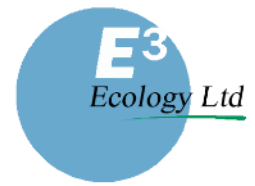


BAT SURVEY

15 WEST TURNPIKE, GLANTON



DATE: August 2023
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PROJECT NUMBER: 7032
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A. SUMMARY

E3 Ecology Ltd was commissioned to undertake a bat survey of 15 West Turnpike where it is proposed to raise and flatten the roof of a small part of the stone cottage on site. A desk study was completed, including consultation with DEFRA's MAGIC website and the Environmental Records Information Centre North East (ERIC NE). For a previous application, since withdrawn, an ecological walkover and bat risk assessment survey undertaken on 21st July 2022 in order to inform that assessment. Bat presence/absence surveys were undertaken on 17th August 2022 and 7th September 2022. An updating walkover was undertaken on 2nd August 2023.

The results of the desk study indicate that there are no statutorily protected sites within 2km of the proposed development site. The site does not lie within a SSSI Impact Risk Zone (IRZ) for this type of development and no priority habitats were highlighted on or adjacent to site. No granted European Protected Species mitigation licences for great crested newts (GCN) were highlighted within 2km during the desk study while there is one record of granted EPS mitigation licences for works affecting bats within 2km, located approximately 145m east of the site, within the village of Glanton. It was granted in 2013 for the destruction of a common pipistrelle and brown long-eared bat breeding roost.

The proposed development site covers approximately <0.01ha and is dominated by the extension of a stone cottage. The development area, and the wider cottage, was subjected to detailed external and internal inspection. The cottage is a single storey slate roofed stone bungalow, which in 2022 had numerous gaps in the mortar and soffits as well as some lifted slates and lead flashing. The extension area had fewer gaps with a well-sealed ridge line. There were a couple of slipped slates and one gap behind the soffit of the proposed development area. In 2023 the roof of the main cottage had been repaired. The extension area was in a similar state to that in 2022.

The extension area of the cottage is of very low suitability for roosting bats. While the cottage was of moderate suitability, this suitability has been much reduced due to subsequent roof works. Presence absence surveys were undertaken in August and September 2022 (prior to roof repair) and recorded no roosts in the building or the extension area.

The following potential impacts have been identified:

- Very limited damage/destruction of potential roosting features.
- Low residual risk of disturbing bats and loss of roosts in the unlikely event that roosts are present within the building.

A detailed avoidance, mitigation and compensation strategy is provided within this report. Key measures include:

- Works will be completed in accordance with a detailed bat method statement.
- Timber treatments that are toxic to mammals will be avoided. If required, timber treatment will be carried out in the spring or autumn. Both pre-treated timbers and timber treatments will use chemicals classed as safe for use where bats may be present (see <https://data.incc.gov.uk/data/e5888ae1-3306-4f17-9441-51a5f4dc416a/Batwork-manual-3rd-edn.pdf> - Chapter 10).

The following additional enhancement measures are recommended in order to further enhance the site for biodiversity:

-
- Provision of integrated bird nesting and bat roosting features in the new buildings on site. To include one nest box for hole-nesting birds and one bat box. If boxes cannot be integrated into the building designs then they should be added onto the building. Bird nesting opportunities should ideally be north to east facing and a minimum of 2m high (swift 4m+). Bat roosting features should be a minimum of 3-4m high, on gable ends or at eaves height. Both should be away from windows.

The Local Planning Authority is likely to require the means of delivery of the mitigation to be identified. It is recommended that mitigation and enhancement proposals are incorporated into the master-planning documents.

If you are assessing this report for a local planning authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.

B. INTRODUCTION

E3 Ecology Ltd was commissioned by Keith Richardson in July 2023 to undertake a bat survey of a proposed development site at 15 West Turnpike 2023. The survey comprised a desk study and daytime preliminary roost assessment. For a previous application, an ecological walkover and bat risk assessment survey was undertaken on 21st July 2022 in order to inform that assessment. Bat presence/absence surveys were undertaken on 17th August 2022 and 7th September 2022. An updating walkover was undertaken on 2nd August 2023.

B.1 AUTHOR, SURVEYORS & QUALIFICATIONS

The author's professional qualifications and survey licences are detailed in the table below, as well as those of additional lead surveyors who completed survey work at the proposed development site:

TABLE 1: LEAD SURVEYORS			
Name	Position	Professional Qualifications	Natural England Survey Licence Numbers
Richard Thompson	Ecologist	BSc MSc	2023-11254-CL17-BAT (Bats)

Further details of experience and qualifications are available at www.e3ecology.co.uk.

All surveyors have the knowledge, skills and experience identified within the relevant CIEEM Competencies for Species Survey guidance, or were under the supervision of a surveyor with the required competencies.

B.2 OBJECTIVES

The objectives of the assessment are to:

- Complete comprehensive building inspections to search for evidence of bat use
- Establish the bat roosting suitability of any buildings, structures or trees which may be present on site and at risk of impact by the development
- Provide recommendations for further survey work, where required
- If sufficient survey assessment has been possible, to set out the mitigation, compensation and enhancement measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects
- Identify how these measures could be secured
- Identify any requirements for post-construction monitoring of the site

B.3 PROPOSED DEVELOPMENT SITE

The site is located in Glanton village, Northumberland, at an approximate central grid reference of NU 06876 14488.

The figures below illustrate firstly the site boundary and secondly the broad habitats present on site and within an approximate 500m buffer zone.

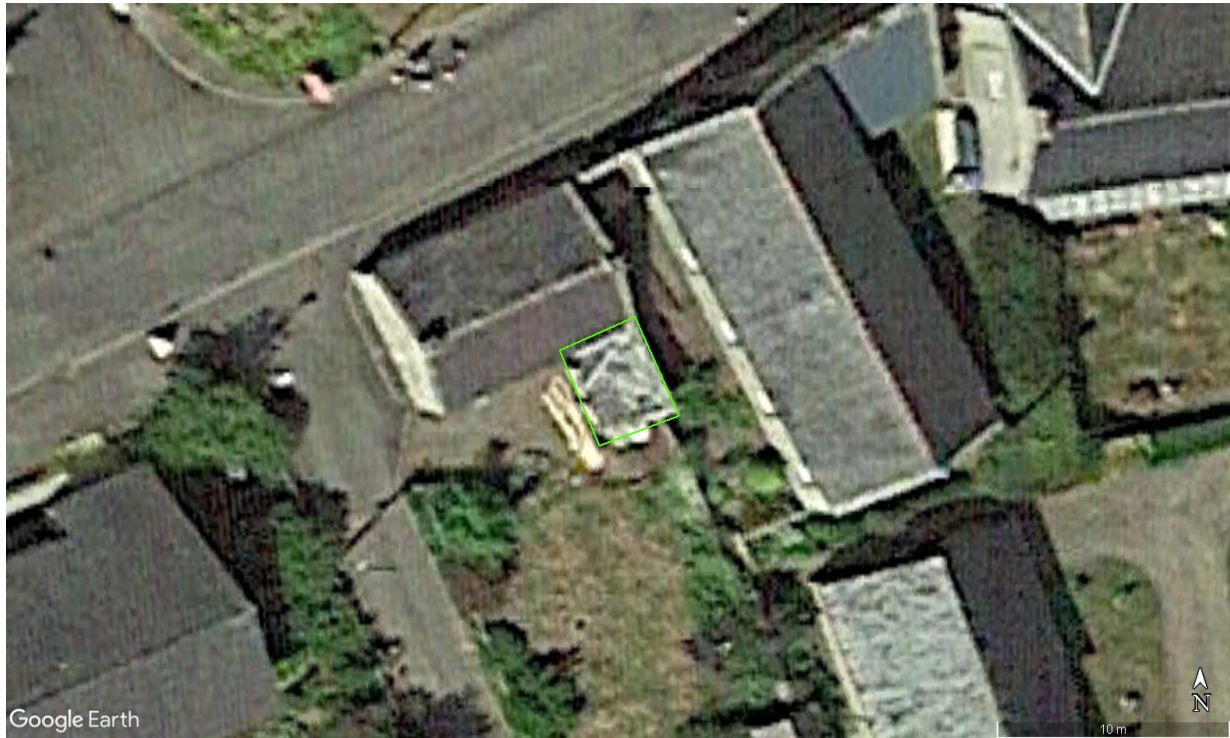


FIGURE 1: SITE BOUNDARY
(Reproduced under licence from Google Earth Pro.)



FIGURE 2: SITE AND SETTING
(Reproduced under licence from Google Earth Pro.)

B.4 DEVELOPMENT PROPOSALS

It is proposed to raise and flatten the roof of a small part of the stone cottage on site.

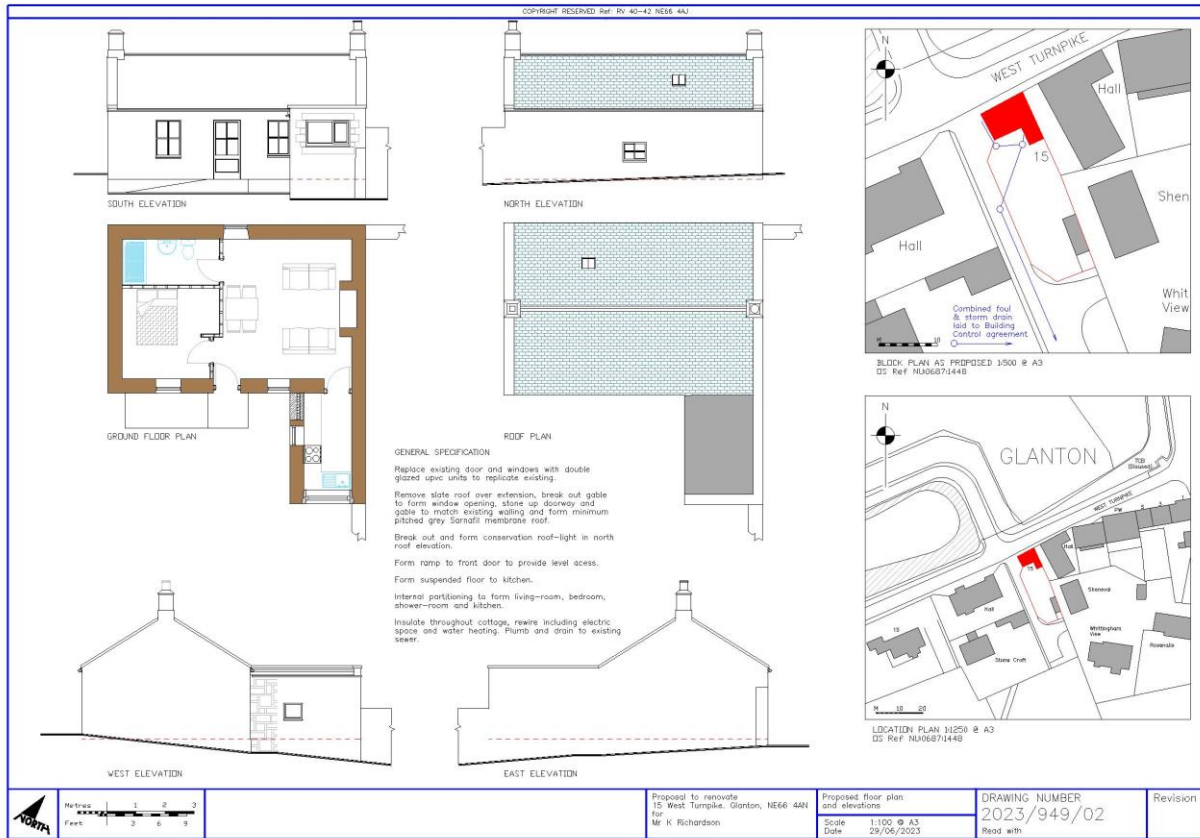


FIGURE 3: DEVELOPMENT PROPOSALS

C. METHODOLOGY

C.1 SCOPE OF STUDY

The scope of the study, in terms of the survey area and the desk study area, is based on professional judgement. The scope has been determined based on the site's characteristics, the nature of the surrounding area, the development proposed at the time of reporting and the likely associated zone of influence. Consideration has been given to potential effects both during the construction and operational phases of the development.

For this site the survey area comprised the green line boundary as defined within the figure in Section B. The survey area considered potential roost sites within and adjacent to the survey area, which may be affected by the proposed development.

The desk study included an assessment of land-use in the surrounding area and a data search covering a 2km buffer zone (see below for further detail).

The level of survey effort employed at the site has taken account of the recommendations within the Bat Conservation Trust (BCT) Good Practice Survey Guidelines¹.

C.2 DESK STUDY

Initially, the site was assessed from aerial photographs and 1:25,000 Ordnance Survey maps.

Following this, a data search was submitted to the local records centre in August 2022, requesting data relating to bats within 2km of site. In addition, a search was made of the MAGIC website² for any granted bat licences within 2km.

C.3 FIELD SURVEY

C.3.1 PRELIMINARY ASSESSMENTS

C.3.1.1 FORAGING/COMMUTING HABITAT ASSESSMENT

The potential suitability of the habitats within the survey area and surrounding landscape in relation to commuting and foraging bats was classified as negligible, low, moderate or high, based on BCT guidelines and using the surveyor's professional judgement.

TABLE 2: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF HABITAT FEATURES WITHIN THE LANDSCAPE. <i>(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)</i>	
Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.

¹ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

² Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)

	Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland tree lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

C.3.1.2 PRELIMINARY ROOST ASSESSMENT (BUILDINGS/STRUCTURES)

A daytime assessment was made of all structures affected by the proposed development, in order to evaluate their suitability to support bat roosts, and, where present, to record field signs of use by bats.

Buildings/structures were inspected both externally and internally where access was available. Binoculars and extendable ladders were used to assist with the inspection for potential roosting features and bat field signs, such as droppings, feeding remains, grease/urine staining, corpses/skeletons or bats themselves.

Where possible, species identification was either confirmed visually, through DNA analysis of droppings or acoustically through further survey work at dusk or dawn. If endoscope use or handling of bats were required to identify particularly cryptic species or to assess roost type, this was completed by appropriately licensed individuals and minimised where possible to reduce disturbance.

Structures were categorised as having negligible, low, moderate or high suitability to be used by roosting bats, based on guidelines provided by the Bat Conservation Trust³ and detailed within the table below.

TABLE 3: ASSESSMENT OF BAT ROOSTING SUITABILITY OF BUILDINGS/STRUCTURES & TREES (TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TAKEN FROM TABLE 4.1 OF BCT'S BAT SURVEY GUIDELINES)	
Suitability	Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	<p>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 by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.</p>
Moderate	A building/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).

³ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

High	A building/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.
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Note that any comments within this report on the state or condition of buildings/structures relate solely to their potential use by bats and must not be taken as a professional assessment of the structural integrity or safety of the structures.

C.3.1.3 SURVEY EQUIPMENT

- High-powered torch
- Binoculars
- Camera
- Extendable ladders

C.3.1.4 SURVEY DATES & ENVIRONMENTAL CONDITIONS

The table below details the environmental conditions during the preliminary assessment survey.

Date	Temperature (°C)	Cloud Cover (%)	Precipitation	Wind Conditions (Beaufort scale)
21.07.22	17	60	Dry	F2
02.08.23	14	100	Dry	F1

C.3.2 BAT PRESENCE/ABSENCE SURVEY

C.3.2.1 SURVEY EFFORT

The level of survey effort employed has taken account of the guidance provided by the Bat Conservation Trust (BCT)⁴ and summarised within the table below.

	Low Roost Suitability*	Moderate Roost Suitability	High Roost Suitability
Recommended minimum number of survey visits for presence/absence survey to give confidence in a negative result	One survey visit. One dusk emergence or dawn re-entry survey (structures). For trees with low roost suitability, no further surveys required.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.
Recommended timings for presence/absence surveys	May to August	May to September with at least one of the surveys between May and August	May to September with at least two of the surveys between May and August
* If a structure is classified as having low suitability for bats an ecologist should make a professional judgement on how to proceed based on all of the evidence available. If sufficient areas of a structure have been inspected and no evidence found (and is unlikely to have been removed by weather or cleaning or be hidden), then further surveys may not be appropriate.			
Note: Where a roost is confirmed as being present, further surveys may be required to fully characterise the roost			

⁴ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

The recommendations provided above are guidelines and it is recognised by BCT that ‘*the number of visits could be adjusted (up or down) if necessary by the ecologist, bearing in mind the site-specific circumstances*’.

New survey guidance released by the BCT in 2022 detailed the use of secondary dusk surveys replacing a dawn re-entry survey for moderate roost suitability buildings, supported by infra-red/thermal imagery.

Details of dates, timings, weather, and surveyor numbers and names are provided in the results section.

C.3.2.2 SURVEY METHODS

Activity surveys were undertaken in suitably mild conditions when bats are active. Surveyors were positioned to ensure coverage of all high-risk areas of the site, including any potential flight-lines from structures within the site to adjacent cover such as woodland blocks. If bats were recorded within the site before bats were seen in the wider area, or seen flying into the site, it is assumed that roosts are present within the site.

All surveyors used both Batbox Duet bat detectors to listen for bats and Anabat Express detectors, at each surveyor location, to record and better identify bat species.

Timings for observations of key bat activity such as emergence, first records of each species and commuting routes were recorded. All data were recorded using the Anabat Express for future reference and to allow confirmation of species identification through call analysis (using Analook software), and to capture brief echolocation calls that could not be reliably identified in the field⁵. Field survey recorded numbers of bats detected, feeding activity, flight paths, species (as far as is practicable), and social calls.

A total of 5 person-nights work was undertaken and direct observation was supplemented with the use of an infra-red camera to aid observation of bat activity in lower light levels, which is particularly useful for later emerging species. Figures provided within the results section of this report illustrate the approximate location of each surveyor and camera.

C.3.2.3 SURVEY EQUIPMENT

- Duet bat detectors
- Anabat Expresses
- Light meter
- Infra-red video camera
- Infra-red torches and floodlights

C.4 SURVEY CONSTRAINTS

The survey completed at the site will provide reasonably typical data for the season in which it was undertaken, and internal field signs are likely to reflect activity over the preceding active season. Assessment of the bat use of the site at other times of year and the potential impacts

⁵ Reviewing data recorded by surveyors using Duet detectors and the Anabat data indicated that reliable *Myotis* records increased through Anabat use, particularly once conditions were too dark for visual cues to assist in identification, when there was a lot of bat activity, and with bats in clutter. It also reduces errors where pipistrelles in clutter can be mis-identified as *Myotis* bats.

of the proposed development is based on professional judgement. This is an approach supported by the Bat Conservation Trust Good Practice Guidelines⁶.

C.5 ASSESSMENT OF VALUE

The relative value of the ecological receptors (habitats, species and designated sites) was assessed using a geographical frame of reference. For designated sites this is generally a straightforward process with the assigned designation generally being indicative of a particular value, e.g. Sites of Special Scientific Interest are designated under national legislation and are therefore generally considered to be receptors of national value. The assignment of value to non-designated receptors is less straightforward and as recognised by the Guidelines for Ecological Impact Assessment⁷, is a complex and subjective process and requires the application of professional judgement.

When assessing the value of species and habitats, relevant documents and legislation are considered including the lists of species and habitat of principal importance annexed to the NERC Act (2006) and those provided within relevant local Biodiversity Action Plans. Data provided through consultation is also considered. These data sources can provide context at a local, regional and national scale.

The table below provides examples of receptors of value at different geographical scales.

TABLE 6: ECOLOGICAL RECEPTOR VALUATION	
Level of Value	Examples
International	An internationally designated site or candidate site.
	A site meeting criteria for international designation.
	The site is of functional importance* to a species population with internationally important numbers (i.e. >1% of the biogeographic population)
National	A nationally designated site.
	The site is of functional importance* to a species population with nationally important numbers (i.e. >1% of the national population)
Regional	The site is of functional importance* to a species population with regionally important numbers (i.e. >1% of the regional population)
County	A Local Wildlife Site (LWS) or equivalent, designated at a County level
	The site is of functional importance* to a species population of county value (i.e. >1% of the county population)
District	A Local Wildlife Site (LWS) or equivalent, designated at a District level
	The site is of functional importance* to a species population of district value (i.e. >1% of the district population)
Parish	A species population considered to appreciably enrich the nature conservation resource within the context of the parish.
	Local Nature Reserves
Local	A species population that contributes to local biodiversity but are not exceptional in the context of the parish.
Low	Habitats that are unexceptional and common to the local area.

* Functional importance defined as 'a feature which, based on professional judgement, is of importance to the day to day functioning of the population, the loss of which would have a detectable adverse effect on that population'.

The site lies within Glanton Civil Parish which covers approximately 512ha and is mainly farmland with a mixture of arable and pastoral fields. There are small areas of woodland within

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

⁷ Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

the parish and also some small areas of more upland moorland. Residential properties are limited to the village of Glanton and a small number of farmsteads.

D. RESULTS

D.1 DESKTOP STUDY

D.1.1 PRE-EXISTING INFORMATION

D.1.1.1 ORDNANCE SURVEY MAPPING AND AERIAL PHOTOGRAPHY

The figures in Section B show that the general land use in the surrounding area is agricultural, dominated by pastoral fields. The village of Glanton lies directly east of the site.

The most recent aerial photograph of the site (2020) indicates that habitats on site are dominated by a cottage with an adjacent amenity garden.

Historic imagery suggests that the site has remained similar since at least 2002.

D.1.1.2 MAGIC WEBSITE⁸

PROTECTED SITES

There are no statutorily designated sites within 2km of the site.

The site does not fall within a SSSI impact risk zone for this type of development.

SPECIES

There is one record of granted EPS mitigation licences for works affecting bats within 2km, located approximately 145m east of the site, within the village of Glanton. It was granted in 2013 for the destruction of a common pipistrelle and brown long-eared bat breeding roost.

D.1.2 CONSULTATION

D.1.2.1 LOCAL RECORDS CENTRE

The local bat group provided the following notable records within 2km of site:

TABLE 7: CONSULTATION RECORDS			
Species	No. of Records	Closest distance (m – if sufficient record resolution provided)	Most recent date
Brown Long-eared Bat	5	2000	19/07/2013
Common Pipistrelle	81	10	25/08/2017
Myotis Bat species	3	248	31/08/2016
Natterer's Bat	4	116	02/10/2012
Pipistrelle Bat species	3	1762	07/08/2014
Soprano Pipistrelle	39	382	25/08/2017
Whiskered/Brandt's Bat	1		01/07/2004

Full data sets are available on request.

⁸ MAGIC Website: www.magic.gov.uk

D.2 PRELIMINARY ROOST ASSESSMENT

D.2.1 HABITATS

FORAGING HABITATS & COMMUTING ROUTES

The garden adjacent to site will provide some foraging habitat for bats and the shrub borders will provide a good commuting route. The road to the north of the site may also be used as a commuting route.



SHELTERED FLIGHT AREAS

There are no sheltered flight areas for foul weather foraging or light sampling on site.

ALTERNATIVE ROOST LOCATIONS

There are numerous alternative roosting opportunities in the nearby residential dwellings.



D.2.2 BUILDINGS/STRUCTURES

Descriptions of the cottage building in 2022, including the development area, are detailed below.

Where recorded, field signs that confirm bat use are in bold.

External

- Single-storey cottage with pitched roof and a monopitch extension on the southern aspect.
- Stone ridge tiles with frequent gaps in the mortar
- Slate roof tiles, largely well-sealed but some lifted and broken, especially towards the extension
- Lead flashing around the extension join, largely tightly fitted but with some areas lifted
- Stone water tables with few gaps in the mortar
- Stone chimney with gaps in the mortar, likely to be superficial
- Wooden fascia boards behind the gutter, poorly sealed with frequent gaps
- Wooden door and windows, quite well-sealed to the walls but some gaps present. Wasp nest recorded in one such gaps.
- Monopitch extension has a well-sealed ridge and very well sealed stonework. The soffits/fascia's are generally tightly sealed save for one discrete gap which may lead onto the wall top. The gap is only around 1.5 off the ground. There are some slipped tiles, though a number of these have fallen from the adjoining cottage.
- No external field signs of bats recorded
- By 2023 the main cottage had undergone some roof works, repairing much of the features described above. The monopitch extension was very similar to when visited in 2022.

Internal

- Wooden A-frame roof structure with small, open roof void
- Thick layers of Rockwool type insulation on floor
- Roof lined with bitumen felt with no gaps recorded though some sections slightly lifted
- Wall tops covered by insulation
- Stone gable ends, well-sealed though some gaps at the top where the wooden frame joins.
- No internal cavity within the extension/development area
- No internal field signs of bats recorded.

Overall in 2022 the cottage building was considered to be of moderate suitability. In 2023 the main cottage is now of negligible suitability while the small monopitch extension, the development area, is of very low suitability.



D.2.3 OVERVIEW OF SITE SUITABILITY

TABLE 8: OVERVIEW OF HABITATS AND SETTING ⁹				
	NEGLECTIBLE	LOW	MODERATE	HIGH
HABITATS AND COVER WITHIN 200M	City Centre	Open, exposed arable or pasture with no hedges, amenity grassland, or relatively built up	Hedges and trees linking site to wider countryside, mature linked gardens	Excellent cover with mature trees/ woodland and/or good hedges

⁹ Building and habitat risk assessment technique audited in a research project with York University which compared the risk assessment scoring with the results of detailed field assessment for over 100 sites. Statistically significant associations were found between habitat setting and building features and the presence of absence of different bat species. For example habitat connections and nearby woodland were significant for brown long-eared bats and the presence of species-rich grassland is important for many species.

HABITATS WITHIN 1KM	City Centre	Little tree cover, few hedges, arable dominated, scattered green spaces	Semi-natural habitats e.g. trees, hedgerows	Good network of woods, wetland and hedges
ALTERNATIVE ROOSTS WITHIN 1KM	City centre	Numerous alternative roosting opportunities of a similar nature	A number of similar buildings in the local area	Few alternative buildings and site of good quality for roosts
SETTING	Inner city	Urban with little green space	Built development with green-space, wetland, trees	Rural Lowland with woodland and trees.
DISTANCE TO WATER/ MARSH	>1km	500m-1000m	200m-500m	<200m
DISTANCE TO WOODLAND/ SCRUB	>1km	500m-1000m	200m-500m	<200m
COMMUTING ROUTES	Isolated by development, major roads, large scale agriculture	No direct potential flyways linking site to wider countryside	Some potential commuting routes to and from site	Site is well connected to surrounding area with multiple flyways

The table below shows details specific to the proposed 2023 development area of the building.

	NEGLECTIBLE	LOW	MODERATE	HIGH
AGE (APPROX.)	Modern	Post 1940's	1900-1940	Pre 20 th C
BUILDING/ COMPLEX TYPE	Industrial complex of modern design	Single, small building	Several smaller buildings, larger single structures	Traditional farm buildings, large country house, large hospital/school
BUILDING - STOREYS	N/A	Single storey	Multiple storeys	Multiple storeys with large roof voids
STONE/BRICK WORK	No detectable crevices	Well pointed, limited or superficial gaps	Some cracks and crevices	Poor condition, many deep crevices, thick walls
ROOF VOID	Fully sealed or flat roof	Small, cluttered void	Medium, relatively open	Large, open, interconnected
ROOF COVERING	Modern sheet materials, tightly sealed, very well sealed roof tiles	Good condition or very open, not weatherproof, modern sheet materials, generally well sealed roof tiles with low numbers of slipped tiles	Some potential access routes e.g. raised, slipped or missing slates or tiles, low number of gaps in bedding/end mortar	Numerous gaps, not too open, e.g. uneven stone slates, many gaps in mortar
ADDITIONAL FEATURES	None	Very limited features with potential access	Some features with low number of potential access points	Numerous or good quality gaps in features such as hanging tiles, cladding, barge boards, soffits
EXTERNAL LIGHTING	Extensive security lights covering much of the site	Widespread areas above 2 lux at night	Intermittent lights of low intensity	Minimal
BUILDING USE	Very noisy, dusty	Regular use	Intermittent use	Disused

Overall, the site is situated in an area of moderate suitability for bats.

Although the risk assessment table above shows a generally low level of suitability in the overall assessment, the concerned section of the building is generally well sealed and considered to be of very low suitability. The slipped tiles could be inspected and do not generally lead further under the roof or into cavities. There is one gap behind the fascia board which may lead onto the wall top however the gap is relatively close to the ground (~1.5m), creating suboptimal access.

As the main cottage was assessed in 2022 as having a moderate suitability, two presence absence surveys were conducted which also covered the 2023 proposed development area and a small stone shed in the adjacent garden.

D.3 PRESENCE/ABSENCE SURVEY

D.3.1 DUSK/DAWN SURVEY SURVEYORS, TIMINGS & CONDITIONS

Date	Start	End	Sunset / Sunrise	Start Temp (°C)	End Temp (°C)	Cloud (%)	Precipitation	Wind (Beaufort)
17.08.22	20:20	22:05	20:35	12	11	60	Dry	F1
07.09.22	19:24	21:15	19:45	16	14	60	Dry	F2

Date	Lead Surveyor	Assistant surveyors
17.08.22	R. Thompson	P. Grecis, G. Armstrong
07.09.22	R. Thompson	P. Grecis

D.3.1.1 17/08/22 DUSK SURVEY RESULTS

The survey was undertaken in mild (12°C), dry weather in very still conditions. No roosts were identified within the site however a potential roost was identified on a neighbouring building, not part of the development. The first bat, a common pipistrelle, was recorded at 21:51, 16 minutes after sunset and at around 25Lux. This was flying south-north over the roof of a building adjacent to the site to the east. Within the next 10 minutes around 4 bats were seen flying along a similar line and may be part of a roost in that neighbouring building. No bats were recorded emerging from the house or from the small shed. Bats were recorded frequently foraging along trees and road offsite to the north. This included common pipistrelle as well as a single *Myotis* species (recorded 21:41, 76 minutes after sunset, ~0.3Lux) and a single brown long-eared bat (recorded 21:46, 81 minutes after sunset, ~0.3Lux) was seen commuting across the site from the south.

The figure below provides a summary of the results of dusk emergence survey. More detailed data is available on request.



FIGURE 4: SUMMARY OF DUSK SURVEY RESULTS
(Reproduced under licence from Google Earth Pro.)

D.3.1.2 07/09/22 DUSK SURVEY RESULTS

Survey was undertaken in good conditions for bat survey. No roosts were identified. The first bat, a common pipistrelle, was recorded at 20:00, 15 minutes after sunset at ~16Lux. It was flying between two buildings to the east and then commuting across the site. Generally bat activity was low with low numbers of common and soprano pipistrelles commuting across the site within the first hour of the survey, as well as one noctule at 20:47 (~0.3Lux). Following this there was very little activity until around 21:00 when a common pipistrelle began to forage around the garden on site and along the road to the north.

The figure below provides a summary of the results of the second dusk survey. More detailed data is available on request.



FIGURE 5: SUMMARY OF DUSK SURVEY RESULTS
 (Reproduced under licence from Google Earth Pro.)

D.4 ADDITIONAL SPECIES GROUPS

A disused birds' nest was found within the loft space of the main cottage in 2022, though this would likely not be impacted by the proposed works. Nesting in the development area is considered unlikely.

E. SITE ASSESSMENT

E.1 ASSESSMENT OF SURVEY FINDINGS

The 2023 proposed development area is considered to be of very low suitability for roosting bats.

No roosts were identified during 2022 surveys of this area, the main cottage or adjacent shed.

It is considered that the buildings do not support maternity roosts due to the survey results, types and suitability of features present and lack of field signs of bats internally.

F. IMPACT ASSESSMENT

The likely effects of the proposed development, without appropriate targeted mitigation and/or compensation, are detailed below. Impacts have been considered in both the construction phase and operational phase of the development.

F.1 DIRECT DEVELOPMENT IMPACTS

- Very limited damage/destruction of potential roosting features.
- Low residual risk of disturbing bats and loss of roosts in the unlikely event that roosts are present within the building.

G. RECOMMENDATIONS

G.1 FURTHER SURVEY

For this site, no further bat presence/absence surveys are considered necessary. The BCT guidelines state that if a structure is classified as having very low suitability for bats an ecologist should make a professional judgement on how to proceed based on all of the evidence available. If sufficient areas of a structure have been inspected and no evidence found (and is unlikely to have been removed by weather or cleaning or be hidden), then further surveys may not be appropriate. Furthermore, surveys were conducted on the site in August and September 2022 and found no roosts within the extension area. These surveys are still considered valid and pertinent to this application.

If development does not happen within 12 months of the last site visit, an updating survey will be required, ideally to be undertaken between May and August.

G.2 AVOIDANCE, MITIGATION AND COMPENSATION STRATEGY

The following strategy is proposed:

G.2.1 SITE DESIGN

- External lighting that may reduce bat use of new potential roost sites will be avoided. High intensity security lights will be avoided as far as practical, and any lighting in areas identified as being important for bats will be low level (2m) and low lumen. Light spillage to areas used by foraging or commuting bats should be less than 2 lux. No lighting will be installed along the flyways between the roosts and adjacent trees, woodland and foraging areas. Where security lights are required, these will be of minimum practicable brightness, be set on a short timer and will be motion sensitive only to larger objects.

G.2.2 TIMING OF WORKS

- No timing restrictions are considered necessary.

G.2.3 WORKING METHODS AND BEST PRACTICE

- Works will be undertaken in accordance with a precautionary bat method statement and the mitigation measures included in this document, which include:
 - Sensitive dismantling by hand of the limited potential possible roosting areas under ecological supervision, taking care not to harm bats in the process. In the very unlikely event than bats are found, works will stop in that area and the ecological consultant will be contacted immediately. If it is necessary to move the bats for their safety, this will be undertaken by a licensed bat handler.
- Timber treatments that are toxic to mammals will be avoided. If required, timber treatment will be carried out in the spring or autumn. Both pre-treated timbers and timber treatments will use chemicals classed as safe for use where bats may be present (see <https://data.jncc.gov.uk/data/e5888ae1-3306-4f17-9441-51a5f4dc416a/Batwork-manual-3rd-edn.pdf> - Chapter 10).

G.3 COMPENSATION STRATEGY

With the implementation of the above mitigation strategy it is not anticipated that there will be any significant adverse residual effects from the proposed development. As such, a compensation strategy is not required.

G.4 MONITORING

Given the results of the survey, no monitoring is proposed.

G.5 ADDITIONAL ENHANCEMENT REQUIREMENTS

The following additional enhancement measures are recommended in order to further enhance the site for biodiversity, as is required:

- Provision of integrated bird nesting and bat roosting features in the new buildings on site. To include one nest box for hole-nesting birds and one bat box. If boxes cannot be integrated into the building designs then they should be added onto the building. Bird nesting opportunities should ideally be north to east facing and a minimum of 2m high (swift 4m+). Bat roosting features should be a minimum of 3-4m high, on gable ends or at eaves height. Both should be away from windows.

H. CONCLUSIONS

Provided that the recommendations in this report are implemented, it is anticipated that proposals may proceed with no significant impacts with regard to bats. The proposals provide an opportunity for ecological benefit through bat and bird nest box provision, contributing to local and national conservation targets.

APPENDIX 1. LEGISLATION

NATIONAL PLANNING POLICY

The table below details the key paragraphs from the National Planning Policy Framework (NPPF)¹⁰ relating to the natural environment:

TABLE 10: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	Paragraph
<p>Planning policies and decisions should contribute to and enhance the natural and local environment by:</p> <ul style="list-style-type: none"> a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate 	174
Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework ¹¹ ; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.	175
Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads ¹² . The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.	176
<p>When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development¹³ other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:</p> <ul style="list-style-type: none"> a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy; b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated 	177
Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 176), planning policies and decisions should be consistent with the	178

¹⁰ National Planning Policy Framework (July 2021), Department for Communities and Local Government,

¹¹ Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.

¹² English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters.

¹³ For the purposes of paragraphs 177 and 178, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

TABLE 10: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	Paragraph
special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.	
To protect and enhance biodiversity and geodiversity, plans should: <ul style="list-style-type: none"> a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity¹⁴; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation¹⁵; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity. 	179
When determining planning applications, local planning authorities should apply the following principles: <ul style="list-style-type: none"> 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 reasons¹⁶ 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. 	180
The following should be given the same protection as habitats sites: <ul style="list-style-type: none"> a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites¹⁶; and c) 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. 	181
The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.	182

Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity.

Planning Practice Guidance¹⁷ states:

¹⁴ Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

¹⁵ Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

¹⁶ Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.

¹⁷ Planning Practice Guidance: Natural Environment (www.planningguidance.communities.gov) Updated July 2019 2021

- Planning authorities need to consider the potential impacts of development on protected and priority species, and the scope to avoid or mitigate any impacts when considering site allocations or planning applications. (para. 016)
- Information on biodiversity and geodiversity impacts and opportunities needs to inform all stages of development (including site selection and design, pre-application consultation and the application itself). An ecological survey will be necessary in advance of a planning application if the type and location of development could have a significant impact on biodiversity and existing information is lacking or inadequate. (para. 018)
- Even where an Environmental Impact Assessment is not needed, it might still be appropriate to undertake an ecological survey, for example, where protected species may be present or where biodiverse habitats may be lost. (para. 018)
- As with other supporting information, local planning authorities should require ecological surveys only where clearly justified. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity. (para. 018)
- The National Planning Policy Framework encourages net gains for biodiversity to be sought through planning policies and decisions. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity net gain can be achieved on-site, off-site or through a combination of on-site and off-site measures. (para. 022)

RELEVANT LEGISLATION

Within England all bat species are specially protected under the Conservation of Habitats and Species Regulations 2017 (as amended).

As a result there is a requirement to consult with Natural England before undertaking any works that may disturb bats or their roost, and under the Conservation of Habitats and Species Regulations it is illegal to.

- Deliberately kill, injure or capture bats.
- Deliberately obstruct access to a bat roost.
- Damage or destroy a bat roost.
- Deliberately disturb bats; in particular any disturbance which is likely to impair their ability:
 - (i) to survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act (1981) the above offence of disturbing bats includes low level disturbance and as such under this act it is also an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a roost.
- Intentionally or recklessly obstruct access to a roost.

Under the above legal protection, only the offences under the Conservation of Habitats and Species Regulations 2017 (as amended) are strict liability offences; the remaining offences, under the Wildlife and Countryside Act (1981), are offences only where they are carried out "intentionally or recklessly".

Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the Wildlife and Countryside Act 1981 of disturbing bats is extended to cover reckless damage or disturbance.

The Hedgerow Regulations 1997 provide for the conservation of important hedgerows and their constituent trees. The presence of a protected species such as bats is a relevant consideration when assessing whether a hedgerow is important and may influence a local planning authority's decision on whether to approve removal of such hedges.

PRIORITY SPECIES

Although not afforded any legal protection, national priority species (species of principal importance, as listed in Section 41 of the NERC Act (2006)), and local and regional priority species, as detailed within the relevant biodiversity action plans, are material considerations in the planning process and as such have been assessed accordingly within this report.

The following bat species are listed as national priority species: Barbastelle bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe bat and lesser horseshoe bat. 'Bats' as a species group is also listed on the relevant local biodiversity action plan for this site.