



LADDS GARDEN CENTRE READING ROAD HARE HATCH

INTERIM ECOLOGICAL IMPACT ASSESSMENT (EcIA)

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Checked By:	LG
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QUALITY ASSURANCE

This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Westbourne Homes Ltd
Site/job:	Ladds Garden Centre, Reading Road, Hare Hatch
Author:	Prue Hilditch
Technical review:	Lily Gilbert



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1 EXECUTIVE SUMMARY

Purpose of report	To assess the ecological impacts of a proposed development at Ladds Garden Centre, Reading Road, Hare Hatch clearly identifying any 'significant effects' on important ecological features (including designated sites of protected species), and detailing any mitigation and/or compensation measures required, and how these could be secured.
Description of proposed development	Full planning permission is being sought for construction of up to 19 residential dwellings with associated access and landscaping.
Brief description of the Site	The proposed development site (hereafter referred to as the Application Site) is a partially used garden centre comprising predominately of artificial unsealed surface, buildings, a small man-made pond, modified grassland, and woodland.
Designated nature conservation sites	The Application Site does not lie within any statutory or non-statutory designated sites. It lies within the Impact Risk Zone for Lodge Wood and Sanford Mill SSSI, however due to the nature of the development consultation with Natural England will not be required.
Key habitats	The most valuable habitats present within the Application Site comprise of the woodland, scattered trees, and non-priority pond.
Key species	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>There is potential for bats to utilise the site for commuting and foraging, and two buildings have bat roosting potential. Further surveys are required to fully assess the impacts of the proposed development on roosting bats.</p>
Key impacts & mitigation/compensation measures	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>A sensitive lighting scheme is to be followed during the construction and operational phases to reduce impacts of artificial lighting on potential commuting paths of bats and other nocturnal mammals.</p> <p>Mitigation measures for roosting bats will be finalised (if required) following further surveys.</p>
Enhancements	<p>The development reaches 16.02% net gain in habitat units, and 1727.29% net gain in hedgerow units, however the development fails to meet the trading rules for medium distinctiveness habitats.</p> <p>Integrated bird and bat boxes and hedgehog highways to be incorporated into the proposed development are recommended.</p>

Conclusions	<p>Further surveys are required on building 5 and building 1 to confirm the presence or likely absence of roosting bats within the Application Site.</p> <p>To ensure the proposals will be in accordance with the NPPF and Wokingham Borough Local Plan, the above surveys will be conducted and appropriate mitigations detailed prior to commencement of the development.</p>
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2 INTRODUCTION

2.1. This report provides an assessment of the ecological effects of the proposed development of an area of land known as Ladds Garden Centre, Reading Road, Hare Hatch, hereafter referred to as the Application Site (see Image 1). The principal author of this report is Prue Hilditch. The client is Westbourne Homes Ltd.

Background

2.2. The Application Site is approximately 1.38ha comprising of developed hard-standing surface, modified grassland, artificial unsealed surface, individual trees and modified grassland, and woodland. The Application Site is located on the eastern edge of the village of Hare Hatch, Berkshire, approximately 11km northeast of Reading. The Application Site is immediately bordered by residential dwellings to the south, agricultural fields to the east, a new dwelling to the west, and the A4 to the north. In the wider landscape, agricultural fields and private residential gardens surround the Application Site.

2.3. The client intends to submit a planning application, which this report will accompany, for the construction of up to 19 new residential dwellings with associated access roads, parking and landscaping.



Image 1: Application Site location and approximate site boundary shown in red. Map data: Google Satellite Hybrid (2024)

Competence

2.4. This report has been written by Prue Hilditch. Prue is an Assistant Ecologist and has been involved in a wide range of protected species surveys and Extended UK Habitat Classification Surveys. Prue has experience undertaking Biodiversity Net Gain assessments, Ecological Impact Assessments (EClAs), Preliminary Ecological Appraisals (PEAs), and is a Qualifying member of CIEEM.

2.5. A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures. The Technical Review was undertaken by Lily Gilbert. Lily has 12 years' experience working for commercial consultancy and specialises in European Protected Species (EPS) legislation and mitigation, and habitat management and restoration. She has significant experience of Ecological Impact Assessment (EclA) and holds Natural England licences for bats (level 2), barn owl, hazel dormouse, and great crested newt. She is experienced in Biodiversity Net Gain and the Statutory Biodiversity Metric and is qualified in MoRPH River Condition Assessments. She is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

Purpose of this report

2.6. The purpose of this Interim Ecological Impact Assessment (EclA) is as follows:

- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and relevant planning policy, and to address any potentially significant ecological effects
- To identify how mitigation measures will/could be secured
- To identify any significant residual ecological effects and set out any compensation measures proposed to address these
- To identify appropriate enhancement measures in order to achieve Biodiversity Net Gain
- To set out the requirements for post-construction monitoring

3 PLANNING POLICY AND LEGISLATION

Legislation

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

- The Environment Act 2021. This piece of legislation is of relevance because all planning permissions granted in England are mandated to deliver at least 10% Biodiversity Net Gain from 12th February 2024 (unless exemptions apply) and small sites were mandated on 2nd April 2024.
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹. This piece of legislation is of relevance because the Application Site has potential to support nesting birds.
- Wildlife and Countryside Act 1981² (as amended, including by the Countryside and Rights of Way Act 2000).
- Natural Environment and Rural Communities (NERC) Act 2006³. Section 41 includes lists 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'.



3.2. The following pieces of legislation have been considered, but are not considered to be of specific relevance in this case:

- Hedgerows Regulations 1997 (the Regulations do not apply to the hedgerows in this context)

Environment Act 2021

3.3. In accordance with the Environment Act 2021, mandatory Biodiversity Net Gain (BNG) will apply from January 2024 for developments in the Town and Country Planning Act 1990, unless

¹ Great Britain. *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* No.579 [online]. Available from: <https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents>

² Great Britain. *Wildlife and Countryside Act 1981* [online]. Available from: <http://www.legislation.gov.uk/ukpga/1981/69/contents>

³ Great Britain. *Natural Environment and Rural Communities Act 2006* [online]. Available from: <http://www.legislation.gov.uk/ukpga/2006/16/contents>

⁴ <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

exempt. It will apply to small sites from April 2024.

- 3.4. Schedule 7A of the Act makes provision for grants of planning permission in England to be subject to a condition, to secure that the 'biodiversity gain objective' is met.
- 3.5. The 'biodiversity gain objective' is met in relation to development for which planning permission is granted if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.
- 3.6. The biodiversity value attributable to the development is the total of—
 - (a) the post-development biodiversity value of the onsite habitat,
 - (b) the biodiversity value, in relation to the development, of any registered offsite biodiversity gain allocated to the development, and
 - (c) the biodiversity value of any biodiversity credits purchased for the development.
- 3.7. The relevant percentage is 10%, but the Secretary of State may by regulations amend this paragraph so as to change the relevant percentage.
- 3.8. The biodiversity value of any habitat or habitat enhancement are to its value as calculated in accordance with the 'Biodiversity Metric'.
- 3.9. Every planning permission granted for the development of land in England shall be deemed to have been granted subject to the condition in sub-paragraph (2), which states that the development may not be begun unless:
 - (a) a biodiversity gain plan has been submitted to the planning authority
 - (b) the planning authority has approved the plan.
- 3.10. Local Planning Authorities (LPAs) will have to approve a biodiversity net gain plan for development work before it can start.

Planning policy

National Planning Policy Framework 2023⁵

- 3.11. Paragraph 180-184 of the NPPF relates to 'Conserving and enhancing the natural

⁵ HM Government. *National Planning Policy Framework December 2023*. Available at: https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf

environment' and Paragraphs 185-188 relates to 'Habitats and Biodiversity'.

3.12. Paragraph 180 of the NPPF states the following:

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

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

Wokingham Borough Local Development Framework, adopted January 2020

3.13. Policy CP7 (Biodiversity) states the following:

"Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or*
- B) Which may harm habitats or, species of principle importance in England for nature*

conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or

C) That compromises the implementation of the national, regional, county and local biodiversity action plans

will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

- i) Mitigation measures can be put in place to prevent damaging impacts; or*
- ii) Appropriate compensation measures to offset the scale and kind of losses are provided.”*

4 METHODOLOGY

Scope of assessment

4.1. The EclIA focuses on 'important ecological features', i.e. those which are considered to be of relevance to the decision-making process and could be affected by the proposed development. Important ecological features include protected species, habitats/species of 'principal importance' for biodiversity conservation (i.e. Section 41 habitats/species⁶), birds of conservation concern⁷, and invasive non-native plant species⁸.

Zone of influence

4.2. The 'zone of influence' (ZOI) is the area over which important ecological features (on-site or off-site) may be affected as a result of the proposed development and associated activities. The ZOI can vary for different ecological features, depending on their sensitivity to environmental change.

4.3. The ZOI for statutory designated sites has been informed by Natural England's Sites of Special Scientific Interest (SSSIs) Impact Risk Zones⁹ (IRZs). IRZs define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. This has been determined as part of the desk study, as discussed below.

Desk Study

4.4. The following information was requested from Thames Valley Environmental Record Centre (TVERC) for a search area of 2 km around the central grid reference of the Application Site:

- Notable and protected species
- Statutory and non-statutory designated sites

⁶ Section 41 (41) of the Natural Environment and Rural Communities (NERC) Act, which came into force on 1st October 2006, requires the Secretary of State to publish a list of habitats and species which are of principle importance for the conservation of biodiversity in England.

⁷ Red list species are those that are globally threatened, whose population or range has declined rapidly in recent years (i.e. by more than 50% in 25 years), or which have declined historically and not recovered. Amber list species are those whose population or range has declined moderately in recent years (by more than 25% but less than 50% in 25 years), those whose population has declined historically but recovered recently, rare species (<300 breeding pairs or <900 wintering individuals), those with internationally important populations in the UK, those with localised populations, and those with an unfavourable conservation status in Europe. Species that meet none of these criteria are Green-listed.

⁸ Invasive non-native plants (Section 14) on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended).

⁹ Natural England (June 2019). Natural England's Impact Risk Zones for Sites of Special Scientific Interest (For use by Local Planning Authorities to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites and determine when to consult Natural England).

- Invasive and non-native species

4.5. The data was requested on 17th December 2024 and received on 18th December 2024.

4.6. The MAGIC website¹⁰ was used to carry out a 5km data search for SSSIs, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) with an IRZ that falls within the Application Site, in November 2024.

Field surveys

4.7. A field survey using UK Habitat Classification methodology was conducted on 22nd November 2024 by ACD Environmental Ltd. This was done in accordance with UK Habitat Classification methodology and undertaken within the red line boundary. Descriptions of full survey methods are provided in **Appendix 7**.

Limitations

4.8. The Extended UKHab survey was conducted in a sub-optimal period for detailed botanical surveys, therefore it is likely that species present during the summer months have died back to ground level and are no longer visible. Despite this, the grassland was confidently identified through vegetative identification of the species that were present.

Assessment methodology

4.9. 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 Assessment¹¹.

4.10. The importance of ecological features has been assessed to determine whether protected species/habitats, and/or species/habitats of conservation concern are present in the Application Site or its 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.

4.11. 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

¹⁰ *Multi Agency Geographic Information for the Countryside* [online]. Available at: <https://magic.defra.gov.uk>

¹¹ CIEEM (2019). Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, Version 1.1. updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

each important ecological feature is likely to be significant or not.

- 4.12. Significance is the weight that should be attached to effects when decisions are made. For the purpose of EclIA, 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 national to local.
- 4.13. A sequential process has been adopted to avoid/mitigate, and if required, compensate for significant negative ecological effects. This is referred to as the 'Mitigation Hierarchy'. Avoidance includes measures to change the design of the proposed development to avoid an impact occurring. Mitigation includes measures to avoid or reduce the negative impacts of the proposed development. Compensation addresses significant negative residual effects (those likely to occur after avoidance and mitigation have been considered). It is this objective of compensation, and not its location, that distinguishes compensation from 'mitigation'.
- 4.14. In EclIA, it is only essential to assess and report significant residual effects that remain after mitigation measures have been taken into account. However, the potential significant effects without mitigation as well as the residual significant effects following mitigation have been presented where the mitigation proposed is experimental, unproven or controversial and/or to demonstrate the importance of securing the measures proposed through planning conditions or obligations.

Valuation

- 4.15. The 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 species.
 - National importance – ecological features of national importance such as SSSIs, features which meet the criteria for designation as a SSSI, and/or sites that support nationally-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 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.

Precautionary principle

4.16. The evaluation of significant effects is based on the results of the ecological surveys carried out in the Application Site and other available evidence. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect is assumed. Where uncertainty exists, it has been duly acknowledged.

5 BASELINE ECOLOGICAL CONDITIONS

Context

5.1. The Application Site (Image 1) is a used long-established garden centre and consists predominately of hard-standing surface buildings, and artificial unsealed surface. A turfing business is located along the eastern section of the Application Site. Successional vegetation has colonised various areas of the hard-standing and unsealed surface, and a small area of woodland and modified grassland featuring a desiccated pond is located to the northwest corner of the Application Site.

Designated Sites

5.2. SSSIs, SACs and SPAs within 5km of the Application Site are shown in Table 1.

Table 1: Statutory designated sites within 5km of the Application Site

Name of statutory designated sites	Approximate distance and direction from Application Site	Reason for designation	Scale of importance
Lodge Wood and Sandford Mill SSSI	4.6km southwest	Two wet woodlands bordering the river Loddon, supports 10% of the UK population of Loddon lily <i>Leucojum aestivum</i> .	National
Harpsden Wood SSSI	4.9km northwest	26ha ancient woodland with diverse botanical structure, including uncommon species such as bird's nest orchid <i>Neottia nidus</i> , yellow bird's nest <i>Monotropa hypopitys</i> , and narrow-lipped helleborine <i>Epipactis leptochila</i> .	National

5.3. The Application Site lies within the SSSI Impact Risk Zones for Lodge Wood and Sandford Mill SSSI. However, liaison with Natural England is not required as the proposed development does not involve aviation proposals, agricultural developments, waste management facilities, or cause a discharge of liquid waste or water of more than 20m³ a day to surface water or ground.

5.4. Local (non-statutory) wildlife sites within 1km of the Application Site are shown in Table 2.

Table 2: Local wildlife sites within 1km of the Application Site

Name of Local Wildlife Site	Approximate distance and direction from the Application Site	Nature Conservation Interest	Scale of importance
Scarlett's Wood LWS	0.2km southwest	Ancient oak <i>Quercus</i> sp., and ash <i>Fraxinus excelsior</i> woodland, with ground flora associated with long-established woodlands.	Local
Culter's Coppice LWS	0.4km north	Semi-natural ancient woodland dominated by oak and hazel <i>Corylus avellana</i> coppice, with ground flora associated with long established woodland such as bluebell <i>Hyacinthoides non-scripta</i> , wood anemone <i>Anemonoides nemorosa</i> , moschatel <i>Adoxa moschatellina</i> , and wood spurge <i>Euphorbia amygdaloides</i> .	Local

5.5. Due to the small scale of the proposed development, it is unlikely that it will lead to a significant increase in recreational pressure on the nearby Local Wildlife Sites. Furthermore, only a small portion of Scarlett's Wood LWS is accessible through a public footpath, and no public footpath runs through Cutler's Coppice LWS. Therefore, the proposed development is not expected to result in a negative effect on local non-statutory sites

Habitats

5.6. Habitats are listed in order of importance. All the features described are shown on the Baseline Habitat Map in **Appendix 1**, and site photographs can be found in **Appendix 5**.

Mixed Woodland

5.7. To the northwestern corner of the Application Site was a parcel of mixed woodland of predominately cypress *Cupressus* sp., with occasional sycamore *Acer pseudoplatanus* and laurel *Laurus* sp.. The understory was heavily shaded due to the dense tree canopy, and contained large patches of bare ground with minimal ground cover, with ivy *Hedera helix* the

only species present within the understory. There were some fallen cypress branches and deadwood present.

5.8. The woodland was assessed to be in **poor** condition {one age class present, laurel present, high percentage of non-native trees, no veteran trees present, no recognizable NVC class, no coppice or regrowth, however there was no browsing pressure within the woodland, and featured deadwood}. Due to the small size, and high percentage of non-native species, the woodland was considered to be of **site** value only.

Modified grassland

5.9. A parcel of modified grassland is located in the northeastern section of the Application Site. The grassland appears to be heavily managed and was of a short sward at the time of the survey. Species diversity was low, with abundant perennial rye-grass *Lolium perenne*, common daisy *Bellis perennis*, and occasional dandelion *Taraxacum officinale*, creeping buttercup *Ranunculus repens*, and an individual specimen of green alkanet *Pentaglottis sempervirens*. To the western edge the grassland becomes sparser, and bryophytes more common, due to heavy shading from the tree canopy.

5.10. The modified grassland was assessed to be in **poor** condition and is of **site** value only.

Non-priority pond

5.11. Within the modified grassland was a small man-made pond. The water level was very low at the time of the survey, despite recent heavy rainfall, and abundant growth of bryophytes and creeping cinquefoil *Potentilla reptans* was noted at the water level, implying that the ponds water line rarely, if ever, reaches further than this, potentially due to a leak within the pond liner. The southern edge of the pond was entirely absent of standing water. The pond was planted with reeds, although ID to species level could not be achieved. Above the water-line, and to the south of the pond, grass and successional vegetation has re-colonised over the pond liner.

5.12. The pond therefore was in **poor** condition and of **site** value only, as it holds little value to wildlife due to the low water level and high volume of vegetation and algae cover.

Developed land, sealed surface

- 5.13. A large portion of the Application Site consisted of hard-standing concrete and tarmac. Common species of early successional vegetation had emerged between cracks and along the sides of the developed land, such as *Buddleia* sp., willowherb *Epilobium* sp., coltsfoot *Tussilago farfara*, dandelion, Canadian fleabane *Eryngium canadensis*, herb robert *Geranium robertianum* and pellitory *Parietaria judaica*.
- 5.14. The developed land, sealed surface is automatically assigned an **N/A condition** score within the Statutory Biodiversity Metric condition score and is of **negligible** ecological importance.

Artificial unvegetated unsealed surface

- 5.15. Gravel and heavily compacted bare ground cover the southern half of the Application Site. In areas of less foot and machinery traffic, early successional vegetation has colonised these areas, such as buddleia, willowherb, bristly ox-tongue *Helminthotheca echioides*, common chickweed *Stellaria media*, wood avens *Geum urbanum*, docks *Rumex* sp., as well as non-native lamb's-ear *Stachys byzantina*.
- 5.16. The artificial unvegetated unsealed surface holds **negligible** ecological value, and is automatically assigned an **N/A condition** score.

Introduced shrub

- 5.17. Non-native introduced shrubs have been planted in various pockets around the Application Site. Introduced shrub is automatically assigned a **N/A condition** score and is of **negligible** ecological value.

Buildings

- 5.18. Several buildings are located within the Application Site. A building plan has been included in Appendix 4.
- 5.19. B1 was a steel frame building polytunnel infilled on two sides, with a semi-translucent fabric roof.

- 5.20. B2 was a large two storey building, used for the main garden centre. The building was constructed with metal framing and tight wooden cladding, and in other sections, brick and corrugated asbestos cladding. The roof was pitched and constructed of corrugated asbestos. The majority of the building was in a good state of repair, with no evidence of damage or crevices within the cladding. However, along the eastern side of the building, some of the wooden cladding had slipped, and the brickwork featured some large crevices and gaps where the brickwork meets the corrugated asbestos.
- 5.21. B3 was a steel frame structure with timber cladding and lightweight semi-translucent fabric roof. There were several holes and gaps within the roof. The wooden cladding around the exterior of the building remained in good condition.
- 5.22. B4 was a small wooden building with a metal sheeting roof. The building was in a good state of repair with no signs of damage or crevices within the walls.
- 5.23. B5 was a single storey flat roofed building with wooden cladding and a metal sheeting roof. Several of the wooden beams were damaged or falling off, and there was some damage to the soffits.
- 5.24. B6 was a small aviary with a tiled roof, wooden beams and chipboard with large mesh windows. The tiling was in a good state of repair with no damage or slipped tiles.
- 5.25. B7 was a single storey shed with wooden cladding and metal sheeting roof. There was no loft space within the building, and was in a good state of repair, with no damage to the exterior of the building.
- 5.26. B8 was a single storey flat roofed shed with wooden cladding and a felt roof. The building was in a good state of repair. An additional single storey building with a clay tiled roof was attached along the side featuring a blocked off ornamental dove tower. The tiles were in good condition and no gaps or damage were noted.
- 5.27. Several additional show model garden sheds were located to the west of the Application Site, all of which were in new condition with no signs of damage. There were also several sealed metal storage containers around the Application Site.
- 5.28. The buildings within the Application Site are of **negligible** ecological importance within their own right.

Individual trees

5.29. There were 38 individual urban trees recorded within the Application Site, species and condition assessment of each tree/group of trees are identified in Table 3.

Table 3: Individual and groups of trees within the Application Site.

Species	Size group	Condition group	Reasons for condition
Pine (x2) <i>Pinus</i> sp.	Medium	Moderate	Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities, more than 20% of tree canopy oversailing vegetation beneath.
Common lime <i>Tilia x europaea</i>	Large	Good	Native species, tree is mature, tree canopy is predominately continuous, little to no adverse impact on tree health by human activities, more than 20% of tree canopy oversailing vegetation beneath.
Sycamore	Large	Good	Native species, tree is mature, tree canopy is predominately continuous, little to no adverse impact on tree health by human activities, more than 20% of tree canopy oversailing vegetation beneath.
Cypress	Medium	Poor	Tree canopy is predominately continuous, more than 20% of tree canopy oversailing vegetation beneath.
Cypress	Small	Poor	Tree canopy is predominately continuous, more than 20% of tree canopy oversailing vegetation beneath.
Ash	Small	Moderate	Native species, tree canopy is predominately continuous, little to no adverse impact on tree health by human activities, more than 20% of tree canopy oversailing vegetation beneath.
Western red cedar (x7) <i>Thuja plicata</i>	Small	Poor	Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities
Leyland Cypress (x9) <i>Cupressus x leylandii</i>	Medium	Poor	Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities

Elm (x4) <i>Ulmus procera</i>	Small	Moderate	Native species, Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities
Sycamore (x3)	1 x large, 2 x medium	Moderate	Native species, Little to no adverse impact on tree health by human activities, more than 20% of tree canopy oversailing vegetation beneath
Sycamore (x3)	Small	Moderate	Native species, Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities.
Unidentified non-native cultivars (x4)	Small	Moderate	Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities, more than 20% of tree canopy oversailing vegetation beneath
Horse chestnut	Small	Moderate	Native species, Tree canopy is predominately continuous, little to no adverse impact on tree health by human activities.

5.30. Outside of the northern Application Site boundary stands a large-sized pollarded sycamore standing approximately 3m high that will require removal to facilitate access to the proposed development. It is recommended this trunk is left *in-situ* within the proposed development to provide deadwood habitat for invertebrates and small mammals.

5.31. Given the high density of non-native species, the trees are considered to be of **site** value only.

Ornamental hedgerows

5.32. The Application Site features several small ornamental hedgerows comprising of cypress and laurel. Ornamental hedgerows are automatically assigned an **N/A condition** score and are considered to be of **site** value only.

Off-site habitats

Mixed Hedgerow

5.33. Outside of the eastern boundary of the Application Site is a hedgerow featuring laurel, cypress, hawthorn *Crataegus monogyna*, sycamore, willow *Salix* sp. and birch *Betula* sp. The hedgerow is outside of the Application Site boundary however may be indirectly affected by the proposed development without appropriate mitigation during the construction phase.

Mixed Scrub

5.34. Immediately adjacent to the western fencing of the Application Site boundary, there is a large area of willow and poplar *Populus* sp. scrub. Measures should be made to ensure this scrub is not negatively affected during the proposed works.

Flora

Non-native invasive species

5.35. The Application Site was largely dominated by Buddleia growing within the gravelled areas and cracks within the hard-standing surface. While buddleia is not listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), they are rapid spreaders and can quickly colonise an area under a lack of appropriate management, outcompeting native wildflowers.

Fauna

Amphibians, including great crested newt

5.36. The data search identified 13 records of amphibians within a 2km radius of the Application Site, pertaining to smooth newt *Lissotriton vulgaris* (6 records) and great crested newt *Triturus cristatus* (7 records). The most recent record of great crested newt was recorded c.200m south of the Application Site through an eDNA sample in 2021. The closest record related to a great crested newt found during a torchlight survey in 2004, c.150m east of the Application Site, in a private pond.

5.37. No EPS licences for great crested newt have been granted within 2km of the Application Site. Naturespace have produced an Impact Map which details Impact Risk Zones for Great Crested Newts; the risk zones are categorised by colour; black, red, amber, green and white zones, each colour relates to the likely importance in the area in terms of great crested newt population. According to NatureSpace Partnership, the Application Site is in a red impact zone for great crested newts. Red zones are areas that contain key populations of great crested newts, which are important on a regional, national or international scale.

5.38. The Application Site holds primarily negligible suitability for amphibians due to the majority of hard-standing surface. The woodland within the northwest corner provides sub-optimal habitat for amphibians during their terrestrial phase, due to a lack of suitable vegetation and cover within the understorey.

5.39. The Application Site features a man-made pond, however this pond had very low water levels at the time of surveying and was considered defunct. The pond was surrounded by regularly

managed modified grassland, and further on, hard-standing surface to the north, east and south. The pond lacked appropriate vegetation favoured for great crested newt egg-laying and was instead dominated by reeds and mosses. The on-site pond therefore holds low suitability for amphibians.

- 5.40. The data search on MAGIC Maps did not display any priority pond data within 2km of the Application Site, however Google Maps and OS Maps were used to locate notable ponds and waterbodies in a 500m radius. A map displaying locations of the off-site ponds is included in **Appendix 5**.
- 5.41. Pond 1 was located within a residential garden c.100m southeast, in which great crested newt presence was confirmed in 2004. Pond 2 was located within a walled residential garden located c.150m south, in which an eDNA survey confirmed great crested newt presence in 2021. Pond 3, located c.360m east, was situated on the edge of a woodland and had confirmed presence of great crested newt in 2018. One pond was identified c.60m west of the Application Site on OS Maps, and appears in Google Earth Pro satellite imagery in 2014, however subsequent years show this area now dominated by scrubby growth, implying the pond is defunct and since been replaced by vegetation.
- 5.42. Pond 1 and Pond 3 are separated from the Application Site by a B road and agricultural land, and subsequently the hard-standing surface of the Application Site itself, with no significant connectivity to the woodland at the northwest corner of the Application Site.
- 5.43. Pond 2 is separated from the Application Site by an intact brick wall surrounding the north and west of the pond, creating a significant dispersal barrier between these sites.
- 5.44. Furthermore, the off-site ponds are surrounded by good quality terrestrial habitat, such as woodland, ruderal vegetation, and hedgerows, and it is unlikely that amphibians will traverse to the sub-optimal woodland within the Application Site when more suitable habitat is located closer by.

5.45. Reptile surveys were undertaken in 2021 by Crossman Associated Ltd¹² in relation to a separate planning application (planning ref: 212466) for the adjacent site along the western boundary. No amphibians were recorded during the surveys, indicating that this off-site area does not support great crested newt. Additionally, buildings and hard standing along the edges and across the centre of this off-site area significantly reduce connectivity corridors between the western adjacent scrub off-site, and subsequently on-site woodland, to the surrounding ponds. This planning application has since been approved without the requirement of a great crested newt mitigation licence or district level licence.

5.46. The proposals were entered into the rapid risk assessment found on the first page of the Method Statement for great crested newt mitigation licence applications to assess the likelihood the development of the Application Site impacting great crested newts in the local area. To calculate the likelihood of impact, all areas of suitable habitat within the Application Site, in this case only the small area of woodland proposed for removal, was used in conjunction with all ponds within 500m of the Application Site, with all ponds presumed to support newts. Results from the risk assessment can be found in **Figure 1**.

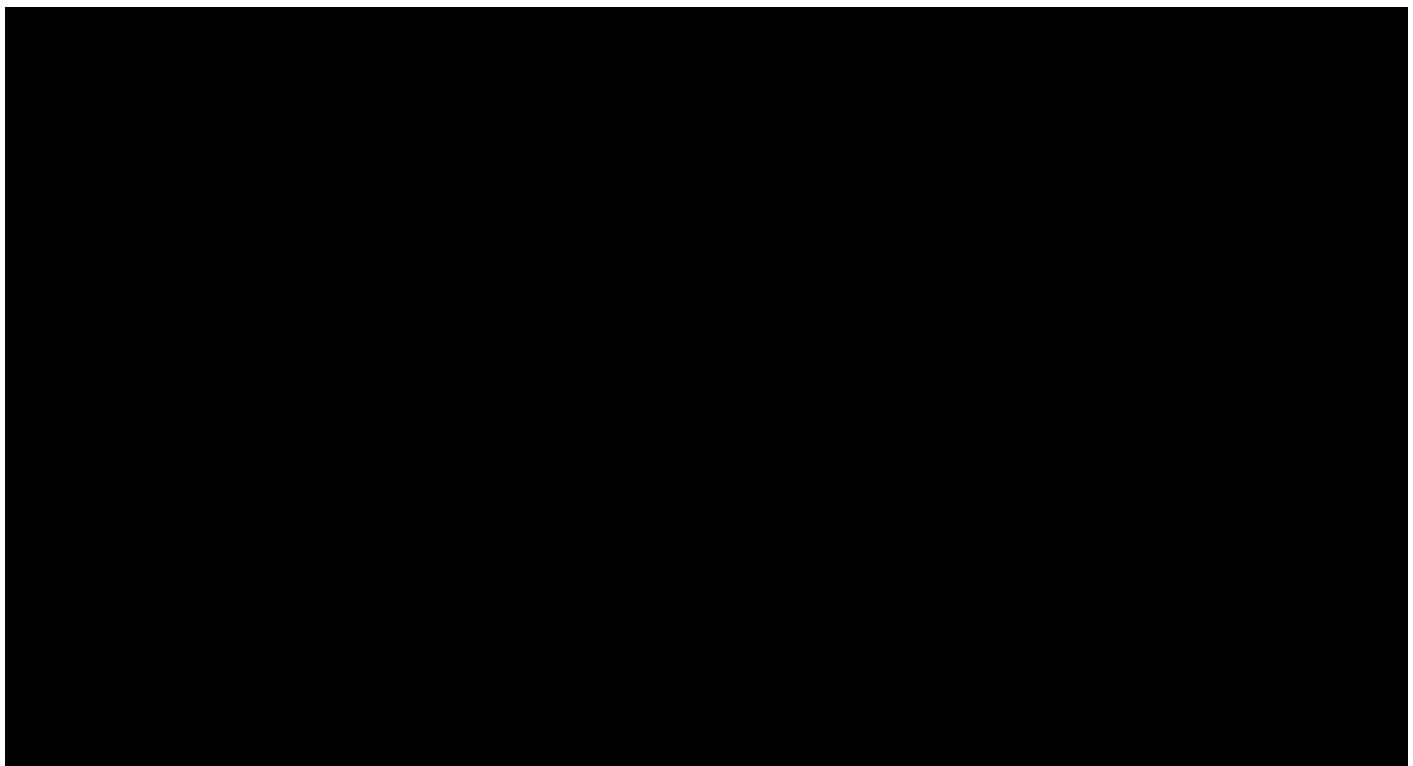
Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
		Maximum: 0.01
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Figure 1: Summary of the Risk Assessment Tool for great crested newts, Natural England based on potentially suitable habitats lost.

5.47. Nonetheless, the Application Site falls within a red risk zone for great crested newt, therefore their wider presence must be acknowledged. The on-site woodland and off-site scrub to the west still holds suitability, albeit limited, for amphibians in their terrestrial phase.

¹² Crossman Associates Ltd. October 2021. ‘Ecological Surveys of the Bird Gardens, Hare Hatch’. PDF.

Badgers



Bats

- 5.51. The data search identified a total of 110 recordings of bat species within a 2km radius of the Application Site between 2000-2024 pertaining to; brown long-eared bat *Plecotus auritus* (41 records), common pipistrelle *Pipistrellus pipistrellus* (31 records), soprano pipistrelle *Pipistrellus pygmaeus* (19 records), noctule *Nyctalus noctule* (6 records), and whiskered bat *Myotis mystacinus* (1 record).
- 5.52. For records where species level could not be identified, 4 records were identified to *Pipistrellus* sp., 2 records to *Myotis* sp., and 4 records to *Plecotus* sp..
- 5.53. A brown long-eared roost, common pipistrelle roost, and soprano pipistrelle roost were confirmed within a residential building c. 220m south of the Application Site in 2017, with additional records of all species within this area present in 2023. The closest records to the Application Site pertained to commuting common pipistrelle, *Myotis* sp., and soprano pipistrelle c.200m southwest in 2021.

5.54. Three bat EPS licences have been granted within the 2km radius of the Application Site, the closest licences pertaining to the destruction of a soprano pipistrelle breeding roost 0.5km east of the Application Site (licence reference: 2020-45673-EPS-MIT-1) between 2020-2030. A licence was granted 0.7km north for the destruction of a common pipistrelle roost between 2018-2019 (licence reference: 2018-35667-EPS-MIT). The third licence was granted for the destruction of roosts pertaining to common pipistrelle, soprano pipistrelle, brown long-eared bat, and natterer's bat c. 1.1km north of the Application Site.

Roosting

5.55. Two buildings within the Application Site were considered to hold bat roosting suitability.

5.56. B2 featured some damaged wooden cladding and crevices within the brickwork along the eastern edge of the building, as well as a large opening over one of the doorways. However, the location of the building is relatively unsuitable for roosting bats due to the noise of the active landscaping company nearby, light pollution from security lighting around the Application Site, and lack of suitable foraging and commuting opportunities. Therefore, the building was assessed to hold **low** roosting potential.



Image 2: Slipped wooden boards on B2



Image 3: Doorway with large opening on B2

5.57. B5 featured several damaged or slipped wooden cladding along the walls, with some damage noted within the soffits, providing suitable crevices for roosting bats. The building is located along the southern boundary of the Application Site and has linear connections into the wider landscape through scattered trees and a hedgerow to the southeast of the building. The building was originally assessed as holding high roosting suitability, however following external emergence survey efforts, it was considered appropriate to downgrade this assessment to **moderate** roosting suitability. More details of these surveys will be provided in the third-party bat survey report.

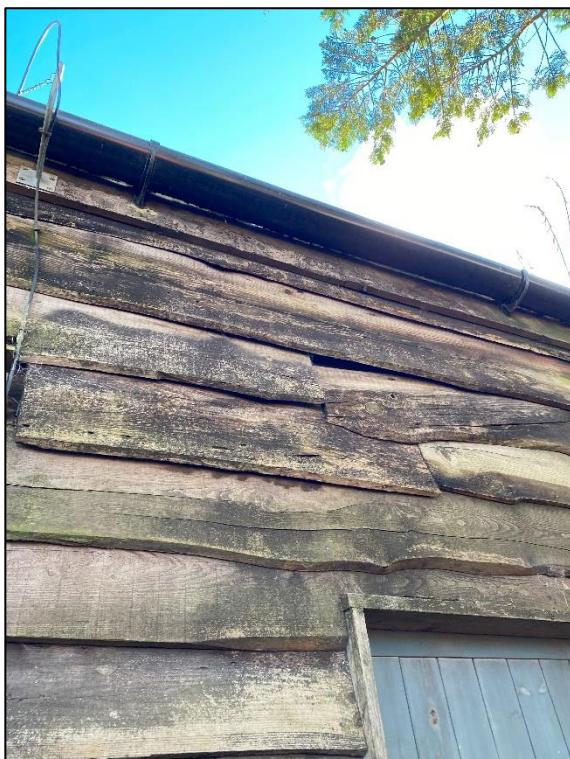


Image 4: Example of slipped wooden cladding on B5

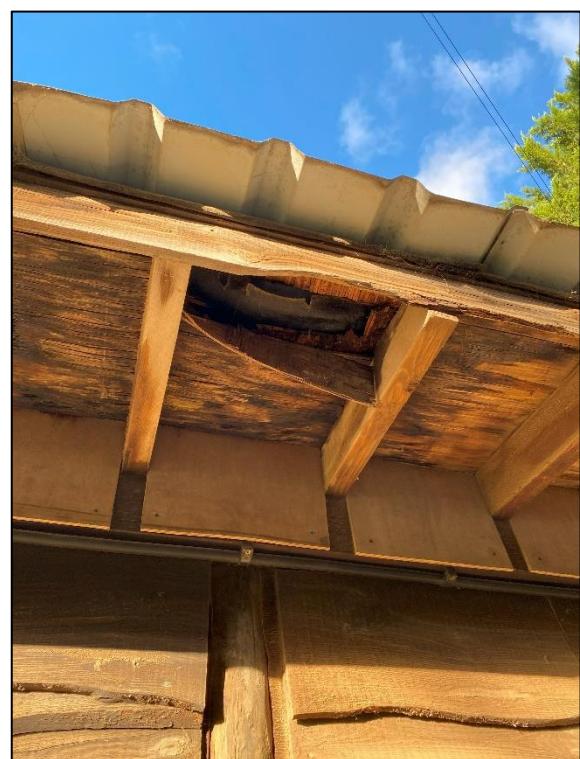


Image 5: Damage to soffits on B5

5.58. The remaining buildings and sheds within the Application Site were considered to hold **negligible** roosting suitability. The importance of the Application Site for roosting bats will be confirmed following the further surveys, which are required to confirm the presence/ likely absence of roosting bats on-site.

Foraging and commuting

5.59. The Application Site holds limited potential for commuting bats in the form of the off-site hedgerow adjacent to the eastern boundary and off-site scrub along the western boundary. However, security lighting around the Application Site has reduced suitability for bats, and the hard-standing surface does not support large populations of invertebrates for foraging opportunities.

5.60. Therefore, foraging and commuting bats are considered unlikely within the Application Site. As the eastern hedgerow and off-site scrub are not within the Application Site boundary, and therefore not affected by proposed works, it is not considered necessary to undergo bat activity surveys. However, there is still potential for increased lighting to disturb foraging and commuting bats, if present. A sensitive lighting strategy should be incorporated into the design to ensure that lighting levels do not exceed current levels along the boundary vegetation.

Birds

5.61. The following species were recorded within 2km of the Application Site. Species are listed based on their UK conservation status as outlined in the Birds of Conservation Concern 5 (BOCC5) produced by The Royal Society of the Protection of Birds (RSPB). Species are categorised into three colours, Green (Least Concern), Amber (Moderate Concern), and Red (Critical Concern):

- Green listed species: red kite *Milvus milvus*.
- Amber listed species: black-headed gull *Chroicocephalus ridibundus*, kestrel *Falco tinnunculus*, redshank *Tringa totanus*, song thrush *Turdus philomelos*, tawny owl *Strix aluco*, teal *Anas crecca*, whitethroat *Currucà communis*, woodpigeon *Columba palumbus*, and wren *Troglodytes troglodytes*.
- Red listed species: fieldfare *Turdus pilaris*, house martin *Delichon urbicum*, lapwing *Vanellus vanellus*, starling *Sturnus vulgaris*, swift *Apus apus*, turtle dove *Streptopelia turtur*, and yellowhammer *Emberiza citrinella*.

5.62. During the survey, blue tit *Cyanistes caeruleus* and great tit *Parus major* were heard within the trees of the Application Site. The Application Site holds favourable habitat for birds in the form of woodland, individual trees, hedgerows, and buildings. Due to the commonality of the habitats on site, it is unlikely the Application Site will support any populations of notable bird species. Measures should be followed to ensure breeding birds are protected during the construction phase.

Hazel Dormouse

5.63. No records of hazel dormouse *Muscardinus avellanarius* within 2km of the Application Site were returned from the data search.

5.64. The Application Site itself holds little suitability for dormouse. The woodland lacks the structural and species diversity required to support dormice. The hedgerow outside of the eastern Application Site boundary may be utilised for commuting, however it is adjacent to a track frequently used by machinery and other vehicles, creating a large amount of dust and noise pollution along this hedgerow.

5.65. Therefore, it is considered that dormouse are likely to be **absent** from the Application Site, and have been scoped out of further assessment.

Reptiles

5.66. The data search revealed five records of reptiles within 2km of the Application Site. Four records pertained to grass snake *Natrix helvetica* c. 900m north in 2011, and one record of a slow-worm c.90m west from the Application Site in 2021.

5.67. The Application Site itself provides negligible habitat for reptiles, as the grassland onsite is kept at a short sward, and the remaining site consists of hard-standing or gravelled surface. Therefore, it is considered that reptiles are likely **absent** from the Application Site. However, protection measures afforded to amphibians will ensure any individual reptiles, if present, are safeguarded during the construction phase.

Other mammals

5.68. Four records of European hedgehog *Erinaceus europaeus* were returned from the data search, the closest record relating to a roadkill report c. 150m northeast of the Application Site, along the A5. Hedgehogs are a JNCC¹³ priority species and a species of Principal Importance under the NERC Act 2006¹⁴. The hedgerows and scrub on site may provide suitable commuting and hibernating habitat for hedgehogs, and the grassland is favourable for foraging behaviour.

5.69. Therefore, other mammals are considered to be of importance within the zone of influence, which in this case is the Application Site boundary. Precautionary measures to protect hedgehogs are outlined within Section 7.

¹³ Great Britain. JNCC UK BAP List of UK Priority Species [online] Available from: https://data.jncc.gov.uk/data/98fb6dab_13ae-470d-884b-7816afce42d4/UKBAP-priority-terrestrial-mammals.pdf.

¹⁴ Great Britain Natural Environment and Rural Communities Act 2006 [online] Available from: <https://www.legislation.gov.uk/ukpga/2006/16>.

6 SCHEME DESIGN

- 6.1. The proposals are for the construction of 19 residential dwellings with associated access and landscaping within the Application Site.
- 6.2. The development would result in the removal of developed land, sealed surface, buildings, a small section of woodland, and individual trees.
- 6.3. The modified grassland, pond and remaining woodland will be retained and enhanced to provide biodiversity enhancements within the Application Site. Additionally, the proposed dwellings will be fitted with artificial habitat boxes to increase roosting and nesting opportunities for birds and bats.



Figure 2: Proposed site plan. Drawing ref: P25/09/S/101

7 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

7.1. In accordance with CIEEM guidelines, the following important ecological features have been identified with the potential to be affected by the proposed development and carried forward for further assessment:

Table 3: Important ecological features brought forward for impact assessment

Statutory sites	None
Local Wildlife sites	None
Habitats	Individual trees, woodland, hedgerows, pond
Species and species groups	Amphibians, bats, nesting birds, badger, other mammals

7.2. The following ecological features have been scoped out of the ecological impact assessment, owing to the conclusion that no significant effects are predicted:

Table 4: Ecological features scoped out of the impact assessment

Statutory sites	Sites listed in Table 1
Non-statutory sites	Sites listed in Table 2
Habitats	All other habitats
Species and species groups	Invertebrates, hazel dormouse, reptiles

Habitats

Individual trees, woodland, and hedgerows

7.3. Based on current design plans, the proposed development will involve the retention of 9 individual trees, with the remaining 29 trees set for removal, and the removal of a small section of the woodland.

Construction impacts

- 7.4. In the absence of adequate protection there is potential for retained trees, off-site scrub adjacent to the western boundary, and the off-site hedgerow adjacent to the eastern boundary to be negatively impacted by an increase in vibration and dust during construction activities. In addition, the trees could be damaged by the tracking of vehicles or earthworks if root protection areas are not fenced off.
- 7.5. This would result in a minor negative impact on a local level.

Avoidance/mitigation measures

- 7.6. Root Protection Areas (RPAs) will be established around the retained trees in line with BS5837:2012 and will be clearly marked out through the use of Heras fencing or similar. The Tree Protection Fencing (TPF) will be maintained throughout the construction phase and will be subject to regular checks to ensure it remains intact.

Residual effects

- 7.7. With the above mitigation, the retained trees may still be affected by an increase in dust and vibration, however this will be reduced to a **temporary non-significant minor negative effect**.

Non-Priority Pond

- 7.8. The pond is to be retained based on current design plans. In the absence of adequate mitigation there is potential for pollutants from the construction phase to enter the pond. This would result in a negative long-term impact on a site level.

Avoidance/mitigation measures

- 7.9. The pond will be protected during the construction phase through implementation of Biodiversity Protection Zones (BPZ's), clearly marked out with Heras fencing or similar. Pollution prevention measures should be followed to ensure the pond is not negatively impacted by chemical contamination or pollution. This will be secured through a Construction and Environmental Management Plan (CEMP).

Residual effects

- 7.10. With the above mitigation, the proposed works will have a **negligible** effect on the pond.

Fauna

Amphibians, including great crested newt

- 7.11. Suitable amphibian and great crested newt habitat within the Application Site is limited to a small area of sub-optimal woodland in the northwest corner of the Application Site, however the woodland lacks suitable vegetation cover favoured by overwintering and foraging amphibians. Furthermore, there are several distinct dispersal barriers between this woodland and the off-site ponds located in a 250m radius of the Application Site.
- 7.12. However, the location of the Application Site falls within a red risk zone, as defined by Naturespace Ltd, therefore their wider presence must be acknowledged with suitable measures put in place to prevent harm to any individuals which may enter the Application Site during works. Given the woodland holds limited suitability for great crested newts, and the remaining Application Site holds negligible suitability, a non-licensed method statement is considered appropriate to avoid harm to this species. Reasonable Avoidance Measures (RAMs) are outlined below.

Avoidance/mitigation measures

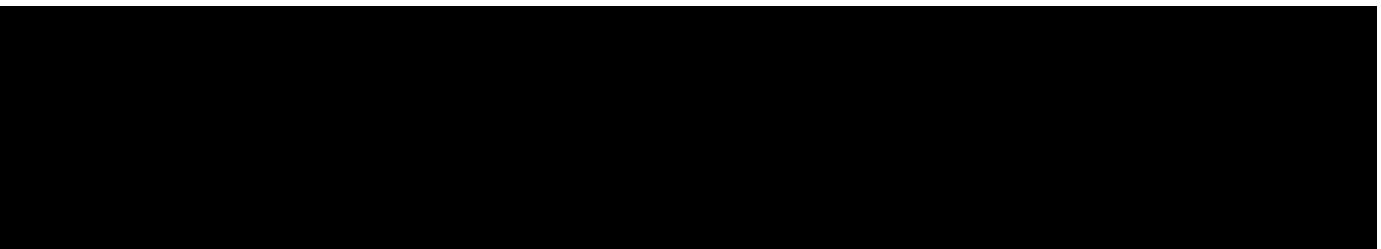
- 7.13. The pond, grassland and majority of the woodland are to be retained, therefore should be protected as a Biodiversity Protection Zone during the construction phase. Heras fencing, or similar, will be placed around the edges of the BPZ. No contractors or machinery will be permitted within the BPZ.
- 7.14. As a precaution, all hedgerow maintenance and tree maintenance are to be done using hand tools only, to prevent heavier machinery destroying or damaging the retained woodland and off-site scrub along the eastern boundary of the Application Site. Additionally, hand maintenance of boundary habitats provides amphibians more time to move and relocate to neighbouring habitats.
- 7.15. Any excavations must be managed to avoid the formation of temporary waterbodies which might attract amphibians to the Application Site during works.
- 7.16. Building materials will be stored on pallets and covered wherever possible to prevent creating accidental refugia and attracting great crested newts to the Application Site.
- 7.17. Throughout the construction phase, any grassland present within the construction zone, will be maintained at a short height to prevent any herpetofauna or other wildlife moving into the Application Site.

- 7.18. Should any grassland require removal, this will occur during March – October (the active herpetofauna season) only when temperatures exceed 10°C. If the modified grassland has been allowed to grow to a taller sward prior to construction commencing, the grassland removal will be phased and cut down initially by 10-15cm in a directional manner, starting at the center of the fields and moving outwards. No less than 24 hours should elapse before the second stage of removal. The area should then be left for 24 hours to allow any amphibians that may be present to move out of the area into surrounding habitats. Vegetation can then be cut down to ground level, again using directional cutting. Following the cut to ground level a soil strip can take place as necessary. If hand tools are not used, appropriate machinery must be capable of being adjusted to the desired heights, to enable the first cut to be high.
- 7.19. If any piles of rubble or debris are present within the construction footprint, that could act as hibernacula and/or refuge to amphibians, will be checked and dismantled by hand, by an ecologist, prior to construction, where safe to do so.
- 7.20. Any sightings of herpetofauna by contractors/workers, will be reported to the site manager, and the project ecologist.

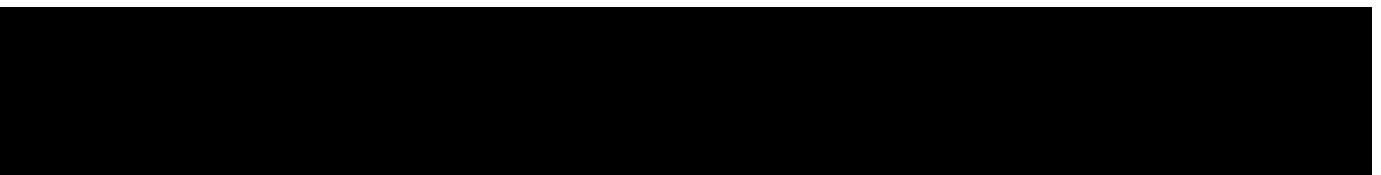
Significance of residual effects with mitigation

- 7.21. Following the sensitive vegetation clearance as outlined above, potential harm to amphibians will be significantly reduced, and the development will result in a **negligible** impact on amphibians.

Badger

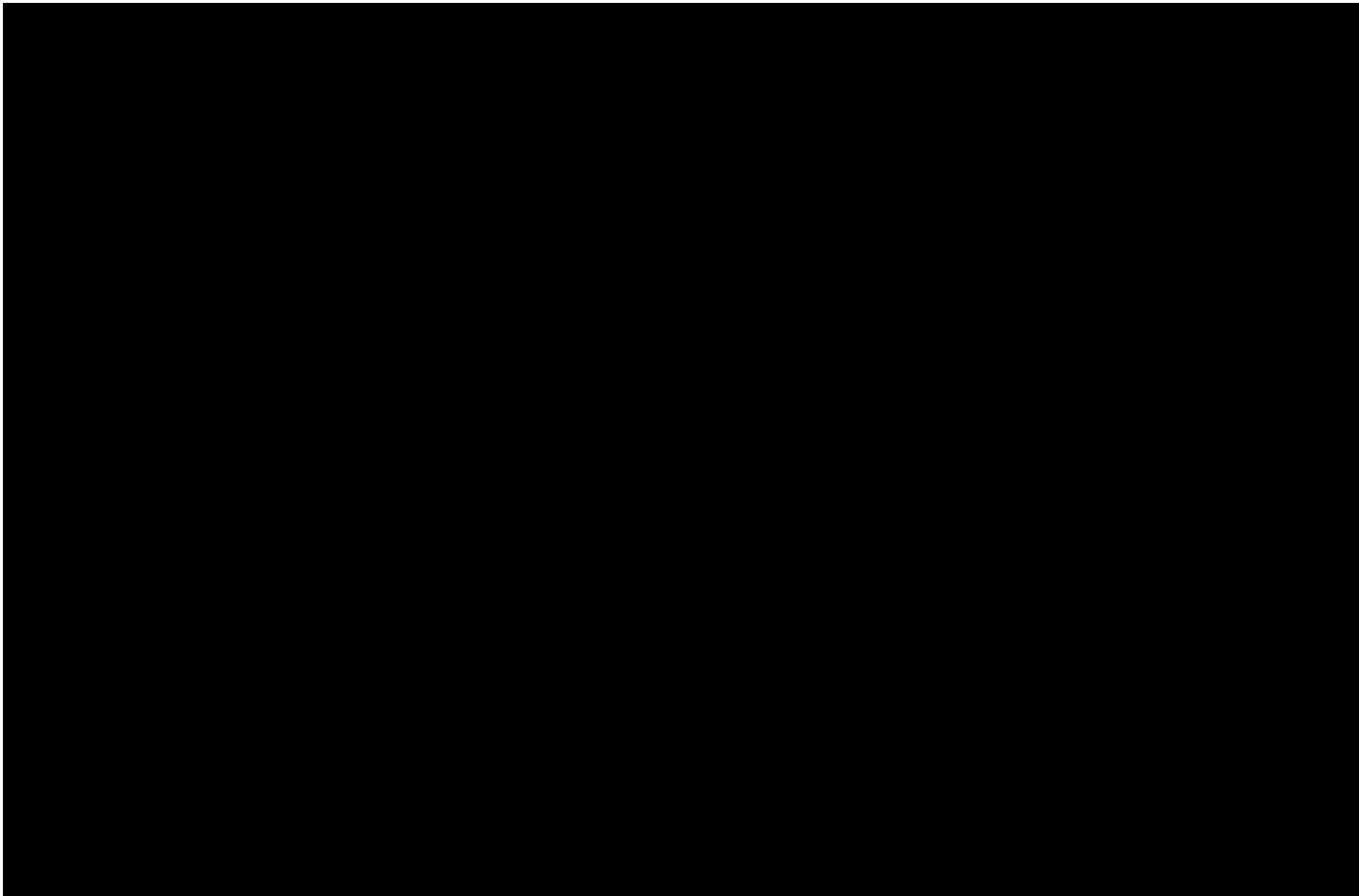


Construction impacts



Avoidance/mitigation measures





Significance of residual effects with mitigation

Bats

Roosting

- 7.26. The Application Site features two buildings with roosting suitability for bats. B2 held low roosting suitability along its eastern elevation, and B5 held moderate roosting suitability due to several slipped and damaged wooden boards and damage to the soffit. The proposed works will require the demolition of all buildings. If bats are present within the building, these works would lead to disturbance of roosting bats; and at worst could lead to the destruction of bat roosts and killing/injury of roosting bats.
- 7.27. **The bat roosting interest of the Application Site cannot be valued until further surveys are undertaken on buildings 2 and 5, in line with best practice guidelines.**
- 7.28. The bat survey for building 2 will comprise one emergence survey undertaken between May to August.

- 7.29. The bat surveys for building 5 will comprise of two emergence surveys to be undertaken between May and September, with at least one undertaken between May and August.
- 7.30. If roosting bats are confirmed, a total of three emergence surveys will be required to characterise the roost, and a bat EPS licence is likely to be required in order for the proposed works to proceed lawfully.
- 7.31. A full assessment and details of any required replacement roosts and timing of works will be detailed within the full EclA which will be produced following completion of the bat surveys.

Foraging and commuting

- 7.32. The Application Site has limited potential for commuting and foraging bats in the form of the off-site scrub along the western boundary, and off-site hedgerow along the eastern boundary. These are to be retained based on current design plans, however, there is potential for lighting to exceed current levels during the construction and operational phase, negatively impacting commuting and foraging bats.

Construction impacts

- 7.33. Without appropriate mitigations there is a risk of increased lighting levels negatively impacting commuting and foraging bats along the Application Site boundaries.
- 7.34. This would have a temporary minor negative impact within the zone of influence.

Mitigation

- 7.35. To minimise the impact of the proposed development on commuting and foraging bats, the lighting scheme will be sensitively designed. During the construction phase, the following mitigation will be followed:
 - All works will be undertaken during normal working daylight hours. Any artificial lighting (if absolutely necessary) should not illuminate the boundary habitats;
 - Light levels should not exceed artificial light levels already present along the Application Site boundaries;
 - Where security lighting is required, it is recommended that these are motion-activated with hooded luminaries and directed away from the boundaries, particularly the western boundary; and
 - No lighting will fall or be directed on to the boundary vegetation.

Operational impacts

7.36. It is likely that the proposed development will lead to an increase in lighting along the Application Site boundaries, potentially disrupting commuting and foraging bats. Without appropriate mitigations this would have a long-term negative impact on commuting and foraging bats within the zone of influence.

Mitigation

7.37. Lighting during the operational phase must follow the principles of mitigation as outlined within the Bat Conservation Trust and Institution of Lighting Professionals Guidance Note. Mitigation measures for external lighting will include:

- Only luminaries with an upward light ratio of 0% will be used, and low-level bollard lighting will be used where feasible to retain darkness above the luminaire;
- All external luminaries used on site will lack UV elements and will be warm-white coloured (ideally <2700 Kelvin) to reduce blue-light components;
- LED luminaries will be used due to their sharp cut-off, lower intensity, good colour retention, and dimming capability;
- Where security lighting is installed, this should be motion-activated; and
- Lights will not be directed at boundary vegetation. Where required, lights can be fitted with hoods, baffles or louvres to reduce back-spill.

Significance of residual effects with mitigation

7.38. With implementation of the mitigation measures above, overall residual effects of the construction and operational phase on bats will be **negligible**.

7.39. Inherent mitigation is included within the current design plans through the retention of boundary vegetation, and enhancement of the pond and modified grassland to increase invertebrate population amongst the Application Site. Further enhancements can be made through the inclusion of bat boxes integrated within the new dwellings to increase roosting opportunities within the Application Site.

Birds

7.40. The buildings and trees within the Application Site hold potential for nesting birds.

Construction impacts

- 7.41. 16 individual trees, a small section of the woodland, and all buildings are to be removed based on current design plans, therefore there is potential for bird nests to be destroyed during site clearance works.
- 7.42. Without mitigation, site clearance and construction will lead to higher levels of noise pollution and dust in and around the Application Site. Elevated artificial noise could interfere with the audibility of territorial songs and mating calls, potentially affecting the ability of species to establish territories and breed successfully during the construction phase.
- 7.43. These impacts could lead to a minor negative effect on a local level.

Avoidance/mitigation measures

- 7.44. To avoid impacts on nesting birds, the trees and buildings should be cleared outside of the bird nesting season, which is generally considered to be February to August. However, this is variable, and many birds have been noted to nest earlier or later in the year due to the ongoing effects of climate change.
- 7.45. In the event that any suitable habitat (buildings or trees) must be removed during the bird nesting season then it must first be thoroughly checked by a suitably qualified ECoW within 48 hours prior to any work starting. If a nest is identified, the ECoW will establish a suitably sized buffer around the nest with high visibility tape (usually 5m dependent on species). No works will be permitted within the buffer, which must remain in place and undisturbed until the ECoW has confirmed that the young have fledged and that the nest is no longer in use. If it is not possible to fully access vegetation for checking prior to works, the ECoW will supervise the clearance work, ensuring a suitable methodology is adhered to. This work is to be undertaken using hand tools only. If a nest is identified in the absence of the ECoW, works will stop immediately and ACD Environmental will be contacted in the first instance.
- 7.46. Furthermore, protection of the RPAs and BPZs by Heras fencing will prevent accidental destruction of bird's nests beyond the construction zone.
- 7.47. Artificial habitat boxes will be placed around the development to compensate for the loss of nesting sites, as detailed in Section 8.

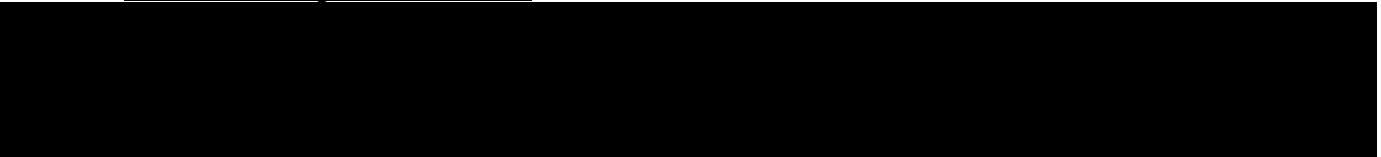
Significance of residual effects with mitigation

7.48. With mitigation as above, there is still potential for disturbance of nesting birds due to an increase in ambient noise, however this will be a **temporary non-significant minor negative effect**.

Other mammals

7.49. The Application Site holds high suitability for foraging and commuting hedgehogs. The works may therefore proceed with caution whereby care must be taken during clearance/groundworks to ensure any hedgehogs may be present are not harmed.

Avoidance/mitigation measures



7.51. The inclusion of hedgehog friendly fencing between the proposed residential gardens is recommended. Closed board fencing will include a 13x13cm hole cut into the base of the panel to facilitate hedgehog movement by creating a 'hedgehog highway'. This size gap is too small for most pets to fit through. To encourage residents not to block holes, signs can be placed above the gaps to illustrate their purpose.

Significance of residual effects with mitigation

7.52. Following appropriate mitigation measures, the proposed development will have a **negligible** effect on other mammals.

Table 5: Impact summary table

Feature	Scale of importance	Impact (before mitigation)	Type of impact (construction or operational)	Effect (without mitigation)	Mitigation	Residual effect
Amphibians	Site and local	Accidental harm during site clearance	Construction	Temporary negative effect	Sensitive vegetation clearance, and BPZs around the pond and retained vegetation.	Negligible
Birds	Site	Increased disturbance to breeding birds and loss of suitable nesting habitat. Potential accidental damage or destruction to nests.	Construction and operational	Temporary negative effect	Sensitive clearance outside of bird nesting season or following a nesting bird check by a suitably qualified ecologist. Heras fencing to be placed around retained vegetation.	Temporary minor non-significant
Bats -	Further surveys required					

roosting						
Bats – commuting and foraging	Site and local	Increased lighting levels along commuting and foraging boundaries	Construction and operational	Temporary and long-term negative effect	Sensitive lighting scheme to be incorporated during construction and occupational phases	Negligible
Other mammals - hedgehogs	Site and local	Accidental killing/injury.	Construction	Temporary negative effect	General good practice measures to be followed during construction phase. Inclusion of hedgehog friendly fencing within residential gardens.	Negligible

8 BIODIVERSITY NET GAIN

8.1. The Statutory Biodiversity Metric has been completed for the Application Site. This has been calculated using baseline habitat and species information collected during the UK Habitat Classification Survey and using post-development landscape proposals. A full methodology is provided in Appendix 8. A completed version of the Metric has been submitted in full as a separate Excel document.

On-site baseline	Habitat units	3.67
	Hedgerow units	0.05
On-site post-intervention	Habitat units	4.26
	Hedgerow units	0.91
Total net unit change	Habitat units	0.59
	Hedgerow units	0.86
Total net % change	Habitat units	16.02%
	Hedgerow units	1747.29%

8.2. The results of the Statutory Biodiversity Metric indicate that development of the Application Site will lead to 16.02% gain in habitats and 1747.29% gain in hedgerow units. The trading rules have not been met in terms of medium distinctiveness habitats, due to the loss of individual trees, with 1.7 credits required for category A1.

8.3. The following habitat creation measures have been incorporated within the Biodiversity Metric. For details on locations of these habitats please refer to the habitat creation plan which is presented within Appendix 3.

- Inclusion of Emorsgate EG10 Tussock Grass Mixture and Emorsgate EG1 General Purpose Meadow Grass Mixture, to be managed and maintained as 'good' condition modified grassland.
- Enhancement of woodland through planting of native shade tolerant flora such as wood anemone *Anemone nemorosa*, male fern *Dryopteris filix-mas*, herb Robert *Geranium robertianum*, and great wood-rush *Luzula sylvatica*.

- Enlargement and enhancement of pond through seeding of Emorsgate EP1F Wildflowers for Pond Edges, and inclusion of native aquatic planting such as marsh marigold *Caltha palustris*, yellow iris *Iris pseudacorus*, purple loosestrife *Lythrum salicaria*, greater tussock sedge *Carex paniculata*, and meadowsweet *Filipendula ulmaria*.

8.4. The proposals are currently achieving a net gain in habitat and hedgerow units, however fails to meet the trading rules for medium distinctiveness habitats. It is not considered feasible to deliver the required habitats on-site, therefore third-party offsetting will be required to satisfy the trading rules.

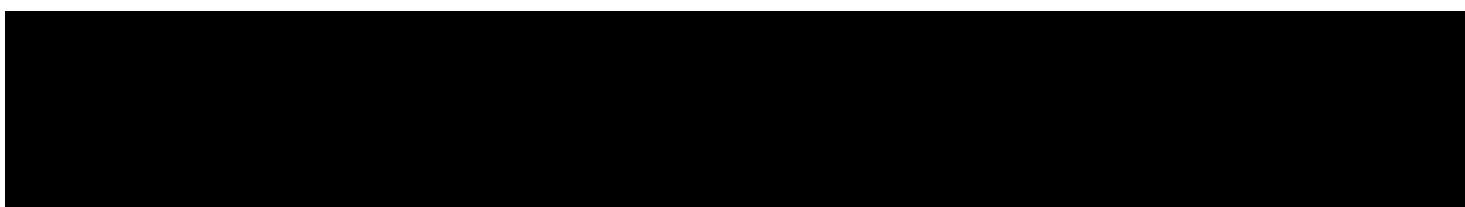
Additional enhancements

8.5. The following enhancements are recommended to provide new opportunities for wildlife:

- Inclusion of at least three bat boxes, such as Schwegler 1FR or similar, to be integrated into the walls of new dwellings. Integrated boxes are considered to have a longer life span than externally mounted boxes and provide maintenance free shelter for a variety of bat species. Bat boxes will enhance the roosting potential for bats within the Application Site.
- Inclusion of at least three bird boxes, such as sparrow terraces, integrated into the walls of the new dwellings. It is recommended that open nest boxes, suitable for robins *Erithacus rubecula*, tits *Paridae sp.*, and redstarts *Phoenicurus phoenicurus*, should also be included to compensate for the removal of trees within the Application Site.
- The development will contain a number of new gardens, which will provide habitats for hedgehogs which are a UK BAP priority species. To ensure hedgehogs are able to utilise the new garden habitats, closed board fencing will include a small hole (13cm x 13cm) cut into the base of the panel to facilitate hedgehog movement by creating a 'hedgehog highway'. This size gap is too small for most pets to fit through; but to encourage residents not to block holes signs can be placed above the gaps to illustrate their purpose.
- Leftover wood from removed trees should be used to provide log/brash piles around the proposed development to provide opportunities for invertebrates and small mammals.

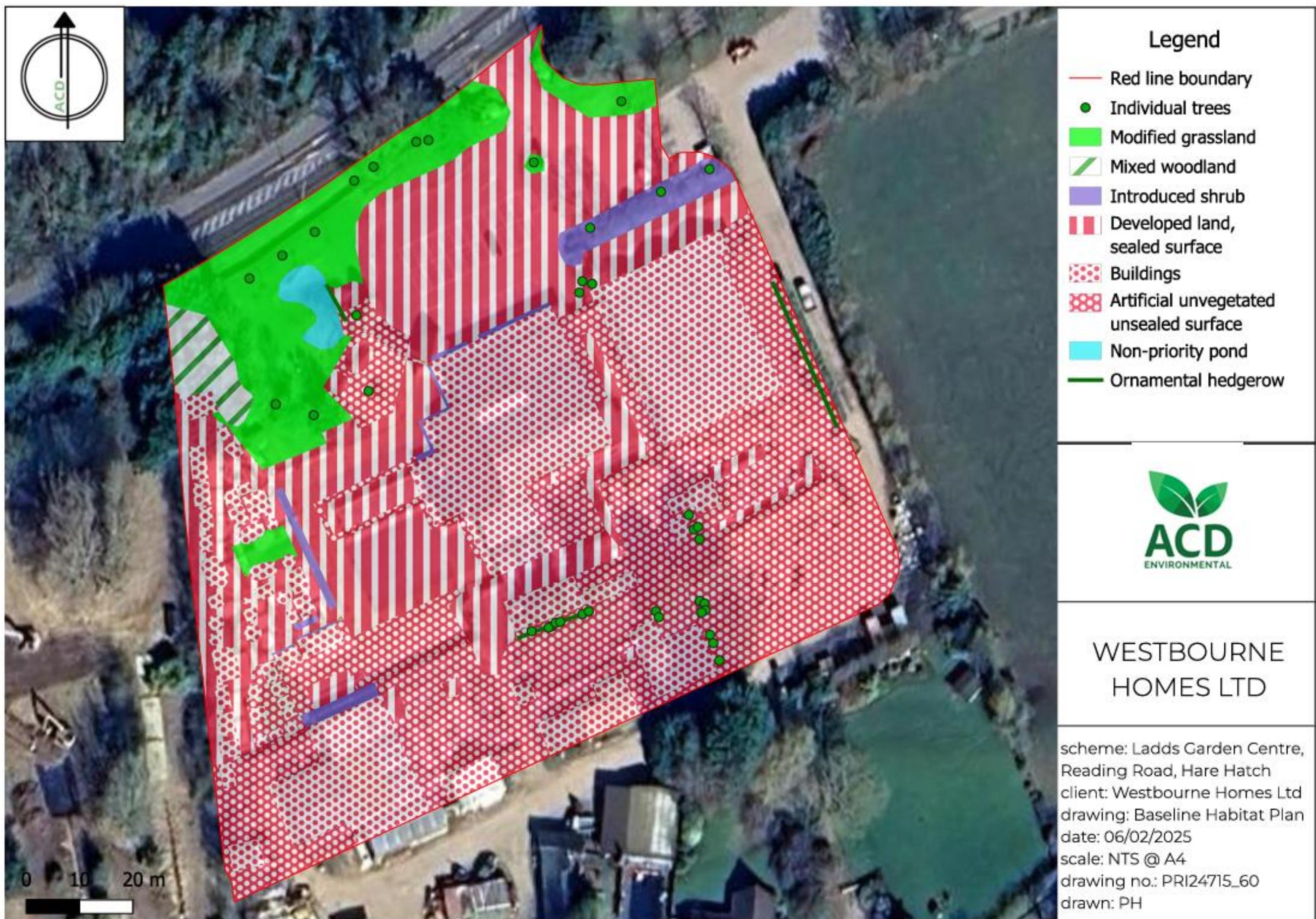
9 CONCLUSIONS

- 9.1. The Application Site comprises of developed land, sealed surface, buildings, artificial unsealed surface, individual trees, modified grassland, a non-priority pond, and woodland. The proposed development will lead to the clearance of the developed land, buildings, ornamental hedgerow, a small section of woodland, and individual trees.
- 9.2. Two emergence surveys on building 5, and one emergence survey on building 2 are required before recommendations on appropriate avoidance measures and mitigations can be given for roosting bats.

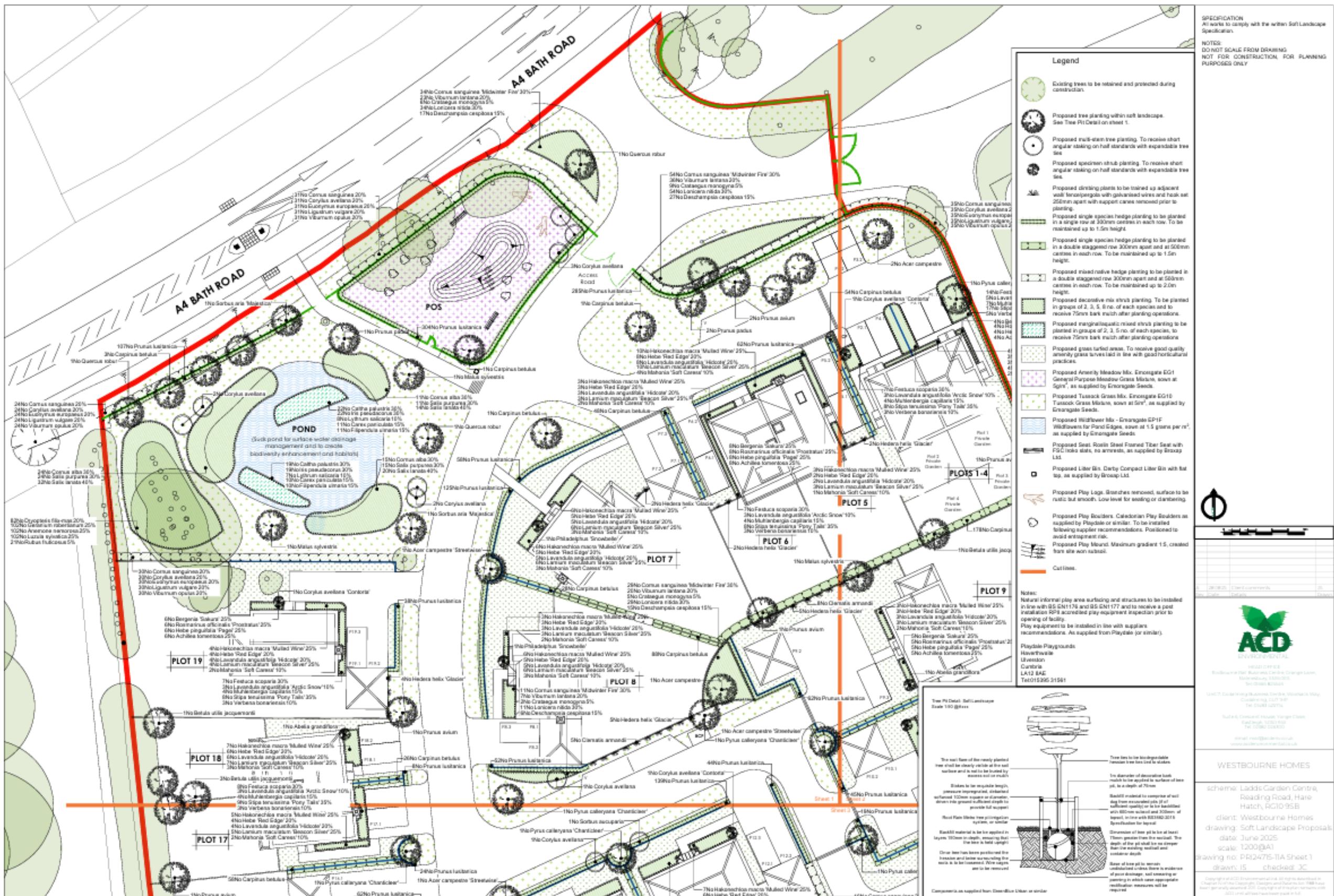


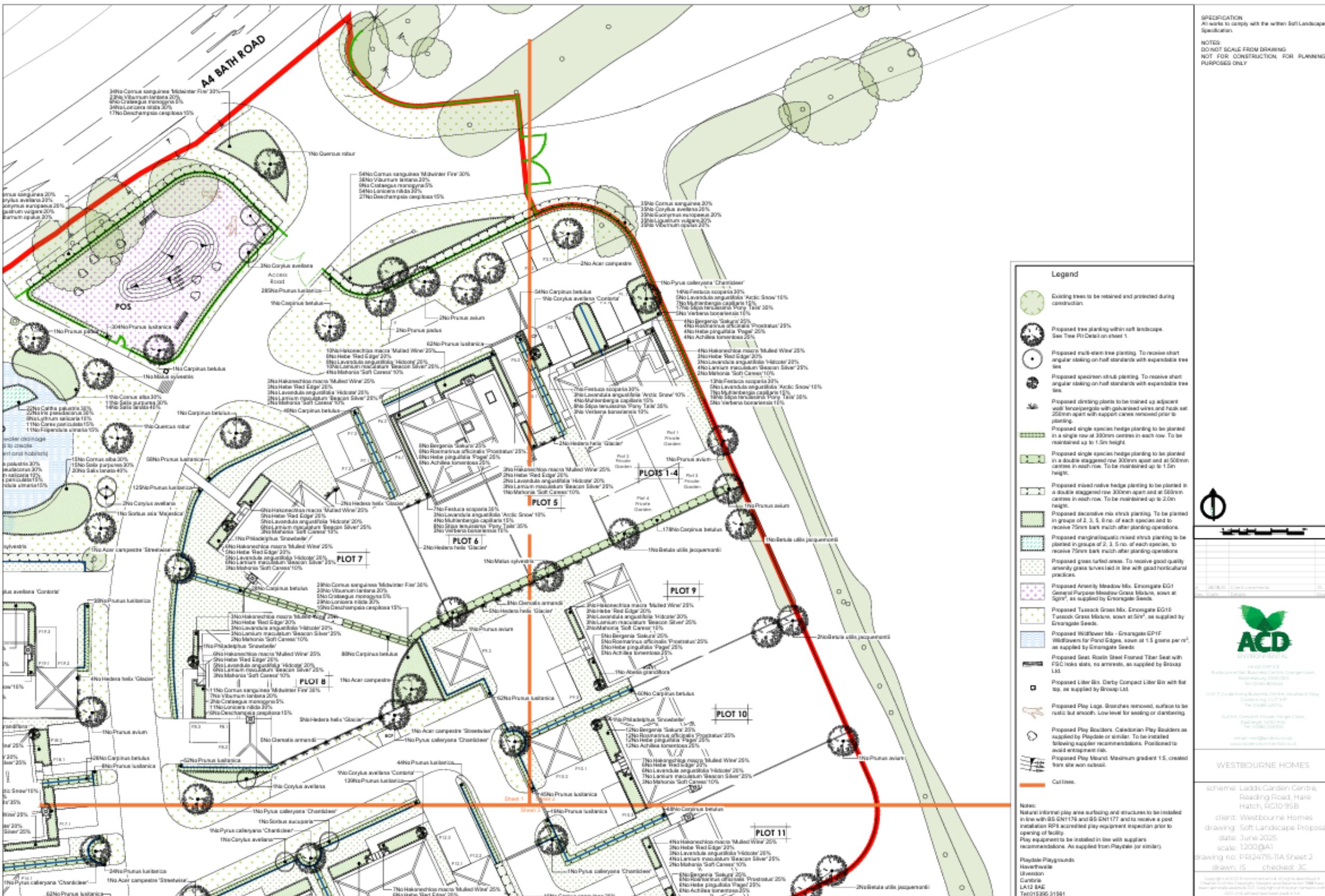
- 9.4. Precautionary measures are required to protect nesting birds during construction. The trees and buildings will be subject to a nesting bird check prior to any works or will be carried out outside of the nesting bird season (February-August inclusive).
- 9.5. A sensitive lighting strategy will be developed to maintain dark corridors for bats and other nocturnal mammals during the construction and operational phases of the development.
- 9.6. Provided offsetting of the medium distinctiveness habitats can be secured, and assuming the implementation of the mitigation and enhancement measures set out in this report, the proposed development will be in accordance with the NPPF and Wokingham Borough Local Plan.

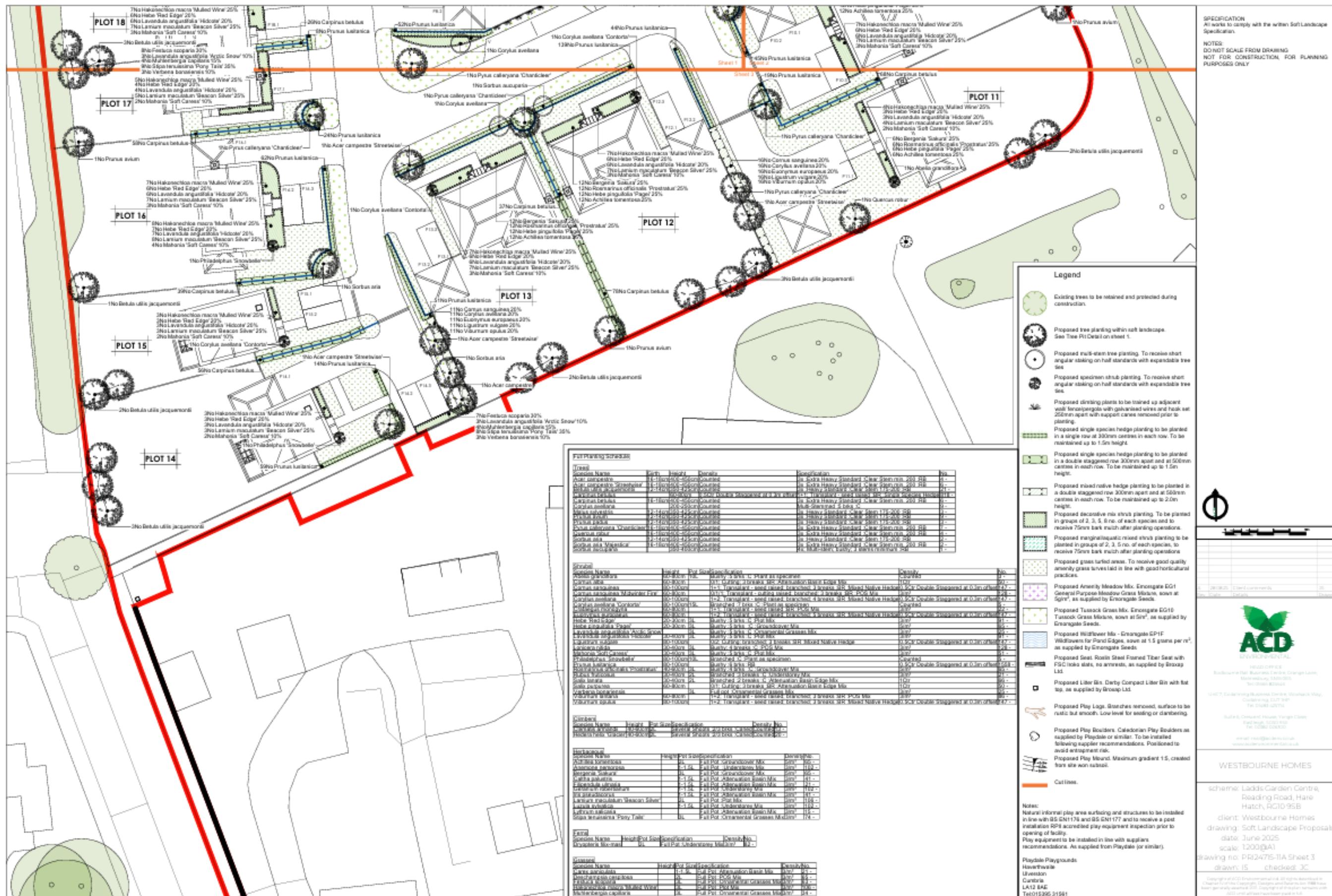
APPENDIX 1: BASELINE HABITAT MAP



APPENDIX 2: SOFT LANDSCAPE PLAN



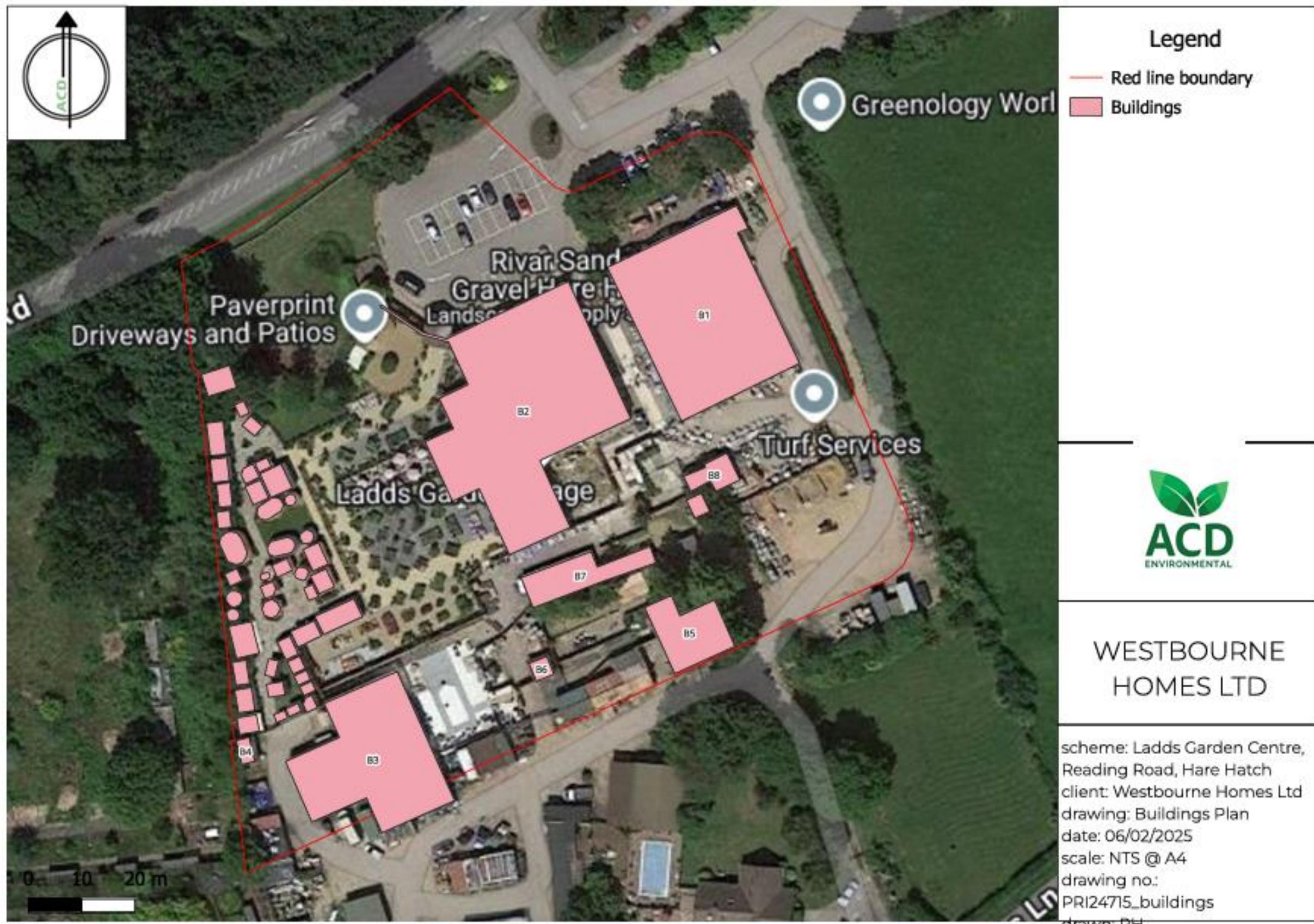




APPENDIX 3: HABITAT CREATION PLAN



APPENDIX 4: BUILDINGS PLAN



APPENDIX 5: POND LOCATION MAP



APPENDIX 6: SITE PHOTOGRAPHS

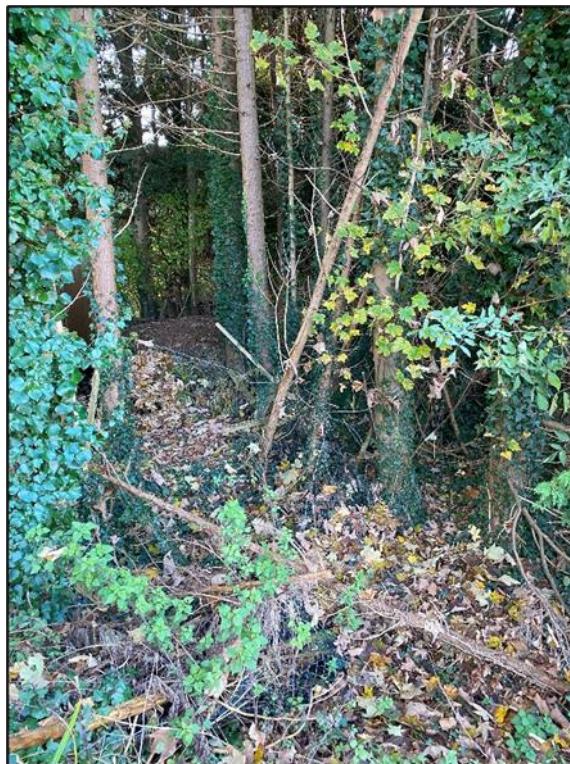


Image 4: Woodland within the Application Site



Image 5: Modified grassland within northwestern corner of the Application Site



Image 6: Non-priority pond within the Application Site



Image 7: Buddleia and willowherb growing with artificial, unsealed surface



Image 8: Frontage of B2



Image 9: B1 within eastern section of the Application Site



Image 10: Ornamental dove tower of B8

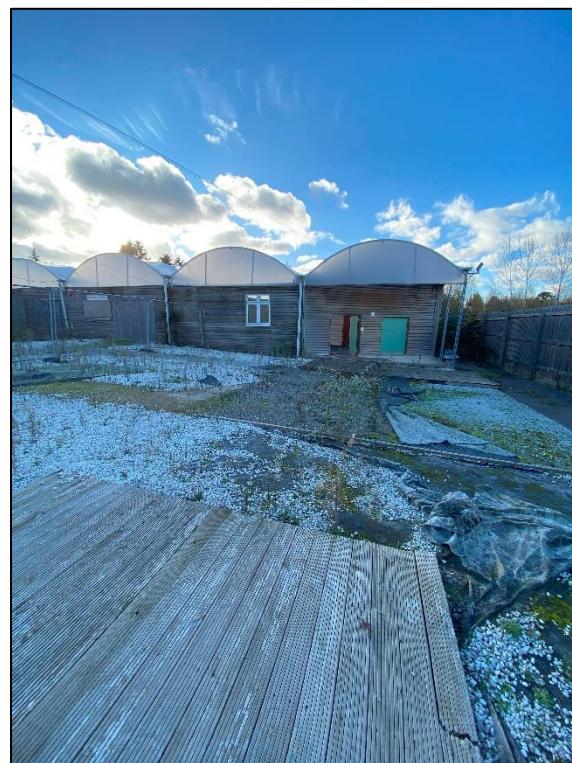


Image 11: Frontage of B8



Image 12: Ornamental hedgerow along eastern section of the Application Site



Image 13: Example of show garden sheds within western section of the Application Site



Image 14: B7 and B8 within the Application Site



Image 15: Looking northwest from the southern boundary of the Application Site

APPENDIX 7: FIELD SURVEY METHODOLOGY

Extended UK Habitat Classification Survey

The Baseline Habitat Map is shown in Appendix 1.

The UK Habitat Classification methodology¹⁵ was used to classify the Application Site into habitat types, as listed in the UKHab Manual v2.0. Where appropriate, dominant species codes within habitat types were recorded. Descriptive target notes were used for particular areas of interest.

Incidental records of fauna were made during the Extended UK Habitat Classification Habitat survey and the habitats identified were evaluated for their potential to support legally protected species and species of Principal Importance.

Limitations

There were no limitations associated with the Extended UK Habitat Classification Survey.

Preliminary Bat Roost Assessment

A Preliminary Roost Assessment (PRA) was carried out¹⁶. This is an external and internal inspection survey, the purpose of which is to search for bats/evidence of bats and assess the likelihood of bats being present and the need for further survey and/or mitigation.

A systematic search was made of the building and the ground, especially below potential access points where present. Such features include windows sills, window panes, walls, tiles, weather boarding, lead flashing, eaves, behind surfacing materials and under tiles, and other cracks and crevices that provide protection from the elements. Such features are known to be used by roosting bats.

The internal inspection included searching for the following evidence of roosting bats:

- Roosting bats within crevices or free-hanging
- Bat corpses e.g. on the floor, in uncovered water (header) tanks or other containers in roof voids
- Bat droppings beneath roosting features
- Feeding remains e.g. moth/butterfly *Lepidoptera* spp. wings and beetle *Coleoptera* spp.

¹⁵ UKHab Ltd (2023). UK Habitat Classification Version 2.0 (available at: <https://www.ukhab.org>)

¹⁶ Collins J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

wing casings

- Scratch marks and characteristic staining from urine and/or fur oil beneath roosting features e.g. on roofing timbers and walls within roof voids
- ‘Clean’ gaps associated with bat roosts
- Bat-fly *Nycteribiid* spp. pupal cases
- Droppings, corpses, feeding remains and/or bat-fly pupal cases beneath roof insulation, which indicates use by bats before the insulation was installed
- Clean swept floors, which may indicate evidence has been removed

The internal inspection included searching for the following features:

- Gaps within the structure of the roof e.g. mortise joints and junctions between roof timbers and between timbers and walls, and between the roof lining and roof covering
- Gaps within the structure of walls and potential access points to cavity or rubble-filled walls
- Gaps around the structure chimneys or within disused chimneys
- Suitable locations for free-hanging bats and/or night/feeding perches e.g. timber beams
- Gaps between lintels above windows or doors
- Light gaps in the roof indicating access points to the outside
- Cool areas suitable for torpor or hibernation e.g. cellars.

The following equipment was used for the bat survey:

- Powerful torch to illuminate dark corners from the ground
- Collection pots and labels for corpses and droppings;
- Camera to record evidence and potential roosting sites; and
- Personal protective equipment (e.g. boots, gloves, helmet, mobile telephone).

In addition to the buildings, the trees were also searched for bats/evidence of bats and assessed for their potential to support roosting bats. The evidence of roosting bats searched for is detailed above with regard to buildings (e.g. bat droppings and feeding remains). The features of bats were searched for on the trees with reference to the three broad categories of Potential Roost Features (PRFs) and sub-categories of PRFs from the Bat Tree Habitat Key¹⁷. These are as follows:

- Disease and decay PRFs:
 - Woodpecker and squirrel holes;
 - Knot holes;
 - Pruning-cuts;
 - Tear outs;
 - Compression forks;
 - Wounds;
 - Cankers; and
 - Butt rots.
- Association PRFs:
 - Fluting; and
 - Ivy.
- Damage PRFs:
 - Hazard beams;
 - Frost cracks;
 - Subsidence/shearing and helical splits;
 - Lightning strikes;
 - Desiccation fissures;
 - Transverse snaps;

¹⁷ Bat Tree Habitat Key 2018. *Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-care and Ecology professionals*. Exeter: Pelagic Publishing.

- Welds; and
- Lifting bark.

Limitations

There were no limitations to the Preliminary Roost Assessment.

APPENDIX 8: BIODIVERSITY METRIC METHODOLOGY

Assessment Framework

For the purposes of this assessment, the Statutory Biodiversity Metric has been utilised. The Statutory Biodiversity Metric is accompanied by a 'Calculation Tool'. This was used to calculate the biodiversity units for the Application Site before and after development. The assessment was conducted using the criteria set out within the Natural England guidance document.

Habitat Measurements

- Baseline habitat measurements were carried out in line with the results of the UKHab survey. Measurements were calculated using QGIS mapping software.
- Proposed habitat measurements were calculated from the soft landscape plans prepared.
- Measurements were entered to the nearest 0.001ha in area.

Habitats - Linear Features

- Linear features (hedgerows) have been measured in metres and the height and condition of the habitats were recorded during the habitat survey.
- Measurements were entered to the nearest 0.001km in length.

Distinction Assessments

Habitats are assigned to distinctiveness bands automatically within the Metric. These are based on an assessment of the distinguishing features of a habitat or linear feature, including the consideration of species richness, rarity (at local, regional, national and international scales), and the degree to which a habitat supports species rarely found in other habitats.

The distinctiveness band of each habitat is preassigned in the Statutory Biodiversity Metric. The bands are based upon the UK habitat classification system. A combination of simple rules and professional judgement have been used to assign each habitat type to the appropriate distinctiveness band. The distinctiveness categories used are tailored to habitat type.

Distinctiveness Assessments are assigned according to **Table 6**.

Table 6: Distinctiveness Assessment

Category	Scores	Multiplier
Very High	8	Priority habitats as defined in Section 41 of

Category	Scores	Multiplier
		the Natural Environment and Rural Communities (NERC) Act that are highly threatened, internationally scarce and require conservation action e.g. blanket bog
High	6	Priority habitats as defined in Section 41 of the NERC Act requiring conservation action e.g. lowland fens
Medium	4	Semi-natural habitats not classed as a Priority Habitat
Low	2	Habitat of low biodiversity value. Temporary grass and clover ley; intensive orchard; rhododendron scrub
Very Low	0	Little or no biodiversity value e.g. hard standing or sealed surface

Condition Assessments

Condition assessments for existing habitats can be found in the habitat descriptions above.

Strategic significance

The spatial location of a habitat is treated as a component of the quality of a habitat parcel in the same way as distinctiveness or condition. Strategic significance is used to determine whether the habitat is of increased importance due to its location.

Risk Factors

As part of any proposed habitat creation and restoration, risk factors must be taken into account to correct for disparity, delay or risk. These values are preassigned within the Statutory Biodiversity Metric and take into consideration the following factors:

- Temporal risk; and
- Difficulty of creation and restoration.

Advance/delay in habitat creation takes into account any significant time difference in the creation of a habitat type. This time is measured in full years and is entered by the assessor.

Habitat creation in advance is rewarded by reducing the difficulty and temporal risk multipliers applied. This reflects the lower delivery risk - there is less risk of failure when a habitat is already making progress towards its target condition.

Any significant delay in the creation of a habitat type relative to loss of on-site habitats (e.g. due to phased developments and developments that temporarily require parts of the development site for construction purposes) is added to the pre-populated time to target condition and increases the effect of the risk multiplier accordingly.

Limitations

Although the Statutory Biodiversity Metric is a valuable tool underpinned by ecological evidence, there are certain limitations that must be considered when applying the metric. The key principles and rules for the use of the Statutory Biodiversity Metric have been followed at all times, in line with these limitations. Further detail is available within the Statutory Biodiversity Metric User Guide

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