Preliminary Ecological Appraisal and Preliminary Roost Assessment

Slaithwaite Methodist Church

Survey Date: 13th March 2025

Issued By:
Eco 360 Ltd
Hollinscroft House
Uttoxeter Road
Stoke-on-Trent
ST10 4LJ

Tel: 0330 133 8294
Email: info@eco-360.co.uk
www.eco-360.co.uk

Contents

1. Introduction

1.1 Report rationale

This report was commissioned by Bear & Co (Proprietor) to assess the likelihood of the presence of bats and birds at the proposed redevelopment site located at Slaithwaite Methodist Church, Carr Lane, Slaithwaite, Huddersfield, HD7 5AN (OS Grid Reference: SE 08145 14217). Eco 360 carried out a desktop study and a field survey to complete this task. The survey and report were completed by Daniel Howgego BSc (Hons), MSc ACIEEM (2024-11950-CL17-BAT) and Mr. John Roberts: BSc (Hons), Ecologist.

The main purpose of this assessment was to identify the broad habitats (as stated in the JNCC Phase 1 Handbook) and the flora species present within the survey area, with any evidence of protected species usage and/or features of potential ecological interest also included. The field survey was carried out on the 13th of March 2025.

1.2 Site description

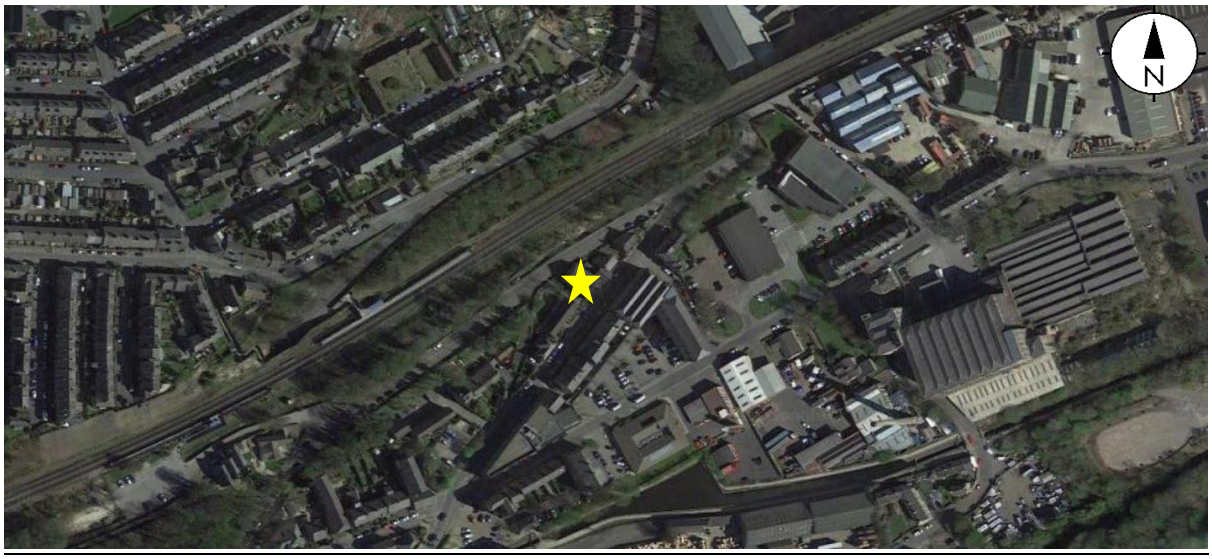
The site is situated in the small hilly town of Slaithwaite, located in Colne valley, approximately 4 miles Southwest of Huddersfield. The site is a typical stone walled church building and its court yard area. The building has a basement and a large loft space. The courtyard area is mainly a mixture of Developed Land; Sealed Surface and vegetated garden. Some of the areas within the vegetated garden could be utilised by protected species. Photographs of the site are found within Appendix D.

The wider landscape includes the Slaithwaite reservoir, the river Colne and various steeped grazing farmland surrounding the small town.

1.3 Proposals

An additional floor is to be built within the existing first floor space, which will not go into the loft.

Figure 1: An aerial map showing the location of the land proposed for re-development (yellow star) in relation to some of the local landscape.



2. Survey Methodology

2.1 Desktop Survey

A variety of resources were independently consulted to assess the known local records within the nearby area and the importance of the site within the local landscape from an ecological perspective. The resources used were the Local Records Centre, www.naturalengland.org.uk, www.ordnancesurvey.co.uk, Google Maps, Google Earth and Bing Maps. A search of other relevant nature conservation information was made through the use of the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

The local records centre was contacted to provide data on all protected species and designated sites within a 2km radius of the proposed development site.

2.2 Field Survey

A Preliminary Ecological Appraisal (previously referred to as an Extended Phase 1 Habitat Survey) was carried out using the method outlined in the JNCC Handbook for *Phase 1 Habitat Survey: a technique for environmental audit (2010)*. This method aims to map and describe the broad habitat types and notable features present on the surveyed site.

As part of the field survey, the floral species will be identified and noted down. This will consider the dominant, abundant, frequent, occasional and rare (DAFOR) species within each habitat on the survey site. The impacts of the proposed development scheme will be assessed by this report.

Each habitat will be assessed for the presence and/or the potential presence of protected species. The impacts of the proposed scheme of works on all potential protected species on site will be assessed. From this, either remedial action or recommended phase 2 presence/absence surveys will be devised.

Some of the classification codes and colours listed within the JNCC handbook may have been slightly modified for this project.

Habitat Surveys can be carried out at any time of the year, with the optimal time period falling between the months of April through until September. Eco 360 feels confident that the majority of the floral species located on the site were competently identified during the survey effort. In addition to this, Eco 360 feels confident that this report reflects an accurate representation of the sites suitability for protected species to be present.

All sites surveyed by Eco 360 will be run against the relevant Local Wildlife Site Criteria to assess whether or not they meet the required standards.

3. Desktop Survey Results

3.1 Species Records

3.1.1 Amphibians

Within the ecological data search, four amphibian species have been identified within 2km from the survey site. These are the common frog (*Rana temporaria*), common toad (*Bufo bufo*), great crested newt (*Triturus cristatus*), and smooth newt (*Lissotriton vulgaris*). Multiple records of these species have been revealed.
The closest amphibian record to the site is a common toad (*Bufo bufo*) at 893 meters.

3.1.2 Birds

Within the ecological data search, multiple bird species were revealed within 2km of the site centroid.
The closest bird record to the site is a barn owl (*Tyto alba*) at 918 meters.

3.1.3 Crustacean

Within the ecological data search, one crustacean species has been revealed within 2km of the site. This is the white-clawed crayfish (*Austropotamobius pallipes*), with the closest record at 347 meters.

3.1.4 Fish

Within the ecological data search, no fish species have been revealed within 2km of the site.

3.1.5 Flora

Within the ecological data search, multiple floral species have been revealed in the search radius.
The closest floral record to the site is Scots pine (*Pinus sylvestris*) at 1072 meters.

3.1.6 Fungi

Within the ecological data search, one fungal species has been revealed within 2km of the site. This is the citrine waxcap (*Hygrocybe citrinovirens*), with the closest record at 1692 meters.

3.1.7 Invertebrates

Within the ecological data search, multiple invertebrate species have been identified within a 2km radius of the site.
The closest invertebrate record to the site is the common blue (*Polyommatus icarus*) at 1031 meters.

3.1.8 Mammals

Within the ecological data search, multiple mammal species were revealed within 2km of the site.
The closest mammal record to the site is a bat (*Vespertilionidae*) at 615 meters.

3.1.9 Molluscs

Within the ecological data search, one mollusc species has been revealed within 2km of the site. This is the marsh pond snail (*Stagnicola palustris/fuscus/corvus*), with the closest record at 1725 meters.

3.1.10 Reptiles

Within the ecological data search, one reptile species has been identified within 2km of the survey site. This is the grass snake (*Natrix helvetica*), with the closest record at 583 meters.

4. Field Survey

4.1 Habitats

The preliminary ecological appraisal revealed five distinct habitats on site. The phase 1 habitat map, habitat codes and target notes for the site are located within **Appendix C**. The following five areas were recorded on site:

4.1.1 Area 1 – Urban – Building

The building was approximately 336m^2. The building had no confirmed natural life except for some minor white spot mould in the loft area. However, there were potential roosting features and the possibility of a Eurasian Jackdaw nest in the roof.

External Assessment

The surveyed building, Slaithwaite Methodist Church, is a large stone-built structure with an adjoining annex. The building exhibits features such as large arched windows, a pitched slate-tiled roof and stone walls. The roof has overhanging eaves with wooden fascia boards, some of which show minor gaps. No trees are present on the site itself, though the wider landscape includes suitable habitat for bat commuting and foraging.

The external stone walls present a limited number of crevices suitable for bats where mortar has deteriorated. The upper elevations of the church feature arched windows, all of which are intact with no obvious access points. The roof is covered with slate tiles which are mostly in good condition. However, some small gaps between tiles which could be used by crevice-dwelling bats were noted. No direct evidence of bat use, such as droppings or staining, was noted during the survey.

Internal Assessment

The loft space within the church consists of exposed wooden beams and rafters, with a thick layer of insulation covering the floor. The beams are in relatively good condition. There are no visible entry points large enough for bats to exploit, and no evidence of bat activity, such as droppings or feeding remains, was recorded.

Given the observations from both external and internal assessments, the building is considered to have low bat roost potential.

4.1.2 Area 2 – Urban – Developed land; Sealed surfaces

The Developed land; sealed surfaces were approximately 71 m^2. This includes bare concrete, mossy concrete and white gravel/chippings. This includes the path and stairway between the front and back gates, as well as the surroundings of the front vegetated garden. This habitat is considered to have negligible value.

4.1.3 Area 3 – Urban – Vegetated Garden

The vegetated garden was approximately 80m^2. This includes a variety of plants, mainly non-native garden shrubbery. A full list of recorded species can be found below.

4.1.4 Area 4- Urban- Suburban mosaic of developed and natural surface

This area was approximately 44m^2. This included the ditch of leaf litter surrounded by high stonewalls at the back of the property, and the area between the building and

vegetated garden. This was a mix of large stones, pioneer plants, shrubbery, sealed surface and leaf litter and a small wood pile.

4.1.5 Area 5- Urban – Built linear features

This was 2 notably gapped high stone walls approximately 57 metres long and 0.5 metres wide. These were potentially suitable habitats to support reptiles and invertebrates.

Species List

Flora and Fungi	**DAFOR**
"Gold Edged" Ivy	A
Blackthorn	F
Ash saplings	O
Japanese Skimmia	F
Brambles	O
Gazania rigens	R
Holly	O
Rosa chinensis	O
Rosa sempervirens	O
Snowdrop	R
Mosses	O
White spot mould	R
Hydrangea	R
Heartleaf Bergenia	F

4.2 Species

The preliminary ecological appraisal survey revealed that the habitats that have been outlined for the proposed development area do contain protected species potential. The following assessment has also taken into account the adjacent habitats and connectivity to the wider landscape for all protected and rare species.

4.2.1 Amphibians (including Great Crested Newts)

The site itself does not have the potential to support amphibians. This is due to a lack of suitable habitat on site and lack of connectivity to nearby suitable habitat. No further action is required.

4.2.2 Badgers

During the field survey, no evidence of badgers was found on the survey site. Although there was limited suitable habitat, there was a lack of connectivity to other suitable habitats. Therefore, the potential presence of badgers on site is negligible and no further action is required.

4.2.3 Bats

There were no signs of bat activity and no trees on site. Due to a limited number of potential roosting features within the building, the potential presence of bat roosting on site is low. and no entry points large enough for any bat to exploit. Bats could potentially roost between the upper loft insulation layer and roof tiles if accessible, but this is unlikely. However, the stone bricks of the old church provide extensive gaps and potential roosting features on the outside, whilst the wider area would support potential foraging and commuting behaviour. Therefore, the potential presence of bat roosting on site is low.

4.2.4 Birds

No trees were on site and the only birds recorded were a passing European Goldfinch and the sound of multiple Eurasian Jackdaw. However, the Jackdaw could be heard calling and moving very close by, whilst in the church loft around the highest point at the front of the site. This was possibly nesting Jackdaws either between the upper insulation and roof tiles, or within the chimney itself. This could also just be passing Jackdaws on top of the roof. For these reasons, the potential presence of bird nesting on site is deemed as low.

4.2.5 Hazel Dormouse

There were no signs of presence, and the site did not have favourable habitat for hazel dormice. Therefore, the potential presence for this species is considered to be negligible.

4.2.6 Invertebrates

No protected Invertebrates were found on site. Therefore, the potential presence of protected Invertebrates is negligible. However, it is recommended that the wood pile and rock walls remain in place for future Invertebrate habitat. Additionally, some measures are recommended to enhance the site for invertebrates (see section 5.5).

4.2.7 Reptiles

Although no direct signs of reptiles were found, the courtyard provides extensive habitat potential due to gapped rock walls, rock features and a woodpile. The site would also provide limited foraging opportunity. However, due to a lack of habitat connectivity to other suitable areas, the potential presence of reptiles is deemed as low.

4.2.8 Flora

The site has minimal habitat diversity and limited floral resources. No protected flora or fungi were found during the survey.

4.2.9 Water Voles

No suitable habitats are present on-site for water voles (*Arvicola amphibius*). The site lacks any aquatic features such as rivers or streams, making it unsuitable for supporting water vole populations. As a result, water voles are unlikely to be affected by the proposed works, and no further surveys or mitigation measures are required.

4.2.10 White-clawed crayfish

The site does not contain any aquatic environments that could support white-clawed crayfish (*Austropotamobius pallipes*). As there are no water bodies or other suitable habitats on-site, the likelihood of white-clawed crayfish presence is extremely low. Therefore, no further action or mitigation measures are necessary for this species.

4.3 Potential impacts of the works

Based upon the results from the desktop survey, field survey and using a degree of academic supposition, the uncompensated development impacts have been summarised as follows:

- Amphibians – **Negligible**
- Badgers – **Negligible**
- Bats – **Low**
- Birds – **Low**
- Flora – **Negligible**
- Hazel Dormouse – **Negligible**
- Invertebrates – **Negligible**
- Reptiles – **Low**
- Water Voles - **Negligible**
- White-clawed crayfish - **Negligible**

5. Recommendations

5.1 Designated Sites

No designated sites that were revealed by the ecological data search provided fell on the proposed development site itself. Therefore, the proposed development will have no impact upon any local designated sites as the works are due to remain within the site boundary.

5.2 Habitats

No habitats of conservation concern were located on the site itself. Therefore, the proposed scheme of works will not impact upon any rare or valuable habitats.

5.3 Species

The site was found to contain the potential to support protected and/or rare species. Therefore, the following recommendations are required for the site:

5.3.1 Birds

As a precautionary measure, it is recommended that any works to the highest point of the main roof at the front of the site, or the adjacent chimney, is avoided. This is because the presence for a bird nest in this area is inconclusive. If this area is going to be impacted during the bird breeding season (March to August), then a further inspection by a suitably qualified ecologist is required no more than 24 hours before this process commences. This is to ensure that no active nest site is illegally destroyed, due to the protection afforded to all active bird nests under the Wildlife and Countryside Act 1981. If an active nest is found by a site inspection, an exclusion zone around the nest will be necessary to preserve this feature until the chicks have fledged the nest.

5.3.2 Bats

Due to the low potential of the building for roosting bats, a minimum of one bat emergence survey is required. This surveys should be conducted during the bat activity season, which spans from May to September. The surveys will determine the presence or absence of bats and the use of the site by foraging individuals.

In order to comply with the required legislation, the results from the surveys will be collated to establish whether a European Protected Species (EPS) development licence will be required. If required, project appropriate species-specific compensation and mitigation measures will be devised to ensure the species remains at a favourable conservation status at the impacted site.

5.4 Site Enhancements

For the proposed development works, the following site enhancement measures could be incorporated into the site post-development. These measures are optional but are bespoke to the site surveyed for the enhancement of biodiversity.

5.5.1 Invertebrates

At present, the site has a small wood pile and borders of high gapped rock walls. These are suitable linear habitats for Invertebrate species, and they should remain in place. It is also recommended that a varied wood pile be made to enhance the site for the local invertebrate populations. This will encourage Invertebrate populations, hopefully attracting other species at high trophic levels. This could be enhanced further by a compost bin/pile next to this.

5.5.2 Reptiles

Currently, there is suitable habitat for reptiles within the tall, gapped rock walls. Therefore, it is recommended that these remain on site.

To enhance the site further it is also recommended to make a large varied and gapped wood pile. This could be enhanced further by adding a rock pile next to this.

This can be made using the brash from the site works, however log piles should also be included.

This should be done around the current vegetated garden area in contact with one of the gapped rock walls, not in the inaccessible pit area at the back of the site. The area should also remain as undisturbed as possible with as much sunlight as possible.

The key design features include:

- A sunny location.
- A well-drained section of the site.
- Access for reptiles through openings.
- Minimal anthropogenic disturbance.
- Measure at least 2m length x 1m width x 0.5m height, but the larger the better.

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7. Appendices

Appendix A: Site Plans

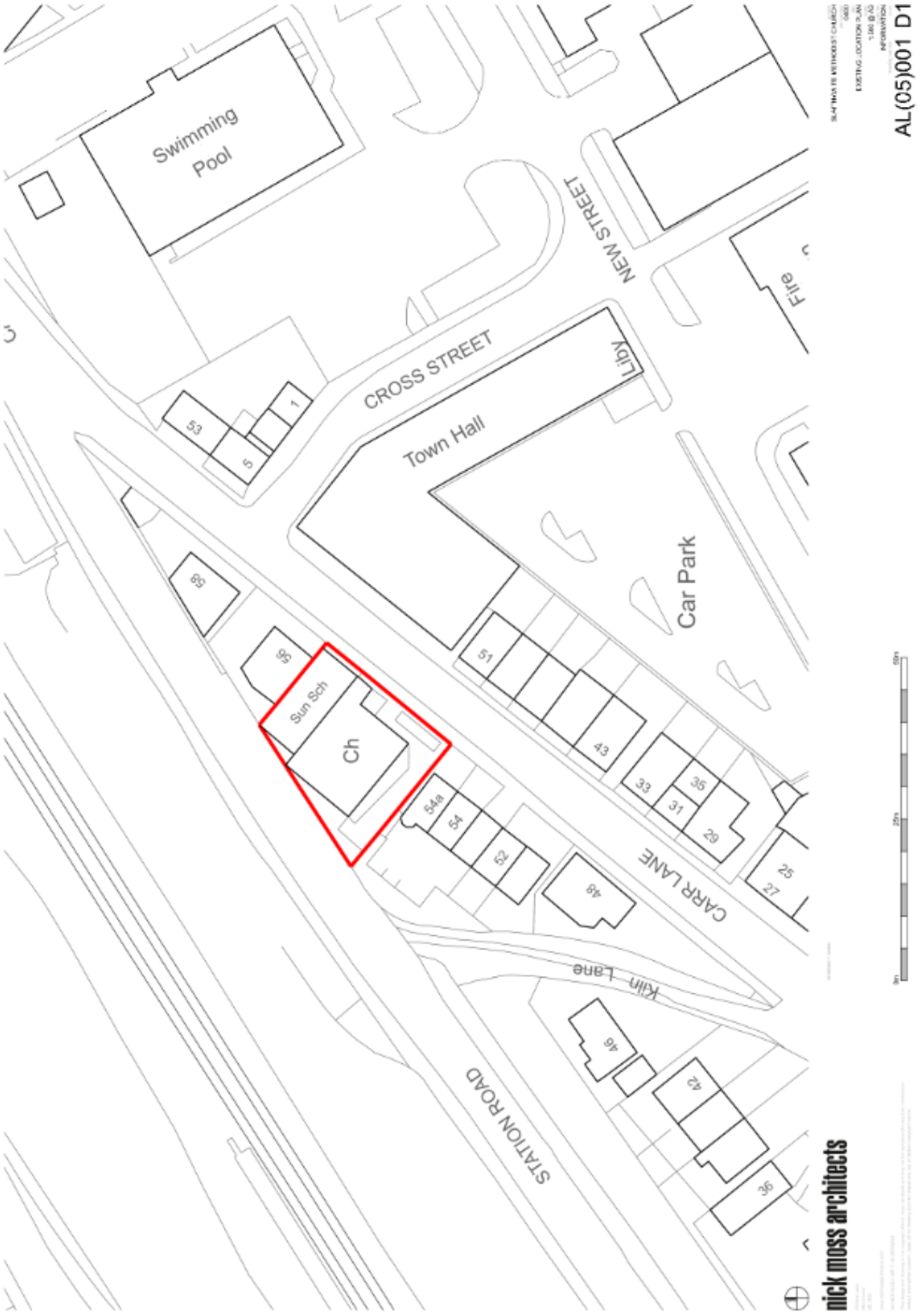
Appendix B: Phase 1 Habitat map

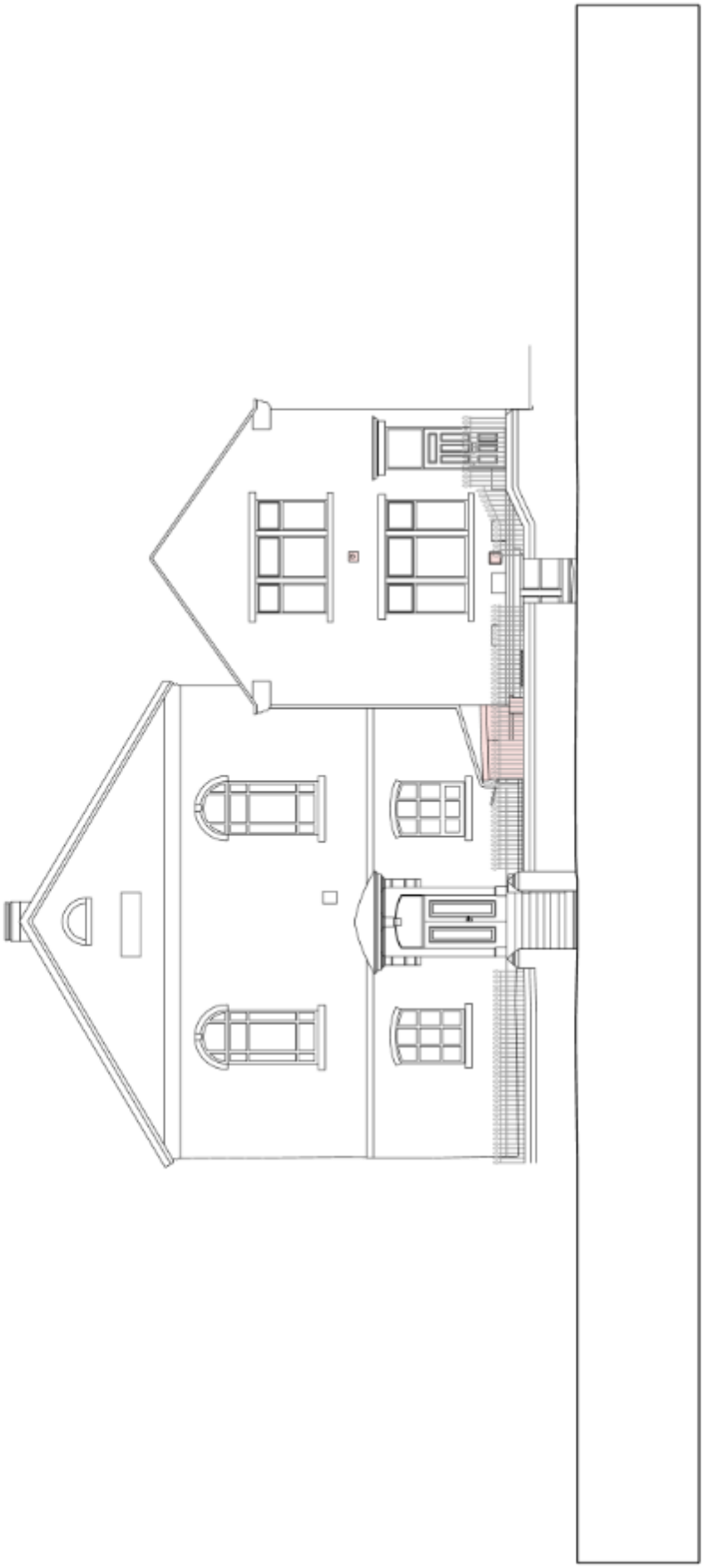
Appendix C: Site Photographs

Appendix D: Biodiversity Legislation and Policy

Appendix E: Bats and Artificial Light

Appendix A: Site Plans

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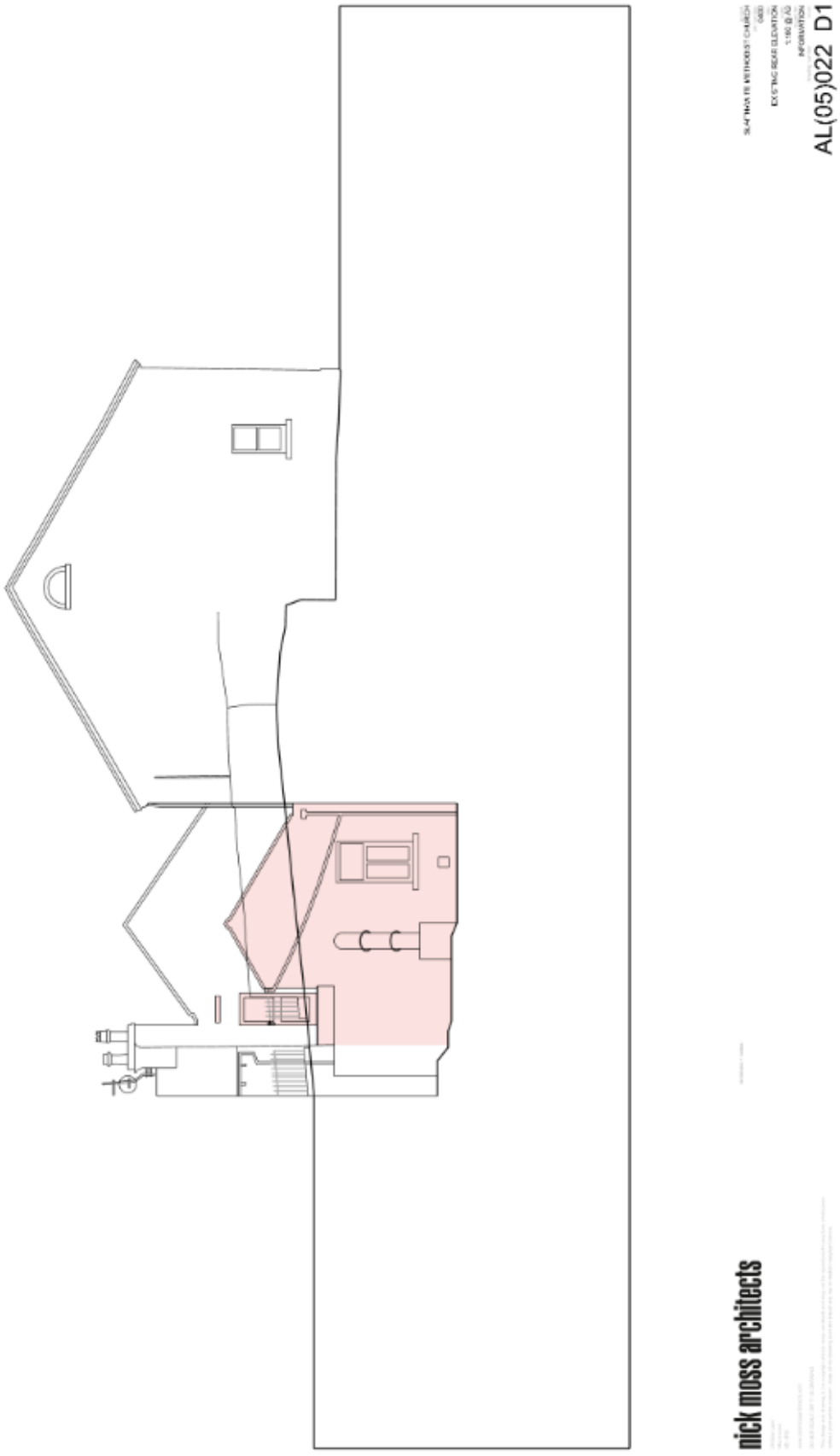
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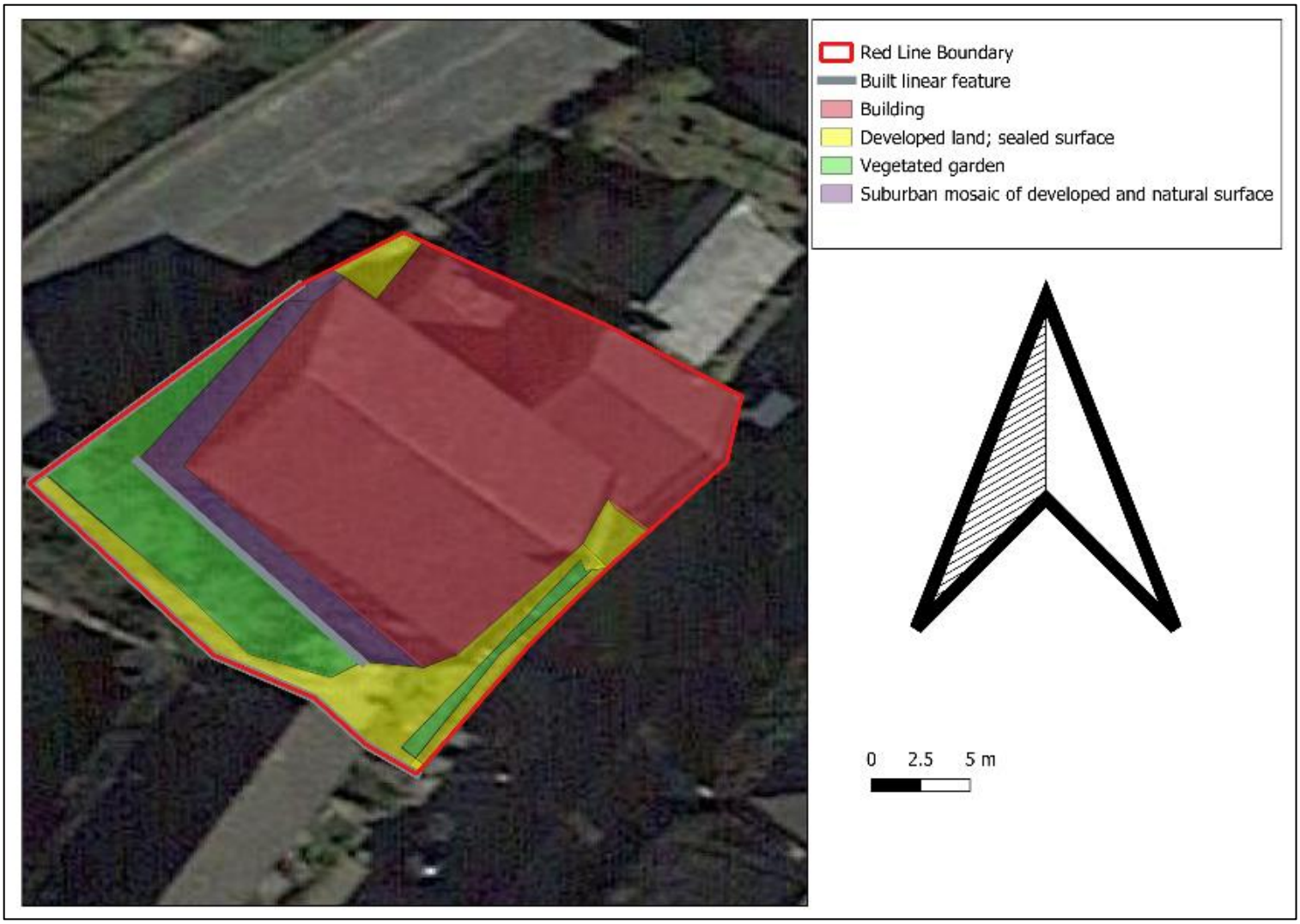
Appendix B: Phase 1 Habitat Map



Appendix C: Site Photographs

Photo 1: Wide angled view of the front of the site, the Northeast section is on the right.

Photo 2: Gaps in the front wall, left side of the Northeast building.

Photo 3: Front wall of Southwest building.

Photo 4: Southwest side of the church, including the courtyard.

Photo 5: Sealed surface to the Northeast of the front entrance.

Photo 6: A lower sealed surface to the Northeast of the front entrance.

Photo 7: Sealed surface and vegetated garden to the Southwest of the front entrance.

Photo 8: Further forwards from the previous photo.

Photo 9: Courtyard.

Photo 10: Mosaic habitat between the garden and building.

Photo 11: The Southwest wall of the church, no visible gaps in the soffits.

Photo 12: Same photo as the previous but looking at the left corner instead.

Photo 13: Back of the Courtyard.

Photo 14: Behind the Church.

Photo 15: Back wall of the Southwest building. Noticeable Potential roost features.

Photo 16: Closeup of the back wall for the Southwest building.

Photo 17: The Northeast wall of the Southwest building.

Photo 18: The same wall as the previous photo with a clear potential roosting feature.

Photo 19: Inaccessible ditch at the back of the site.

Photo 20: Back of the Northeast building

Photo 21: The Northeast roof of the Southwest building.

Photo 22: Lower roof.

Photo 23: Back/Northwest end of the loft (Left side)

Photo 24: Northwest end of the loft (Right side)

Photo 25: Northwest end of the loft.

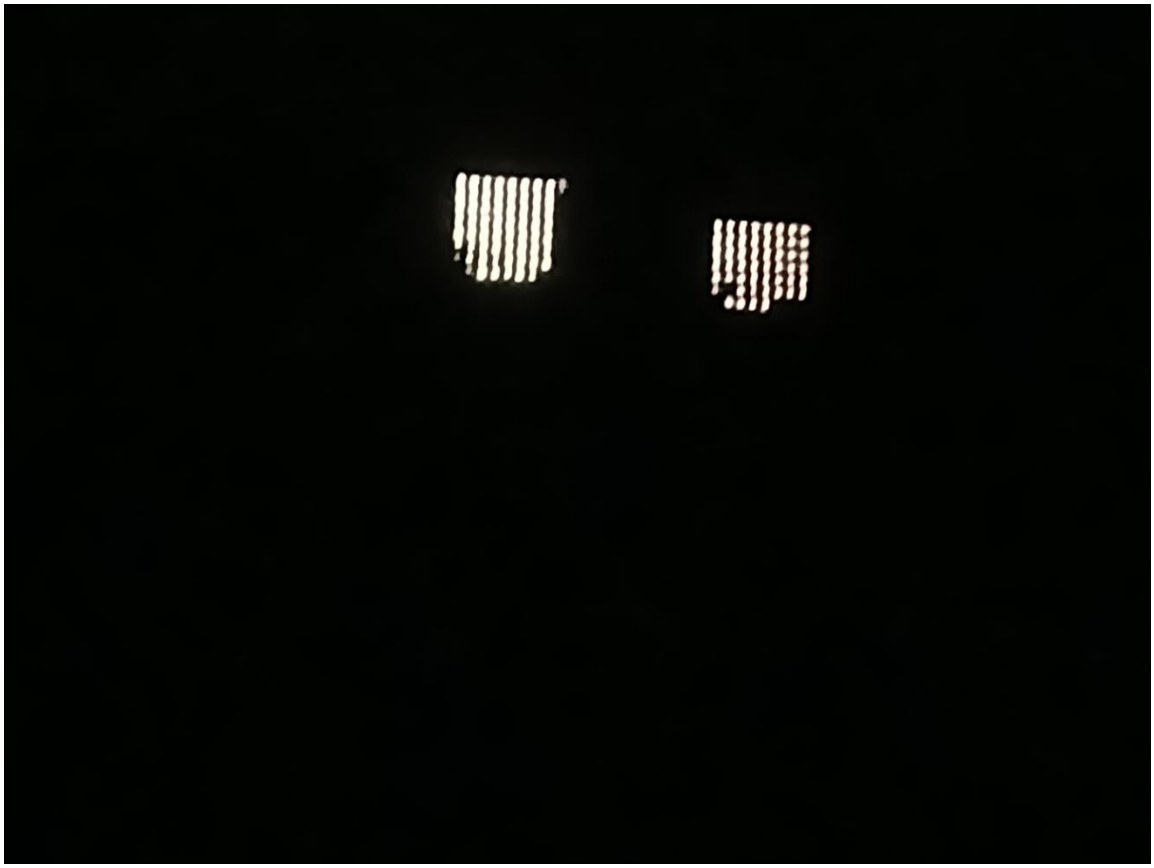


Photo 26: Southwest side of the loft, gap in the upper insulation with light coming out.

Photo 27: White spot mould.

Photo 28: Southeast end of the loft (Front)

Photo 29: Gap in the loft, no outside light showing.

Photo 30: Southwest side of the loft, near the front end.

Photo 31: The opposite side of the loft.

Appendix D: Biodiversity Legislation and Policy

General Legislation and Policy:

The framework of legislation and policy which underpins nature conservation in England. This is a material consideration in the planning process in England.

Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2010 as amended)

The Conservation of Habitats and Species Regulations 2017 consolidate and update the Conservation Regulations 1994 and the conservation of habitats and species regulations 2010 (and all their amendments). The Conservation of Habitats and Species Regulations 2017 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law.

The Conservation of Habitats and Species Regulations 2017 place duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Conservation of Habitats and Species Regulations 2017 also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Wildlife and Countryside Act (WCA) 1981 (As amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Conservation (Natural Habitats. & c.) Regulations 1994 (as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CRoW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists of Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP requires that conservation of biodiversity is addressed at a County level through the production of Local BAPs. These are complementary to the UKBAP, however are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. UKBAP and Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Planning Policy (England) and National Planning Policy Framework

In early 2012, the National Planning Policy Framework (NPPF) replaced much previous planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives. The latest National Planning Policy Framework was updated in February 2019, with the section in relation to conserving the natural environment being located within section 15.

Section 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and, where possible, provide net gains in biodiversity. Opportunities to incorporate biodiversity gains into a development should be encouraged.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused.

Species Specific Legislation

This section contains a summary of legislation with relation to the species present or potentially present in the survey area. The reader should refer to the original legislation for definitive interpretation.

Nesting and Nest Building Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

'Reckless' offences with regard to the disturbance of nesting wild birds included in Schedule 1 of the Wildlife and Countryside Act were added by the Countryside and Rights of Way Act 2000.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. These lists include a number of bird species.

The reader is referred to the original legislation for the definitive interpretation.

Badger

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to:

- wilfully kill, injure, take or attempt to kill, injure or take a badger;
- possess a dead badger or any part of a badger;
- cruelly ill-treat a badger;
- use badger tongs in the course of killing, taking or attempting to kill a badger;
- dig for a badger;
- sell or offer for sale or control any live badger;
- mark, tag or ring a badger; and
- interfere with a badger sett by:
- damaging a sett or any part thereof;
- destroying a sett;
- obstructing access to a sett;
- causing a dog to enter a sett; and
- disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger".

Bats

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation Regulations (Northern Ireland) 1995
- Conservation of Habitats and Species Regulations 2010
- Countryside Rights of Way Act 2000
- Eurobats Agreement
- Habitats Directive (Annexes IV and II)
- Habitats Regulations 1994 (as amended) Scotland
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which protects birds, nests, eggs and nestlings from harm. In addition to this, some rarer species, such as barn owls are afforded extra protection.

National Planning Policy Framework, Section 15:

The published framework in 2018 replaces the previous Planning Policy Statement 9 and National Planning Policy (dated 2012).

Section 15: Conserving and enhancing the natural environment reaffirms the government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife. It also aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.

Biodiversity 2020:

This sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, business and government, which all have a role to play in delivering Biodiversity 2020.

Freshwater White-clawed Crayfish

The white-clawed crayfish is partially protected under Wildlife and Countryside Act 1981 (as amended). It is listed on schedule 5 and therefore afforded protection under Section 9 (1 and 5). Therefore, it is an offence to take white-clawed crayfish and to sell, or attempt to sell, any part of the species, alive or dead, or intend to buy or sell.

Great Crested Newt

The great crested newt (*Triturus cristatus*) is fully protected under a variety of legislation and conventions. These include:

- Bern Convention (Appendix II)
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- Conservation of Habitats and Species Regulations 2010
- EU Habitats Directive (Annex II and IV)
- Nature Conservation (Scotland) Act 2004
- NERC Act 2006 (Section 41 England; Section 42 Wales)
- Wildlife and Countryside Act 1981 (as amended)

In addition to this, the great crested newt has been listed as a priority species on the UK Biodiversity Action Plan (UKBAP).

This legislation covers all aspects of newt life stages (eggs, efts and adult newts) and makes it illegal to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

Licenses can be obtained from Natural England (DEFRA) under the Conservation (Natural Habitats etc.) Regulations 1994, to permit activities for the purposes of:

- Regulation 44(2)(e): Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment, or
- Regulation 44(2)(f): Preventing the spread of disease
- Regulation 44(2)(g): Preventing serious damage to any form of property or fisheries

Or

- If there is no satisfactory alternative.

The above regulations allow people to carry out activities which would otherwise be illegal.

Hazel Dormouse

Hazel Dormouse and their habitats are protected by:

- Wildlife and Countryside Act 1981 (as amended)
- Countryside Rights of Way (CROW) 2000
- The Natural Environment and Rural Communities Act 2006
- Conservation of Habitat and Species Regulations 2010

These make it an offence to:

- Capture, injure or kill a Hazel Dormouse
- Disturb a Hazel Dormouse
- Damage or destroy breeding or nesting sites in use by Hazel Dormice
- Disturb a Dormouse whilst it is occupying a structure or place that they use for shelter or protection
- Obstruct access to any structure or place that the Dormouse uses for shelter and protection.
- To possess or control any live or dead specimens.

Otter

Otters are fully protected by the European Habitats Directive (92/43/EEC) by being incorporated in annex II of the legislation. In addition to this, otters are listed on schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take an otter.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by otters.
- To intentionally or recklessly disturb an otter whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell otters.

Reptiles

All six native reptiles within Great Britain are legally protected, with the extent of protection varying dependent upon their rarity and conservation importance.

Those that receive full protection under the Wildlife and Countryside Act 1981 (as amended) are the rare sand lizard and smooth snake. These species also receive protection under the Conservation (Natural Habitats &c.) Regulations 1994 (also referred to as the Habitats Directive). This means that they are protected from deliberate disturbance, killing, injury or capture and the habitat in which they live is also fully protected against damage or destruction. Any activity involving disturbance or damage to habitats utilised by sand lizards or smooth snakes would require a licence issued by the Department of the Environment, Food and Rural Affairs (DEFRA) following consultation with the statutory nature conservation organisation (Natural England).

The remaining four reptile species are 'partially protected' under the Wildlife and Countryside Act 1981 (as amended), with these species being slow-worm, common lizard, grass snake and adder. This means that these species are protected against intentional killing, injuring and against sale, but their habitat is not protected. In planning terms this means that the presence of these species is a material consideration and there is a requirement to ensure that any reptile interest is safeguarded. If a proposed development is likely to have an impact on these reptiles, then the statutory nature conservation organisation must be notified, particularly if capture and translocation is being proposed. In some parts of the UK, sites that support common reptile species such as common lizards and slow-worms can qualify as County Wildlife Sites. Sites of this designation may receive protection in planning policy.

Water Voles

Water Voles are fully protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take a water vole.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by water voles.
- To intentionally or recklessly disturb a water vole whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell water voles.

Non-Native Floral Species

It is an offence under schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to plant or otherwise cause non-native flora to grow in the wild. This includes the transportation of earth that has previously had non-native species growing and includes the spread of the species.

All stands of non-native floral species need to be disposed of safely at a licenced landfill site according to the Environmental Protection Act (Duty of Care) Regulations 1991.

Appendix E: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotid bats (Myotis spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

- To introduce lighting curfews or use of PIR sensors.

  Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

- To consider no lighting solutions where possible.

  Options such as white lining, good signage and LED cats eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

- To use only high pressure sodium or warm white LED lamps where possible.

  High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

- To minimise the spread of light.

  The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

- To consider the height of the lighting column.

  While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

- To avoid reflective surfaces below lights.

  The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

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No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.