

AFFETSIDE CHAPEL, WATLING STREET, AFFETSIDE

Preliminary Ecological Appraisal Report

December 2022



Report Control Sheet

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EXECUTIVE SUMMARY

Site Address	Affetside Chapel Watling Street Affetside, Bury BL8 3QW
Grid Reference	SD 75581 13527
Approximate Site Area	0.3ha
Current Site Use	The site is currently used as a church.
Designated Sites within Zone of Influence	There were no designated sites within the zone of influence.
Notable Habitat Features	No notable habitats were present. Habitats present included poor semi-improved grassland, modified grassland covered in gravestones and 3 scattered trees.
Notable Species Applicable to the Assessment	• Bats (Potential roosting, foraging and commuting) • Breeding birds • Common amphibians • Hedgehog
Mitigation Recommendations	• A nesting bird check should be undertaken if any trees or buildings are to be removed within the nesting bird season (March-September inclusive). • Reasonable avoidance measures for amphibians and hedgehogs.
Recommended Further Surveys and Assessment	• Emergence/re-entry Nocturnal Bat Surveys to be undertaken between May – August on the chapel. • Check of cellar for suitability for hibernating bats.
Recommended Ecological Enhancements	The National Planning Policy Framework (2021) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment. The proposed development provides the opportunity to enhance the site and ecological enhancements have been recommended

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1 INTRODUCTION

1.1. SCOPE & PURPOSE

1.1.1. Collington Winter Environmental Ltd was commissioned by Affetside Congregational Church to undertake a Preliminary Ecological Appraisal (PEA) at Affetside Chapel. This report has been prepared to allow for the proposed developments for an extension on the current building.

1.1.2. The author of this report is Katie Brewer BSc (Hons), Assistant Ecologist at Collington Winter Environmental Ltd. This report has been overseen by Olivia Collington BSc (Hons), MEnvSc, Principal Ecologist and Director at Collington Winter Environmental Ltd. Olivia is highly experienced managing schemes and has produced many ecological reports to inform planning management plans.

1.2. LOCATION

1.2.1. Please refer to Figure 1.1 for the site location. The site is located within the urbanised area of Affetside, Bury. It is located approximately 1.5km south from Hawkshaw village centre and approximately 5km northwest from Bury town centre.

Figure 1.1 Site Location



1.3. OBJECTIVES

1.3.1. The objectives of the Preliminary Ecological Appraisal are as follows:

- Identify the major habitats present
- Ascertain the presence or potential presence of any legally protected or notable species or habitats
- Identify any mitigation or further survey required and opportunities for strategic wildlife enhancements and long-term management.

2 METHODOLOGY

2.1. DESK STUDY

2.1.1. An initial desk-based assessment of the site was undertaken to collate baseline data. The desk study included:

- Obtaining local records of notable species and locally designated sites within 1 km of the site from Greater Manchester Local Records Centre (GMLRC), obtained on the 14/12/2022.
- Review of Magic.gov.uk website for details of any designated sites, notable habitats and presence of European Protected Species Licences.
- Review of aerial and OS maps for habitat information, as well as determining locations of potential waterbodies to be considered in the assessment.
- Review of potential habitat links on and off site, to determine the potential zone of influence of the proposed development.
- On site consultation with the landowner which provided valuable information regarding historic land use and known species and habitats present within the site.

2.1.2. Please note, a lack of records for a species does not confirm absence. Instead, local surveys may not have been undertaken or records not submitted to GMLRC.

2.2. VEGETATION AND HABITAT ASSESSMENT

2.2.1. An Ecological Appraisal of the site was undertaken by Olivia Collington and Katie Brewer. The survey was undertaken on the 7th December 2022. The weather was clear (0/8 oktas), with no precipitation, 0 wind speed and 2°C.

2.2.2. The walkover survey was undertaken broadly in line with standard methodology as detailed in “JNCC Handbook for Phase 1 Habitat Survey” (2010). The assessment is undertaken with consideration of methodology as per “Preliminary Ecological Appraisal” (CIEEM, 2018).

2.2.3. A Phase 1 Habitat Plan has been produced and is presented in the Appendix of this report. The mapping is based on the “JNCC Handbook for Phase 1 Habitat Survey” (2010), though adjustments have been made based on judgement to demonstrate habitats in a clearer manner, or where standard guidance does not fit the conditions found on site.

2.3. FAUNA ASSESSMENT

2.3.1. A search for signs of protected and notable species of fauna was undertaken during the site walkover. This included both field signs of species, as well as potential for species to be present based on habitat availability.

2.3.2. The searches broadly included the following:

- Assessment of waterbodies on site and within 250m of the site boundary, and terrestrial habitats for suitability to support notable amphibians.
- Searches for field signs of, and habitat suitability for bats.
- Suitability of habitats to support reptiles, and searches for incidental field signs.
- Searches for field signs of badger (*Meles meles*), including setts, mammal paths, snuffle holes, badger hair and latrines to indicate activity.
- Searches of watercourses for signs of water vole (*Arvicola amphibius*), white-clawed crayfish (*Austropotamobius pallipes*) and otter (*Lutra lutra*), and assessment of habitat availability for the species.
- Assessment of the suitability of habitats to support notable birds and recording any field sightings of birds during the walkover.
- Assessment of the sites ability to support notable invertebrates and flora.
- Searches for non-native invasive species.

2.4. PRELIMINARY ROOST ASSESSMENT

- 2.4.1. A Preliminary Roost Assessment (PRA) of the site was undertaken by Olivia Collington who holds a Class 1 Bat Survey Licence from Natural England (Reference 2020-48950-CLS-CLS).
- 2.4.2. The survey was undertaken following guidance set out in Collins (2016). This includes undertaking a detailed internal and external inspection of any features to compile information on potential and actual bat entry/ exit points, roosting locations and evidence of bats.
- 2.4.3. The buildings were assessed as per categories listed in Table 4.1 Collins (2016) and reproduced in Table 2.1.

Table 2.1 Assessment Criteria for Bat Roosting Potential

Bat Roosting Potential	Description
Negligible	Negligible 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 habitats to be used on a regular basis by larger numbers of bats.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.
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 for longer periods of time.

2.5. BAT ACTIVITY ASSESSMENT

- 2.5.1. The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 5, which is used as a basis for determining the requirement for further surveys and/or mitigation.

Table 2.2 Assessment Criteria for Bat Activity Value

Suitability	Description
Negligible	No features on site suitable for use by commuting and foraging bats.
Low	Habitat that could be used by small number of commuting bats such as; defunct hedgerow, isolated features not well connected to surrounding habitat or Isolated habitat that could be used by a small number of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees, scrub or linked back gardens. Habitat connected to wider landscape that could be used for bats for foraging such as; trees, scrub, grassland or water.
High	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting or foraging bats such as; river valleys, streams, hedgerows, lines of trees or woodland edge. Site is close to or connected to known roosts.

2.6. HABITAT SUITABILITY INDEX

- 2.6.1. No ponds were present on site; however, four ponds (P1, P2, P3 and P4) were identified within 250 m of the site boundary. As great crested newts' upper dispersal limit is generally considered to be up to 250 m from a waterbody (though occurrence of greater distances does exist), ponds beyond this distance were not assessed due to limited connectivity (English Nature, 2001).
- 2.6.2. The ponds underwent a Habitat Suitability Index (HSI) assessment following the methodology set out in ARG UK Advice Notice 5 (Oldham et al., 2010). Ten habitat suitability indices were assessed and inputted into the HSI equation, which generates a score between 0 and 1. The calculated score corresponds to the estimated pond suitability for great crested newt.

2.7. SURVEY LIMITATIONS

- 2.7.1. This survey does not constitute a full botanical survey. Key species for each habitat type have been identified to give a broad representation of habitats present within the site.
- 2.7.2. It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment. This survey does not constitute a full botanical survey. Plant species may have been under-recorded, unidentifiable or not visible due to a number of factors including the time of year the survey was carried out.
- 2.7.3. December is a suboptimal time for carrying out a Phase 1 Habitat Surveys due to being outside of the optimal plant growing season. Therefore, it is likely that some plants are present on the site but were not evident at the time of the survey and were not recorded. This is not considered to be a significant constraint with regards to the general Phase 1 Habitat Survey results as the habitats remained consistent with previous surveys, and due to the size and location of the site and limited extent of the habitats, it is considered very unlikely that any rare or priority plant species were missed.
- 2.7.4. The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site. This is based on the suitability of the habitat, known distribution of the species in the local area (provided by data searches) and any direct evidence within the survey area.
- 2.7.5. The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.

3 SURVEY RESULTS

3.1. SITE CONTEXT

3.1.1. The site is located with a predominately rural area of Affetside, it is surrounded by agricultural fields which is connected by connecting hedgerows, a road is located on the western aspect of the site. Two Brooks Valley is located approximately 1km north from the site which consists of a woodland. Walves reservoir is located approximately 1.6km north from the site and the Jumbles Country Park is located approximately 2km west from the site which consists of a woodland and reservoir. These features are anticipated to be of high value for local wildlife, and species typically associated with arable and agricultural areas are likely to be present.

3.2. DESIGNATED SITES

3.2.1. The following Sites of Special Scientific Interest (SSSI) are located within 5km of the site boundary:

- West Pennine Moors SSSI is located approximately 3.1km on the northern aspect from the site boundary. It supports an extensive mosaic of upland and upland-fringe habitat and includes nationally important features which includes blanket bogs, wet and dry heathlands, acid and lime-rich flushes, rush pastures and mire grasslands, acid grasslands, neutral hay meadows and pastures, wet and dry broadleaved woodlands and scrub, diverse assemblages of upland moorland, in-bye and woodland breeding birds, breeding black-headed gulls (*Chroicocephalus ridibundus*), mediterranean gulls (*Larus melanocephalus*) and grey herons (*Ardea cinerea*). It also includes populations of starry lady's-mantle (*Alchemilla acutiloba*), large toothed lady's- mantle (*A. subcrenata*) and floating water-plantain (*Luronium natans*).
- Tonge River Section SSSI is located approximately 4.8km southwest from the site boundary. The site comprises the steep west bank of the river, lying norther of Tonge Bridge. It is a prominent fluvial sandstone which occurs over large areas of the western Pennines and adjacent coalfields and is well known for yielding well-preserved casts of pteridosperm seeds (*Trigonocarpus*).

3.2.2. No other SSSI are located within 5km of the site boundary.

3.2.3. The following Local Nature Reserves (LNR) are located with 5km of the site boundary:

- Upper Bradshaw Valley LNR is located approximately 2km west from the site boundary. It is a wooded valley along the course of Bradshaw Brook with open meadow areas interspaced. The woodlands consist of native broadleaf trees and floral diversity of bluebells (*Hyacinthoides non-scripta*). It also consists of an unused quarry and other ponds which have been created.
- Kirklees Valley LNR is located approximately 2km east from the site boundary. The site consists of varied woodland, grassland, heathland, ponds, lodges and streams. Wildlife includes a variety of birds, amphibians, bats and roe deer (*Capreolus capreolus*).
- Ousel Nest Quarry LNR is located approximately 2.4km west from the site boundary. The site consists of a woodland, disused quarry which has been re-landscaped with a wildflower meadow.
- Redisher Wood LNR is located approximately 2.6km northeast from the site boundary. The site is one of the best ancient woodlands in the Borough with a good number of bluebells. The site has a good number of woodland birds, stone loach (*Barbatula barbatula*) and aquatic insects. The shallow ponds consist of marsh marigolds (*Caltha palustris*) and common valerian (*Valeriana officinalis*). Habitats include semi-natural broad-leaved woodland, scrub, neutral grassland, acid grassland, acid heath, marshy grassland, standing and running water, swamp and bracken.
- Eagley Valley LNR is located approximately 3.2km west from the site boundary. This site consists of river corridor, native broadleaf woodland, open grassland and a pond/lodge.
- Seven Acres LNR is located approximately 3.6km southwest from the site boundary. It includes a fantastic range of habitats which includes wetlands, woodlands, meadows and small areas of lowland heath. Roe deer are present on the reserve.
- Leverhulme LNR is located approximately 4.6km southwest from the site boundary. The site includes

open meadow areas, broadleaf woodland, ponds and wetlands.

3.2.4. The site does not fall within the Impact Risk Zone of any Statutory Sites.

3.2.5. The data search returned 3 records of Site of Biological Importance (SBI) which included:

- Raike's Clough (SBI) located approximately 0.7km southwest from the site boundary.
- Hawkshaw Brook (SBI) located approximately 0.8km northeast from the site boundary.
- Wood at Bottom Hall (SBI) located approximately 0.9km northeast from the site boundary.

3.3. HABITATS

3.3.1. Please refer to Drawing 20-681 – 001 for the Phase 1 Habitat Map for the site. Photographs of the site are presented in the Appendix.

MODIFIED GRASSLAND

3.3.2. Part of the site comprised of modified grassland on the northern-eastern aspect of the site. It included species such as ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), perennial rye grass (*Lolium perenne*), creeping buttercup (*Ranunculus repens*) and common dandelion (*Taraxacum officinale*).

POOR SEMI-IMPROVED GRASSLAND

3.3.3. The majority of the northern section of the site consisted of poor semi-improved grassland. Species observed within the grassland includes perennial rye grass, ribwort plantain, white clover (*Trifolium repens*), broadleaved plantain (*Plantago major*), meadow foxtail (*Alopecurus pratensis*), broadleaved dock (*Rumex obtusifolius*). It is assessed that this area was probably previously more intensively managed, however has not been managed recently, causing it to grow taller, however species diversity still appeared poor.

SCATTERED TREES

3.3.4. There were two trees located on the site which included conifer (*Pinophyta*) and common hawthorn (*Crataegus monogyna*).

BUILDINGS

3.3.5. One building was present within the site which comprised Affetside Chapel. Please refer to Section 3.4 for details of the building.

3.3.6. One shed was also located on the eastern aspect of the site, Which was used for storage.

HARDSTANDING

3.3.7. Hardstanding ground was located on the north-western aspect of the site and is used as a carpark for the church, a footpath also surrounded the building on all aspects which allowed access to the building.

3.4. SPECIES

FLORA

3.4.1. The data search returned no records of notable vascular plants within the local area.

3.4.2. The majority of the site comprised improved grassland and poor semi-improved grassland with limited floristic diversity. It is anticipated that these habitats are unlikely to support any notable plant species.

3.4.3. Due to the survey being completed in December it is anticipated additional flowering species within the unmanaged habitats are present but could not be identified during the survey.

INVERTEBRATES

3.4.4. The data search returned one record of notable invertebrates within the local area which included small heath (*Coenonympha pamphilus*).

3.4.5. The modified and poor semi-improved grassland are anticipated to possibly be of limited value for invertebrates as there are limited habitats for invertebrate lifecycles. Clover species will provide suitable food resources. Additional flowering species may be present which will also attract species to the site.

3.4.6. Overall, notable invertebrates may utilise the site for foraging but are not thought to utilise the site in significant numbers.

AMPHIBIANS

3.4.7. The data search returned no records of great crested newt (*Triturus cristatus*). In addition, no Great Crested Newt Natural England Mitigation Licence were observed within 5km of the site boundary, based of Magic.

Map 2.2 Pond Locations



3.4.8. No ponds were located within the site, although 4 ponds were identified within 250m of the site boundary (P1, P2, P3 & P4). As great crested newts' upper dispersal limited is generally considered to be up to 250m from a water body (though occurrence of greater distances does exist), (English Nature, 2001).

3.5. P1 was found to be dry at the time of survey, comprising a shallow ditch colonised by grasses. It is likely this feature will fill with water during high periods of rainfall. A HSI assessment could not be undertaken.

3.6. P2 and P3 could not be accessed due to being located within a private residential garden.

3.7. P4 was found to be ornamental in nature and located within an area of POS. The pond was stocked with fish. P4 scored 0.33 Poor.

3.8. Great crested newts are assessed as unlikely to be present within the off-site ponds, and no records of the species are present in the local area.

3.8.1. The site consisted of a graveyard with modified grassland and shed which does not provide suitable foraging resources for amphibians. Although, it is anticipated that the shed could provide shelter for common amphibians such as common toads (*Bufo bufo*).

3.8.2. The presence of great crested newts within the site is reasonably discounted, though common amphibians may occur on site.

REPTILES

3.8.3. The data search returned no records of reptile species within the local area. The site provides limited value for reptiles, given the majority of the site comprised modified grassland, which lack the structure and habitat quality to support the species group. It is anticipated that the shed could potentially provide suitable shelter for reptiles.

3.8.4. Reptiles are not anticipated to be on site and are not considered further.

BIRDS

3.8.5. Bird records were returned within the 1km data search, records included; barn owl (*Tyto alba*), peregrine (*Falco peregrinus*), bullfinch (*Pyrrhula pyrrhula*), curlew (*Numenius arquata*), dunnoek (*Prunella modularis*), house sparrow (*Passer domesticus*), lapwing (*Vanellus vanellus*), linnet (*Carduelis cannabina*), reed bunting (*Emberiza schoeniclus*), skylark (*Alauda arvensis*), song thrush (*Turdus philomelos*) and starling (*Sturnus vulgaris*).

3.8.6. The site provides potential breeding habitats such as the scattered trees located within the site although no birds were recording during the survey. A historic bird's nest was identified on the southwest of the building, this suggests that the building could potentially provide breeding habitats. The trees within the site are not considered of great value for birds due to the surrounding habitats.

3.8.7. Ground nesting birds are not anticipated to be on site due to site being made of modified grassland with gravestones and poor semi-neutral grassland with disturbance.

BAT

3.8.8. Records of bats were returned within 1km of the site boundary which included one maternity bat roost which was located at Sheep Hill Farm located approximately 0.7km southeast from the site. Species within the local area included common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and daubenton's bat (*Myotis daubentonii*).

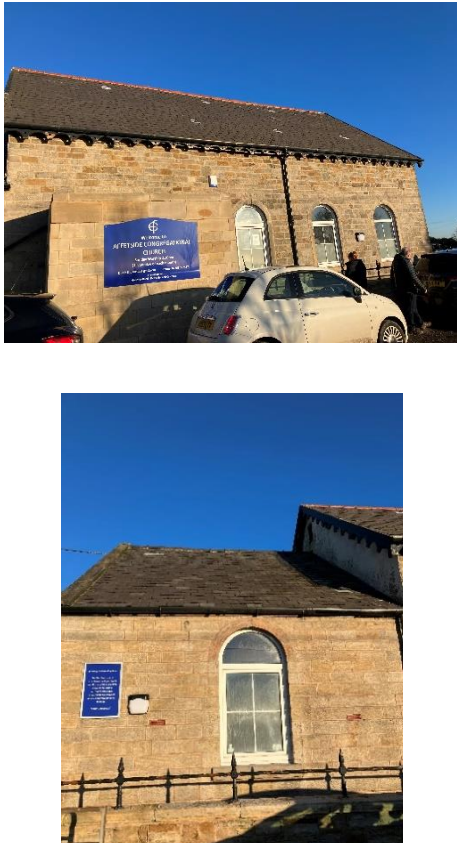
3.8.9. The following EPSLs of bats were located within 5km of the site boundary based on consultation with magic.gov.uk

- 2015-13488-EPS-MIT located approximately 2.1km southwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle between 24/08/2015- 01/06/2021.
- EPSM2011-3296 located approximately 2.8km northwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle and brown long-eared bat between 01/09/2011- 31/08/2014.
- EPSM2011-3354 located approximately 3.2km northwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle between 20/08/2011- 31/12/2012.
- EPSM2012-4079 located approximately 3.2km southwest from the site boundary which allowed for the destruction of a resting place for common pipistrelle between 17/08/2012- 30/03/2013.
- 2014-3807-EPS-MIT located approximately 3.8km east from the site boundary which allowed for the destruction of a resting place for common pipistrelle between 09/10/2014- 31/08/2015.
- 2014-5187-EPS-MIT located approximately 4.1km northeast from the site boundary which allowed for the destruction of a resting place for common pipistrelle and soprano pipistrelle between 11/02/2014- 01/06/2014.

- 2018-33380-EPS-BDX located approximately 4.4km southeast from the site boundary which allowed for the destruction of a resting place and breeding site for common pipistrelle between 01/04.2018-30/04/2018.
- EPSM2012-5060 located approximately 4.5km southeast from the site boundary which allowed for the destruction of a breeding site between 08/04/2013- 01/10/2015.
- 2015-8936-EPS-MIT-1 located approximately 4.9km southeast from the site boundary which allowed for the destruction of a resting place for common pipistrelle between 01/05/2015- 30/06/2020.

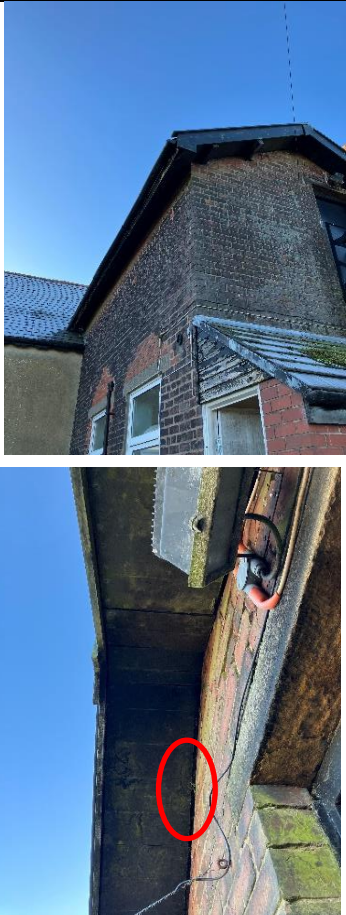
3.8.10. The buildings were subject to a PRA and are detailed in Table 3.1

Table 3.1 PRA Summary

Building Ref	Description	Photograph
	Yellow= Main Building Red= Extension 1 Blue= Extension 2 Green= Extension 3	
Main Building (External)	The main building was made of stone on all aspects other than the north-eastern which had a rendered wall. All windows were well sealed with no gaps identified. It had a slate roof which has slipped tiles and gaps on all aspects of the main building. These are anticipated to be potential roosting features. Potential gaps were identified on the mortar on the main building. It should be noted that a historic birds nest was located on the southwest of the building which has been outlined within the photographs.	

		 
Main building (Internal)	The main building consisted of a main commonly used chapel, a common room, an office space, and toilets. All rooms were painted and plastered throughout with single glazed windows. It should be noted that the office space consisted of false ceiling. There were no gaps or crevices throughout the internal aspect of the building. It should also be noted that an unused cellar was located underneath the main building which could not be accessed, according to the client the cellar is well sealed.	 

		
Loft Space in Main Chapel	The internal aspect of the loft space consisted of two gaps allowing natural light located on the north-western aspect of the site. Holes were also identified within the roofing felt which was located on the western on the aspect of the loft space.	 
Extension 1 on eastern aspect (External)	Extension 1 consisted of small extensions located on the north-eastern aspect of the building made up of red brick. The brickwork was in good condition with no gaps identified throughout. There were no gaps on the lower part of the extension. Although, on the upper level of the building a gap was identified on the mortar.	

		
Extension 1 on eastern aspect (Internal)	The internal aspect of the extension consisted of a wooden ceiling which was fully sealed, no gaps were identified within the internal aspect.	
Extension 2	Extension 2 consisted of a renovated building with a flat roof with a fascia board all of which was well sealed. No gaps were identified throughout Extension 2. The internal aspect of the property could be accessed through the main building and was commonly used and no PRFS were identified.	

		
Extension 3	Extension 3 was found to have no gaps within the brickwork, however slipped tiles were identified on the roof of the extension.	

3.8.11. The building was found to provide **moderate bat roosting potential** based on criteria outlined in Collins (2016). A number of potential roost features were identified throughout the external of the building which could support crevice dwelling bats. In addition, the cellar could not be accessed and it is unknown if the cellar provides value for maternity or hibernating bats.

3.8.12. The habitats surrounding the site are anticipated to provide value for foraging bats due to the woodland and grasslands surrounding which will attract invertebrate prey.

3.8.13. The site has the potential to support roosting bats whilst the habitats on site were assessed as having low value.

BADGER

3.8.14. Records of badgers were returned during the data search and their location is to remain confidential. No signs of badger presence were recorded within the site or surrounding 30m during the site visit. The grassland could provide foraging and sett building opportunities for badger and the species are anticipated to be present locally.

OTHER TERRESTRIAL MAMMALS

3.8.15. No records of west European hedgehog (*Erinaceus europaeus*) were located within the 1km search area. Given the surrounding habitats present, it is anticipated that hedgehog could be present within the site.

3.8.16. Records of brown hare (*Lepus europaeus*) were recorded within 1km of the site boundary. The site is anticipated to have limited value for the species due to the habitats present within the site, however the species are likely to be present within the local area.

NON-NATIVE INVASIVE SPECIES

3.8.17. There were no records of invasive species were recorded within the 1km data search. No non-native invasive species were observed during the survey. However, December is sub-optimal period for identification, and it is

possible species may have been missed.

SPECIES DISCOUNTED FROM ASSESSMENT

- 3.8.18. Water vole, otter and white-clawed crayfish have been discounted from assessment as no aquatic habitats are located on site or within proximity. The closest aquatic habitat is located approximately 1.5km northwest of the site boundary, relating to Walves Reservoir.
- 3.8.19. Hazel Dormouse (*Muscardinus avellanarius*) mainly occur in southern counties, especially in Devon, Somerset, Sussex and Kent. There are few recorded localities north of the Midlands, though they are present in parts of the Lake District and in scattered Welsh localities (Matthews et al, 2018). There were no records of the species within the area. As such, the species are reasonably discontinued from the site.
- 3.8.20. Red squirrel has been discounted from the assessment. Red squirrel populations are limited to small areas of northern England and are not known to be present in the area; with no previous records returned in the data search. It is anticipated that abundances of grey squirrel are present within this region, this species will displace red squirrel through competition as well as cause increased red squirrel mortality through the spread of squirrel pox (The Mammal Society, 2020).

4 MITIGATION RECOMMENDATIONS

4.1. HABITATS

SCATTERED TREES AND HEDGEROWS

- 4.1.1. It is recommended that replacement tree planting at a 1:3 ratio is required to compensate for loss of any trees. It is recommended that the planting comprises native species and species known to be of value for the attraction of wildlife. This will include fruiting and flowering species.

4.2. SPECIES

AMPHIBIANS

- 4.2.1. Great crested newts were deemed unlikely to be present on site and no further consideration for the species is required. However, there is a possibility that common amphibians such as common toad may be present on site.
- 4.2.2. It is recommended that consideration of amphibian presence during habitat management is considered. Any debris is to be cleared by hand, and any common amphibians located moved carefully, by hand, to outside of the impacted area. The shed should be checked for amphibian presence before any work is completed on the building.
- 4.2.3. Hibernacula could be created to provide a shelter for varying species, and somewhere to hibernate. The design of the features should follow those outlined within the Great Crested Newt Mitigation Guidelines (English Nature, 2001).

BREEDING BIRDS

- 4.2.4. Notably buildings and trees within the site may provide opportunities for nesting birds. As such building and vegetation management should be undertaken with consideration to nesting birds.
- 4.2.5. Any vegetation management and building works should be undertaken outside of the breeding bird season (March to September, inclusive). If this is not possible, a suitably qualified ecologist should undertake a nesting bird check no more than 48 hours prior to removal. If nesting activity is observed, the nest(s) should be left in situ until the young have fledged. A suitable buffer will be maintained and determined by the ecologist.

BATS

- 4.2.6. The building was assessed as having **moderate bat roosting potential**. It is recommended that further surveys in the form of both summer surveys are completed to understand the sites usage for roosting bats within the buildings and the sites value (see Section 5).
- 4.2.7. Trees on the site were assessed as having negligible bat roosting potential. Therefore, no further survey or mitigation is required in relation to this.
- 4.2.8. Slow-flying species such as brown long-eared, which are known to be in the local area, are sensitive to lighting and may be impacted by the proposed development, should no mitigation for lighting be considered.
- 4.2.9. Any proposed lighting/existing lighting should follow the guidance outlined in the Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and BCT's "Bats and Artificial Lighting in the UK" (2018).
- 4.2.10. An External Lighting Scheme had not been produced on the writing of this report. As such, the following recommendations are to be considered within the scheme during its condition, to minimise impacts of lighting. The recommendations are as follows:
- Keep site lighting to minimum levels.
 - Luminaries should lack UV elements and preferably LED lighting with a warm white light should be used

over cool white light (ideally <2700Kelvin).

- Lighting should feature peak wavelengths greater than 550nm.
- Light placement should be downward facing to prevent excess horizontal or vertical light spill.
- The use of integrated fittings such as cowls, shields, louvres and hoods, that effectively contain light spill from unintended areas.
- The use of hard landscaping features to block light and create dark corridors.
- Avoid illuminating habitats of value.
- Use of timed security lights should be set on motion-sensors and using short, 1-minute timers, to minimise light use.
- Column heights of lighting can be considered to minimise light spill.

TERRESTRIAL MAMMALS

- 4.2.11. European Hedgehog are anticipated to be present within the site and are a Species of Principal Importance. During habitat management, any areas of dense vegetation should first be carefully hand searched to check for the species. If identified during management, should be relocated carefully by hand to a location away from the working area. If any injured either species are located, they should be taken to a local vet.

5 FURTHER SURVEYS AND CONCLUSION

5.1. BAT SURVEY (SUMMER ROOSTING)

- 5.1.1. The building was found to provide **moderate bat roosting potential**, and therefore, in accordance with Best Practice guidance (Collins, 2016) a minimum of **two further nocturnal emergence/ re- entry surveys** should be undertaken between May-September (inclusive) to determine usage by roosting bats.
- 5.1.2. In addition, the cellar should be accessed to determine suitability for hibernating bats. If found to be suitable, a static bat detector should be installed between December – February to determine presence/ absence of hibernating bats.
- 5.1.3. The results of the further surveys will determine if any mitigation is required for roosting bats. If roosting bats are located within the building, a Natural England Mitigation Licence may be required for development to proceed. The Licence can only be obtained once planning permission has been granted and all wildlife conditions discharged. However, the bat emergence surveys must be undertaken prior to planning permission being applied for as they are a material consideration.

5.2. SUMMARY

- 5.2.1. Table 5.1 summarises the surveys recommended to inform relevant mitigation and to inform relevant planning applications

Table 5.1 Further survey summary

Survey	Survey Timeframes
Nocturnal Bat Surveys	May to September (inclusive)

5.3. CONCLUSION

- 5.3.1. The site was found to comprise of modified grassland covered in gravestones and poor semi-neutral grassland, with a church building, wooden shed and a hardstanding carpark on site. It is anticipated that the site provides limited habitats for local flora and fauna. The site was found to have some value for bats, birds, amphibians and terrestrial mammals.
- 5.3.2. Specific enhancement recommendations for the site include the following:
- Bat and bird boxes could be placed on the new buildings / retained trees. A plan to show the locations of these boxes and the specifications should be produced by a suitably qualified ecologist once the layout is finalised.

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Feature	Photograph	
Modified grassland with gravestones.		
Poor Semi-neutral Grassland with conifer tree.		
Poor Semi-neutral Grassland and hawthorn tree.		

Wooden shed on eastern aspect.			
Hardstanding ground with poor semi-neutral grassland.			
Pond 1 (Dried up)			
Pond 4			

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