroughly for evidence of Badger setts. If any setts were encountered each sett entrance was noted and plotted, even if the entrance appeared disused. The following information was recorded where present:
- i) The number and location of well used or very active entrances if present; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.
 - ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance.
 - iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be, together with the remains of the spoil heap.
- 6.4.7. Secondly, any evidence of Badger activity such as well-worn paths, run-throughs, snagged hair, footprints, latrines and foraging signs was sought and if present recorded so as to build up a picture of the use of the site by Badgers.

Bats

- 6.4.8. All trees within the Application Site were assessed for their potential to support roosting bats. This was done from the ground level using binoculars to visually search for any Potential Roost Features (PRFs). Features typically favoured by bats, or evidence of past use by bats were searched for, including:
- Obvious holes, e.g. rot holes and old Woodpecker holes;
 - Dark staining on tree below a hole;
 - Cavities, splits and / or loose bark from broke or fallen branches, lightning strikes, etc.; and,
 - Very dense covering of mature Ivy *Hedera helix* over the trunk.

Great Crested Newt

- 6.4.9. The land within and surrounding the Application Site was assessed in terms of its habitat quality and suitability to support Great Crested Newts.
- 6.4.10. There are no ponds within the Application Site itself, however there are five ponds (**P1-P5**) within 250m of boundary (see Plan ECO1). Pond **P2** is separated from the Application Site by residential development and Spitfire Way / Gregor Drive, whilst **P3-P5** are separated from the Application Site by Abberd Brook. Therefore, these ponds have been scoped out of any further assessment.

6.4.11. Ecology Solutions attempted to gain access to ponds **P1** in June 2024 to undertake environmental DNA (eDNA) surveys to determine the presence of Great Crested Newts and to provide additional context for the EcIA.

6.4.12. Access was granted for ponds **P1**.

eDNA Survey

6.4.13. Specific eDNA sample surveys of **P1** were undertaken on 27th June 2024.

6.4.14. The eDNA survey involves collecting 15-20 samples of 40ml of pond water at equally spaced locations around the perimeter of a pond. These 15-20 samples are then mixed together in a plastic sample bag to form a single amalgamated sample of the water in the pond. The amalgamated sample is mixed thoroughly to ensure any DNA present does not collect at the base of the sample bag.

6.4.15. 15ml of water is taken from the amalgamated sample and added to 35ml of ethanol within a sample tube, to preserve any DNA present. The sample tubes are then shaken vigorously to mix the water sample and ethanol thoroughly and prevent degradation of any DNA. This technique is repeated six times, using water from the amalgamated sample, such that six sample tubes are filled.

6.4.16. The six sample tubes are then sent off to SureScreen to be analysed using polymerase chain reaction amplification techniques. The analysis involves producing DNA sequences that verify the taxonomic assignment of amplified DNA signals.

6.4.17. Terrestrial habitats within the site itself (and in areas surrounding ponds surveyed) were also searched for Great Crested Newts. This involved searching under logs, rocks and rubbish, which are favoured hiding places.

Habitat Suitability Index (HSI) Survey

6.4.19. Pond **P1** was also subject to a HSI survey 27th June 2024.

6.4.20. An HSI survey is a quantitative measure of habitat quality for Great Crested Newts and is utilised as part of the assessment for a European Protected Species licence application.

6.4.21. An HSI survey is based on ten suitability indices that include:

- Location;
- Pond area;
- Pond drying;
- Water quality;
- Shade;
- Fowl;
- Fish;
- Ponds;

- Terrestrial habitat; and,
- Macrophyte cover.

6.4.22. Scores are attributed to each index and are then converted to suitability index scores on a scale from 0.01 to 1 (1 represents optimal habitat). The ten scores are multiplied together and the tenth root of this number is then calculated to give the overall HSI score.

6.4.23. A score of <0.5 indicates poor habitat, 0.5-0.59 indicates below average habitat, 0.6-0.69 indicates average habitat, 0.7-0.79 indicates good habitat and >0.8 indicates excellent habitat.

Otter

6.4.24. Specific surveys for Otter were undertaken along the off-site watercourse (Abberd Brook) adjacent to the southern boundary of the Application Site on 19th March 2025.

6.4.25. The survey work involved careful searching along the banks of the ditch and looking for any signs of the presence of Otter, including spraints (faeces), slides, footprints or other signs such as holts (places of shelter).

6.4.26. The survey also allowed an assessment of the suitability of the existing habitats present to support Otters, to be undertaken.

Water Vole

6.4.27. Specific surveys for Water Voles were also undertaken along the off-site watercourse (Abberd Brook) adjacent to the southern boundary of the Application Site on 19th March 2025.

6.4.28. The survey work carried out involved careful searching along the banks of suitable water habitat within The Site, using the standard methodology as advocated within The Water Vole Conservation Handbook (1998¹⁰) and The Water Vole Mitigation Handbook (2016¹¹) and recommended by Natural England.

6.4.29. The basis of the surveys undertaken was to determine the presence / absence, and where necessary distribution and abundance, of Water Voles within the stream located within the wider study area, through the detection of signs such as burrows, feeding stations, latrines, faeces, lawns, footprints, and potentially from sightings of the animals themselves.

¹⁰ Strachan, R (1998), 'Water Vole Conservation Handbook' – from Environment Agency

¹¹ Dean, M., Strachan, R., Gow, D. and Andrews, R (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Matthews and Paul Chanin. The Mammal Society, London.

6.5. River Condition Assessment

- 6.5.1. A River Condition Assessment (MoRPH5) survey was carried out on 19th March 2025 by Josh Greene and Cameron Mason (ACIEEM), both qualified RCA surveyors.
- 6.5.2. Full access to Abberd Brook was not possible from both banks, so only the right bank was accessed, however both sides could be surveyed from the one side..
- 6.5.3. The River Condition Assessment tool evaluates river condition within a project site. It incorporates field (MoRPh module) surveys of one or more MoRPh5 subreaches (sets of five contiguous MoRPh module surveys) and a desk-based assessment of the indicative geomorphic type of the river reach containing the project site. MoRPh5 surveys are conducted to cover at least 20% of the river length within the project site, ensuring that no two subreaches are more than four subreach lengths apart, and that one of the subreaches captures the apparently most degraded part of the river channel.
- 6.5.4. In this case, the reach (length of river within the project site) was approximately 160m, therefore one subreach (comprising 5 10-metre modules) was considered sufficient.
- 6.5.5. The subreach that was surveyed included the area in which a headwall is proposed to be installed.
- 6.5.6. The length of each MoRPh module is 10, 20, 30, or 40 m depending, respectively, upon whether the river is <5 m, 5–<10 m, 10–<20 m or 20–<30 m wide.
- 6.5.7. In this case, the river width averaged 1.7 metres, so the selected module length was 10 metres.
- 6.5.8. MoRPH5 indicators are automatically calculated from a contiguous set of 5 MoRPH5 surveys. A total of 35 indicators are calculated for each MoRPH5 survey. Three contribute to the River Type Assessment (A6, A7, A8) and describe the size and type of bed material in the MoRPH5 subreach. Thirty-two contribute to the River Condition Score and describe natural and human-influenced properties of the bank tops (B1 to B5), bank faces (C1 to C10), channel-water margins (D1 to D5) and channel bed (E1 to E12).
- 6.5.9. Positive indicators score 0 to +4 and reflect natural elements. Negative indicators score 0 to -4 and reflect human pressures and interventions.
- 6.5.10. The following indicators, which are extracted from the desk study and field survey data, are used to estimate the indicative river type and preliminary condition score for the subreach:
 - A1 – Braiding index (desk study)
 - A2 – Sinuosity index (desk study)

- A3 – Anabranching index (desk study)
- A4 – Level of confinement (desk study)
- A5 – Valley gradient (desk study)
- A6 – Bedrock features (field survey)
- A7 – Coarsest bed material (field survey)
- A8 – Average alluvial bed material size class

6.5.11. Figure 1 shows the thirteen indicative river types (A to M) that may be found in England, reflecting their bed material, planform, and valley confinement.

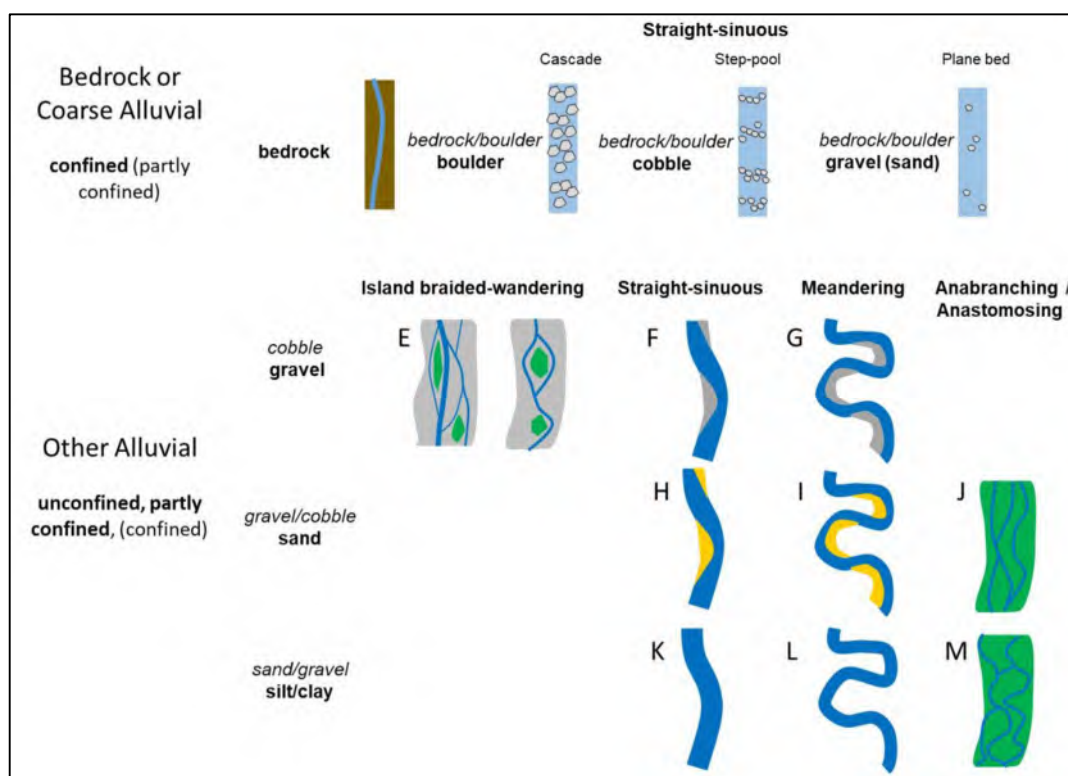


Figure 1. River types that may be found in England. Source: Gurnell et al¹² (2020).

6.5.12. The following indicators are extracted from the MoRPH5 field survey data and used to estimate the preliminary river condition (+ is a positive indicator and – is a negative indicator):

- B1 - Bank top vegetation structure (+)
- B2 -Bank top tree feature richness (+)

¹² Gurnell, A. M., Scott, S. J., England, J., Gurnell, D., Jeffries, R., Shuker, L., Wharton, G. Assessing river condition: A multiscale approach designed for operational application in the context of biodiversity net gain. River Res Applic. 2020; 36:1559-1578.

- B3 - Bank top water-related features (+)
- B4 - Bank top non-native invasive plant species (NNIPS) (-)
- B5 - Bank top managed ground cover (-)
- C1 - Bank face riparian vegetation structure (+)
- C2 - Bank face tree feature richness (+)
- C3 - Bank face natural bank profile extent (+)
- C4 - Bank face natural bank profile richness (+)
- C5 - Bank face natural bank material richness (+)
- C6 - Bank face bare sediment extent (+)
- C7 - Bank face artificial bank profile extent (-)
- C8 - Bank face reinforcement extent (-)
- C9 - Bank face reinforcement material severity (-)
- C10 - Bank top NNIPS (-)
- D1 - Channel margin aquatic vegetation extent (+)
- D2 - Channel margin aquatic morphotype richness (+)
- D3 - Channel margin physical feature extent (+)
- D4 - Channel margin physical feature richness (+)
- D5 - Channel margin artificial features (-)
- E1 - Channel aquatic morphotype richness (+)
- E2 - Channel bed tree features richness (+)
- E3 - Channel bed hydraulic features richness (+)
- E4 - Channel bed physical feature extent (+)
- E5 - Channel bed physical feature richness (+)
- E6 - Channel bed material richness (+)
- E7 - Channel bed siltation (-)
- E8 - Channel bed reinforcement extent (-)

- Eg – Channel bed reinforcement material severity (-)
 - E10 – Channel bed artificial features severity (-)
 - E11 – Channel bed NNIPS extent (-)
 - E12 – Channel bed filamentous algae extent (-)
- 6.5.13. The MoRPH Pro system averages all the positive scores and all of the negative scores, then adds them together to give a preliminary condition score. All the scores are equally weighted, no individual indicators are given more (or less) weight than others.
- 6.5.14. The preliminary condition score, estimated from the field survey of the 5-module subreach, is combined with the indicative river type, estimated from the reach-scale desk study, to assign a final condition score.
- 6.5.15. The final condition scores are as follows:
- 1 – Poor
 - 2 – Fairly Poor
 - 3 – Moderate
 - 4 – Fairly Good
 - 5 – Good
- 6.5.16. In 2021, with the release of Biodiversity Metric v3.0, a final stage was added to the River Condition Assessment for unconfined or partly confined, alluvial rivers. The River Shape index concerns the degree to which a river is hydrologically/ecologically connected to its flood plain.
- 6.5.17. These are both calculated from the channel dimensions recorded in the 5 MoRPh Surveys
- 6.5.18. Average width = Average MoRPh width
- 6.5.19. River shape = (Average MoRPh width) / (Average (water depth + lower bank height)).
- 6.5.20. River shape is used to assess the likelihood of a surveyed channel being sufficiently overdeep to adversely affect its hydrological/ecological lateral connectivity.
- 6.5.21. If River Shape has a value of < 2 the surveyed section of river is almost certainly overdeep.
- 6.5.22. If River Shape has a value of < 4 the surveyed section of river is highly likely to be overdeep, especially if your average MoRPh width is greater than 10 m.

- 6.5.23. If River Shape has a value of > 4 the surveyed section of river is not likely to be overdeep.
- 6.5.24. The final condition score is inputted in the Rivers Tab in the Biodiversity Metric, to provide an assessment of river condition.

6.6. Biodiversity Net Gain Assessment

- 6.6.1. A BNG assessment is a methodology used to assess whether any plan or project is capable of delivering measurable contributions to local biodiversity as a result of the proposals.
- 6.6.2. This is achieved by undertaking a review of the measured biodiversity value of the site prior to construction works (i.e. the baseline), and comparing it to what can be delivered, post-development. The intention being to secure a measurable net gain to biodiversity when compared over the baseline situation.
- 6.6.3. This net gain can either be achieved directly through site-based means (i.e. included within the planning boundary) or delivered as an off-site measure through bespoke off-site habitat creation or in certain cases, the purchasing of biodiversity credits through a credit broker.
- 6.6.4. In order to undertake a BNG assessment of the main development site only, the most recent version of the Defra Biodiversity Metric 'Statutory Defra Biodiversity Metric' (hereafter, referred to as the 'Metric') has been applied to the Application Site.
- 6.6.5. The methodology for undertaking the BNG is based on the guidance provided within the User Guide¹³ published by Defra, in addition to the application of professional judgement.
- 6.6.6. The Metric works by assigning credits to the habitats located within the Development Site (both baseline and post-development). These credits are then used as a proxy to determine the ecological value of the site.
- 6.6.7. The respective credit score of each habitat is gauged by calculating key parameters that influence the habitats reported value. These are as follow:
- Habitat type / distinctiveness;
 - Habitat area;
 - Habitat condition; and,
 - Strategic significance.

¹³ Natural England (2024). *The Statutory Biodiversity Metric, User Guide, Department for Environmental, Food and Rural Affairs*

- 6.6.8. For either created or enhanced habitats, the additional main parameters are applied;
- Habitat target type / distinctiveness;
 - Habitat target condition;
 - Time till target condition; and,
 - Difficulty of creation / enhancement.
- 6.6.9. The value for hedgerow / treeline habitats and ditch / watercourse habitats is calculated separately, however follow a similar working methodology as those described for area-based habitats above.
- 6.6.10. The recorded baseline and development proposals for the Application Site have been assessed against the above identified parameters and most recent Condition Assessment Criteria (CAC) provided by Defra. The most recent baseline is outlined in full within Chapters 7 and 11 and the post-development proposals for the site are summarised in Chapter 11 below as well as being highlighted in more detail within the relevant landscape plans.

Limitations

- 6.6.11. Biodiversity Metrics provide a way of measuring the biodiversity value of a site pre-development, and comparing it to what it will be, post- development. This is based on several parameters and the application of the most recent version of the guidance provided.
- 6.6.12. This is most obviously highlighted by the fact that Metrics do not currently take into consideration measures directly relating to protected or notable species. It is only interested in the proposals from a purely mathematical perspective which is limited solely to habitats. For instance, the provision of a bespoke mitigation strategy that would, for example, see the inclusion of a variety of amphibian habitats to aid population success, will not necessarily score commensurate with the real value as it will simply assess the habitats in isolation and not that of the bigger picture.
- 6.6.13. A further example of this would be that there is no mechanism currently in place that would reward schemes for installing several faunal specific features, such as bat and bird boxes or hibernacula.
- 6.6.14. Whilst Biodiversity Metrics can be considered a helpful and guiding tool when assessing the BNG of a site, for a number of reasons including those outlined above, they shouldn't be the sole approach adopted when considering the validity of the site proposals in the context of local and national biodiversity planning policy.

7. Ecological Baseline

7.1. Designated Sites

Statutory Sites

- 7.1.1. There are no statutory designated sites of nature conservation value within or immediately adjacent to the Application Site. There are three Sites of Special Scientific Interest (SSSI) within 5km of the Application Site.
- 7.1.2. The nearest SSSI is Calstone and Cherhill Downs SSSI located approximately 3.3km southeast of the Application Site which is separated by open countryside, residential areas and roads. It is designated an SSSI for its extensive area of herb-rich chalk grassland of exceptional botanical quality which supports diverse populations of invertebrates including a nationally rare cricket.
- 7.1.3. The next nearest SSSI, designated for its chalk grassland and botanical richness, is Morgan's Hill SSSI located approximately 4.3km south of the Application Site. Morgan's Hill SSSI also supports many butterfly species including several uncommon plant species. It is separated from the Application Site by open countryside, residential areas and roads.
- 7.1.4. Bencroft Hill Meadows SSSI is located 4.7km northwest of the Application Site and is designated for its botanical quality on unimproved pasture. This SSSI is separated from the Application Site by a residential area, open countryside and roads.
- 7.1.5. The Application Site does not lie within any of the SSSI impact risk zones (IRZs).
- 7.1.6. There are no Local Nature Reserves (LNR), Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar within 10km of the Application Site.

Non-statutory Sites

- 7.1.7. There are no non-statutory sites within the Application Site; however, there are three Local Wildlife Sites (LWS) within 2km of the Application Site boundary.
- 7.1.8. The closest non-statutory site is Sands Farm Quarry LWS which is located 0.4km east of the Application Site and is separated by fields, Abberd Brook and roads. The next closest is Penn Wood WWT reserve located 1.2km north of the Application Site and is separated by fields, a solar farm and roads. The final LWS within 2km of the Application Site is Calne Without Meadows LWS, located approximately 1.8km south and is separated by urban development and open countryside.

7.2. Priority Habitats

- 7.2.1. There are no Priority Habitats within or immediately adjacent to the Application Site

7.3. Habitats

- 7.3.1. The Application Site has been subject to ecological surveys on 19th March 2025. The vegetation present enabled the habitat types to be satisfactorily identified, and an accurate assessment of the ecological interest of the habitats to be undertaken.

Background information

- 7.3.2. The WSBRC returned records of the Priority Species Cornflower *Centaurea cyanus* from a 100m grid square approximately 0.6km east of the Application Site in 2021. The next closest record returned was of the Schedule 8 Species Bluebell *Hyacinthoides non-scripta* (only in respect of section 13(2) of the Wildlife and Countryside Act 1981) from a 1km grid square approximately 1km east of the Application Site in 2022. The next closest

- 7.3.3. None of the above species were recorded within the Application Site.

- 7.3.4. The following main habitat / vegetation types were identified during the latest site visit on 19th March 2025:

- Modified grassland (g4);
- Willow scrub (h3j);
- Bramble scrub (h3d);
- Developed land; sealed surface (u1b);
- Native hedgerows (h2a); and,
- Other rivers and streams (r2b).

- 7.3.5. The locations of these habitats are shown on Plan ECO2 and detailed below. Pictures of the habitats can be found at Appendix 2.

Modified Grassland (g4)

- 7.3.6. The majority of the Application site comprises modified grassland which is used for agriculture (i.e. cut for hay).

- 7.3.7. The grassland within the main field of the Application Site (**G1**) is species-poor, with a varied sward length and heavily damaged ground from machinery. It is dominated by Perennial Rye-grass *Lolium perenne*, Creeping Bent *Agrostis stolonifera*, Yorkshire Fog *Holcus lanatus* and Cock's-foot *Dactylis glomerata*. Herbaceous species include Creeping Buttercup *Ranunculus repens* and White Clover *Trifolium repens*.

- 7.3.8. Two small areas of grassland are present within the southeast corner of the Application Site. **G2** is also species-poor with a varied sward. It comprises

similar species to **G1**, as well as Common Reed *Phragmites australis*, Blackthorn *Prunus spinosa*, Common Nettle *Urtica dioica*, Willowherb *Epilobium sp.*, Hogweed *Heracleum sphondylium*, Creeping Thistle *Cirsium arvense* and Common Sorrel *Rumex acetosa*.

- 7.3.9. Area **G3** is a more species-rich area of modified grassland with a varied sward and a single Goat Willow *Salix caprea* present. Species present are similar to **G1**, comprising Perennial Rye-grass, Soft Rush *Juncus effusus*, Cock's-foot, Hogweed, Common Nettle, Creeping Buttercup and Dock *Rumex sp.*
- 7.3.10. The modified grasslands are low distinctiveness habitats, with G1 and G2 in Poor Condition and G3 in Moderate Condition, with regard to the Statutory Biodiversity Metric.

Willow Scrub (h3j)

- 7.3.11. An area of Willow *Salix sp.* scrub (**S3**) is present along the eastern end of the southern boundary, adjacent to the off-site watercourse.
- 7.3.12. The Willow scrub is a medium distinctiveness habitat in Poor Condition with regard to the Statutory Biodiversity Metric.

Bramble Scrub (h3d)

- 7.3.13. Two areas of Bramble *Rubus fruticosus* scrub are present within the Application Site.
- 7.3.14. **S1** is the remnants of a defunct hedgerow in the west of the Application Site, with mature Hawthorn *Crataegus monogyna* present, and dominated by Bramble. Other species present include *Salix sp.* and Blackthorn, as well as Willowherb *Epilobium sp.*, Lord's-and-Ladies *Arum maculatum*, Common Nettle, Cleavers *Galium aparine*, Hogweed and Ivy *Hedera helix* present in the ground flora.
- 7.3.15. **S2** is a small area of Bramble within the southeastern corner of the Application Site.
- 7.3.16. The Bramble scrub is a medium distinctiveness habitat with regard to the Statutory Biodiversity Metric.

Developed Land; Sealed Surface (u1b)

- 7.3.17. The Application Site includes hardstanding in the form of an existing road within the western extent.
- 7.3.18. The area of hardstanding is of negligible ecological value and is a very low distinctiveness habitat with regard to the Statutory Biodiversity Metric.

Hedgerows (h2a)

- 7.3.19. The Application Site itself includes four hedgerows (**H2-H5**), as well being bounded by one off-site hedgerow **H1**. Each of these hedgerows is described in Table 7.1 below.

Table 7.1. Hedgerow descriptions

Ref	Type	Woody Species	Other Species / Ground Flora	H x W x L (m)	Shape / Management / Additional Notes
H1	Native hedgerow	Dominated by Hawthorn, with Blackthorn, Ash <i>Fraxinus excelsior</i> , Hazel <i>Corylus avellana</i> and Field Maple <i>Acer campestre</i> also present.	Frequent Bramble trailing through, with Common Nettle, Cleavers, Field Speedwell <i>Veronica persica</i> , Stone Parsley <i>Sison amomum</i> and Dock <i>Rumex sp.</i> present in the ground flora.	2 x 1 x 85	Off-site hedgerow which is face and top cut from the opposite side, but unmanaged on the Application Site side. Very leggy. Blackthorn suckering out from the hedgerow. This hedgerow is part of the Adjacent Site.
H2	Native hedgerow	Dominated by Blackthorn, with occasional Hawthorn also present.	Frequent Bramble trailing through, with the same ground flora present as H1 .	3-4 x 3-4 x 95	Unmanaged with no gaps or leggy. Blackthorn encroaching into the field.
H3	Native hedgerow	Dominated by Hawthorn with frequent Blackthorn too.	Frequent Bramble, trailing through, with frequent Perennial similar ground flora as above, as well as Lord's-and-Ladies present in the ground flora.	2-3 x 3 x 40	Unmanaged with no gaps or leggy. Blackthorn encroaching into the field.
H4	Native species-rich hedgerow	Abundant Blackthorn and Hawthorn are present, as well as occasional Ash, Dog Rose <i>Rosa canina</i> , Goat Willow and Elder <i>Sambucus nigra</i> .	Frequent Bramble trailing through, with similar ground flora to H1 .	3-5 x 3-4 x 140	Unmanaged, with no gaps or leggy. This hedgerow is part of the Adjacent Site.
H5	Native hedgerow	Abundant Blackthorn and Hawthorn are present, as well as occasional Dog Rose.	Frequent Bramble trailing through, with similar ground flora to H1 .	4 x 3-4 x 190	Unmanaged, with no gaps or leggy. This hedgerow is part of the Adjacent Site.

7.3.20. Hedgerows are adopted as a Habitat of Principle Importance through Section 41 of the NERC Act.

7.3.21. The native hedgerows are low distinctiveness habitats with regard to the Statutory Biodiversity Metric, whilst the native species-rich hedgerow are of medium distinctiveness, although all provide structural diversity and foraging opportunities to a range of faunal species (described in detail within 'Species and Species Groups' below where relevant). Similarly, being recognised as S41, these off-site hedgerows are consequently considered to be of ecological importance at the local level.

Other Rivers and Streams (r2b)

- 7.3.22. An off-site watercourse, Abberd Brook, is present adjacent to the south of the Application Site.
- 7.3.23. The watercourse is choked and shaded by scrub comprising Bramble, Willow *Salix sp.* and Hawthorn, with steep vertical banks which contain very little marginal vegetation. No aquatic vegetation is present either. The river type is K – straight / sinuous.
- 7.3.24. The watercourse has been severely degraded due to historic agricultural management, having been straightened and (likely) deepened.
- 7.3.25. The watercourse is a high distinctiveness habitat with regard to the Statutory Biodiversity Metric, and was assessed as being in 'Fairly Poor' condition (reduced from 'Moderate' due to it being over deep).

8. Species and Species Groups

- 8.1. General observations were made during the surveys of any faunal use of the Application Site, with specific attention paid to the potential presence of protected, priority, or otherwise notable species. Specific surveys have been completed regarding Badgers, Great Crested Newts, Otters and Water Vole.
- 8.2. Previous protected species survey data for the Adjacent Site (associated with Planning Application ref. PL/2022/07893) which borders the north of the Application Site are also summarised below where applicable, with further details available within the Ecological Assessment produced by Ecology Solutions (dated September 2022; Planning Application ref. PL/2022/07893)
- 8.3. It should be noted that Ecology Solutions are currently undertaking a suite of species surveys within the Application Site, including surveys for bats, birds, reptiles, Otter and Water Vole. The information from these surveys will be provided within an addendum report once they have been completed.

8.2. Badgers

- 8.2.1. A Badgers survey was undertaken within the Application 19th March 2025.

Background Information

- 8.2.2. The WSBRC returned nine records of Badger from within 2km of the Application Site from the last 10 years. The closest record of a Badger was returned from approximately 0.5km north of the Application Site in 2015.
- 8.2.3. During the walkover of the Application Site on 19th March 2025, no evidence of Badger setts or latrines was observed.

Adjacent Surveys

- 8.2.4. Surveys for Badgers were conducted in September 2021, April 2022 and June 2022, with no evidence of Badger setts or latrines observed.
- 8.2.5. Considering the habitats present within the Application Site, it is deemed that Badgers could utilise the site for foraging, however, there are not considered to be any active setts present.

8.3. Bats

- 8.3.1. The Application Site offers moderate value to bats, comprising modified grassland, scrub, hedgerows and hardstanding.

Background Information

- 8.3.2. No recent records of bats were returned from within the Application Site itself by WSBRC, however there were 63 records from the last 10 years within 2km of the site. The nearest record was of multiple species including Serotine, Daubenton's, Noctule, Common Pipistrelle and Soprano Pipistrelle from a 10m grid square in 2021 approximately 1.1km west of the Application Site.

- 8.3.3. There were seven records of bat roosts within the last 10 years, with the closest and most recent record approximately 1.4km west of Application Site in 2020. This was a day roost of two Common Pipistrelle.

Ground Level Tree Assessment

- 8.3.4. During the site walkover on 19th March 2025, one off-site tree (**BP1**), located adjacent to the eastern boundary, was identified as having features able to support roosting bats, which is described below. The location of this tree is shown on Plan ECO3.
- 8.3.5. Tree **BP1** is a veteran Willow *Salix sp.* that has split and partially fallen, leaving many cracks and cavities within the main trunk. This tree is considered to have potential roosting features for multiple bats (PRF-M).



Image 2. Off-site tree **BP1**, showing roosting features.

Adjacent Surveys

- 8.3.6. The land adjacent to the north of the Application Site was subject to a number of surveys (including activity and automated) by Ecology Solutions between 2021 and 2022. A summary of the findings is given below, however full details of the surveys can be found within the Ecological Assessment produced by Ecology Solutions (ref. PL/2022/07893; dated September 2022).
- 8.3.7. **Activity Surveys.** Activity surveys within the Adjacent Site were undertaken in October 2021 and April, May, June and July 2022, and recorded 7 species with low to moderate levels of activity (an average of 135 registrations per month), with July 2022 having the highest levels of activity (231 total registrations). The majority of the activity recorded pertained to Common Pipistrelle, Soprano Pipistrelle and Noctule, and low levels of activity from Nathusius' Pipistrelle, Leisler's, *Myotis sp.*, and Brown Long-eared.
- 8.3.8. **Automated Surveys.** Automated surveys were also conducted in October 2021 and April, May, June and July 2022. Overall, the vast majority of activity recorded on the automated detectors was from Common Pipistrelle bats with more occasional registrations by Soprano Pipistrelle, Nathusius' Pipistrelle, Noctule, Leisler's, *Myotis sp.* and Brown Long-eared. Very rare registrations of Lesser and Greater Horseshoe and Barbastelle were also recorded. Overall bat activity recorded is generally low to moderate for Common Pipistrelle and low for other species with peaks on certain nights/months (e.g. Soprano Pipistrelle and Noctule).
- 8.3.9. **Overall Summary.** Across both the activity and automated surveys carried out within the Adjacent Site, 10 bat species were recorded in total, including three Annex II species, though their presence was infrequent and at very low levels.

8.4. **Otter and Water Voles**

- 8.4.1. Although the Application Site itself does not contain any riparian habitats, the off-site watercourse (Abberd Brook) adjacent to the south of the Application Site was surveyed on 19th March 2025, with regard to Otter and Water Voles.

Background Information

- 8.4.2. There were six records returned by WSBRC of a Eurasian Otter within 2km of the Application Site in the last 10 years. The closest record was from a 10m grid square approximately 1.2km northeast of the Application Site in 2023, recorded from a field observation and associated with Abberd Brook.
- 8.4.3. Two records were also returned of the European Water Vole within 2km of the Application Site in the last 10 years, with both being approximately 1.4km southwest of Application Site in 2015 and 2020, recorded from a field observation.

Walkover Survey

- 8.4.4. During the walkover survey, no evidence of Otter or Water Voles was observed along the wet ditch.

Habitat Suitability Index

A habitat suitability index (HSI) assessment of the wet ditch was carried out during the walkover survey in regard to Water Voles. The HSI assessment concluded that the wet ditch was 'suitable but poor' for Water Voles. This was due to the vertical banks and lack of suitable marginal vegetation.

- 8.4.5. Based on the background information, Otter and Water Voles considered to be utilising upstream and downstream habitats of the off-site Abberd Brook, however they are not considered likely to be utilising the Application Site itself.

8.5. Other Mammals

Background Records

- 8.5.1. There were 252 records of the Priority Species West European Hedgehog *Erinaceus europaeus* returned from within 2km of the Application Site in the past 10 years.
- 8.5.2. There was also one record returned of the Priority Species Polecat *Mustela putorius* from a 10m grid square approximately 1.6km south of the Application Site in 2023.
- 8.5.3. Five records were returned of the Priority Species Brown Hare *Lepus europaeus* from within 2km of the Application Site, between 2015 and 2017.
- 8.5.4. A single record was also returned of a European Beaver *Castor fiber* from a 2km grid square in 2024 which includes the Application Site.
- 8.5.5. Although it is considered that the scrub hedgerows offer suitable habitat for small mammals such as Hedgehog and Polecat, the grassland suitable foraging habitat for Brown Hare, and the off-site watercourse suitable habitat for Beavers, it is not considered that these species would be reliant on the habitats present within the Application Site. In any event, suitable habitat for these species will be retained post-development.

8.6. Birds

- 8.6.1. No evidence of any notable birds was recorded within the Application Site.

Background Information

- 8.6.2. The WSBRC returned a number of records of notable bird species within 2km of the Application Site in the past 10 years. Bird species recorded include Priority Species Reed Bunting *Emberiza schoeniclus*, Dunnock *Prunella modularis* and Bullfinch *Pyrrhula pyrrhula*, Redlist species Swift *Apus apus*,

Greenfinch *Chloris chloris*, House Martin *Delichon urbicum*, Herring Gull *Larus argentatus*, Linnet *Linaria cannabina*, Grey Wagtail *Motacilla cinerea*, Woodcock *Scolopax rusticola* and Mistle Thrush *Turdus viscivorus*, Redlist and Priority Species Skylark *Alauda arvensis*, Hawfinch *Coccothraustes coccothraustes*, Cuckoo *Cuculus canorus*, Yellowhammer *Emberiza citrinella*, Grasshopper Warbler *Locustella naevia*, Yellow Wagtail *Motacilla flava*, Spotted Flycatcher *Muscicapa striata*, House Sparrow *Passer domesticus*, Marsh Tit *Poecile palustris*, Starling *Sturnus vulgaris*, Song Thrush *Turdus philomelos*, Ring Ouzel *Turdus torquatus* and Lapwing *Vanellus Vanellus*, Redlist, Schedule 1 and Priority Species Common Scoter *Melanitta nigra*, Schedule 1 species Kingfisher *Alcedo atthis*, Peregrine *Falco peregrinus*, Hobby *Falco subbuteo*, Brambling *Fringilla montifringilla*, Red Kite *Milvus milvus*, Snow Bunting *Plectrophenax nivalis*, Firecrest *Regulus ignicapilla*, Green Sandpiper *Tringa ochropus* and Barn Owl *Tyto alba*, Schedule 1 and Priority Species Black Redstart *Phoenicurus ochruros*, and Schedule 1 and Redlist species Redwing *Turdus iliacus* and Fieldfare *Turdus pilaris*.

8.7. Amphibians (Great Crested Newt)

- 8.7.1. There are no ponds within the Application Site itself, however there are five ponds (**P1-P5**) within 250m, one of which (**P1**) is bounded by the Application Site Boundary, and is part of the Adjacent Site (Planning Application ref. PL/2022/07893; see Plan ECO1).
- 8.7.2. Ponds **P1-P3** are all SuDS features that have been constructed in the past seven years as part of the neighbouring developments. At the time of survey (September 2024) this pond was observed to be dry.
- 8.7.3. Ponds **P4** is a large pond adjacent to a waste management facility, whilst **P5** is a small pond within a woodland belt.
- 8.7.4. Ponds **P3-P5** are separate from the Application Site by Abberd Brook, and **P2** is separated by residential development and a road.
- 8.7.5. The modified grassland within the Application Site provides very limited terrestrial habitat for Great Crested Newts, while the hedgerows and scrub provide some suitable refuge opportunities.

Background Information

- 8.7.6. The WSBRC returned six records from within 2km of the Application Site in the past 10 years. The closest record returned of a Great Crested Newt was from a 10m grid square approximately 0.55km east of the Application Site in 2022. This record is separated from the Application Site by Abberd Brook. Other recent amphibian records returned were of Common Frog *Rana temporaria* 60m east of the Application Site in 2017 and Common Toad *Bufo bufo* from approximately 0.5km north in 2020.

eDNA Survey

- 8.7.7. Access was granted for pond **P1** which returned a negative eDNA result for the presence of Great Crested Newts on 27th June 2024.

8.7.8. HSI Survey

- 8.7.9. Pond **P1** was also subject to a HSI survey on 27th June 2024. Pond **P1** is an attenuation feature encompassed by the Application Site boundary, but lies off-site within the Adjacent Site. The HIS score for this pond has been calculated at 0.81, indicating the pond offers excellent habitat for Great Crested Newts.

Table 8.1. HSI results table

Pond	P1
Geographic Location	1
Pond Area	0.9
Pond Permanence	1
Water Quality	0.33
Shade	1
Water Fowl Effect	1
Fish Presence	1
Pond Density	0.7
Terrestrial Habitat	0.67
Macrophyte Cover	0.9
HSI Score	0.81

- 8.7.10. Therefore, due to the negative eDNA result from P1, and the lack of records within 250m of the Application Site, it is not considered likely that this species would be present within the Application Site or impacted by the Development Proposals. As such, there will be no further consideration for this species in this report.

8.8. Reptiles

Background Information

- 8.8.1. The WSBRC returned a total of 10 records from within 2km of the Application Site within the past 10 years. Seven records of Slow Worm were returned, with the closest record returned from a 1km grid square in 2017, which includes the east off the Application Site. Three records of Grass Snake were also returned, again with the closest record returned from a 1km grid square in 2017, which includes the east off the Application Site.

Previous Surveys

- 8.8.2. Reptile surveys were previously conducted by Ecology Solutions in the Adjacent Site between April and May 2022. These surveys recorded a peak count of two Slow Worms and three Grass Snakes (see Plan ECO3).
- 8.8.3. The majority of the grassland, scrub and hedgerows within the Application Site are considered to offer potential to support reptile species.

8.9. Invertebrates

Background Information

- 8.9.1. A total of 189 records were returned from within 2km of the Application Site, including Priority Species Black Oil-beetle *Meloe proscarabaeus*, Small Heath *Coenonympha pamphilus*, Wall *Lasioommata megera*, Knot Grass *Acrionicta rumicis*, Beaded Chestnut *Agrochola lychnidis*, Green-brindled Crescent *Allophytes oxyacanthae*, Mouse Moth *Amphipyra tragopoginis*, Dusky Brocade *Apamea remissa*, Deep-brown Dart *Aporophyla lutulenta*, Sprawler *Asteroscopus sphinx*, Centre-barred Sallow *Atethmia centrigo*, Mottled Rustic *Caradrina morpheus*, Small Square-spot *Diarsia rubi*, September Thorn *Ennomos erosaria*, Dusky Thorn *Ennomos fuscantaria*, Galium Carpet *Epirrhoe galiata*, Small Emerald *Hemistola chrysoprasaria*, Rosy Rustic *Hydraecia micacea*, Shoulder-striped Wainscot *Leucania comma*, Brindled Beauty *Lycia hirtaria*, The Lackey *Malacosoma neustria*, Powdered Quaker *Orthosia gracilis*, Large Wainscot *Rhizedra lutosa*, Shaded Broad-bar *Scotopteryx chenopodiata*, White Ermine *Spilosoma lubricipeda*, Buff Ermine *Spilosoma lutea*, Hedge Rustic *Tholera cespitis*, Feathered Gothic *Tholera decimalis*, Blood-vein *Timandra comae* and Cinnibar *Tyria jacobaea*, as well as the Schedule 5 and Priority Species Marsh Fritillary *Euphydryas aurinia*.
- 8.9.2. Adult Black Oil-beetle feed on Lesser Celendine *Ranunculus ficaria*, Soft Grasses *Poaceae*, Dandelion *Taraxacum officinale* and Buttercups *Ranunculus sp.*
- 8.9.3. The larval foodplants of each of the above butterfly and moth species are detailed in Table 8.2 below.

Table 8.2. Larval foodplants of each species of butterfly and moth.

Species	Larval Foodplants
Small Heath	Fescues <i>Fetuca sp.</i> , Meadow-grasses <i>Poa sp.</i> and Bents <i>Agrostis sp.</i>
Wall	Grasses in the genera <i>Festuca</i> , <i>Bromus</i> , <i>Deschampsia</i> , <i>Poa</i> , <i>Dactylis</i> and <i>Brachypodium</i> .
Knot Grass	Herbaceous species including Knotgrass <i>Polygonum aviculare</i> , Broad-leaved Dock <i>Rumex obtusifolius</i> and Plantains <i>Plantago sp.</i> , as well as woody species such as Bramble and Hawthorn.

Beaded Chestnut	Feed on low plants when small, later consuming the leaves of various trees and shrubs (e.g. <i>Prunus sp.</i> , <i>Salix sp.</i> , <i>Achillea sp.</i> , and <i>Ranunculus sp.</i>).
Green-brindled Crescent	Hawthorn and Blackthorn.
Mouse Moth	Willow <i>Salix sp.</i>
Dusky Brocade	Various grasses including Reed Canary-grass <i>Phalaris arundinacea</i>
Deep-brown Dart	Various grasses and Hawthorn
Spawler	Hazel, Oak <i>Quercus sp.</i> , Ash and Willow <i>Salix sp.</i>
Centre-barred Sallow	Ash buds and leaves.
Mottled Rustic	Nettle <i>Urtica sp.</i> and Dandelion <i>Taraxacum officinale</i>
Small Square-spot	Willow <i>Salix sp.</i> , Raspberry <i>Rubus idaeus</i> and <i>Vaccinium sp.</i>
September Thorn	Oak <i>Quercus sp.</i> , Birch <i>Betula sp.</i> and Lime <i>Tilia sp.</i>
Dusky Thorn	Ash.
Galium Carpet	Lady's Bedstraw <i>Galium verum</i> , Heath Bedstraw <i>Galium saxatile</i> and Hedge Bedstraw <i>Galium mollugo</i> .
Small Emerald	Traveller's Joy <i>Clematis vitalba</i>
Rosy Rustic	Dock <i>Rumex sp.</i>
Shoulder-striped Wainscot	Various grasses, especially Cock's-foot <i>Dactylis glomerata</i>
Brindled Beauty	Birch <i>Betula sp.</i> , Hawthorn, Limes <i>Tilia sp.</i> , Elms <i>Ulmus sp.</i> , Willow <i>Salix sp.</i> and Alder <i>Alnus sp.</i>
The Lackey	Hawthorn and Blackthorn.
Powdered Quaker	Willows <i>Salix sp.</i> , Black Poplar <i>Populus nigra</i> , Bog Myrtle <i>Myrica gale</i> , Blackthorn, Meadowsweet <i>Filipendula ulmaria</i> , Common Fleabane <i>Pulicaria dysenterica</i> , Purple Loosestrife <i>Lythrum salicaria</i>
Large Wainscot	Bases of stems and the roots of Common Reed
Shaded Broad-bar	Clover <i>Trifolium sp.</i> and Vetches

White Ermine	Common Nettle and Dock <i>Rumex sp.</i>
Buff Ermine	Herbaceous species including Common Nettle and woody species including Honeysuckle <i>Lonicera periclymenum</i> , Hop <i>Humulus lupulus</i> and Birch <i>Betula sp.</i>
Hedge Rustic	Various grasses, including Mat-grass <i>Nodus stricta</i> and Hair-grass <i>Deschampsia sp.</i>
Feathered Gothic	Mat-grass and Sheep's Fescue <i>Festuca ovina</i>
Blood-vein	Dock <i>Rumex sp.</i> , Common Sorrel <i>Rumex acetosa</i> and Knotgrass
Cinnibar	Common Ragwort <i>Jacobaea vulgaris</i> and Groundsel <i>Senecio vulgaris</i>

- 8.9.4. Given the botanical species present within and adjacent to the Application Site, it is considered that the habitats present offer suitable opportunities for Small Heat, Wall, Knot-grass, Beaded Chestnut, Green-brindled Crescent, Mouse Moth, Deep-brown Dart, Sprawler, September Thorn, Buff Ermine, Centre-barred Sallow, Dusky Thorn, Mottled Rustic, Small Square-spot, Rosy Rustic, Shoulder-striped Wainscot, Brindled Beauty, Powdered Quaker, Large Wainscot, Shaded Broad-bar, White Ermine, Blood-vein and The Lackey. However, none of these species are likely to be reliant upon the habitats found within the Application Site considering that similar habitats and opportunities are present in the wider landscape. Invertebrates are therefore considered to be of negligible value.

8.10. Other Species

- 8.10.1. No evidence of any other protected or notable species were recorded during the surveys.

Background Information

- 8.10.2. No other notable species records were returned by the WSBRC from within the Application Site itself, or the wider search radius.

9. Description of Proposed Development

- 9.1. The Illustrative Masterplan for the Application Site is shown on Appendix 1 and comprises a residential development (up to 20 dwellings) and associated landscaping, infrastructure and sustainable drainage system (SuDS).
- 9.2. Around half of modified grassland will be lost to the development, with minor losses to the scrub and hedgerows; however, the entirety of the developed sealed surface is being retained.

10. Ecological Evaluation

10.1. The Principles of Ecological Evaluation

- 10.1.1. The guidelines for ecological evaluation produced by CIEEM propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.
- 10.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe¹⁴. These are broadly used across the United Kingdom to rank sites so priorities for nature conservation can be attained. For example, current Sites of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.
- 10.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units are also incorporated into the ranking procedure.
- 10.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.
- 10.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with a comparatively poor species diversity, common in the south of England, may be of importance at its northern limits, say in the border country.
- 10.1.6. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the international level.
- 10.1.7. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

¹⁴ Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of Biological Sites of National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

10.2. Habitat Evaluation

Designated Sites

Statutory Sites

- 10.2.1. The site does not fall within and is not adjacent to any statutory designated sites (see Plan ECO1).
- 10.2.2. The Application Site is well separated from Calstone and Cherhill Downs SSSI. This SSSI is designated for its ecological features, but due to the separation from the Application Site, it is not considered that the Development Proposals would have any adverse effects on this SSSI.
- 10.2.3. The Application Site is also well separated from Morgan's Hill SSSI. This SSSI is designated for its ecological features, but due to the separation from the Application Site, it is not considered that the Development Proposals would have any adverse effects on this SSSI.
- 10.2.4. The Application Site is also well separated from Bencroft Hill Meadows SSSI. This SSSI is designated for its ecological features, but due to the separation from the Application Site, it is not considered that the Development Proposals would have any adverse effects on this SSSI.
- 10.2.5. The nearest LNR, SAC, SPA and Ramsar sites are all over 10km from the Application Site, and therefore it is not considered that the Development Proposals would have any adverse effects on these designated sites.
- 10.2.6. **Potential Impacts.** None.
- 10.2.7. **Mitigation and Enhancements.** None required.
- 10.2.8. It should be noted however, that open space is being provided within the Application Site, and therefore, it is considered that no further mitigation is required to offset any recreational pressure from the Proposed Development.

Non-statutory Sites

- 10.2.9. There are no non-statutory designated sites within the Application Site itself.
- 10.2.10. The Application Site lies 0.4km west of Sands Farm Quarry LWS, which is separated by fields, Abberd Brook and roads, 1.2km southeast of Penn Wood WWT, which is separated by fields, a solar farm and roads, and 1.8km north of Calne Without Meadows LWS, which is separated by urban development and open countryside.
- 10.2.11. **Impacts.** It is not considered that the Development Proposals will have any significant recreational impacts on Sands Farm Quarry LWS, considering it is not publicly accessible. Recreational impacts to Penn Wood WWT and Calne Without Meadows LWS are considered possible, however the increase in recreation from the Proposed Development, given its small nature (up to 19

dwelling only) is not considered to be a significant increase over the current level of recreational pressure these sites receive.

- 10.2.12. Indirect impacts (such as dust impacts) on Penn Wood WWT and Sands Farm Quarry LWS is considered unlikely but possible.
- 10.2.13. **Mitigation and Enhancements.** Standard engineering practice in respect of pollution control, as part of the development proposals will negate any potential effects and any potentially detrimental effects through dust contamination of the LWS during construction will be mitigated through standard industry best practice measures. Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There should not be any excess to potentially contaminate local watercourses.
- 10.2.14. On this basis, it is not considered that any detrimental effects (direct or indirect) will arise as a result of the proposals at the site to any non-statutory site of nature conservation interest.
- 10.2.15. A number of additional statutory and non-statutory designated sites are located in the wider area, but no significant effects (direct or indirect) are anticipated.

Habitats

- 10.2.16. The majority of habitats within the Application Site are of low / very low distinctiveness (with regard to the Biodiversity Metric), being dominated by modified grassland and developed land; sealed surface (i.e. existing roads), with smaller areas of medium distinctiveness habitats also present (i.e. scrub and hedgerows). The habitats adjacent to the Application Site are of relatively greater ecological value in the context of the Application Site, and comprise high distinctiveness habitats with regard to the Biodiversity Metric, namely Abberd Brook watercourse.

Modified Grassland

- 10.2.17. The areas of modified grassland located within the Application Site are of relatively low ecological value, being a low distinctiveness habitat with regard to the Biodiversity Metric, and comprising mainly common and widespread species. The majority of the modified grassland is subject to frequent management for agricultural purposes.
- 10.2.18. **Potential Impacts.** The majority of this habitat will be lost entirely as part of the proposals. Given the low distinctiveness of these habitats, no likely significant effects are anticipated. However, mitigation and enhancements have been put forward as part of the wider Biodiversity Net Gain delivery (see Chapter 11 below).
- 10.2.19. **Mitigation and Enhancements.** It is recommended that the losses of modified grassland are offset by the creation of species-rich grassland within the Application Site, sown with a native seed mixture (such as Emorsgate's Standard General Purpose Meadow Mixture EM2) and subject to a suitable

management regime, to increase the floristic diversity of the local area accordingly.

10.2.20. Scrub

10.2.21. The areas of scrub are of relatively greater ecological value in the context of the Application Site, and are of medium distinctiveness in regard to the Statutory Biodiversity Metric. This scrub offers suitable foraging and nesting opportunities for birds, as well as foraging and refuge opportunities for other wildlife.

10.2.22. **Potential Impacts.** Losses to the scrub are proposed.

10.2.23. **Mitigation and Enhancements.** It is recommended that the losses of scrub are offset by the creation and/or enhancement of scrub through the provision of native species of local provenance, or those of benefit to wildlife, wherever possible. This will increase the species-diversity of the scrub within the Application Site.

10.2.24. Additionally, improved management practices are recommended, such as cutting to create a scalloped edge and more species-rich and longer grasslands to provide better edge habitats.

Hedgerows

10.2.25. The hedgerows are of relatively greater ecological value in the context of the Application Site, and are of low / medium distinctiveness in regard to the Biodiversity Metric. These hedgerows offer suitable foraging and nesting opportunities for birds and foraging, roosting and dispersal/navigational opportunities for wildlife.

10.2.26. **Potential Impacts.** Only minor losses to hedgerows are proposed.

10.2.27. **Mitigation and Enhancements.** New hedgerow planting is proposed within the Application Site. It is recommended that the proposals utilise native species of local provenance, or those of benefit to wildlife, wherever possible.

10.2.28. It is recommended that all retained hedgerows within and adjacent to the Application Site be fenced at canopy width (as required) according to the current British Standards before construction work commences, to protect roots from compaction. Fences should remain in place until construction work is complete within the vicinity of these hedgerows and trees.

Watercourse (Abberd Brook).

10.2.29. The watercourse adjacent to the southern boundary is of relatively greater ecological value in the context of the Application Site, and is a high distinctiveness habitat with regard to the Biodiversity Metric. The watercourse offers suitable foraging and navigational opportunities for wildlife.

10.2.30. **Potential Impacts.** The watercourse is retained however, a headwall is proposed to enable surface water to run into the stream (approximately 2m

of bank lost). Indirect impacts from laden silt and surface runoff are also likely in the construction phase.

- 10.2.31. **Mitigation and Enhancements.** To mitigate impacts of laden silts and surface runoff from the construction site entering the watercourse, it is recommended that standard engineering safeguards, such as interceptor fencing is installed to negate this low risk, where necessary.
- 10.2.32. A setback-outfall is recommended to reduce the impacts on the stream bank from a headwall. The area around the outfall, headwall and wet ditch should be planted up with aquatic / marginal vegetation immediately following creation to help stabilise the ground and minimise erosion. This, alongside the creation of a new wet ditch, will create further aquatic habitat within and adjacent to the Application Site, and therefore it is considered that no further mitigation or enhancement is required.

Developed Land; Sealed Surface (Hardstanding)

- 10.2.33. The areas of hardstanding are of negligible ecological value,
- 10.2.34. **Potential Impacts.** There will be no losses to the areas of hardstanding as part of the Development Proposals.
- 10.2.35. **Mitigation and Enhancements.** None required.

10.3. Faunal Evaluation

Badgers

- 10.3.1. **Potential Impacts.** There are no Badger setts present within the Application Site, although it is considered that Badgers could occasionally utilise the habitats present for foraging and navigational purposes. Impacts to this species are considered to be neutral at the Site level.
- 10.3.2. **Mitigation and Enhancements.** Prior to any construction works, if more than 6 months elapses from the time of the most recent Badger surveys, then an updated check for any evidence of Badgers will be conducted within the site. Should any setts be discovered within the Application Site that would be impacted by the development, then an appropriate strategy for mitigation will be devised and a licence secured from Natural England if necessary.
- 10.3.3. To ensure that no impacts occur to Badgers during any construction activities all contractors working on the site should be briefed regarding the potential presence of Badgers.
- 10.3.4. Any trenches or deep pits within the site that are to be left open overnight should be covered or provided with a means of escape should a Badger enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface.
- 10.3.5. Any trenches or pits should be inspected each morning to ensure no Badgers have become trapped overnight. Should a Badger become trapped in a

trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped Badger be encountered Ecology Solutions or another suitably qualified ecologist should be contacted immediately for further advice.

- 10.3.6. The storage of topsoil or other 'soft' building materials on site should be given careful consideration. Badgers could adopt such mounds as setts, which would then be afforded the same protection as established setts. Such mounds should be regularly inspected to check for use by Badgers.
- 10.3.7. The proposed development will maintain commuting and foraging opportunities around the boundaries, as well as providing new species-rich grassland and tree planting which includes fruiting species.

Bats

- 10.3.8. **Potential Impacts – Roosting Bats.** The single off-site tree **BP1** which has been assessed to have PRF-M is not directly impacted by the Proposed Development, and is well buffered from the built form, with scrub planting and species-rich grassland proposed adjacent. Therefore, it is not considered there will be any significant impacts on this tree or any potential bats that may be roosting.
- 10.3.9. **Potential Impacts – Foraging / Commuting Bats.** From the results of the Adjacent Site surveys, generally of common and widespread bat species was present within the local area, however three Annex II species were also recorded in very lower numbers. It is considered that the hedgerows, scrub and off-site watercourse provide elevated value to foraging and commuting bats in the context of the Application Site. These hedgerows and watercourse are to be retained, with the exception of a partial loss of hedgerow to facilitate a new access road. Loss of scrub will be greater, however, retained scrub will be enhanced to provide better edge habitats and higher species-richness.
- 10.3.10. There currently exists four potential commuting/foraging corridors within the Application Site; northern, eastern, western and southern. The eastern, southern and western corridors will be retained, although lighting from the proposed development may cause indirect impacts. The northern corridor will be intersected by the new road into the Application Site.
- 10.3.11. **Mitigation and Enhancements.** A sympathetic lighting regime associated with the new proposals is recommended to minimise light spillage into key areas, such as the retained and new hedgerows, scrub and trees, in order to retain suitable foraging and navigation opportunities for bats in the form of 'dark corridors'. A sympathetic lighting regime could be achieved through the use of warm white spectrum LED lights, which produce less light spillage than other types of lighting and have no low / no UV content, or UV-filtered lights. Illuminance should be below 0.2lux on the horizontal plane and below 0.4lux on the vertical plane along the corridors of greatest importance, i.e. the southern corridor. In addition, the spillage of the light can be reduced further through use of low-level lights, the employment of lighting 'hoods' which will direct light below the horizontal plane, preferably with no upward tilt and the use of short-timer motion sensors for any external lighting. Such lighting

measures (and other appropriate design measures, e.g. planting of trees either side of roads) can also be applied to points where roads cross existing hedgerows to facilitate the passage of bats and minimise/avoid any fragmentation.

- 10.3.12. The majority of the commuting/foraging corridors within the Application Site are not considered to be significantly impacted by the Development Proposals (see Plan ECO4). Planting of large specimen trees either side of where the road intersects the northern corridor would help to facilitate the passage of bats and maintain this corridor.
- 10.3.13. As an enhancement, it is recommended that five bat boxes (see Appendix 3 for suitable examples), are erected on new dwellings and positioned out of reach of opportunistic predators such as cats. These models of bat box are known to be attractive to a number of the smaller bat species, including Pipistrelle and Noctule. (known from the wider area). This measure will provide enhanced roosting opportunities within the site.

Birds

- 10.3.14. **Potential Impacts.** The majority of suitable nesting habitat will be retained with the exception losses to areas of scrub, and ground-nesting opportunities within the grassland. The only species recorded within the background records which will nest within the modified grassland is Skylark. It is deemed only limited nesting opportunities for Skylark exist within the Application Site, due to the agricultural management of the grassland, and lack of tussocky sward.
- 10.3.15. Similarly, the majority of the suitable foraging habitat (e.g. the adjacent SuDS, woodland, trees and hedgerows) will be retained, with only losses to the foraging opportunities within the modified grassland, as well as the scrub.
- 10.3.16. **Mitigation and Enhancements.** In order to avoid any direct impact to nesting birds, the clearance of the grassland, and any other suitable nesting habitat, should be undertaken outside of the bird breeding season (March-August inclusive). Should this not be possible potential nesting habitat is subject to a check survey immediately prior to its removal by an experienced ecologist. Should any nesting birds be identified then the nest should be fully safeguarded in situ and subject to a disturbance buffer of at least 5 metres and only removed once it has been confirmed any fledglings have left the nest.
- 10.3.17. As an enhancement, it is recommended that tree planting throughout the Application Site include berry bearing species (such as Rowan).
- 10.3.18. As a further enhancement, it is recommended that five bird nest boxes (see Appendix 4 for suitable examples) be erected on suitable new buildings and positioned out of reach of opportunistic predators such as cats. These will provide new nesting opportunities for a range of birds. Using nest boxes of varying designs would maximise the species complement attracted to the sites and, where possible, could be tailored to provide opportunities for House Sparrow, Swift and Great Tit, that are known from the local area.

Great Crested Newts

- 10.3.19. Surveys within **P1** of the Adjacent Site returned negative eDNA results for the presence of GCN.
- 10.3.20. It is therefore not considered that GCN are present within the Application Site, especially considering the lack of suitable habitat, with only limited refuge opportunities present..
- 10.3.21. **Potential Impacts.** It is considered that the hedgerows, scrub and longer sward grassland within the Application Site offer some suitable habitat for amphibians, although none of the habitats within the Application Site lie within the core territory of any known breeding ponds. These habitats are also to be retained and/or enhanced as part of the Development Proposals. As such, it is not considered this species is present within the Application Site.
- 10.3.22. **Mitigation and Enhancements.** Given the assessment of the adjacent ponds and the habitats present within the Application Site, it is considered unlikely that any adverse impacts would occur on GCN from the proposed development.

Reptiles

- 10.3.23. **Potential Impacts.** Slow Worm and Grass Snake were recorded during surveys within the Adjacent Site. It is therefore considered likely that reptiles are utilising the Application Site. Overall, impacts are considered to be minor negative at the site level in regard to reptiles.
- 10.3.24. **Mitigation and Enhancements.** Species-rich grassland with a longer sward are proposed, as well as enhancement of the on-site scrub to create better edge habitats. It is also recommended that refuges, such as log piles are created to provide new shelter and hibernation opportunities for reptiles.

Hedgehog

- 10.3.25. **Potential Impacts.** No Hedgehogs have been recorded within the Site during any of the survey work completed. Hedgehogs are known to be in the local area and Application Site provides some suitable habitat for this Priority Species. Negative impacts are considered to be minor negative at the site level.
- 10.3.26. **Mitigation and Enhancements.** Although no evidence of Hedgehog was recorded within the site, given there are known records within the local area, it is recommended that the development be mindful of potential impacts to this mammal species and that all contractors are briefed regarding their possible presence.
- 10.3.27. Precautionary measures as listed above with regard to Badgers may equally serve to safeguard Hedgehogs, e.g. any trenches or deep pits that are to be left open overnight should be provided with a means of escape should a Hedgehog enter and daily morning checks of trenches/pits.

- 10.3.28. The corridors along the eastern, southern and western boundaries as part of the development proposals would maintain habitat for Hedgehogs should they utilise the site.
- 10.3.29. As above for reptiles, log piles are recommended to provide hibernation opportunities for Hedgehogs and small mammals. Hedgehog highways are also recommended within the gardens of the new dwellings.

Otter

- 10.3.30. **Potential Impacts.** No evidence was recorded during the March 2025 survey of the off-site watercourse (Abberd Brook), however background records returned evidence of Otter using Abberd Brook, further upstream. Therefore, it is considered likely that this species would be utilizing the off-site watercourse to disperse and forage.
- 10.3.31. A headwall is proposed to divert surface water into the watercourse from the Application Site.
- 10.3.32. **Mitigation and Enhancements.** Implementation of best practice methods and effective engineering solutions will be employed to ensure that contaminated runoff is prevented from entering the watercourse, during both the construction and operational phases. This will insure no indirect impacts will occur on this species as a result of the development.
- 10.3.33. The provision of a set-back outfall would also provide mitigation to the direct impacts of the headwall on the watercourse, and provide new aquatic habitat which can be utilised by spawning fish, and warm, shallow water is used as nursery habitat by juvenile fish, which in turn will enhance the foraging opportunities of Otter.
- 10.3.34. The terrestrial habitat which lies north of the watercourse will also be enhanced and will include measurements such as the creation of wildflower grassland and tree planting, which will provide an overall benefit to wildlife, including Otter, over the existing situation.
- 10.3.35. Additionally, a new wet ditch is proposed to be created within the Application Site, which will be planted with species-rich marginal vegetation, providing new foraging opportunities.

Water Vole

- 10.3.36. **Potential Impacts.** No evidence was recorded during the March 2025 survey of the off-site watercourse (Abberd Brook), and a HSI of the watercourse returned a 'suitable, but poor' classification for Water Vole suitability. However background records returned evidence of Water Vole downstream of the Application Site. Therefore, it is considered that this species could potentially be utilizing the off-site watercourse to disperse and forage, however it is unlikely they will be utilizing the habitats within the Application Site itself.

- 10.3.37. **Mitigation and Enhancements.** Implementation of best practice methods and effective engineering solutions will be employed to ensure that contaminated runoff is prevented from entering the watercourse, during both the construction and operational phases. This will insure no indirect impacts will occur on this species as a result of the development.
- 10.3.38. The provision of a set-back outfall would also provide mitigation to the direct impacts of the headwall on the watercourse, and provide new aquatic habitat which can be utilised by Water Vole.
- 10.3.39. Additionally, a new wet ditch is proposed to be created within the Application Site, which will be planted with species-rich marginal vegetation, providing new foraging opportunities.

Other Mammals

- 10.3.40. **Potential Impacts.** No other notable mammals were recorded within the site during surveys however the grassland across the Application Site provides suitable habitat for a range of common mammals. The majority of this modified grassland is to be lost under the development proposals.
- 10.3.41. **Mitigation and Enhancements.** The retention of the hedgerows and enhancement of scrub, together with the recommended creation of new areas of species-rich grassland, and the planting of new trees, would provide new and enhanced opportunities for small mammals.

Invertebrates

- 10.3.42. **Potential Impacts.** Given the habitats present it is likely a varied assemblage of common and uncommon invertebrate species would be present within and adjacent to the Application Site. The modified grassland, however, which will be mostly lost to the proposals, are not of particular significant value in regard to invertebrates. Overall, impacts are considered to be minor negative at the Site level.
- 10.3.43. **Mitigation and Enhancements.** Planting of new native trees provide additional suitable opportunities for a range of invertebrates, providing an enhancement over the existing situation. It is recommended that log piles are created as part of the proposals and this would provide suitable opportunities for saproxylic invertebrates.
- 10.3.44. Following completion of the Development Proposals, it is recommended that an Ecological Enhancement Compliance Check be carried out to confirm ecological enhancements have been installed correctly. This can be secured as a suitably worded pre-occupation planning condition.
- 10.3.45. Additionally, the enhanced and created habitats can be secured through the provision a Landscape Ecological Management Plan (LEMP) or a Habitat Management and Monitoring Plan (HMMP), which will detail the management prescriptions for 30 years.

11. Biodiversity Net Gain

11.1. Introduction

- 11.1.1. In line with the methodology listed in section 6 above, a BNG assessment using the most recent version of the Defra Metric (Statutory Defra Metric) has been undertaken. An outline of the habitat management measures proposed for the application site are set out above and supporting landscaping documents. However, by way of summary an overview of the respective measures associated with those habitats to be either created or enhanced, are included within the tables below and shown graphically on Plan BNG1 and BNG2.
- 11.1.2. Each table is split into both pre-development (baseline) and post-development (created) descriptions relevant to each main measured habitat type within the Application Site; area-based habitats only.
- 11.1.3. As outlined within the Statutory Biodiversity Metric User Guide¹³, in the absence of a published Local Nature Recovery Strategy (LNRS) for Wiltshire Council, alternative documents can be used to assign strategic significance. Strategic significance has therefore been assigned based on the draft LNRS for Wiltshire and Swindon¹⁵, in which the Application Site is located.
- 11.1.4. All area-based habitats within the pre-development baseline of the Application Site were assigned 'area / compensation not in local strategy / no local strategy' as they are not identified within the draft LNRS. Linear-based habitats (i.e. hedgerows and the watercourse) within the pre-development baseline, however, are formally identified within the draft LNRS.
- 11.1.5. Within the post-development area-based habitats (created and enhanced), other neutral grassland, urban trees and mixed scrub are formally identified, whilst the rest of the habitats were assigned 'area / compensation not in local strategy / no local strategy'. The created native hedgerows were also formally identified in the draft LNRS, however, the new wet ditch is not, and therefore was assigned 'area / compensation not in local strategy / no local strategy'.

11.2. On-site Baseline Habitat (Pre-Development)

- 11.2.1. The Application Site was subject to a UKHab survey on 19th March 2025.
- 11.2.2. The following main habitat / vegetation types were identified within the Application Site during the survey undertaken:
- Modified grassland (g4);
 - Willow Scrub (h3j) ;

¹⁵ Local Nature Recovery Strategy for Wiltshire and Swindon (Public Consultation Draft March 2025). Available: https://www.wiltshire.gov.uk/media/15315/LNRS-Consultation-doc/pdf/LNRS_Glossy_Doc_V5.pdf?m=1741097351523

- Bramble Scrub (h3d);
- Developed land; sealed surface (u1b);
- Native Hedgerows (h2a); and,
- Other Rivers and Streams (r2b).

- 11.2.3. For the purposes of the BNG assessment, the baseline habitats present within the north of the Application Site, which fall within the consented Adjacent Site (planning ref. PL/2022/07893), have been assigned based on the proposed habitats for this adjacent Proposed Development (see Ecology Solutions report 10185.BiodiversityNetGain.vf1, dated December 2023).
- 11.2.4. The location of these habitats, which are described in detail within Chapter 7 above (excluding the Adjacent Site habitats), are shown on Plan BNG1.
- 11.2.5. Table 11.1 below summarises the habitats present on-site. A baseline of 2.70 habitat units, 0.93 hedgerow units and 1.44 watercourse units are present pre-development.
- 11.2.6. Habitats were classified based on their conformity to UK Habitat classifications and condition assessments were completed for each habitat identified within the Application Site. The Biodiversity Technical Supplement¹⁶ as well as professional judgement was used to inform the habitats' condition criteria.

¹⁶ Department for Environment, Food and Rural Affairs (2024). *The Statutory Biodiversity Metric: User Guide*. Department for Environment, Food and Rural Affairs. Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

Table 11.1. Summary of on-site baseline habitats.

Baseline Habitat (UKHab code)	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Ecological Features and Condition Notes	After Works
Modified grassland (g4) - G1 , grassland area adjacent to Spitfire Road and areas within north	2.01	Grassland Low Distinctiveness		Poor (4 / 7 condition criteria passed) Failed Criterion A which is essential for achieving Moderate or Good condition	The main grassland area which comprises the majority of the Application Site, as well as small areas of grass in the north and west. Unable to fulfill criterion A and are therefore assigned 'poor' condition. Species-poor without a varied sward length. Dominated by Perennial Rye-grass, Creeping Bent, Yorkshire Fog and Cock's-foot. Herbaceous species include Creeping Buttercup and White Clover.	1.39 units lost 0.43 units retained 0.18 units enhanced
		A – 6-8 species per m2	Fail			
		B – Sward height is varied	Fail			
		C – Scrub accounts for less than 20% of area	Pass			
		D – Physical damage evident in less than 5% of total area	Fail			
		E – Cover of bare ground between 1% and 5% of total area	Pass			
		F – Cover of Bracken less than 20%	Pass			
		G – Absence of invasive species and undesirable species make up less than 5% of ground cover	Pass			
Modified grassland (g4) - G2	0.01	Grassland Low Distinctiveness		Poor (5 / 7 condition criteria passed)	Area G2 within the east of the Application Site. Unable to fulfill criterion A and are therefore assigned 'poor' condition. Species-poor with a varied sward.	0.01 units lost
		A – 6-8 species per m2	Fail			
		B – Sward height is varied	Pass			

		C – Scrub accounts for less than 20% of area	Pass	Failed Criterion A which is essential for achieving Moderate or Good condition	Comprises similar species to G1, as well as Common Reed, Blackthorn, Common Nettle, Willowherb <i>Epilobium sp.</i> , Hogweed, Creeping Thistle and Common Sorrel.	
		D – Physical damage evident in less than 5% of total area	Pass			
		E – Cover of bare ground between 1% and 5% of total area	Fail			
		F – Cover of Bracken less than 20%	Pass			
		G – Absence of invasive species and undesirable species make up less than 5% of ground cover	Pass			
Modified grassland (g4) – G3	0.09	Grassland Low Distinctiveness		Moderate (5 / 7 condition criteria passed)	Area of rough grassland within the east of the Application Site. Species-rich and more varied sward, with Goat Willow growing in the centre. Comprises Perennial Rye-grass, Soft Rush, Cock's-foot, Hogweed, Common Nettle, Creeping Buttercup and Dock <i>Rumex sp.</i>	0.09 units lost
		A – 6-8 species per m2	Fail			
		B – Sward height is varied	Pass			
		C – Scrub accounts for less than 20% of area	Pass			
		D – Physical damage evident in less than 5% of total area	Pass			
		E – Cover of bare ground between 1% and 5% of total area	Fail			
		F – Cover of Bracken less than 20%	Pass			
		G – Absence of invasive species and undesirable	Pass			

		species make up less than 5% of ground cover				
Willow Scrub (h3j) – S3	0.03	Medium Distinctiveness		Poor (2 / 5 condition criteria passed)	Area of Willow <i>Salix sp.</i> , dominated scrub along the southern boundary of the Application Site.	0.03 units enhanced
		A – Good example of habitat type, with at least 80% cover being native species, at least three native woody species present and no single species comprising over 75%.	Fail			
		B – Seedlings, saplings, young shrubs and mature shrubs all present	Fail			
		C – Absence of invasive non-native plant species	Pass			
		D – Well-developed edge with scattered scrub and tall grassland and / or forbs	Pass			
		E – Clearings, glades or rides present	Fail			
Bramble Scrub (h3d) – S1 & S2	0.51	No Assessment Required		Condition Assessment N/A	Bramble dominated scrub S1 is present in the west of the Application Site. Remnants of a defunct hedgerow, with mature Hawthorn present, it has been taken over by Bramble. Other species present include <i>Salix sp.</i> and Blackthorn, as well as Willowherb <i>Epilobium sp.</i> , Lord's and Ladies, Common Nettle, Cleavers,	0.18 units lost 0.33 units enhanced

					Hogweed and Ivy present in the ground flora. S2 is an area of Bramble scrub within the southeast corner of the Application Site	
Vegetated Garden	0.06	No Assessment Required		Condition Assessment N/A	30% of the built form within the north of the Application Site (associated with the Adjacent Site application)	0.06 units retained
Developed Land; Sealed Surface (u1b)	0.00	No Assessment Required		N/A - Other	Areas of hardstanding including an existing road to the west, and roads, paths and residential dwellings within the north of the Application Site.	N/A
Existing Hedgerows						
Baseline Habitat (UKHab code)	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Ecological Features and Condition Notes	After Works
Native hedgerow (h2a) – H2	0.66	Low distinctiveness		Good	H2. Uniform age-class of trees and lots of nutrient-loving species beneath. Failed criteria C2 and E1, achieving 'good' condition.	0.10 units lost 0.56 units retained
		A1 – Height	Pass			
		A2 – Width	Pass			
		B1 – Gap (hedge base)	Pass			
		B2 – Gap (hedge canopy continuity)	Pass			

		C1 – Undisturbed ground & perennial vegetation	Pass			
		C2 – Nutrient-enriched perennial vegetation	Fail			
		D1 – Invasive & neophyte species	Pass			
		D2 – Current damage	Pass			
Native hedgerow (h2a) – H3	0.28	Low distinctiveness		Good	H3. Lies adjacent to a wet ditch. Gappy with lots of nutrient-loving species beneath and uniform age-class of trees present. Failed criteria B2, C2 and E1, achieving 'moderate' condition.	0.28 units retained
		A1 – Height	Pass			
		A2 – Width	Pass			
		B1 – Gap (hedge base)	Pass			
		B2 – Gap (hedge canopy continuity)	Fail			
		C1 – Undisturbed ground & perennial vegetation	Pass			
		C2 – Nutrient-enriched perennial vegetation	Fail			
		D1 – Invasive & neophyte species	Pass			
		D2 – Current damage	Fail			

Existing Watercourses					
Baseline Habitat (UKHab code)	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score	Condition	Ecological Features and Condition Notes	After Works
Other Rivers and Streams (r2b)	1.44	High distinctiveness – assessed using River Condition Assessment (RCA)	Fairly Poor (1.032 which achieves Moderate condition, however downgraded to Fairly Poor due to the channel being over-deep from historic straightening)	Abberd Brook lies off-site, adjacent to the southern boundary of the Application Site. The watercourse has been severely degraded due to historic agricultural management, having been straightened and over-deepened. The condition of the watercourse was assigned 'Moderate' in the RCA, but has been downgraded to 'Fairly Poor' due to this degradation. The watercourse is choked and shaded by scrub, with steep vertical banks which comprise very little marginal vegetation. No aquatic vegetation is present either. The river type is K – straight / sinuous.	1.44

11.3. On-site Post-Development

- 11.3.1. Table 11.2 below summarises the habitats and hedgerows that are to be created and enhanced on-site post-development and are illustrated on Plan BNG2 and also found on the Illustrative Masterplan (drawing ref. 381.UD.01 Rev G) by Robert Hitchins Limited. Table 11.3 below summarises the enhancements proposed for the site, again, as shown on Plan BNG2.
- 11.3.2. The landscape strategy includes a variety of species-rich habitats and will comprise tree planting, native hedgerow planting, mixed scrub, a wet ditch, modified grassland and other neutral grassland establishment. Focus has been had towards the retention and enhancement of habitats of greatest diversity around the boundaries of the site, whilst providing species-rich habitats within landscaped areas.
- 11.3.3. While retention and enhancement of the habitats considered to be of greatest value has been sought, the proposed scheme would result in a net gain of 0.88 habitat units, 0.10 hedgerow units and 0.15 watercourse units. This results in gains of 33.20% in habitat units, 10.29% for hedgerow units and 10.19% in watercourse units from pre- to post-development.
- 11.3.4. The targeted conditions for proposed habitats will be achieved through appropriate management undertaken during the operational phase of the proposals. This will ensure that the proposed habitats continue to offer biodiversity benefits in the future. It would be expected that a condition be applied to the planning permission detailing the prescribed planting, management and monitoring to be undertaken to ensure the aspirations set out are delivered.

Table 11.2. Summary of post-development habitats that will be created.

Created Habitats				
Proposed Habitat (UKHab code)	Landscape Plan Habitat	Target Condition	Biodiversity Units Delivered	Target Condition Notes
Sustainable Drainage System (u~848)	Indicative SUDS	Good	0.09	An attenuation basins is proposed amongst the area of open spaces located north of the Application Site. Planting will include a suitable wetland seed mix such as Emorsgate EP1 Pond Edge Mixture, along with areas of planting comprising species such as Sedges <i>Carex</i> spp., Rushes <i>Juncus</i> spp. And wetland-tolerant grasses such as <i>Deschampsia</i> alongside flowering species such as Yellow Iris <i>Iris pseudacorus</i> and Lesser Spearwort <i>Ranunculus flammula</i> . Long-term management to include dredging/desilting, vegetation clearance and mowing works at appropriate times of the year to avoid build-up of soil/vegetation and removal of pollutants or litter where needed. On this basis, it is understood that all criteria will be achieved to reach 'good' condition.
Other Neutral Grassland (g3c)	Public Open Space	Moderate	0.27	Species-rich grassland areas will be created around areas where attenuation features are proposed, i.e. SuDS basins and swales, utilising Emorsgate EM2 Standard General Purpose Meadow Mixture and EM8 Meadow Mixture for Wetlands. Longer term maintenance will include for ecologically minded mechanical cutting regime. This would include for a limitation on cuts (2 / 3 times a year, avoiding the main growing seasons but including a heavy summer 'hay cut' after flowers have set seed). Based on the seeding and anticipated management, 'Moderate' condition Other Neutral Grassland is considered achievable.
Modified Grassland (g4)	Public Open Space	Poor	0.32	Modified grassland areas will be created across areas of open space (following initial loss) utilising a suitable native seed mix (such as Emorsgate EG22 Strong Lawn Grass Mixture). Based on the seeding and anticipated management, 'Poor' condition Modified Grassland is considered appropriate.

Mixed Scrub (h3h)	N/A	Moderate	0.20	Areas of mixed scrub will be created along the boundaries of the Application Site and adjacent to the SuDS. Planting will comprise native species that are of value to wildlife. Long-term management will create a well-developed scalloped edge, with tall grassland adjacent. On this basis, 'Moderate' condition is considered achievable.
Vegetated Garden (u~828)	Private Gardens	Condition Assessment N/A	0.28	This area includes residential gardens. No CAC required.
Developed Land; Sealed Surface (u1b)	Built Form	N/A - Other	0	This area includes the proposed dwellings, roads and footpaths.
Urban Tree (w~200)	Proposed Street / Amenity Tree	Moderate	0.52	A total of 36 small Urban Trees will be planted and managed for landscape and ecological purposes. Planted trees will be of native species and follow long-term management to ensure they are free from adverse impacts and allowed to reach their expected canopy extent, achieving 'moderate' condition.
Created Hedgerows				
Proposed Habitat (UKHab code)	Landscape Plan Habitat	Target Condition	Biodiversity Units Delivered	Target Condition Notes
Native Hedgerow (h2a)	N/A	Moderate	0.19	New native hedgerow of at least 50m will be planted and managed to ensure they are not gappy or leggy. A relaxed cutting scheme will be implemented to ensure they hedgerow can develop to an appropriate width and height, with undisturbed ground present either side. On this basis, 'Moderate' condition is considered achievable.

Created Watercourse				
Proposed Habitat (UKHab code)	Landscape Plan Habitat	Target Condition	Biodiversity Units Delivered	Target Condition Notes
Wet Ditch (r~50)	N/A	Moderate	0.15	A wet ditch of at least 41m will be created which connect to the off-site watercourse of Abberd Brook. Planting will include a suitable wetland seed mix such as Emorsgate EP1 Pond Edge Mixture, along with areas of planting comprising species such as Sedges <i>Carex</i> spp., Rushes <i>Juncus</i> spp. And wetland-tolerant grasses such as <i>Deschampsia</i> alongside flowering species such as Yellow Iris <i>Iris pseudacorus</i> and Lesser Spearwort <i>Ranunculus flammula</i> . Long-term management to include dredging/desilting, vegetation clearance and mowing works at appropriate times of the year to avoid build-up of soil/vegetation and removal of pollutants or litter where needed. On this basis, it is understood that all criteria will be achieved to reach 'moderate' condition.

Table 11.3. Summary of habitat enhancements.

Enhanced Habitats					
Baseline Habitat (UKHabs code)	Baseline Condition	Proposed Habitat (UKHabs code)	Target Condition	Biodiversity Units Delivered	Target Condition Notes
Bramble Scrub (h3d)	Condition Assessment N/A	Mixed Scrub	Moderate	0.70	Retained Bramble scrub will be managed to remove Bramble and infill plant with a range of native woody shrubs to increase the diversity of the scrub. Long-term management will create a well-developed scalloped edge, with tall grassland adjacent. On this basis, 'Moderate' condition is considered achievable.

Willow Scrub (h3j)	Condition Assessment N/A	Mixed Scrub	Moderate	0.07	Retained Willow scrub will be managed to increase the species diversity with the planting of a range of native woody shrubs. Long-term management will create a well-developed scalloped edge, with tall grassland adjacent. On this basis, 'Moderate' condition is considered achievable.
Modified Grassland (g4)	Poor	Other Neutral Grassland (g3c)	Moderate	0.65	The species-poor modified grassland will be enhanced through overseeding, utilising Emorsgate EM2 Standard General Purpose Meadow Mixture. In order to assist with the creation of the other neutral grassland, Yellow Rattle <i>Rhinanthus minor</i> should be included in the seed mix to ensure that a proper grassland meadow can establish. Following establishments, longer-term management will seek to reduce soil fertility over time to encourage a botanically diverse and balanced sward, and will include an ecologically minded grazing regime (e.g. mob grazing), which will help mimic natural grazing of neutral grasslands. Additionally, a heavy summer 'hay cut' after flowers have set seed will be carried out. Based on the seeding and anticipated management, 'Moderate' condition Other Neutral Grassland is considered achievable.

11.4. Results Summary

- 11.4.1. The Biodiversity Metric returns the following headlines results for the Application Site, when considered in isolation:

Table 11.4. Headline BNG results for main development site.

		Defra BNG Metric Categories		
		Area	Linear (Hedgerows)	Linear (Water Course)
Development Site Baseline Results	Units	2.70	0.93	1.44
Development Site Post-Development Results	Units	3.58	1.03	1.59
	Unit Change	0.88	0.10	0.15
	% Change	+32.64	+10.29	+10.19

- 11.4.2. The headline results of the Biodiversity Metric are included at Appendix 5 of this document and shown graphically on Plans BNG1 and BNG2. A full digital version of the relevant Metric has also been submitted as part of this BNG assessment.

Summary and Conclusions

- 11.4.3. Ecology Solutions Ltd was commissioned by Robert Hitchins Limited in January 2025 to undertake a BNG assessment for the Application Site, known as 'Land East of Spitfire Road, Clane'.
- 11.4.4. This was supported by detailed survey work undertaken in March 2025.
- 11.4.5. This accumulated in a BNG assessment being undertaken for the application site using the most recent version of the Defra Metric (Statutory Defra Biodiversity Metric). This assessment was based upon detailed knowledge of the baseline habitats within the site, in addition to identifying the post-development habitat measure to be delivered.
- 11.4.6. Under the current development proposals, it can be seen through the use of the Statutory Biodiversity Metric that a net gain in biodiversity for habitat units, hedgerow units and watercourse units can be achieved on-site. It should also be noted that trading rules are all satisfied.

- 11.4.7. A number of additional enhancements will also be provided as part of the proposed development, that are not accounted for within the net gain calculation. This includes bat and bird boxes, log piles and hedgehog tunnels..

12. Summary and Conclusions

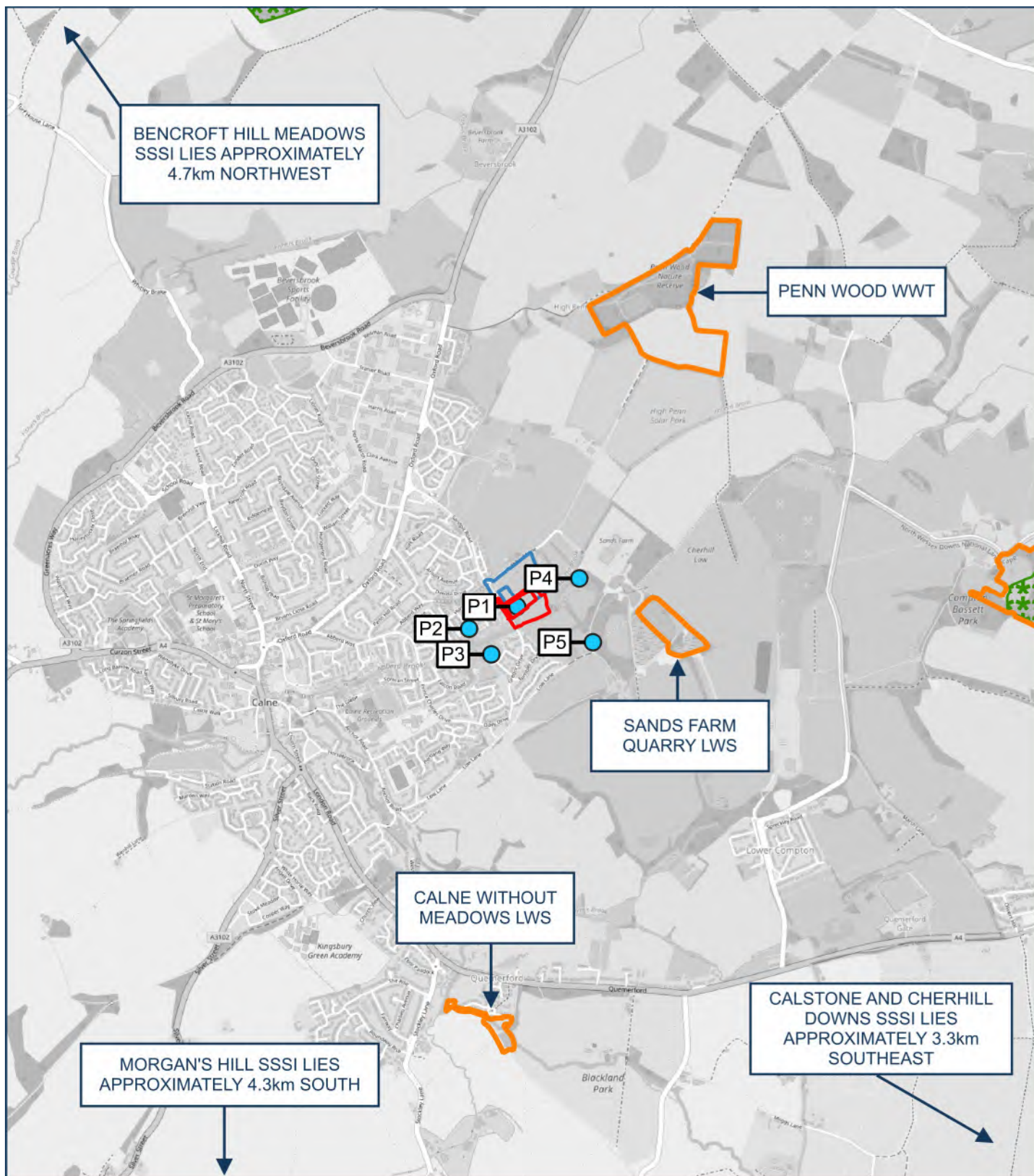
- 12.1. Ecology Solutions was originally commissioned by Robert Hitchins Limited in January 2025 to undertake a suite of ecological surveys to inform a detailed Ecological Impact Assessment (EcIA) of the land known as Land East of Spitfire Road, Calne, hereafter referred to as the 'Application Site'.
- 12.5. **Designated sites.** Subject to recommendations laid out within this report, it is not considered any significant adverse impacts (direct or indirect) would arise as a result of the development proposals on statutory or non-statutory sites. In any event, the adoption of best practice methodologies in regards construction, as well as financial contributions will ensure impacts on nearby receptors will be avoided.
- 12.6. **Habitats.** The Application Site only contains medium, low and very low distinctiveness habitats, with regard to the Biodiversity Metric. The adjacent habitats of elevated value within the context of the site; specifically the watercourse (Abberd Brook), are retained (other than a surface water headwall, which will be installed into a setback outfall) and will be safeguarded during the development by devising and implementing a silt management plan. Habitat enhancements such as the creation of species-rich grassland and tree planting have been recommended.
- 12.7. **Badgers and Hedgehogs.** The Badger surveys confirmed the absence of any active Badger setts / entrances within the boundary of the Application Site. A precautionary approach during construction with regard to Badgers and Hedgehogs is recommended.
- 12.8. **Bats.** The wider area supports mostly common and widespread bat species, however three Annex II species were also recorded in very lower numbers. One off-site tree was identified to have potential roosting features that could support multiple bats, however this is retained and no considered to be significantly impacted by the Proposed Development. Specific mitigation and enhancements for bats have been recommended, including a sensitive lighting scheme shall be employed to avoid light spillage on to areas of suitable foraging and commuting habitat, as well as bat boxes installed on suitable new buildings.
- 12.9. **Otter and Water Vole.** The Application Site offers limited suitable terrestrial for Otter and / or Water Vole, however the adjacent off-site watercourse provides comparatively greater opportunities. Best practice methodologies are recommended to mitigate any runoff into the watercourse, and a set-back outfall is recommended to reduce the impact of a headwall on the watercourse. Additionally, a new wet ditch is proposed to be created within the Application Site, which will provide new aquatic and riparian habitats.
- 12.10. **Birds.** It is recommended that any suitable bird nesting habitat be cleared outside of the nesting season (March to August inclusive) to avoid a potential offence under the legislation. Where this cannot be achieved, a pre-commencement check survey for nesting birds should be undertaken by an ecologist, with any confirmed nests left in situ until the young have fledged. Enhancements are recommended through planting of berry bearing tree species and the provision of bird boxes installed on suitable new buildings to provide new nesting opportunities.

- 12.11. **Great Crested Newts.** The Application Site offers limited suitable terrestrial habitat for Great Crested Newts. P1 is not considered to have Great Crested Newts present, due to the negative result returned from eDNA surveys, whilst the other four off-site ponds within 250m are considered to be well separated from the Application Site. It is deemed unlikely that this protected species will be impacted from the proposed development.
- 12.22. **Invertebrates.** The Application Site is likely to support a range of common and widespread invertebrate species. Appropriate habitat enhancements and creation is proposed, together with a sensitive management regime, which will provide enhancements to foraging and breeding invertebrate populations. Particular benefits will be secured for saproxylic organisms, as deadwood habitats are recommended.
- 12.23. **Biodiversity Net Gain.** The Application Site can achieve an increase in BNG in excess of the 10% which is now statutory, as of the 12th February 2024. The proposals are shown to achieve a **+32.64%** increase in habitat units, **+10.29%** increase in hedgerow units and **+10.19%** increase in watercourse units.
- 12.34. **Planning policy.** Ecological surveys undertaken in 2024 and 2025 have confirmed the majority of the Application Site to be of low-moderate intrinsic ecological value and, indeed, generally low-moderate functional value to protected and notable species (i.e. Badgers). The Application Site is, however, considered to be of moderate ecological value to bats.
- 12.35. Whilst there will be losses to medium and low distinctiveness habitats within the Application Site, these impacts will not be of wider ecological significance and, through appropriate design, can be more than mitigated for through new higher-quality landscaping within the Application Site. Based on surveys and assessments undertaken, the presence and potential presence of protected species has been given due regard, and measures to enhance the Application Site for such species have been put forward.
- 12.36. Subject to the recommendations set out in this report, it is possible for suitably designed development proposals to secure ecological enhancements realised within the Application Site, not least through realising new opportunities for urban biodiversity, including Priority Species and those undergoing documented population declines.
- 12.37. In accordance with Wiltshire Core Strategy (adopted January 2015) and the Emerging Wiltshire Local Plan 2020-2038, careful consideration has been given to retaining and enhancing ecological connectivity with and adjacent to the Site. The proposals should seek to retain the majority of the mature trees and woodland within the Application Site.
- 12.38. In conclusion, with the implementation of the safeguards and recommendations set out within this report, it is considered that the proposals accord with planning policy with regard to nature conservation at all administrative levels.

Plans

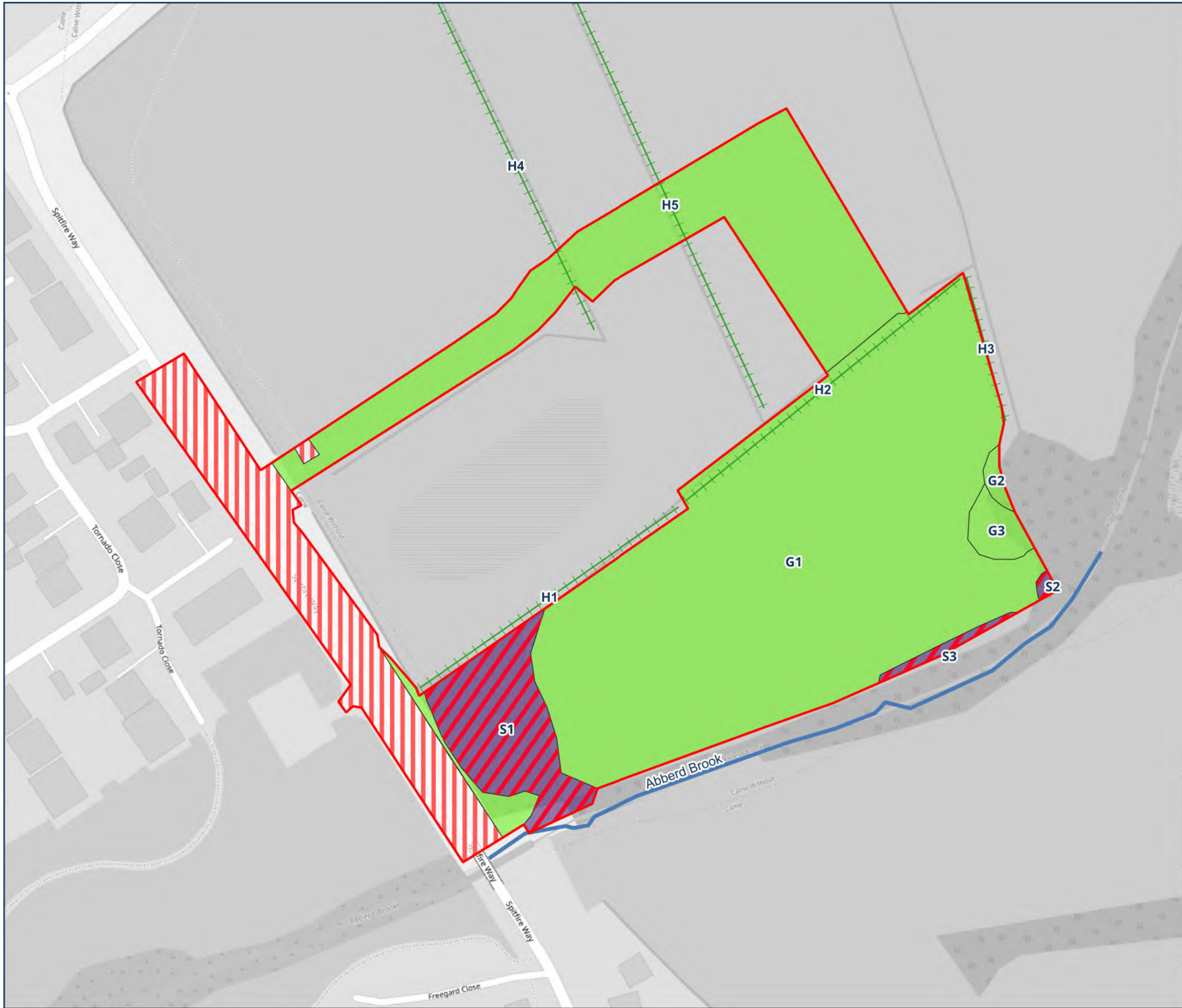
PLAN ECO1

Site Location and Ecological Designations



PLAN ECO₂

Ecological Features



KEY:

- APPLICATION SITE BOUNDARY
- MODIFIED GRASSLAND (g4)
- BRAMBLE SCRUB (h3d)
- WILLOW SCRUB (h3j)
- DEVELOPED LAND; SEALED SURFACE (u1b)
- HEDGEROWS (h2a)
- Watercourse (r2b)

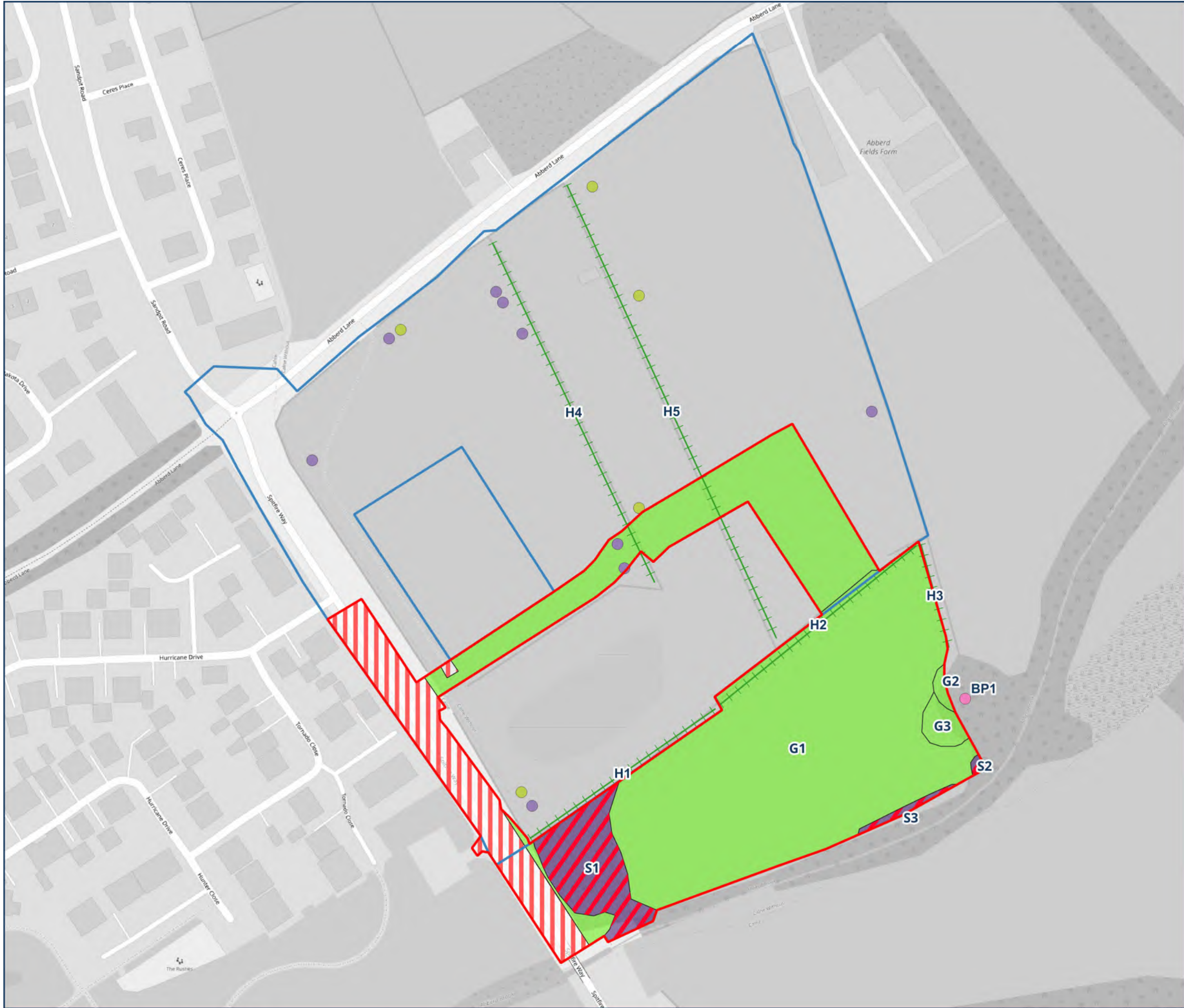
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12642: LAND EAST OF SPITFIRE ROAD,
CALNE

PLAN ECO2: ECOLOGICAL FEATURES	Rev: A May 2025
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PLAN ECO₃

Protected Species



KEY:

- APPLICATION SITE BOUNDARY
- ADJACENT SITE BOUNDARY
- BAT POTENTIAL TREE
- SLOW WORM LOCATION (2022)
- GRASS SNAKE LOCATION (2022)



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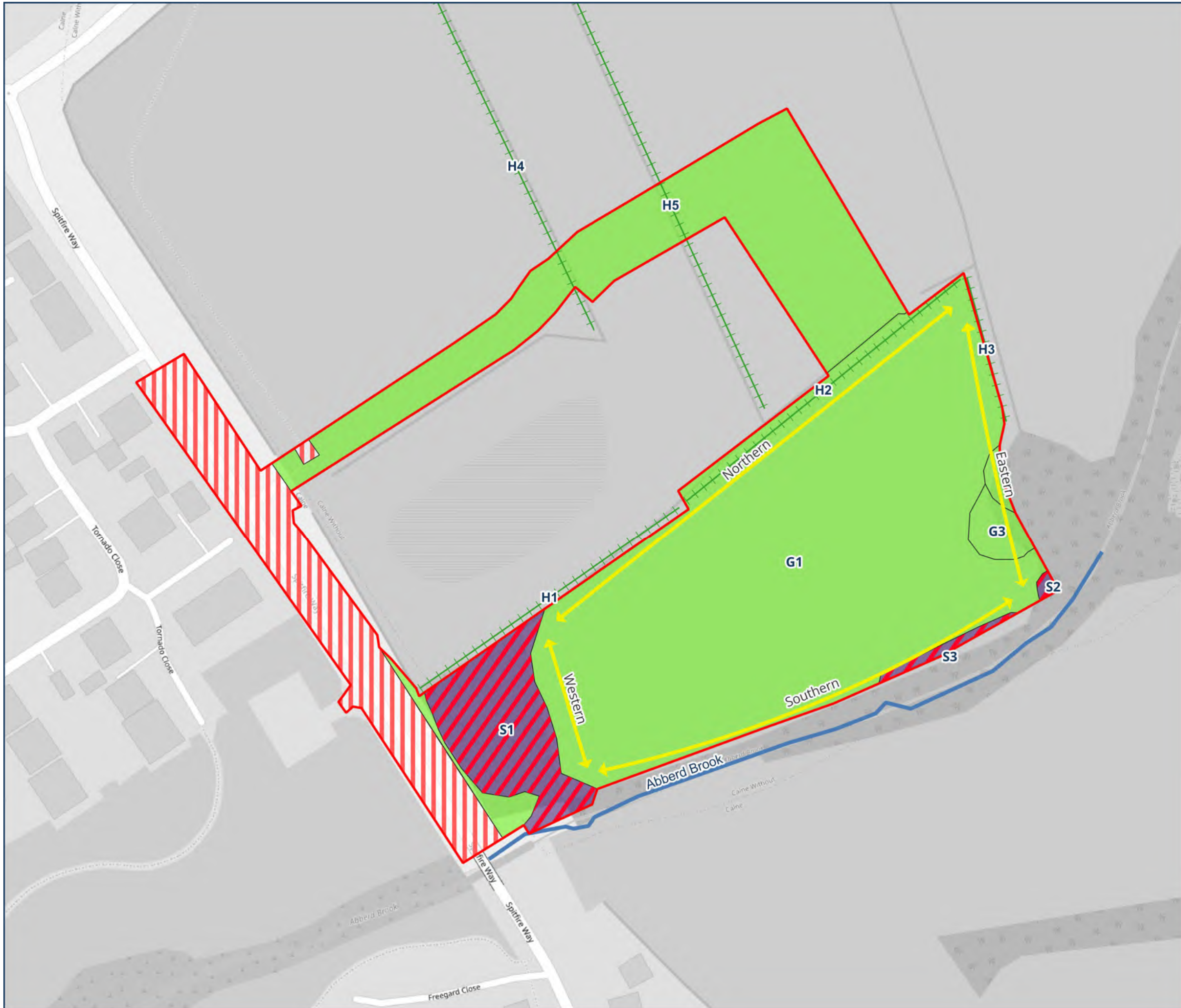
12642: LAND EAST OF SPITFIRE ROAD,
CALNE

PLAN ECO3: PROTECTED
SPECIES

Rev: A
May 2025

PLAN ECO4

Pre-Development Bat Foraging / Commuting
Corridors



KEY:

-  APPLICATION SITE BOUNDARY
-  EXISTING FORAGING / COMMUTING CORRIDORS



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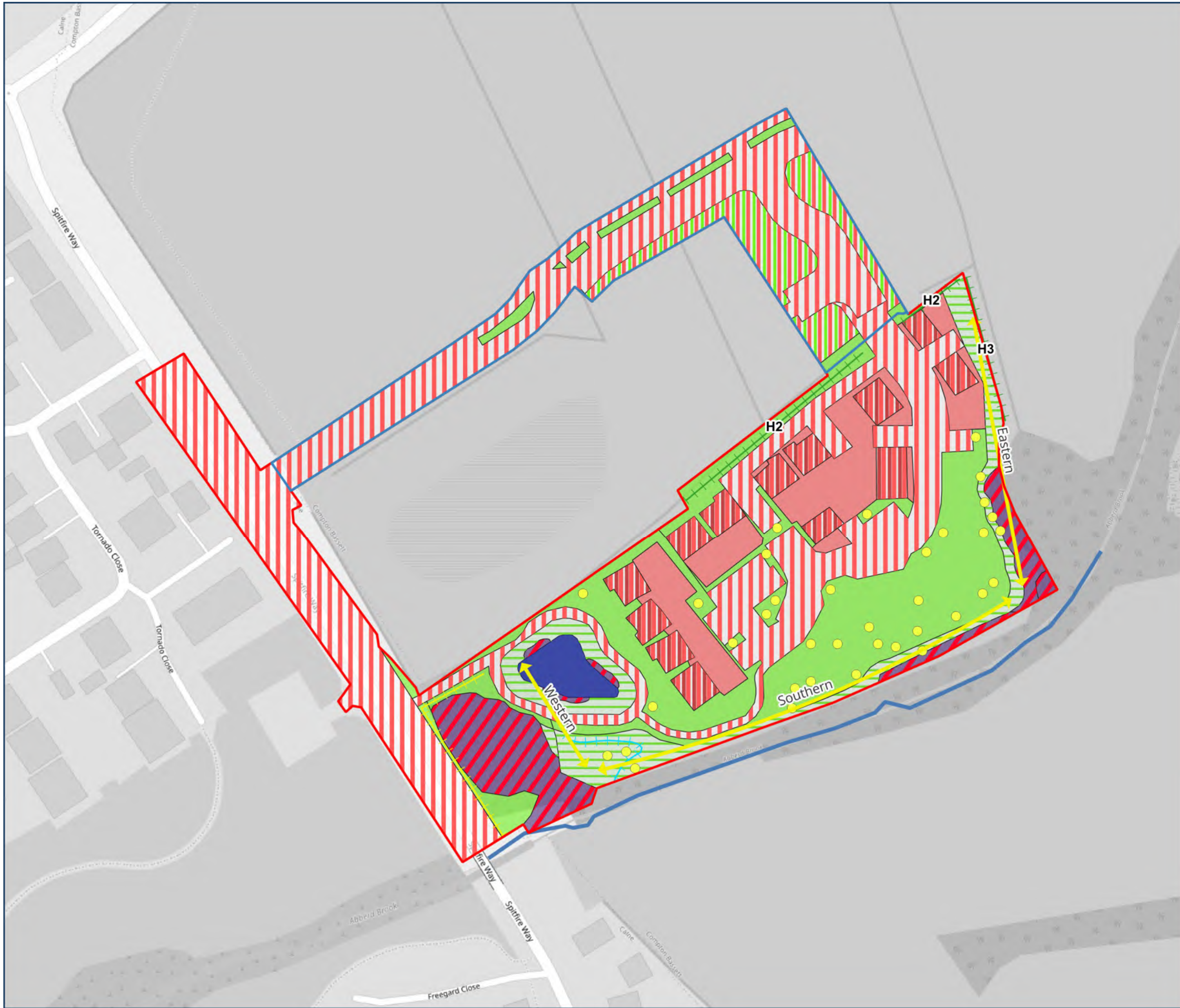
12642: LAND EAST OF SPITFIRE ROAD,
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PLAN ECO4: PRE-DEVELOPMENT BAT
FORAGING / COMMUTING CORRIDORS

Rev: A
May 2025

PLAN ECO5

Post-Development Bat Foraging / Commuting
Corridors



KEY:

-  APPLICATION SITE BOUNDARY
-  RETAINED FORAGING / COMMUTING CORRIDORS



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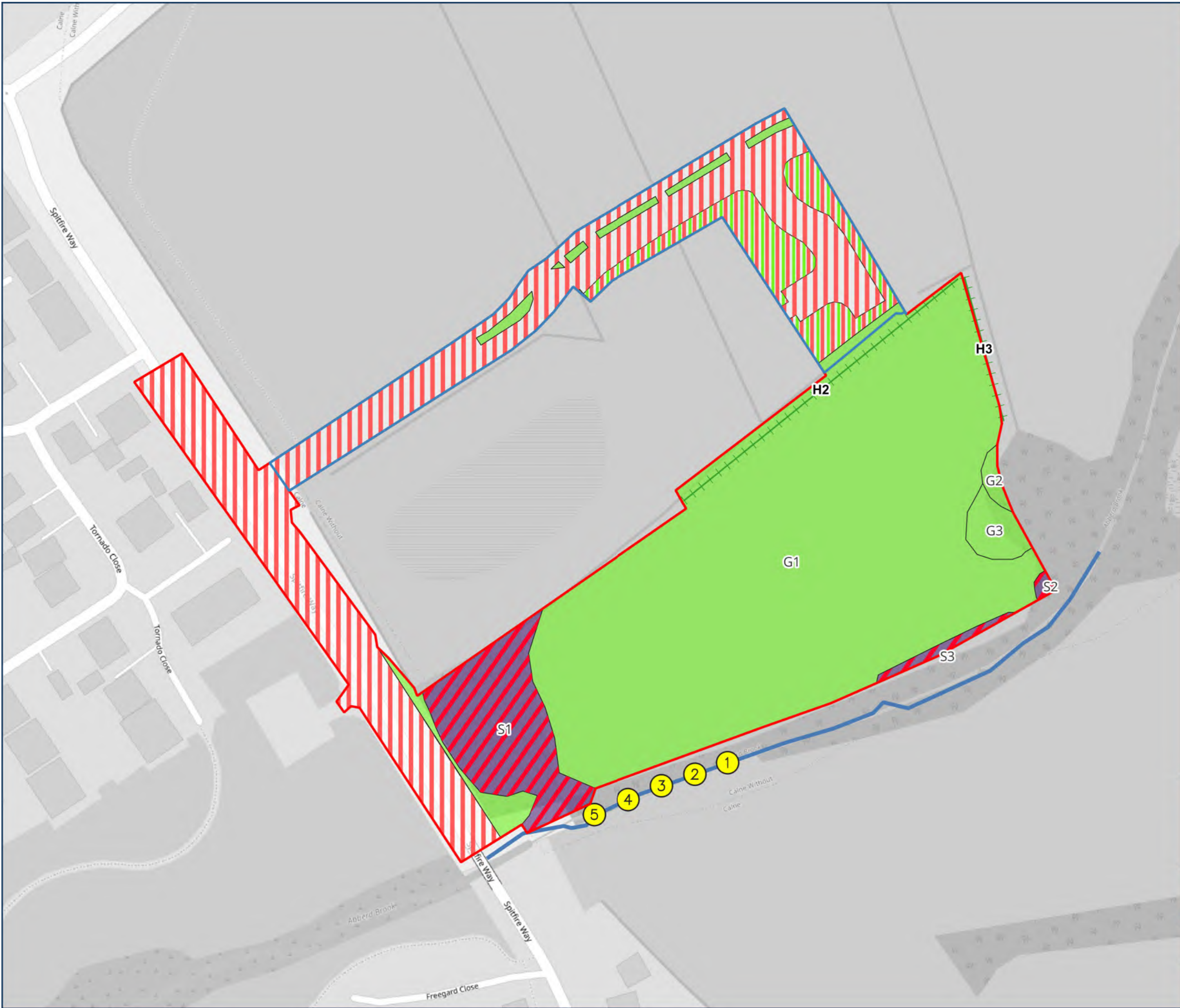
PLAN ECO5: POST-DEVELOPMENT BAT
FORAGING / COMMUTING CORRIDORS

Rev: B
Jun 2025

PLAN BNG₁

Pre-Development Habitats

Based upon the Ordnance Survey map with permission of the Controller of His Majesty's Stationary Office, © Crown Copyright. Ecology Solutions Ltd, Farncombe House, Farncombe Estate, Broadway, Worcestershire, WR12 7LJ. 100044628



- KEY:**
- APPLICATION SITE BOUNDARY
 - ADJACENT SITE AREA WITH CONSENT
 - MODIFIED GRASSLAND (g4)
 - 1.008ha Poor Condition
 - 0.022ha Moderate Condition
 - BRAMBLE SCRUB (h3d)
 - 0.127ha
 - WILLOW SCRUB (h3j)
 - 0.008ha Poor Condition
 - DEVELOPED LAND; SEALED SURFACE (u1b)
 - 0.453ha
 - 70% DEVELOPED LAND; SEALED SURFACE (u1b) / 30% VEGETATED GARDEN (u~828)
 - 0.068ha u1b
 - 0.029ha u~828
 - NATIVE HEDGEROWS (h2a)
 - 0.135km Good Condition
 - OTHER RIVERS AND STREAMS (r2b)
 - 0.166km Fairly Poor Condition
 - MORPH SURVEY LOCATIONS SUBREACH 1



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PLAN BNG1: PRE-DEVELOPMENT HABITATS	Rev: A May 2025
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PLAN BNG₂

Post-Development Habitats



KEY:

- APPLICATION SITE BOUNDARY
- ADJACENT SITE AREA
- OTHER NEUTRAL GRASSLAND (g3c)
 - 0.035ha Moderate - Created
 - 0.091ha Moderate - Enhanced
- MODIFIED GRASSLAND (g4)
 - 0.216ha Poor - Retained
 - 0.15ha Poor - Created
- MIXED SCRUB (h3h)
 - 0.026ha Moderate - Created
 - 0.091ha Moderate - Enhanced
- DEVELOPED LAND; SEALED SURFACE (u1b)
 - 0.453ha Retained
 - 0.269ha Created
- BUILDINGS (u1b5)
 - 0.110ha Created
- VEGETATED GARDEN (u~828)
 - 0.155ha Created
- SUSTAINABLE DRAINAGE SYSTEM (u~848)
 - 0.027ha Good - Created
- 70% DEVELOPED LAND; SEALED SURFACE (u1b) / 30% VEGETATED GARDEN (u~828)
 - 0.068ha u1b Retained
 - 0.029ha u~828 Retained
- URBAN TREE (w~200)
 - 0.155ha Moderate - Created
- NATIVE HEDGEROW (h2a)
 - 0.121km Good - Retained
- NATIVE HEDGEROW (h2a)
 - 0.05km Moderate - Created
- OTHER RIVERS AND STREAMS (r2b)
 - 0.166km Fairly Poor - Retained
- WET DITCH (r~50)
 - 0.041km Moderate - Created



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PLAN BNG2: POST-DEVELOPMENT HABITATS	Rev: B Jun 2025
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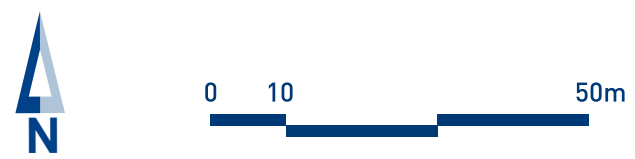
Appendices

APPENDIX1

Illustrative Masterplan



- KEY**
- SITE ACCESS
 - DWELLINGS
 - EXISTING VEGETATION
 - PROPOSED STREET TREE
 - PROPOSED AMENITY TREE
 - PRIVATE DRIVEWAY
 - INDICATIVE SUDS
 - INFORMAL FOOTPATH
 - INTERNAL ROAD
 - PLAY AREA



Site Name: LAND EAST OF SPITFIRE ROAD		Drawing Number: 381.UD.01		Revision: G
Drawing Title: ILLUSTRATIVE MASTERPLAN		Drawn By: LD	Checked By: GRJ	Date: 19/06/25
				Scale: 1:1000 @ A3

Robert Hitchins
The Complete Development Solution

The Manor, Boddington, Cheltenham, Gloucestershire, GL51 0TJ
Tel: 01242 680694
www.robert-hitchins.co.uk

APPENDIX2

Habitat Photographs



Photograph 1. Modified grassland field **G1**.



Photograph 2. Example of damaged ground within **G1** from machinery.



Photograph 3. Grassland area **G2** in the southeast corner of the Application Site.



Photograph 4. Willow scrub **S3** along the eastern end of the southern boundary.



Photograph 5. Bramble scrub **S1** within the west of the Application Site.



Photograph 6. Bramble scrub **S2** within the southeast corner of the Application Site.



Photograph 7. Existing road within the west of the Application Site. (Google street imagery)



Photograph 8. Off-site hedgerow **H1**.



Photograph 9. Hedgerow **H2.**



Photograph 10. Hedgerow **H3.**



Photograph 11. Off-site watercourse (Abberd Brook)

APPENDIX3

Suitable Examples of Bat Boxes

Bat Features



The Enclosed Bat Box 'C' from Ibstock is designed for the pipistrelle bat. It is ideal for new builds as it can be integrated directly into the brickwork to produce a discrete but attractive home for bats.

Dimensions: 21.5 x 10.5 x 29 cm (L x W x H)

Weight: 9.2 kg

The bat brick is a standard sized brick, shaped especially to allow bats to access the cavity of a house. They can be incorporated during both new build or renovation projects.

Dimensions 60 x 10 x 21.5 cm (L x W x H)



The Habibat Bat Box is a large, solid box made of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated.

Dimensions: 21.5 x 10.2 x 44 cm (L x W x H)

Weight: approximately 8kg

APPENDIX4

Suitable Examples of Bird Boxes

Bird Boxes

Vivara Pro WoodStone House Sparrow Nest Box

The Vivara Pro WoodStone House Sparrow Nest Box is an attractive, hardwearing bird box that will provide nesting space for House Sparrows and other communal nesting species. This box is made from WoodStone, a mixture of wood fibres from fully certified FSC wood sources and concrete, and it is designed to last for years. It is breathable and maintains a consistent temperature inside, providing excellent insulation for nesting birds. This bird box has been designed to either be built into the fabric of a new building or attached to the external wall.

Height: 220mm

Width: 290mm

Depth: 165mm

Weight: 7kg

Hole size: Oval



Vivara Pro WoodStone Build-in Swift Nest Box

The Vivara Pro WoodStone Swift Nest Box is an attractive, hardwearing bird box that will provide nesting space for Swifts, and should ideally be placed on the north or east elevations, at least 5m up and beneath an eave.

This box is made from WoodStone, a mixture of wood fibres from fully certified FSC wood sources and concrete, and it is designed to last for years. It is breathable and maintains a consistent temperature inside, providing excellent insulation for nesting birds. This bird box has been designed to be built into the fabric of a new building.



Height: 185mm

Width: 335mm

Depth: 160mm

Weight: 7kg

Hole size: Oval 34mm

APPENDIX5

DEFRA Statutory Biodiversity Metric Headline Results

Land East of Spitfire Road, Calne
Headline Results
Scroll down for final results ⚠

Return to
results menu

On-site baseline	Habitat units	2.70	
	Hedgerow units	0.93	
	Watercourse units	1.44	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	3.58	
	Hedgerow units	1.03	
	Watercourse units	1.59	
On-site net change (units & percentage)	Habitat units	0.88	32.64%
	Hedgerow units	0.10	10.29%
	Watercourse units	0.15	10.19%

Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.88	
	Hedgerow units	0.10	
	Watercourse units	0.15	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.88	
	Hedgerow units	0.10	
	Watercourse units	0.15	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	32.64%	
	Hedgerow units	10.29%	
	Watercourse units	10.19%	
Trading rules satisfied?	Yes ✓		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	2.70	2.97	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.93	1.02	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	1.44	1.59	0.00	No additional watercourse units required to meet target ✓



info@ecologysolutions.co.uk | www.ecologysolutions.co.uk

Farncombe House | Farncombe | Broadway | Worcestershire | WR12 7LJ

Cokenach Estate | Barkway | Royston | Hertfordshire | SG8 8DL