

Preliminary Ecological Appraisal & Roost Assessment

Survey site:

9 Whitethorn Lane, Letchworth Garden City, Herts SG6 2DN

Client:

Jane Lyons

Survey date:

24/08/2026

Project:

This report is prepared to inform a planning application with North Hertfordshire District Council. The project can be described as an infill to rear extension and replacement bi-fold doors.

On the assumption that site conditions and habitats remain unchanged, the results of this assessment will remain valid for 18 months from the date of this survey i.e. until February 2028, in accordance with CIEEM guidance in the lifespan of Ecological Reports and Surveys. This survey and report should be updated if a planning application has not been submitted within this timeframe.

EXECUTIVE SUMMARY

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in the proceeding sections of this report.

Table 1: Summary of key findings arising from this survey.

Key Findings
▪ A Construction Environmental Management Plan (CEMP) may be requested by the LPA via condition. ▪ Various precautionary working methods have been recommended which have been fully detailed within the fauna section of this report. ▪ It is recommended that Wall cotoneaster is dug up, including roots, and disposed of in line with appropriate controlled waste measures, or controlled during construction works to prevent the spread off-site.

1. INTRODUCTION

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy.

Methodology

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2025](#).

PRA survey methodology and legislation can be found in the Arbtech Supplement: [PRA Methodology and Legislation - 2025](#).

Survey Details

The site survey was undertaken on 24/08/2026 by Rosie Ryland BSc (Hons) MSc, Graduate Ecologist, accredited agent on bat licence number 2018-33540- CLS-CLS.

Table 2: The weather conditions during the survey.

Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
21.0	48.0	25	24.1	None

Survey Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the

assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

2. SITE LOCATION AND LANDSCAPE CONTEXT

2.1 Summary of Survey Findings

Site Location & Context

The site is centred at National Grid reference TL 22312 31476 and has an area of approximately 0.10ha. The site comprises five buildings (B1, B2, B3, B4 & B5), vegetated garden, artificial unvegetated, unsealed surface, ornamental pond and scattered trees. The site is located in a suburban setting, surrounded by residential housing, and a cricket club to the east. The local landscape has a residential character with large, vegetated gardens spanning the landscape. Further from the site to the west, south, and east are agricultural fields. To the north, there is the town of Letchworth Garden City. A review of historic maps indicates the landscape has been lost to significant development since the 1800's. Specifically where there is now a town and residential dwellings, there was once agricultural fields. The soil is medium, loamy but locally light, silt-rich, or sometimes heavy clay-rich soil and subsoil, with a highly variable pH due to mixed parent materials.

Priority Habitats

There are five priority habitats within 2km of the site. These comprise traditional orchard, deciduous woodland, ancient replanted woodland, wood pasture and parkland and ancient & semi-natural woodland. The closest priority habitat comprises traditional orchard, located 440m W from the site. Between the site and the closest priority habitat, traditional orchard, are residential dwellings and main access roads, reducing the connectivity of the two.

Designated Sites

Statutory Designations within 2km

There is one statutory designation within 2km of the site, as detailed below:

Table 3: The statutory designated sites within 2km of the site boundary.

Designation	Reason	Distance from Site
Norton Common Local Nature	Formerly arable and grazing land, Norton Common is a Local Nature Reserve in the heart of Letchworth. The woodland is alive with birds. Roam, through grassland full	1625m N

Reserve (LNR)	of wildflowers, find mineral-rich springs feeding the Pix Brook and see traces of ancient farming.	
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SSSI Risk Zone

The site does fall within the impact risk zone for Oughtonhead Lane Site of Special Scientific Interest (SSSI) however, the proposed development type is not listed as possible high risk with regard to this designation.

Non-Designated Sites

The presence of non-statutory designated sites within 2km of the site cannot be established without data from the Herts Environmental Records Centre (HERC). Whilst some habitats in the wider landscape may host designations, the immediate environs of the site do not host habitats likely to be of designable quality.

2.2 Foreseen Impacts

No direct impacts to any designated sites will occur as a result of the proposed development, due to the small scale and low overall impact of the development from such sites (where known), alongside additional factors such as distance in combination with connectivity disrupting barriers.

2.3 Recommendations

No recommendations.

3. ONSITE HABITATS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

3.1 Summary of Survey Findings

Urban - Built-up areas and gardens (u1) - Vegetated garden (828) with Introduced shrub (847), Scattered Trees (32)

The majority of the site is formed of vegetated garden with introduced shrubs. A vegetable patch is located to the rear of the garden. Species present within this habitat include sycamore (*Acer pseudoplatanus*), apple (*Malus domestica*), Lawson cypress (*Chamaecyparis lawsoniana*), Norway spruce (*Picea abies*), silver birch (*Betula pendula*), common holly (*Ilex aquifolium*), perennial rye-grass (*Lolium perenne*), sage (*Salvia officinalis*), rosemary (*Rosmarinus officinalis*), English oak (sapling) (*Quercus robur*), cherry laurel (*Prunus laurocerasus*), laurustinus (*Viburnum tinus*), Mexican orange (*Choisya ternata*), sweet marjoram (*Origanum majorana*), Siberian elm (*Ulmus pumila*), windbreak bamboo (*Bashania fargesii*), Japanese maple (*Acer palmatum*), evergreen spindle (*Euonymus japonicus*) and European beech (*Fagus sylvatica*). Full details of scattered trees within this habitat are provided in Table 4 below.

In accordance with the Statutory Biodiversity Metric, this habitat is not subject to a condition assessment.

Urban - Artificial unvegetated, unsealed surface (u1c) with Introduced shrub (847)

Areas of unsealed surface are present in the form of a gravel driveway, seating areas within the garden, and as pathways. Some areas of artificial unvegetated unsealed surface have plants including introduced shrubs and alpine plants. Species present within this habitat include Japanese maple (*Acer palmatum*) and wall cotoneaster (*Cotoneaster horizontalis*).

In accordance with the Statutory Biodiversity Metric, this habitat is not subject to a condition assessment.

Lakes - Standing open water and canals (r1) - Ornamental pond NON-WOODLAND (46)

There is a small ornamental pond within the vegetated garden measuring ~6m². The pond is covered in duck weed, and homes three fish, and aquatic snails. Common and palmate newts have been seen within the pond. Other submergent and floating plants are present. Species present within this habitat include European frogs bit (*Hydrocharis morsus-ranae*), common duckweed (*Lemna minor*), yellow flag (*Iris pseudacorus*) and variegated yellow pond-lily (*Nuphar lutea*).

In accordance with the Statutory Biodiversity Metric Condition Assessment Sheets, the ornamental pond non-woodland was assessed to have a **poor** condition value (see Appendix 5 for full condition assessments).

Hedgerows and lines of trees - Non-native and ornamental hedgerow (h2b)

Bordering the northern portion of the site, is a non-native ornamental hedgerow. The hedge is ~1.5m in height and 1m in width. Species present within this habitat include garden privet (*Ligustrum ovalifolium*), cherry laurel (*Prunus laurocerasus*) and lawson's cypress (*Cupressus lawsoniana*).

In accordance with the Statutory Biodiversity Metric, this habitat is not subject to a condition assessment.

Scattered Trees (32)

11 scattered trees were recorded across the site, comprising a mix of native and non-native species. No potential roosting features were identified. No evidence for bats was found.

In accordance with the Statutory Biodiversity Metric Condition Assessment Sheets, the trees were assessed as follows (see Appendix 5 for full condition assessments):

Table 4: The condition assessment scores for the scattered trees on site.

Tree	Common Name	Scientific Name	Size	Primary Habitat	Condition Score
T1	Sycamore	<i>Acer pseudoplatanus</i>	Small	Vegetated garden (828)	Good
T2	Apple	<i>Malus domestica</i>	Small	Vegetated garden (828)	Good
T3	Italian Cypress	<i>Cupressus sempervirens</i>	Small	Vegetated garden (828)	Moderate
T4	Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	Small	Vegetated garden (828)	Good
T5	Norway Spruce	<i>Picea abies</i>	Medium	Vegetated garden (828)	Good
T6	Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	Small	Vegetated garden (828)	Good
T7	Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	Medium	Vegetated garden (828)	Good
T8	Silver Birch	<i>Betula pendula</i>	Small	Vegetated garden (828)	Good

T9	Common Holly	<i>Ilex aquifolium</i>	Small	Vegetated garden (828)	Moderate
T10	Plum	<i>Prunus domestica</i>	Small	Vegetated garden (828)	Good
T11	Common Holly	<i>Ilex aquifolium</i>	Small	Vegetated garden (828)	Good

Building (u1b5)

There are five buildings on site; one is a residential dwelling, one is an outbuilding, two are sheds and one is a greenhouse.

3.2 Foreseen Impacts

The proposed development will result in the loss of ~12m² of artificial unvegetated unsealed surface. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats.

3.3 Recommendations

Best practice measures to minimise the possibility of pollution must be implemented during construction. This should include the following measures:

- Remove only the minimum of habitat required to facilitate the development
- Use of Heras or other appropriate fencing to prevent encroachment by contractors onto retained habitats.
- Protect retained turf and soil resource from destruction and compaction using plastic matting and wooden boarding. Do not store skips and other heavy materials on retained turf.
- Grasscrete, cell web or any other porous surface treatment facilitating recovery of vegetation is preferred to hard standing.

The proposed development is unlikely to trigger the requirement for a Biodiversity Net Gain (BNG) assessment, as it falls under one of the exemptions (less than 25m² of habitat being impacted, and the site is >0.2ha).

4. INVASIVE SPECIES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

4.1 Summary of Survey Findings

Wall cotoneaster (*Cotoneaster horizontalis*) was identified on the site which is listed as an invasive, non-native species under Schedule 9 of the Wildlife and Countryside Act 1981.

4.2 Foreseen Impacts

Construction could result in the spread of wall cotoneaster.

4.3 Recommendations

Any plants present on Schedule 9 of the Wildlife and Countryside Act 1981 are prohibited from release into the wild due to their capacity to cause ecological, environmental or socio-economic harm. Where Schedule 9 species are grown in private gardens, larger scale gardens, estates and amenity areas reasonable measures will be taken to confine them to the cultivated area so as to prevent their spreading to the wider environment and beyond the landowner's control. As such, not preventing the spread of Wall cotoneaster currently present on site, into the wild (*i.e. surrounding areas*), this could constitute an offence. As such it is recommended that Wall cotoneaster is dug up, including roots, and disposed of in line with appropriate controlled waste measures, or controlled during construction works to prevent the spread off-site.

5. FAUNA: BATS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

5.1 Summary of Survey Findings

EPSL data and local records

A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. No EPSLs are present within a 2km radius of the site.

The site is not within the zone of influence of a bat-designated SAC.

Foraging and commuting habitat

Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of vegetated garden, ornamental pond non-woodland and scattered trees, and offsite within 2km including traditional orchard, deciduous woodland, ancient replanted woodland, wood pasture and parkland and ancient & semi-natural woodland. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations.

Roosting habitat

Buildings and trees to be impacted by the proposed development were assessed for their suitability to support roosting bats below. There are a total of five buildings on site; residential dwelling (B1), outbuilding (B2), two sheds (B3 & B4) and greenhouse (B5). All buildings and trees were surveyed. There was no evidence of roosting bats identified. B1 has some features suitable for roosting bats, however these will not be impacted by the development. All trees will be retained.

Buildings

B1 : Residential dwelling

The building is a residential dwelling constructed with brick walls and a clay tile roof. While the walls and eaves showed no defects or suitable roosting features, small gaps were identified where replaced roof tiles met original ones on the southern elevation, presenting potential access for crevice dwelling bat species. The internal void, lined with plywood panelling and bitumen felt, was found to be in good condition with no noted access points for bats. No bat evidence was recorded during the survey. The building has **low** habitat value.



Building B1

Table 5a: The roosting features associated with building B1.

Feature	Materials/Details	Condition / description / suitability	Photograph
Walls	Brick with paint render	Condition/description The walls are in good condition with no defects. Suitability/access/evidence of bats No suitability for roosting bats.	 <i>B1 walls</i>
Roof	Clay tiles	Condition/description The tiles are in relatively good condition. On the southern elevation there is an area of missing tiles that have been replaced. On the northern elevation there are three instances of lifted tiles. Suitability/access/evidence of bats Where the replaced tiles meet the original tiles there are small gaps suitable for crevice dwelling species. The lifted tiles on the northern elevation are suitable for crevice dwelling species, these features were torched and no bats or evidence was	 <i>B1 roof</i>

		found.	
Eaves	uPVC and timber	Condition/description The eaves and barge boards are in good condition with no defects. Suitability/access/evidence of bats No suitable roosting features for bats recorded.	 B1 eaves
Windows	uPVC	Condition/description The windows and doors are in good condition with no defects. Suitability/access/evidence of bats No suitable roosting features were recorded.	 B1 window / doors frames and lintels

Internal void 1	Plywood panelling and bitumen felt.	Condition/description The void is in good condition with plywood panelling on the roof providing no access into the area. There is bitumen flet lining on the southern elevation in good condition. No evidence of bats was noted. Dimensions (approx): 8m length x 6m width x 1m height Suitability/access/evidence of bats No suitable roosting for bats due to lack of access points.	 <i>B1 internal void 1</i>
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B2 : Outbuilding

B2 is a summer house, of brick construction and a flat bitumen flet roof. The building is in good condition with no defects. No suitable roosting features for bats were recorded, and no evidence of bats was found. B2 is assessed as having **negligible** habitat value.



Building B2

B3 : Shed

B3 is a timber shed, with a gable ended bitumen felt roof. The building is in good condition with no defects. No suitable roosting features for bats were recorded, and no evidence of bats was found. B3 is assessed as having **negligible** habitat value.



Building B3

B4 : Shed

B4 is a timber shed, with a gable ended bitumen felt roof. The building is in good condition with no defects. No suitable roosting features for bats were recorded, and no evidence of bats was found. B4 is assessed as having **negligible** habitat value.



Building B4

B5 : Green house

B5 is a gable ended green house of glass construction. The building is in good condition with no defects. No suitable roosting features for bats were recorded, and no evidence of bats was found. B5 is assessed as having **negligible** habitat value.



Building B5

Trees

T1 is a sycamore. The tree has a DBH of 23cm.

T2 is an apple. The tree has a DBH of 10cm.

T3 is an Italian cypress. The tree has a DBH of 12cm.

T4 is a Lawson cypress. The tree has a DBH of 30cm.

T5 is a Norway spruce. The tree has a DBH of 40cm.

T6 is a Lawson cypress. The tree has a DBH of 30cm.

T7 is a Lawson cypress. The tree has a DBH of 45cm.

T8 is a silver birch. The tree has a DBH of 21cm.

T9 is a common holly. The tree has a DBH of 21cm.

T10 is a plum. The tree has a DBH of 15cm.

T11 is a common holly. The tree has a DBH of 30cm.

No roosting features were identified for any of the trees onsite.



Scattered trees; T1



Scattered trees; T2



Scattered trees; T3



Scattered trees; T4



Scattered trees; T5



Scattered trees; T6



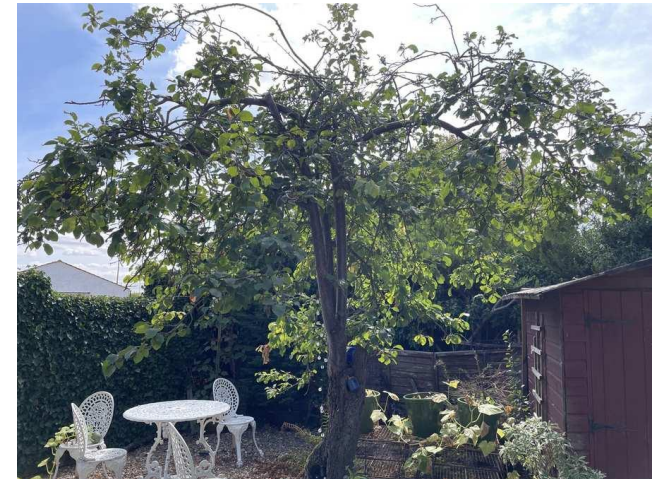
Scattered trees; T7



Scattered trees; T8



Scattered trees; T9



Scattered trees; T10



Scattered trees; T11

5.2 Foreseen Impacts

Roosting habitat [Buildings]

The proposed development will not affect any of the features that could be used by roosting bats which were noted on B1 during the survey and therefore no impacts to bat roosts are anticipated. However, the proposed development could result in disturbance to any bats present in the building at the time of the works due to noise, vibration or lighting. Bats are very unlikely to be roosting within B2, B3, B4 and B5 and as such, there are not anticipated to be any impacts on bats in these locations as a result of the proposed development.

Roosting habitat [Trees]

None of the trees present on site included suitable roosting features for bats to utilise, further none of the trees will be impacted. Therefore, no impacts to roosting bats are anticipated.

Foraging and commuting habitat

The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats.

Artificial lighting

No new lighting will be installed as a result of the proposed development.

5.3 Recommendations

Roosting habitat [Buildings]

The development works will need follow good practice measures to ensure no indirect impacts on bats or their roosts will occur while the works are undertaken. This will include but not be limited to the following:

- There will be no alterations to the roof of the southern and northern elevations of the gable ended roof, or any suitable bat features. All existing tile gaps on the roof will remain open and will not be blocked at any point in the future to enable their continued suitability for bat use.
- Vibration and noise on site will be kept to a minimum.
- The use of mechanical diggers powered and non-powered hand tools, plus small site-based table tools such as table saws etc. will be restricted to the north elevation, at ground level.

- If any evidence of bats is discovered within the work areas, work will stop immediately and a licence applied for from Natural England to continue. (This may need to be supplemented by further emergence surveys in the most recent active season (May-September).

If the development plans change at any time in the future to include works to the southern and northern roof pitch one bat emergence/ re-entry survey will be required during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the identified roosting features.

Roosting habitat [Trees]

In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.

Foraging and commuting habitat

No further surveys are required.

Artificial lighting

None required.

Suggested biodiversity enhancements

The installation of two bat boxes at the site will provide additional roosting habitat for bats.

The bat boxes will be incorporated into the fabric of the new extension or on mature trees around the site. Suitable bat boxes include Habibat Bat Box, Ibstock Enclosed Bat Box, or similar alternative brand.

Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.

6. FAUNA: BIRDS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

6.1 Summary of Survey Findings

Buildings

No evidence of nesting birds was identified on or within B1, B2, B3, B4 and B5. B1, B2, B3, B4 and B5 are deemed to provide negligible habitat value for nesting birds due to a lack of suitable nesting sites or access points.

Trees and vegetation

No bird nests were identified within the vegetation on-site, however vegetated garden and scattered trees offer both nesting and foraging opportunities.

Due to the small size of the site and the extent and type of the habitats recorded, the site is not considered suitable to support a significant assemblage of protected and/or notable birds.

Barn Owls

The site does not appear to provide any suitable nesting sites for barn owls.

6.2 Foreseen Impacts

Buildings / trees

No impacts are anticipated on nesting birds as a result of the proposed development, as the trees and vegetated garden will be retained.

Trees and vegetation

None foreseen.

Barn Owls

None foreseen.

6.3 Recommendations

Buildings / trees

None.

Trees and vegetation

No additional surveys required.

Barn Owls

No further barn owl surveys required.

Suggested biodiversity enhancements

The installation of a minimum of one bird box on the new extension, retained areas of B1, or mature trees around the site (integrated bird boxes favourable where possible), will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings), Schwegler 1SP Sparrow Terrace (buildings), Schwegler 1B Nest Boxes (trees), Schwegler 2H Robin Boxes (trees), Woodstone Nest Box (buildings or trees) or a similar alternative brand.

Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.

Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.

7. FAUNA: REPTILES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

7.1 Summary of Survey Findings

EPSL data and local records

A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site.

Habitat suitability

The dominant habitat onsite (vegetated grassland) is considered unsuitable for reptiles due to the species content (common and widespread species with minimal diversity) and associated management regime, where at the time of the survey the grassland was recorded as being a relatively short sward. Given the management regime employed on the grassland of the garden, as well as the species composition, it is considered unlikely that this faunal group would be present within this habitat.

Wider landscape

The wider landscape presents limited reptile habitat due to the low number of woodland pockets and priority habitats in close proximity to the site. Further, these habitats are not well connected to each other reducing the likelihood of reptiles using them.

7.2 Foreseen Impacts

No impacts are anticipated on reptiles as a result of the proposed development.

7.3 Recommendations

No further reptile surveys required.

8. FAUNA: AMPHIBIANS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

8.1 Summary of Survey Findings

EPSL and survey data

A review of the MAGIC database returned no granted EPSL records for amphibians within 2km of the site.

The site is located in an area where no District Level Licensing scheme for GCN is available.

Aquatic habitat suitability (including ponds within 500m)

Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001).

Pond P1 is a man-made pond, supplied with water from a hose and the rain. The pond is an ornamental pond within a vegetated garden. There is duckweed, and other floating and emergent species present. The pond has an area of ~6m², measuring ~2m x3m, and retains water all year round due to the supply of water from the rain and a hosepipe. Three fish are present within the pond and common and palmate newts have been noted within during the active seasons. The border of the pond is made of paving slabs and the habitat of vegetated garden and introduced shrubs continues in all directions from the edge. As a result of the Habitat Suitability Index (HSI), P1 scored 0.51, indicating below **average** suitability to support great crested newts.

The scores for each HSI parameter can be viewed in the table below:

Pond P1

SI Factor	Score
Geographic location	1
Pond area	0.1

Pond permanence	0.9
Water quality	0.67
Shade	0.2
Water fowl effect	1
Fish	0.33
Pond density	0.67
Terrestrial habitat	0.67
Macrophytes	0.7
HSI Score	0.51
HSI Category	Below Average

Table 6a: HSI scores for P1

Terrestrial habitat suitability

The site provides limited suitable terrestrial habitat for amphibians given the lack of optimal habitat (i.e. scrub, rank grassland). The areas of amenity grass and introduced shrub within the vegetated garden offer sub-optimal habitat for terrestrial amphibians.

8.2 Foreseen Impacts

When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the loss or significant disturbance of ~12m² of artificial unvegetated unsealed surface. If great crested newts are present within the pond onsite, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a green risk score, which states: **Offence Highly Unlikely**.

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)	0.001 - 0.01 ha lost or damaged	0.05
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
Maximum:		0.05
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Figure 1: Rapid Risk Calculator for GCN within the pond onsite.

8.3 Recommendations

Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures:

- Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats, including the pond onsite, that amphibians could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
- If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.
- In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist.

Suggested biodiversity enhancements

The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: <https://www.wiltshirewildlife.org/hibernaculum>.

9. FAUNA: RIPARIAN ANIMALS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

9.1 Summary of Survey Findings

A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed for riparian animals (otters and water voles). No EPSLs relating to riparian animals are present within a 2km radius of the site.

Habitat suitability

There are no water courses on or connected to the site. There are also no riparian habitats present on site or within an influencing distance.

9.2 Foreseen Impacts

No impacts are anticipated on riparian animals as a result of the proposed development.

9.3 Recommendations

No further surveys for riparian animals required.

10. FAUNA: HAZEL DORMOUSE

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

10.1 Summary of Survey Findings

EPSL data and local records

A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed for hazel dormouse. No EPSLs relating to hazel dormouse are present within a 2km radius of the site.

Habitat suitability

Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. As such habitats on site are considered unsuitable for hazel dormice and therefore the likelihood of this species being present on site is considered acceptably low. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright et al. 1994). The site is enclosed by urban infrastructure including roads and residential development. These landscape features fragment suitable dormice habitat in the wider landscape and are likely to limit dispersal opportunities to the site. As such it is considered likely that hazel dormice are absent from site.

10.2 Foreseen Impacts

No impacts are anticipated on hazel dormice as a result of the proposed development.

10.3 Recommendations

No further hazel dormouse surveys required.

11. FAUNA: [REDACTED]

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

11.2 Foreseen Impacts

[REDACTED]

11.3 Recommendations

[REDACTED]

12. FAUNA: INVERTEBRATES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

12.1 Summary of Survey Findings

The habitats present on-site, including introduced shrub, scattered trees, and vegetated garden, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.

12.2 Foreseen Impacts

Artificial unvegetated unsealed surface will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.

12.3 Recommendations

No further surveys.

Suggested biodiversity enhancements

The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new extension would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation.

13. FAUNA: OTHER NOTABLE SPECIES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

13.1 Summary of Survey Findings

One hedgehog dropping was identified onsite within the grassland of the vegetated garden. It measured ~4cm in length and looked relatively fresh. The introduced shrub and fruit trees onsite provide foraging and commuting opportunities for hedgehogs, and other small mammals.



Hedgehog droppings found on site

13.2 Foreseen Impacts

Artificial unvegetated unsealed surface will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog and other mammal populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs and small mammals, if present.

13.3 Recommendations

A precautionary working method will be implemented during construction, including the following measures:

- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.
- The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.

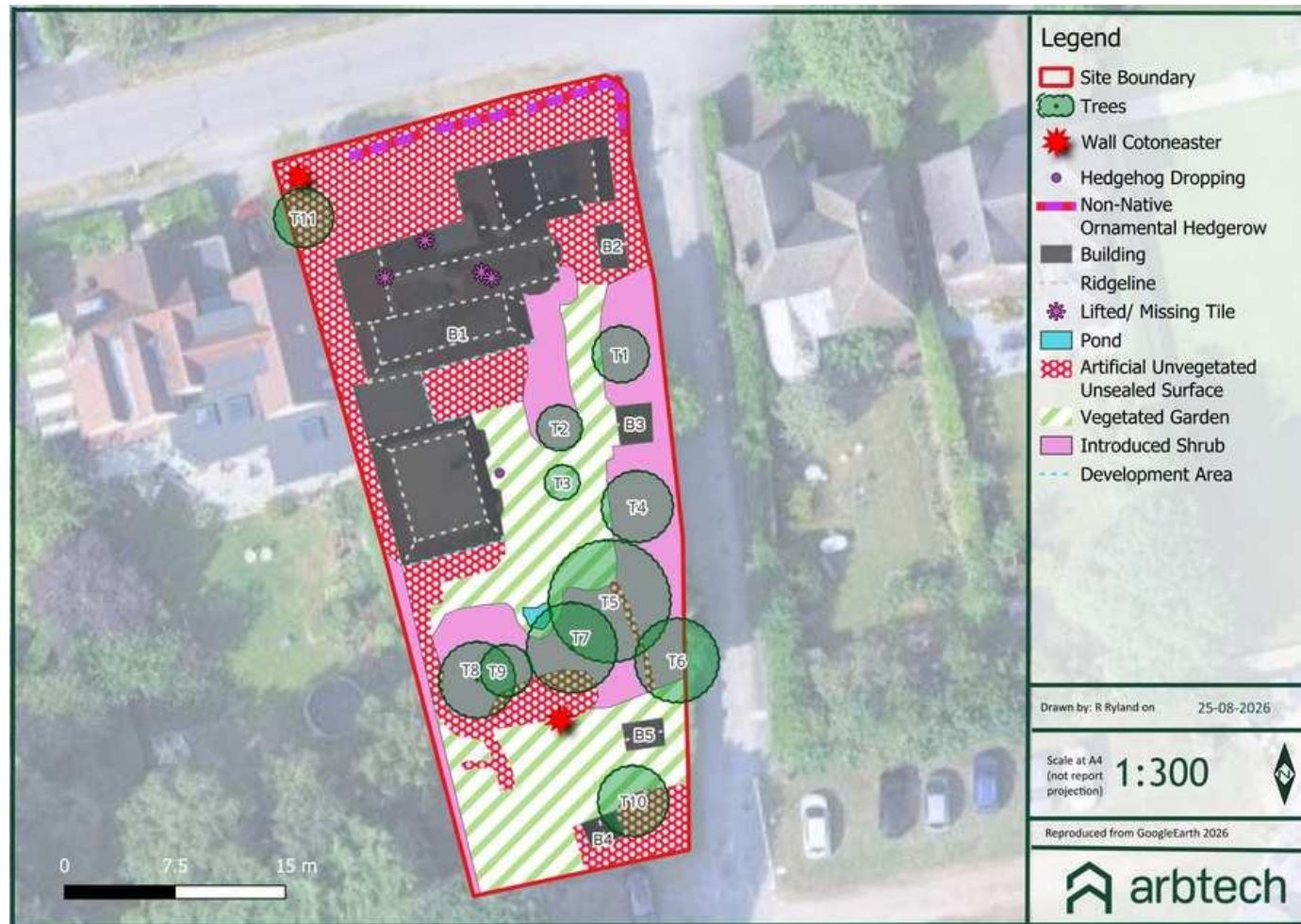
If any hedgehogs or other small mammals are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.

13.4 Suggested Biodiversity Enhancements

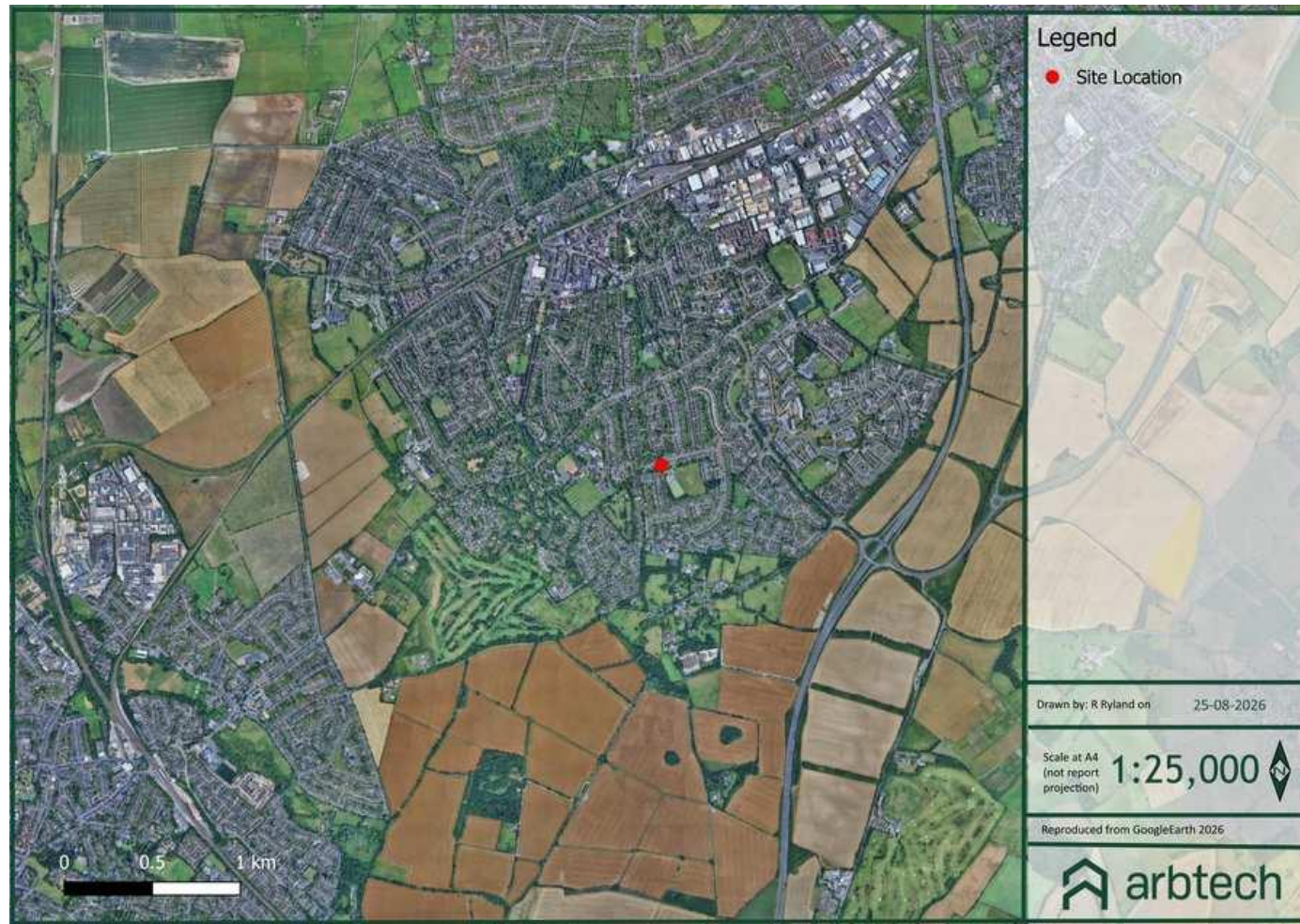
The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs:

- Planting fruit bearing trees and species-rich grassland to increase foraging opportunities.
- Creation of brash piles or installation of hedgehog houses in shady areas.
- Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

APPENDIX 1: SURVEY/HABITAT MAP



APPENDIX 2: LOCATION MAP



APPENDIX 3: PROPOSED PLAN



APPENDIX 4: HABITAT IMAGES



Vegetated garden



Vegetated garden



Artificial unvegetated, unsealed surface



Artificial unvegetated, unsealed surface



*Artificial unvegetated, unsealed surface, wall
cotoneaster*



Ornamental pond NON-WOODLAND



Non-native and ornamental hedgerow



Scattered trees; T1



Scattered trees; T2



Scattered trees; T3



Scattered trees; T4



Scattered trees; T5



Scattered trees; T6



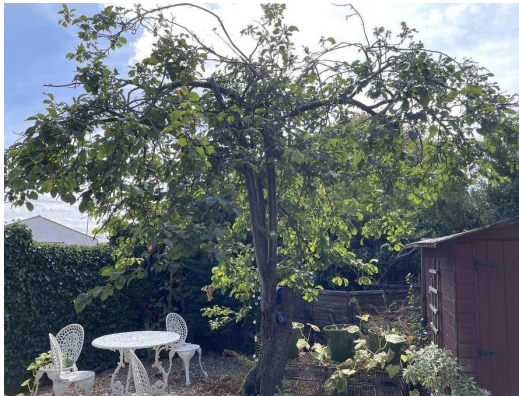
Scattered trees; T7



Scattered trees; T8



Scattered trees; T9



Scattered trees; T10



Scattered trees; T11

APPENDIX 5: BASELINE CONDITION SCORE TABLES

Standing open water and canals (r1) - Ornamental pond NON-WOODLAND (46) condition assessment.

	Criteria Description	Criteria Passed?
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Y
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	N
C	Less than 10% of the water surface is covered with duckweed Lemna spp. or filamentous algae.	N
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	Y
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework. (This excludes dams made by beavers)	Y
F	There is an absence of listed non-native plant and animal species.	Y
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	N
H	Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.	Y
I	The pond surface is no more than 50% shaded by adjacent trees and scrub.	N
		Total 5/9
	Condition poor due to passing 5 of 9 criteria.	

Scattered trees (T1, T2, T8, T10) condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	Y
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y
C	The tree is mature (or more than 50% within the block are mature).	Y
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y
		Total 6/6
	Condition good due to passing 6 of 6 criteria.	

Scattered trees (T3) condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	N
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y
C	The tree is mature (or more than 50% within the block are mature).	Y
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y
		Total 4/6
	Condition moderate due to passing 4 of 6 criteria.	

Scattered trees (T4, T5, T6, T7) condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	N
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y
C	The tree is mature (or more than 50% within the block are mature).	Y
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y
		Total 5/6
	Condition good due to passing 5 of 6 criteria.	

Scattered trees (T9) condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	Y
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	N
C	The tree is mature (or more than 50% within the block are mature).	Y
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y
		Total 3/6
	Condition moderate due to passing 3 of 6 criteria.	

Scattered trees (T11) condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	Y
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y
C	The tree is mature (or more than 50% within the block are mature).	Y
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N
		Total 5/6
	Condition good due to passing 5 of 6 criteria.	

APPENDIX 6: PONDS



Pond P1

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VERSION CONTROL

Status	Issue	Name	Date
Draft	0.1	Rosie Ryland BSc (Hons) MSc, Graduate Ecologist	25/08/26
Final	1.0	Rosie Ryland BSc (Hons) MSc, Graduate Ecologist	28/08/26