



Hillcrest and Tussocks, The Causeway, Therfield

Ecology Report

Produced for Hanson Services Ltd

By Applied Ecology Ltd

June 2024

Document information:

Version	Date	Version Details	Prepared by	Checked by	Approved by
1.0	03/10/2023	Draft final	RD/DP/NB	DP	DP
2.0	12/06/2024	Final	RD	DP	DP

Prepared for: Hanson Services Ltd
Title: Hillcrest and Tussocks, The Causeway, Therfield – Ecology Report
Project number: AEL2120
Document version: 2.0
Document status: Final
Document date: 12 June 2024

APPLIED ECOLOGY LTD
St John’s Innovation Centre
Cowley Road
Cambridge
CB4 0WS

Tel: 01223 422 116
Email: info@appliedecology.co.uk

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1 Introduction

Background

- 1.1 In February 2023, Applied Ecology Ltd (AEL) was commissioned by PJB Planning, on behalf of Hanson Services Ltd, to carry out a Preliminary Ecological Appraisal (PEA) and a range of follow-up ecological surveys of land at Hillcrest and Tussocks, The Causeway, Therfield ("the Site"). A plan showing the location of the Site is provided in **Figure 1.1**.
- 1.2 The appraisal was required to determine the likely ecological constraints associated with a proposal to utilise the Site for new residential development ("the Development") within the Site.

Purpose of this report

- 1.3 This report provides details relating to the surveys undertaken on the Site in 2023. It includes a description of the Site's habitat features and protected species interest, and a summary of its biodiversity opportunities and constraints.
- 1.4 Where possible, the report discusses, at a high level, the likely impacts of the development on ecology and is based only on a broad understanding of the intended development. However, it does not provide, and nor is it intended to provide, a detailed or comprehensive assessment of development impacts in the form of an Ecological Impact Assessment (EclA).

Legislation and Planning Policy

Legislation

- 1.5 The Wildlife and Countryside Act 1981 (as amended) provides the main legal framework for nature conservation and species protection in the UK. The Site of Special Scientific Interest (SSSI) is the main statutory nature conservation designation in the UK. Such sites are notable for their plants, or animals, or habitats, their geology or landforms, or a combination of these. Natural England is the key statutory agency in England for advising Government, and for acting as the Government's agent in the delivery of statutory nature conservation designations.
- 1.6 Designation of a SSSI is a legal process, by which sites are notified under the Wildlife and Countryside Act 1981. The 1981 Act makes provision for the protection of sites from the effects of changes in land management, and owners and occupiers receive formal notification specifying why the land is of special scientific interest, and listing any operations likely to damage the special interest.
- 1.7 The Countryside and Rights of Way Act 2000, and The Natural Environment and Rural Communities (NERC) Act 2006, provide supplementary protected species legislation. Specific protection for badgers *Meles meles* is provided by the Protection of Badgers Act 1992.



Habitats and Species of Principal Importance in England

- 1.8 The Natural Environment and Rural Communities (NERC) Act came into force on 1 October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.
- 1.9 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Habitats of Principal Importance

- 1.10 Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. They include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland, and freshwater and marine habitats such as ponds and sub-tidal sands and gravels.

Species of Principal Importance

- 1.11 There are 943 species of principal importance included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. In addition, the hen harrier *Circus cyaneus* has also been included on the list because without continued conservation action it is unlikely that the hen harrier population will increase from its current very low levels in England.
- 1.12 In accordance with Section 41(4) the Secretary of State will, in consultation with Natural England, keep this list under review and will publish a revised list if necessary.

National Planning Policy Framework

- 1.13 The National Planning Policy Framework (NPPF) was published in March 2012 (and replaced previous planning policy guidance (PPS 9) on biodiversity. The NPPF was updated in July 2018, February 2019, and in July 2021, and states the following in relation to biodiversity and planning:

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

- *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. 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;

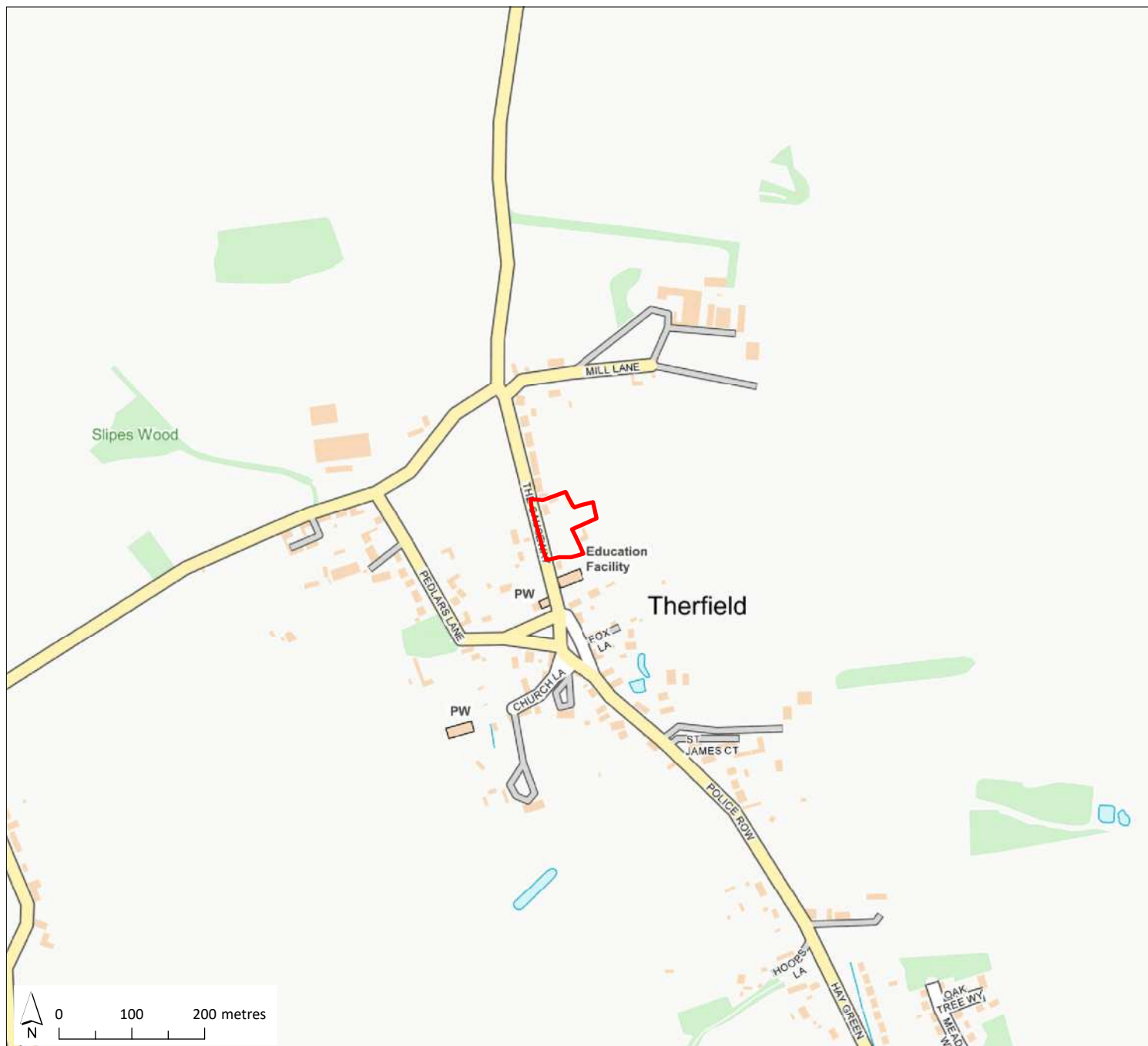
- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to 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.*

The following should be given the same protection as habitats sites:

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

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





Hillcrest and Tussocks, Therfield

Site location

 Site boundary

Figure 1.1

Map Scale @ A4: 1:8,000

Surveyed by: n/a

Survey date: n/a

Drawn by: RD

Checked by: DP

Status: Final



2 Pre-existing Data Records

Approach

- 2.1 The Herts Environmental Records Centre (HERC) was commissioned by AEL to complete a search of its database for existing biological records. This included a search for records of statutory and non-statutory designated wildlife sites, ancient woodland, and protected and notable species both on the Site and within 1 km of the Site's central point.
- 2.2 The location of statutory wildlife sites beyond the search area and associated Impact Risk Zones (IRZ) was checked using the online MAGIC map database¹ which is managed by Natural England.
- 2.3 An existing great crested newt survey report from 2021², which included presence/absence survey of a pond in the garden of the adjoining southern property, has also been reviewed.

Results

- 2.4 The Site is not covered by any statutory or non-statutory wildlife site designation. The locations of statutory wildlife sites and ancient woodland in relation to the Site are shown in **Figure 2.1**.
- 2.5 The closest statutory wildlife site is called **Therfield Heath Site of Special Scientific Interest (SSSI)** which is located 2.2 km to the north, and is designated for its species-rich chalk grassland and notable plants such as pasque flower *Pulsatilla vulgaris* and spotted cat's ear *Hypochaeris maculata*.
- 2.6 Six non-statutory wildlife sites are located within 1 km of the Site with the closest being **Bell Meadow Local Wildlife Site (LWS)** which is located 10 m north-west of the Site, on the opposite side of The Causeway. This LWS is designated for its semi-improved neutral grassland with dry calcareous banks and unimproved flora.
- 2.7 The five other non-statutory designated sites are **Therfield Motte and Bailey LWS** (290 m south-west), **Therfield Green Lane LWS** (340 m north-west), **Hay Green Grassland LWS** (600 m south), **Ducks' Green and Kelshall Lane LWS** (670 m south) and **Ducks' Green and West Meadow LWS** (680 m south).

Protected species

- 2.8 HERC returned 3,285 species records for land within 1 km of the Site, which can be summarised as follows:
 - **Birds** – 2,988 records, with most of these of no particular relevance to the Site, but including a range of declining garden and urban birds such as house sparrow *Passer domesticus* (15 records), starling *Sturnus vulgaris* (43 records), and house martin *Delichon urbicum* (15 records).

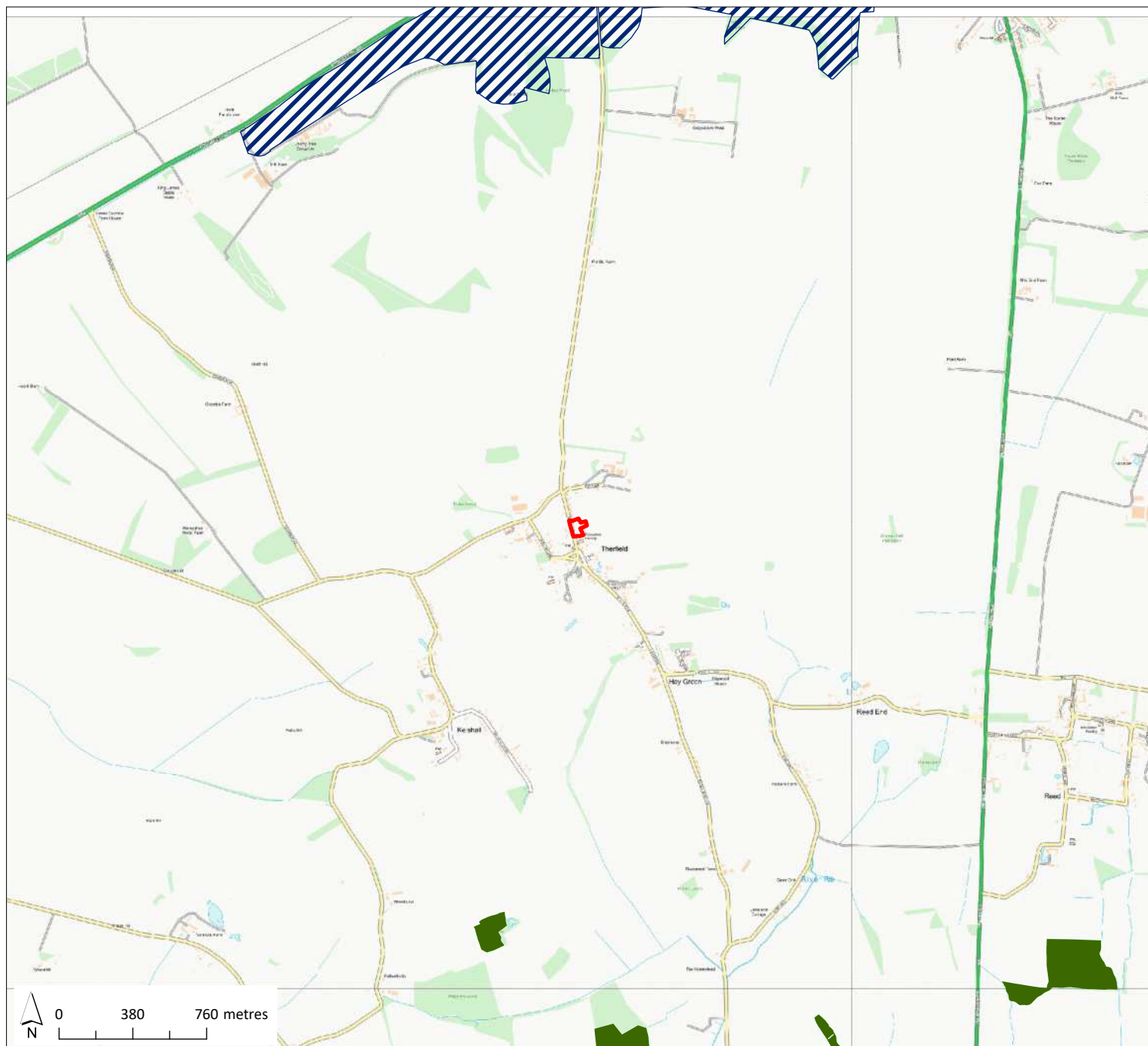
¹ <https://magic.defra.gov.uk/MagicMap.aspx>

² Denny Ecology (2021) *The Tussocks, Therfield, Hertfordshire – Preliminary Great Crested Newt Report*. November 2021.



- **Invertebrates** – 168 records including butterflies (143 records), beetles (three records), grasshoppers and crickets (five records), moths (16 records), and caddis flies.
- **Mammals (excluding bats)** – 43 records of nine species including badger *Meles meles* (11 records) and hedgehog *Erinaceus europaeus* (six records).
- **Bats** – 22 records of six species including brown long-eared bat *Plecotus auritus* (eight records), common pipistrelle *Pipistrellus pipistrellus* (nine records), soprano pipistrelle *Pippistrellus pygmaeus* (one record), serotine *Eptesicus serotinus* (one record), Natterer's bat *Myotis nattereri* (one record).
- **Amphibians** – Six records, including great crested newt *Triturus cristatus* (five records) and common toad *Bufo bufo* (one record). The closest of these were two great crested newt records, 700 m south-west, the most recent of which was in 2018.
- **Reptiles** – No records.





Hillcrest and Tussocks, Therfield

Statutory designated sites and ancient woodland

- Site boundary
- Therfield Heath SSSI / LNR
- ancient semi-natural woodland

Figure 2.1

Map Scale @ A4: 1:30,000

Surveyed by: n/a

Survey date: n/a

Drawn by: RD

Checked by: DP

Status: Final



3 Habitats and Plants

Survey Approach

- 3.1 A Phase 1 habitat survey of the Site was undertaken on 16 February 2023 by Rob Hutchinson MCIEEM (RH) and Nick Bayne QualCIEEM in dry and bright conditions. RH is a Principal Ecologist at AEL and holds a Level 5 Field Identification Skills Certificate (FISC) for plant identification from the Botanical Society of Britain & Ireland (BSBI), and Natural England survey licences for great crested newt (Level 2), bats (Level 1) and hazel dormouse.
- 3.2 The methodology adopted followed the standard JNCC approach to Phase 1 Habitat Survey (JNCC, 2016³) by which all habitats present within the Site were classified and mapped according to standard categories. Dominant and any notable plant species were recorded and their abundance noted using the DAFOR⁴ scale.
- 3.3 The habitat map was subsequently digitised using a Geographical Information System (ArcGIS Pro).

Survey restrictions

- 3.4 The survey was completed in the winter outside the recognised season for completing botanical survey. However, the Site was relatively small and comprised of commonplace and easily recognisable garden habitats and the survey timing is not considered to have significantly constrained the habitat mapping or classification.

Results

- 3.5 The Phase 1 habitat map is shown in **Figure 3.1**, and a selection of habitat survey photographs can be found in **Figure 3.2**. A breakdown of the habitat recorded is provided in **Table 3.1**.

Table 3.1: Habitat types recorded on the Site.

Habitat	Area (ha)	% of Site
Amenity grassland	0.439	75.9
Hard-standing	0.074	12.8
Buildings	0.030	5.2
Ephemeral/short perennial	0.023	3.9
Bare ground	0.011	1.9
Introduced shrubs	0.001	0.3

- 3.6 The Site was surrounded by residential dwellings and associated gardens to the north and south, Bell Meadow LWS to the west (on the far side The Causeway), and arable fields to the east.

³ JNCC (2016) *Handbook for Phase 1 Habitat Survey – A technique for Environmental Audit*. JNCC, Peterborough.

⁴ DAFOR: whereby species occurrence may be classified as being dominant, abundant, frequent, occasional or rare. Rare in the context of a DAFOR score should not be confused with species rarity in the more widely accepted meaning of general scarcity.



- 3.7 The Site itself comprised mainly garden land associated with two neighbouring residential dwellings with an area of buildings and hard-standing, bare ground and ephemeral vegetation on disturbed ground, and an area of amenity grassland lawn with boundary hedgerows and scattered individual trees of varying ages, including beech *Fagus sylvatica*, lime *Tilia* spp. and Leyland cypress *Cupressus x leylandii*.
- 3.8 The lawn was dominated by perennial rye-grass *Lolium perenne*. Areas of ephemeral/short perennial vegetation were present and were dominated by a range of weedy species including red dead-nettle *Lamium purpureum*, common chickweed *Stellaria media* and common field-speedwell *Veronica persica*.
- 3.9 Species-poor intact hedges comprised a Leyland cypress *Cupressus x leylandii* hedge along the southern boundary of the developed area, a garden privet *Ligustrum ovalifolium* hedge was on the western boundary and a hedger on the southern boundary which supported a mix of native and non-native species. A low **species-poor defunct hedge** of cherry laurel *Prunus laurocerasus* was present on the western boundary.



Hillcrest and Tussocks, Therfield

Phase 1 habitat map

-  Site boundary
-  amenity grassland
-  bare ground
-  buildings
-  ephemeral/ short perennial
-  hard-standing
-  introduced shrubs
-  species-poor defunct hedge
-  species-poor hedge with trees
-  species-poor intact hedge
-  individual tree (indicative location)
-  scattered scrub

Figure 3.1

Map Scale @ A4: 1:650

Surveyed by: NB, RH

Survey date: 16 February 2023

Drawn by: RD

Checked by: DP

Status: Final

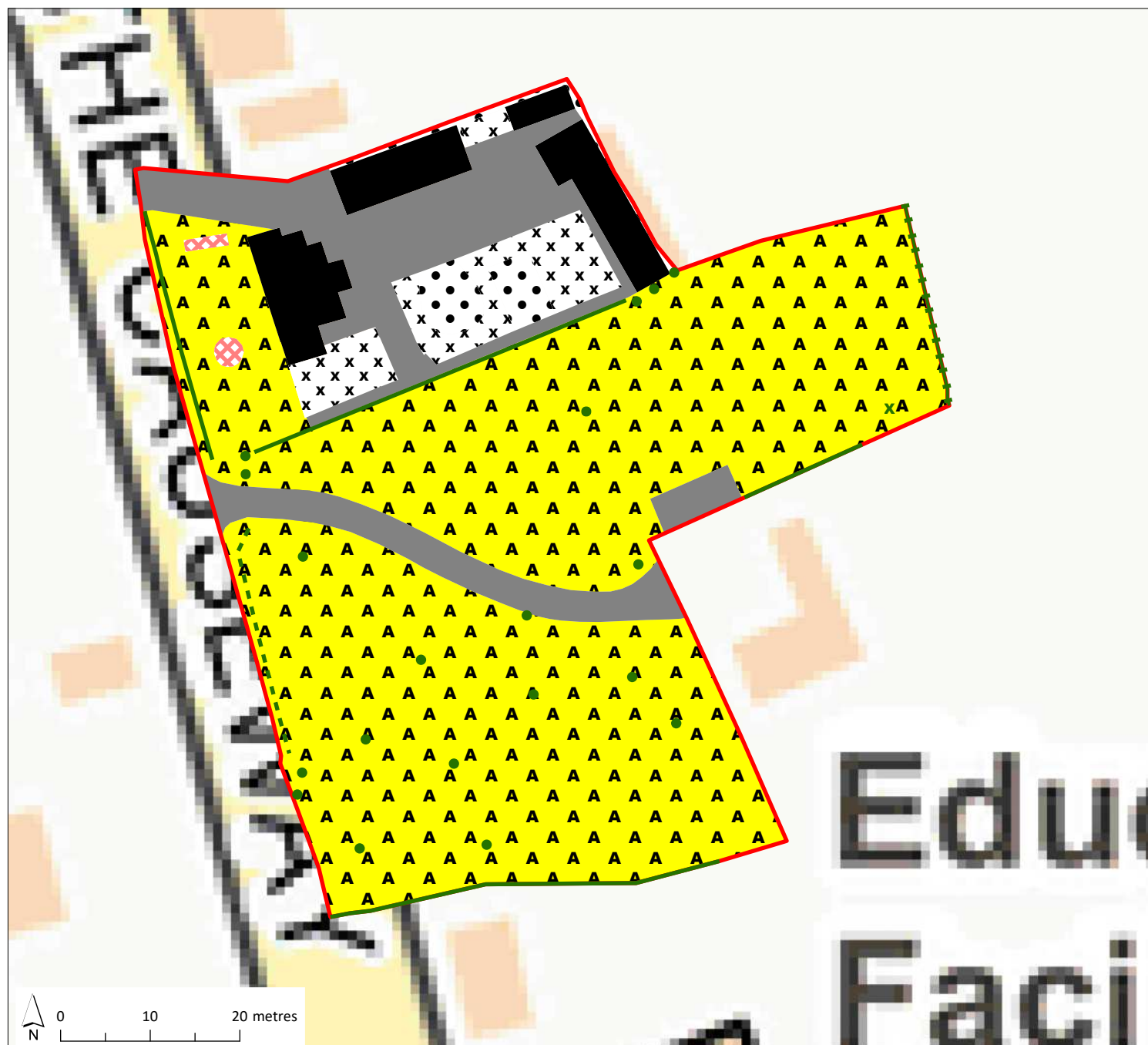




Photo 1 - Building 1 and its immediate environs



Photo 2 - Building 5



Photo 3 - Pond 1



Photo 4



Photo 5



Photo 6

Figure 3.2

Photos taken February 2023



4 Fauna

Survey Approach

- 4.1 The standard Phase 1 habitat survey was "extended" to include a search for evidence of or potential for the presence of protected species or species of nature conservation interest within and close to the Site. This was not a detailed survey for such species, but included noting the presence of habitats suitable to support specific protected species, and where seen, any evidence of presence such as droppings, mammal tracks and footprints, shelters (or nests/roosts), hair caught on fence-wire, foraging signs, and so on.

Great crested newt

- 4.2 In advance of the survey the 1:25,000 scale Ordnance Survey map was checked and online aerial photos inspected to identify any ponds within 250 m of the Site that could potentially support breeding populations of the legally protected amphibian great crested newt *Triturus cristatus* (GCN)
- 4.3 The presence of GCN in Pond 1 (see **Figure 4.1**) was confirmed by other consultants in 2021 by eDNA analysis. An assessment of the size of the GCN population in Pond 1 was undertaken in spring 2023 by licenced ecologists from AEL. No attempt was made to survey off-Site ponds beyond the immediate Site boundary given the potential sensitivity of the development proposal and the existing knowledge of GCN presence close to the Site.
- 4.4 Pond 1 was subject to a six-visit GCN population survey using funnel trapping, torch survey (single visit) and egg searching methods. A total of 14 double-ended funnel traps (40 cm x 20 cm with a 3 mm square mesh) were set around the perimeter of the pond on six separate evenings between 25 April and 29 May, with at least three of these visits carried out between mid-April and mid-May. The traps were set and retrieved the following morning in accordance with the timings described by English Nature 2001 and captured newts identified, sexed and recorded before being returned to the pond unharmed.
- 4.5 During the second survey visit (3 May), a night time torch survey of the pond was completed using a high powered 1m lumen powered torch to enable a comparison of torch survey count with funnel trapping capture numbers over the same night. The entire pond perimeter was walked with the torch being used to illuminate and count newts in the water column. The torch survey method was discontinued after it was evident that the method significantly underestimated GCN numbers in Pond 1. Egg searching was discontinued after discovery of a GCN on submerged vegetation in the pond.



Bats

Preliminary Bat Roost Assessment

- 4.6 A Preliminary Bat Roost Assessment (PBRA) of buildings and trees within and immediately adjoining the Site⁵ was undertaken in conjunction with the habitat survey by RH (a licenced bat surveyor).
- 4.7 The inspection of the building and trees to assess their roosting use/suitability for bats can be conducted at any time of year, according to the best practice survey guidance (Collins, 2016⁶). However, finding evidence of bats (e.g., their droppings) on external surfaces that are unprotected from rainfall may be restricted if undertaken outside the main bat active season (May to September) and/or after periods of wet weather.
- 4.8 The current survey was undertaken from ground level using binoculars and a high-powered torch with only external access available to the buildings (except for one bay of the garage Building 2 and part of Building 4). Evidence of bat use was searched for and any features potentially suitable for roosting bats recorded. The suitability of buildings and trees for roosting bats was classified according to the categories and descriptions defined by Collins (2016) as set out in **Table 2.1**.

Survey restrictions

- 4.9 The survey was completed in the winter outside of the main bat active season, and evidence of bats from the previous activity period (autumn 2022) would not have been expected to be visible on unsheltered external building surfaces.

Table 4.1: Guidelines for assessing the potential suitability of buildings and trees for roosting bats.

Suitability	Description of roosting habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger number of bats (i.e., unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain Potential Roost Features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

⁵ At the time of the PBRA survey Buildings numbered 5 and 6 were inside the Site boundary.

⁶ Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.



Bat activity survey

- 4.10 Two of the buildings within the Site were identified as possessing low bat roost suitability in accordance with Collins 2016⁷ and were subject to separate bat roost emergence surveys during the 2023 summer bat active season. The surveys were completed on the evenings of 3 May (Building 5) and 17 May (B1).
- 4.11 Each bat activity survey was planned and set-up using the following survey equipment:
- Hand-held Pettersson D230 electronic bat detectors with ear-phones set in frequency division mode (x2);
 - Time synchronised tripod mounted Anabat Express electronic bat detectors (x4); and
 - Tripod mounted FLIR thermal video camera (x2) (Building 5) and Sony Infrared Camcorder and lamp x2 (Building 1).
- 4.12 The survey set-up was as shown in **Appendix A**.
- 4.13 The tripod-mounted Anabat Express electronic bat detectors were set-up around the periphery of the two buildings to record bat calls from the start to the end of each survey. All bat calls recorded by the detectors were analysed on a PC using Analook software and were identified to the highest practical taxonomic level in accordance with Russ 2012⁸.
- 4.14 The manned thermal cameras were set to record radiometric video data at 30 frames per second, and were used by the surveyors to provide a live view of the building throughout the survey. The cameras were set up to record from 15 minutes before sunset to the end for the survey at 90 minutes after sunset. Video footage was checked the following day against bat sightings and bat call recordings using FLIR Tools+ software.
- 4.15 The infrared camcorder recordings commenced at 15 minutes before sunset and were checked the following day against bat sightings

Survey limitations

- 4.16 The surveys were completed during the main 2023 bat activity period at a time when bats were active and not in torpor and weather conditions were suitable for bats to be active throughout both surveys⁹. The surveys were, therefore, not subject to any obvious limitations.

⁷ Collins, J (2016) Bat Surveys for Professional Ecologists – Good Practice Guidance. BCT, London.

⁸ Russ, J (2012) *British Bat Calls – A Guide to Species Identification*. Pelagic Publishing

⁹ 3 May 2023: average air temperature 13.5°C (start) 10.9°C (end), variable wind still / light air, no rain, 15% cloud cover (start).

17 May 2023: average air temperature 18.0°C (start) 12.3°C (end), light air, no rain, 80% cloud cover (start).



Results

Great crested newt

- 4.17 Pond 1 was confirmed to support a **medium sized breeding population** of GCN, with a peak count of 89 individuals captured on the 11 May survey visit. GCN eggs were confirmed as present on submerged vegetation on 25 April. The torch survey completed during darkness on 25 April recorded a total of only four GCN, and it was clear from the disparity in numbers recorded the same night by funnel traps (a total of 30 GCN) that the majority of the GCN were obscured by submerged vegetation or because they were in sediment at the bottom of the pond during the torch survey.
- 4.18 All survey visits were carried out with 70% macrophyte cover and a turbidity score of 1 (very clear). The results of the population estimate are shown in **Table 4.2** below.

Table 4.2: Spring 2023 GCN population estimate survey results.

Date	Air temperature	Number of GCN captured
25/04/2023	9 °C	30 (20 females, 9 males, 1 juvenile)
03/05/2023	13.5 °C	26 (21 females, 5 males)
11/05/2023	14 °C	89 (69 females, 19 males, 1 juvenile)
17/05/2023	16 °C	7 (5 females, 2 males)
24/05/2023	12 °C	16 (6 females, 9 males, 1 juvenile)
29/05/2023	15 °C	9 (7 females, 2 males)

Bats

Preliminary bat roost assessment

- 4.19 Four buildings were present within the Site (numbered 1–4) by **Figure 4.2**, with Buildings 5 & 6 located just outside the Site boundary but subject to bat survey as they had not been excluded from the Site boundary at the time of survey. The survey of Building 5 is included here for context given its close proximity to the Site.
- 4.20 **Building 1** was a detached block and brick house with rendered external walls and a gable ended shallow-pitched slate-tiled roof, with a mono-pitch slate roofed side extension. No evidence of bats by was seen in association with the exterior of the building, and only a few minor features potentially suitable for roosting bats were identified. These included two small gaps under the ridge tiles on the western elevation, small gaps under roof tiles west of the northern chimney, and a small hole between the southern gable end wall and the roofing tiles. All lead flashings around the chimneys and soffits were tightly fitted providing no obvious gaps for roosting bats and no evidence of bat roosting was seen. On balance the house was assessed as being of **low suitability** for roosting bats.
- 4.21 **Building 2** was a simple single storey brick and part rendered four-bay garage building with an adjoining shed section. The building had a mono-pitch gently sloping roof covered with bitumen felt, partly overlain with coroline bitumen roofing sheets. No evidence of use by roosting bat was seen in association with Building 2, and potential bat roost features were obviously present. The building was assessed as being of **negligible suitability** for roosting bats.



- 4.22 **Building 3** was a wooden framed greenhouse that was completely **unsuitable** for roosting bats.
- 4.23 **Building 4** was a linear concrete block building with a shallow mono-pitched corrugated metal roof. No evidence of use by roosting bat was seen and no significant features suitable for bat roosting were identified. The building was assessed as being of **negligible suitability** for roosting bats.
- 4.24 **Building 5** was a brick-built detached chalet bungalow with a steep pitched roof with cement pantiles and dormer windows on the northern and southern elevations. The building and its roof were in good general condition with no evidence of bat use seen during the external inspection and only a limited number of minor potential roosting features identified. These included two mortar gaps beneath roof tiles above the west facing and east facing gable end walls, a slipped roof tile at the bottom of the western end of the north facing roof face, a gap on the eastern facing gable end wall under the soffit box where a brick was missing, and a small gap under a ridge tile on the northern roof face. The building was assessed as being of **low suitability** for roosting bats.
- 4.25 **Building 6** was a single-storey brick garage with a flat felt roof adjoined the bungalow to the north-east and was of **negligible suitability** for roosting bats.
- 4.26 No obvious bat roost features were seen on any of the trees within the Site, with all trees assessed as being of **negligible/low suitability**.

Bat activity survey

Building 1

- 4.27 During the emergence survey of Building 1 on 17 May 2023 no bats were seen or filmed emerging from the building. The first recorded bat was a common pipistrelle *Pipistrellus pipistrellus* bat that was foraging to the south of the building at 21:21 (31 minutes after sunset). Single passes of common pipistrelle bats were recorded/noted thereafter within/close to the Site at 21:23, 21:30, 21:33 and 21:37. A single pass of a serotine bat *Eptesicus serotinus* was recorded at 21:26.

Building 5

- 4.28 A single soprano pipistrelle *Pipistrellus pygmaeus* bat emerged from a gap below a central ridge tile on roof Building 5 at 20:55 (28 minutes after sunset) during the 3 May emergence survey. No other bats emerged from the building during the survey. Thereafter a single pass of a high flying noctule bat *Nyctalus noctula* was recorded during the survey at 20:58 and 20:59, and a single pass of a soprano pipistrelle at 21:00 and 21:01. In short, relatively low levels of bat activity within the Site were recorded. A second verification survey of bat roosting use of Building 5 has not been completed as the building is to be retained and is unaffected by the proposed development.



Hillcrest and Tussocks, Therfield

Ponds within 250 m of Site

- Site boundary
- 250 m from Site boundary
- ponds within 250 m

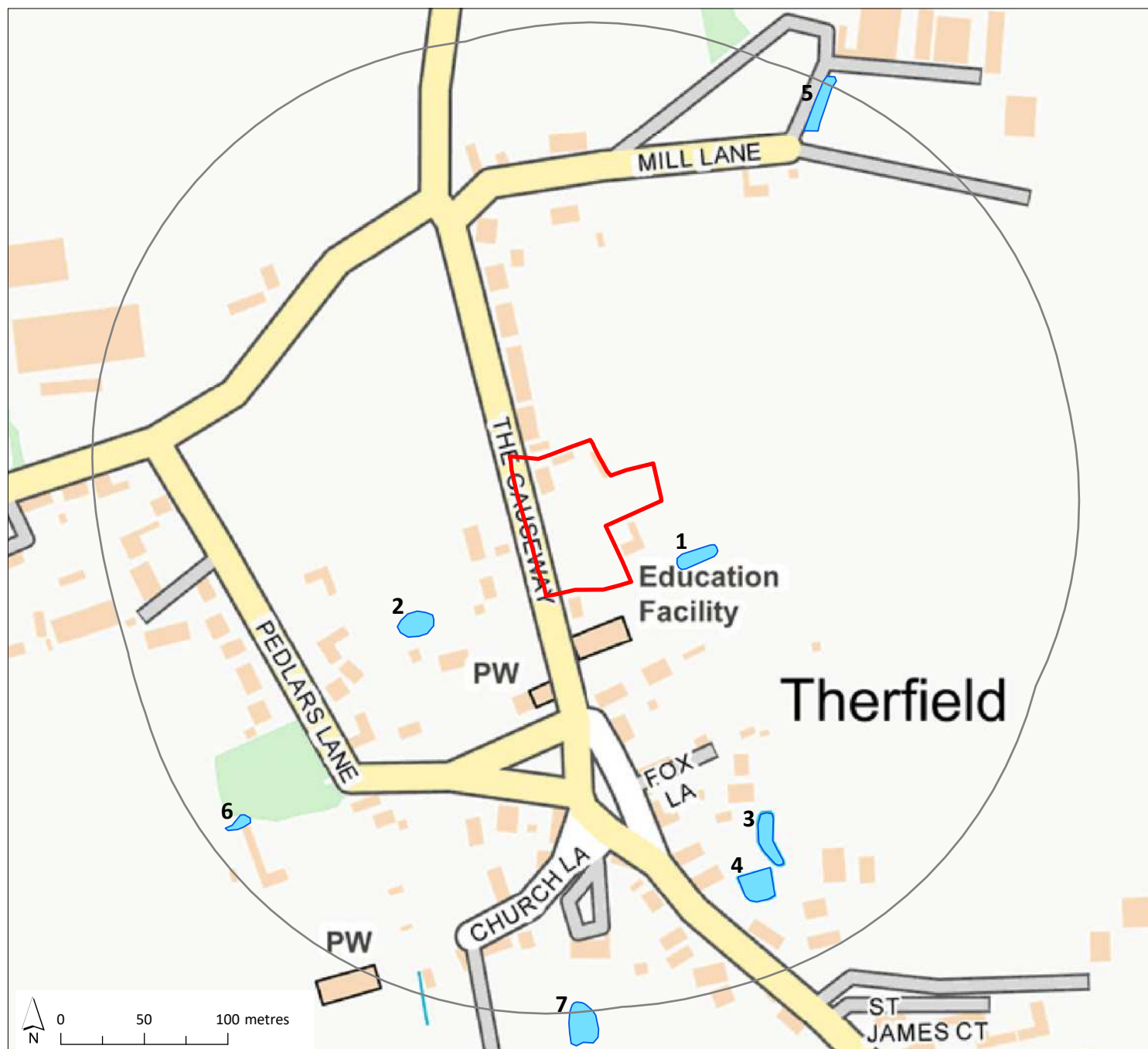


Figure 4.1

Map Scale @ A4: 1:3,500

Surveyed by: n/a

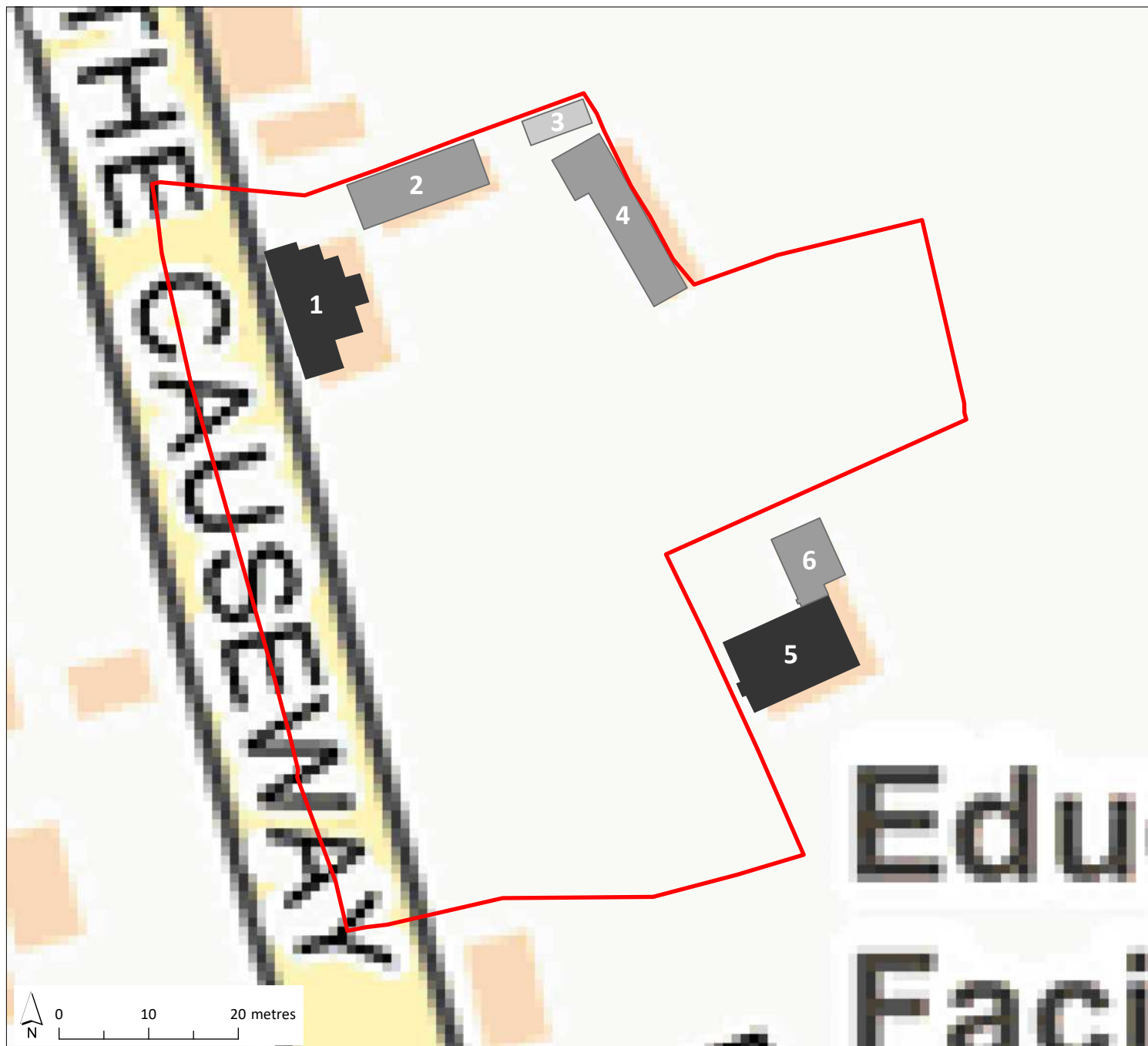
Survey date: n/a

Drawn by: RD

Checked by: DP

Status: Final





Hillcrest and Tussocks, Therfield

Preliminary bat roost assessment

 Site boundary

Bat roost suitability

Low
 Negligible
 Unsuitable

Figure 4.2

Map Scale @ A4: 1:650

Surveyed by: NB, RH

Survey date: 16 February 2023

Drawn by: RD

Checked by: DP

Status: Final



5 Likely Development Impacts and Recommendations

Likely Development Impacts

Protected sites

- 5.1 The Site is located within a Natural England development Impact Risk Zone related to Therfield Heath SSSI which identifies residential developments of 25 or more units as being a potential threat to the SSSI. The number of residential units proposed here is less than the 25-unit threshold, and adverse impacts upon Therfield Heath SSSI are therefore considered unlikely to occur as a result of the development proposal.
- 5.2 Bell Meadow LWS is separated from the development by a road called the Causeway and will not therefore be directly impacted during construction operations as building activity and machinery will be confined to the development Site and screened from the LWS by hoarding/fencing during construction.

Habitats and plants

- 5.3 The Site was dominated by species-poor lawn (modified grassland) of low habitat value. Habitats of higher relative value that should be retained and protected, where possible, were confined to individual trees and boundary hedgerows.

Fauna

Great crested newt

- 5.4 Pond 1 is located within 22-116 m of the development Site and has been shown to support a medium sized breeding population of GCN which. GCN in their terrestrial life stages from Pond 1 would be expected to make use of terrestrial habitats within the Site for shelter as most GCN will be present in suitable terrestrial habitats up to up to 250 m from their breeding ponds. The bulk of the proposed development Site, however, comprises habitats of negligible cover and shelter value to GCH (i.e. short amenity grassland lawn, hard-standing and bare ground) and it is likely that the hedgerows within the Site that occur near to the pond and areas of off-site less intensively managed land (within 250 m of the pond) will be of greatest importance for the survival of GCN originating from the pond.
- 5.5 While the proposed development should not result in the loss or damage to Pond 1, it could result in the accidental killing and injury of terrestrial GCN, and will need to be implemented under the auspices of a Natural England licence. Licenced mitigation will need to be implemented based on the use of temporary newt proof fencing and pitfall traps to capture and relocate any terrestrial GCN from the development area to safe off-site areas in advance of site clearance and construction commencing¹⁰. Newt capture can only be

¹⁰ At the time of writing this report, no District Level Licence (DLL) scheme is in operation in Hertfordshire, and the DLL option (which would negate the need for GCN capture and relocation) cannot be utilized.



licenced to take place when newts are active in the period April to October/November and will not be possible in the winter months when newts tend to be inactive underground.

Roosting bats

- 5.6 The development will have no adverse impact on roosting bats as it will not result in the loss of any identified bat roosts in buildings or trees within the Site.

Recommendations

Mitigation

Great Crested Newt

- 5.7 It is recommended that the existing areas of amenity grassland lawn continue to be maintained as short turf grassland of minimal value to terrestrial great crested newts.
- 5.8 Any development related Site clearance and construction operations should be completed under the auspices of an appropriate great crested newt development licence.

Nesting birds

- 5.9 The clearance and removal of cover habitats and buildings should take place outside of the bird nesting season (i.e. during the period September–February) or, if during the breeding season (March–August), immediately after a check by an experienced ornithologist that confirms nesting bird absence.

Compensation and enhancement

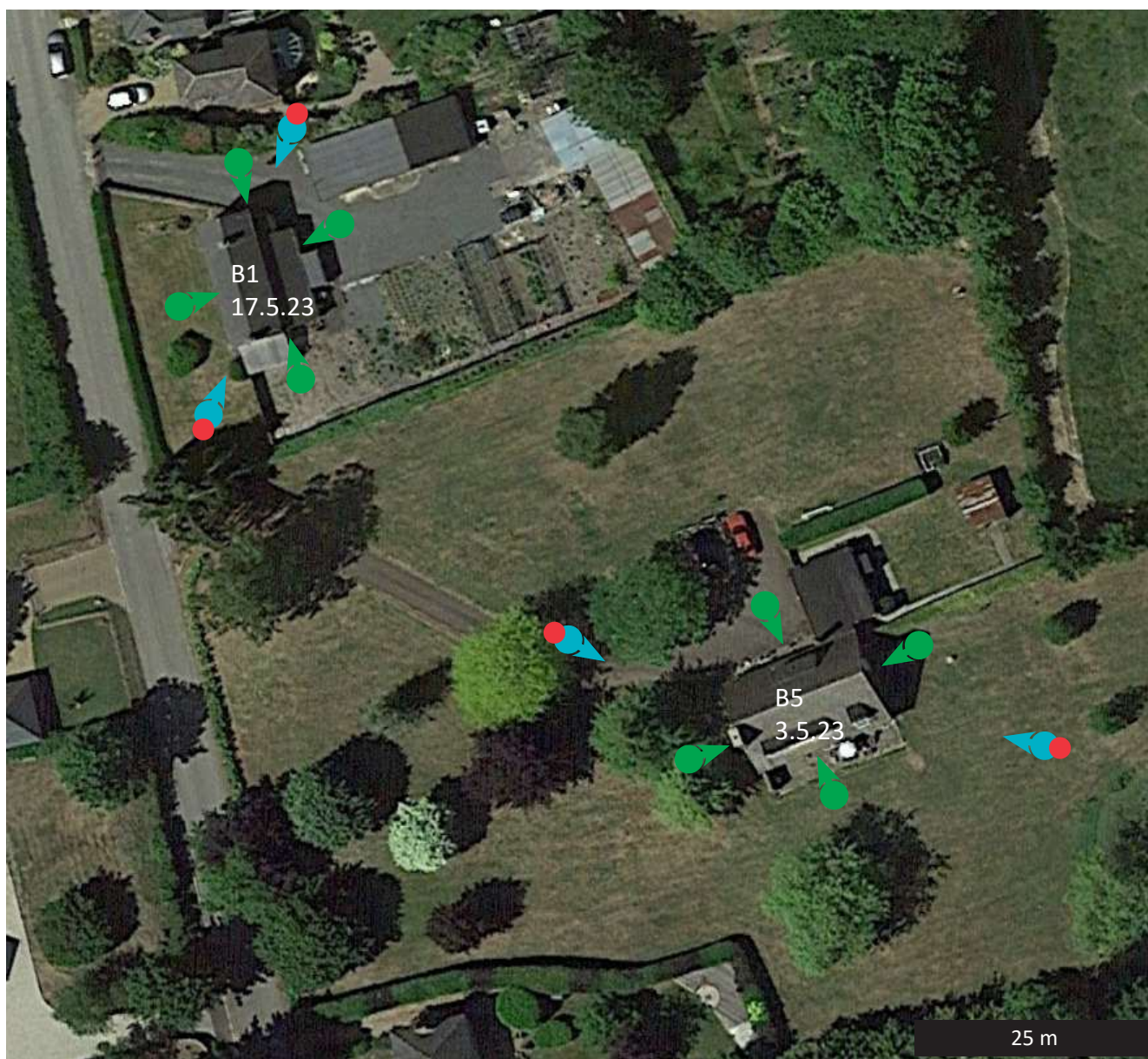
- 5.10 Consideration should be given to build ecological enhancements into the development. These could include, for example, integrated bird and bat boxes built into new buildings, hedgehog friendly boundary fences, and wildlife friendly planting.



Appendix A

Bat survey set-up





Key



Tripod mounted time synchronised Anabat Express electronic bat detector - arrow shows direction of microphone



Bat surveyor equipped with hand-held Pettersson D230 electronic bat detector with ear phones



Tripod mounted FLIR thermal camera (B5) or Sony Infrared camcorder and lamp (B1)



