



**Former Offices,
Williams Terrace, Treharris**

Preliminary Roost Assessment

November 2023

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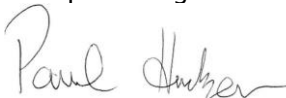
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DOCUMENT CONTROL

Former Offices, Williams Terrace, Treharris Preliminary Bat Roost and Nesting Bird Assessment				
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Summary

Brief and Site Location	This report presents the findings of a preliminary bat roost assessment and nesting bird survey of a commercial building, located at Williams Terrace, Treharris (Ordnance Survey Grid Reference: ST 0985 9707).
Proposed Works	The development proposals involve the conversion of the commercial building to four self-contained flats with some external alterations. A planning application has been submitted under reference P/23/0198.
Survey Methodology	The preliminary bat roost assessment comprised a daytime internal and external inspection of the commercial building, searching for signs of bats and nesting birds. The inspection provides a preliminary assessment of the potential of the site to support roosting bats.
Results of Preliminary Bat Roost Inspection	No signs of bats were found during the internal and external inspection of the commercial building. The commercial building is within a moderate-quality area for foraging and commuting bats.
Suitability of the Building to Support Roosting Bats	The commercial building has moderate suitability to support roosting bats. Details of the features that led to this assessment are set out in Section 3.2 of this report and are shown in the corresponding photographs. Justification for this assessment is provided within Section 4.2.
Evidence of Nesting Birds	No evidence of past or current nesting by birds was noted either within or on the building's exterior.
Requirements for Additional Survey	Further surveys are required to determine if any bats are roosting within the commercial building. As the commercial building has moderate roost suitability, current best practice guidelines (Collins, 2023) suggest that it should be subject to two additional dusk emergence surveys, undertaken between May and September. Three surveyors will be required for both surveys (see Plan 3: Proposed Surveyor Positions).
Predicted Impacts of Development on Bats and Nesting Birds	Full impacts on bats will be considered after the further surveys have been undertaken.
Mitigation and Compensation of Proposed Impacts	Mitigation and compensation measures for bats and birds will be determined after the further surveys have been undertaken.
Licensing Requirements for Bats	It has not been possible to determine if a bat development licence will be required from Natural Resources Wales prior to works to the commercial building. This will be established after the dusk emergence surveys have been completed.
Required Actions	Further surveys are required.

1. Introduction

1.1. Brief and Site Location

This report presents the findings of a preliminary bat roost assessment and nesting bird survey of a commercial building, located at Williams Terrace, Treharris, CF46 5HH (Ordnance Survey Grid Reference: ST 0985 9707)¹. The building proposed for development is referred to as the 'commercial building' throughout the remainder of this report.

The commercial building is within the boundary of Merthyr Tydfil County Council.

1.2. Site Description

The commercial building is located in the town of Treharris, 10km south of Merthyr Tydfil. The building is located on a commercial street and is adjoined to other commercial buildings on the northern elevation. The B4254 runs directly south of the site, separating the commercial building from residential dwellings to the south. Areas of scattered broadleaved woodland are located 0.2km east of the site beyond the B4254.

The site's location is shown on Plan 1: Location Plan.

1.3. Proposed Works

The development proposals involve the conversion of the commercial building to four self-contained flats with some external alterations. A planning application has been submitted under reference P/23/0198².

Proposed plans can be found in Drawing 1: Development Proposals (Planning Reference number: P/23/0198).

1.4. Legislation and Planning Policy

1.4.1. Bats

All UK bats are protected species. Their breeding sites or resting places³ (roosts) are fully protected under the Wildlife and Countryside Act 1981⁴ (as amended) and the Conservation of Habitats and Species Regulations 2017⁵ which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) [CHSAEU] Regulations 2019⁶. Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

¹ Latitude and Longitude: 51.665151, -3.3048552 / what3words: survived.hosts.bordering

² <https://publicaccess.merthyr.gov.uk/online-applications/applicationDetails.do?keyVal=RZUMAYKQ01D00&activeTab=summary>

³ Resting places are defined as 'areas that are essential to sustain an animal or group of animals when they are not active' (European Commission, Directorate-General for Environment, 2022). Resting places that are used regularly, either within or between years, must be protected even when not occupied.

⁴ <https://www.legislation.gov.uk/ukpga/1981/69>

⁵ <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

⁶ <https://www.legislation.gov.uk/ukdsi/2019/9780111179512>

1.4.2. Nesting Birds

All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs, (with certain limited exceptions⁷) are protected by law under Section 1 of the Wildlife and Countryside Act 1981⁸ (as amended) and the Countryside and Rights of Way Act 2000⁹. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 and have additional protection from disturbance during the breeding season, as do their nests, eggs and dependent young.

1.5. Survey Scope

The preliminary roost assessment (PRA) is a detailed inspection of the exterior and interior of a structure to look for features that bats could use for entry/exit and roosting and to search for signs of bats. A search for past and current evidence of nesting birds is also undertaken.

1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey including determining the actual or potential presence of bats and nesting birds;
- Determine the need for further targeted surveys; and
- Provide suitable recommendations in line with planning policy and wildlife law, including potential licencing requirements, mitigation, compensation, and enhancement measures.

⁷ Details of the exceptions are available at <https://naturalresources.wales/permits-and-permissions/species-licensing/list-of-protected-species/bird-licensing/bird-licences/?lang=en>

⁸ <https://www.legislation.gov.uk/ukpga/1981/69>

⁹ <https://www.legislation.gov.uk/ukpga/2000/37>

2. Methods

2.1. Desk Study

Maps and aerial photographs of the site and surrounding area, including existing habitats, were assessed. A search for statutory and non-statutory conservation designated sites for bats within 10km was undertaken using NRW Geographic Information System (GIS) data. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A local planning portal search was undertaken. This involved looking for other sites, within the same postcode area, which have previously had bat surveys submitted as a part of their planning applications.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search of the exterior and interior of the commercial building was undertaken following the methodology detailed in Section 5.2 of the Bat Survey Guidelines (Collins 2023). The survey looked for features that bats could use as access points and roosts¹⁰. In addition, a search was made for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks, live or the remains of dead bats and/or squeaking noises. A high-powered torch (Clulite), binoculars and a ladder were available for use, as appropriate during the survey.

The survey was undertaken on the 26th October 2023 by Becky Corley¹¹ with the assistance of Charlotte Ingram¹².

2.2.2. Assessment of Bat Roosting Suitability

The value of the site for bats (and any potential roost sites therein) was assessed, in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2023) (see Appendix 2). The assessment was based on the relative abundance and quality of potential roost sites, and the habitat features within both the site and the surrounding landscape suitable for roosting, foraging and commuting bats.

2.2.3. Survey for Nesting Birds

Searches were carried out for old nests, as well as any signs which might indicate previous nesting activities, such as piles of discarded nesting materials or large aggregations of guano.

¹⁰ Bats can utilise gaps approximately 8mm by 17mm in size (The Bat Conservation Trust, Cluster-flies leaflet mentions 8mm by 20mm whilst the Bats and Buildings leaflet states 9mm by 17mm).

¹¹ Rebecca graduated with a degree in Biological Science from the University of Birmingham and an MSc in Global Ecology and Conservation from Cardiff University. Rebecca is currently in her first season of bat surveying, working as an Assistant Ecologist and receiving training from Acer Ecology. She is listed as an accredited agent on Paul Hudson's bat licence (S091671-1). Further details of her qualifications and experience can be found at <https://www.linkedin.com/in/rebecca-corley-b33b61138>.

¹² Charlotte Ingram accompanied Rebecca Corley and helped with the external building inspection. She did not enter the loft space during the survey.

2.2.4. Constraints

Temporal Constraints

An ecological survey can only identify what is present on site at the time the survey is conducted. However, habitat usage by species can change over time.

Timing

The time of year when the preliminary roost assessment was carried out coincides with the period when bats are seeking suitable hibernation sites, and beginning periods of torpor.

However, signs of roosting activity from previous summers may still be identified inside loft spaces and the potential of a building can be assessed outside the active season. Therefore, the timing of the inspection is unlikely to have significantly constrained the survey.

Evidence of Bats

Often bats leave no visible signs of their presence even on the inside of a building, particularly where there are hidden cracks, crevices and voids. In many situations it is not possible to inspect all locations where bats may be present and therefore an absence of bat evidence does not equate to evidence of bat absence.

Restricted Access to External Parts of the Commercial Building

Not all of the external parts of the commercial building could be inspected during the preliminary roost assessment. Metal fencing surrounds the south-western elevation of the building and so a close-up inspection was not possible. Instead, observations were made at a distance using binoculars, however it was still difficult to see certain features such as the soffit box and lead flashing, and prevented a search for evidence of bats.

Floor Condition

The flooring within the building had a covering of detritus and dust that made it difficult to detect bat droppings. This is not considered to be a major constraint as further dusk emergence surveys have been recommended.

Local Records Centre Data Search

A Local Records Centre (LRC) data search was not undertaken due to the low impact and small-scale nature of the development. Current proposals suggest no land will be lost or linear features severed. The overall impact on biodiversity is likely to be localised and of low significance. It is very unlikely that the development will have any impact outside the footprint of the works. The data search results are considered unlikely to impact the decision-making process, and there is limited potential for key information to have been missed.

3. Baseline Ecological Conditions

3.1. Desk Study

3.1.1. Bat Roosts Reported in Planning Applications Within the Same Postcode

The planning portal search¹³ returned no bat roost records from a search of sites with the same postcode area as the proposed development.

3.1.2. Protected Sites

The location of protected sites is shown in Plan 2: Protected Sites.

Statutory Sites Notified for Bats (Special Areas of Conservation (SACs)) or Sites of Special Scientific Interest (SSSIs) Within 10km

No SACs or SSSIs that have been specially designated for bats lie within 10km of the commercial building.

Other Protected Sites Within 2km

There is one SSSI within 2km of the commercial building:

Table 1: Statutory Sites Within 2km

Site Name	Description	Distance and Direction from Development Site
Nelson Bog SSSI ¹⁴	Valley mire with a range of habitats from marshy grassland through to swamp and open water communities. The site also supports a diverse bird fauna – 90 species recorded so far. Poor fen, alder carr and upland hazel (<i>Corylus avellana</i>)/sessile oak (<i>Quercus petraea</i>) woodland.	1.9km to the south-east of the site.

There is no mention of bats in the SSSI citation, however, the site is likely to be used by several bat species for foraging, commuting, and roosting.

Non-statutory Protected Sites

Ancient Woodland Sites

The following table shows the ancient woodland sites within 2km of the site:

¹³ <https://publicaccess.merthyr.gov.uk/online-applications/searchResultsBack.do?action=back>

¹⁴ https://naturalresources.wales/media/644125/SSSI_0471_Citation_EN001a083.pdf

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Table 2: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW) ¹⁵	84
Restored Ancient Woodland Sites (RAWS) ¹⁶	Two
Plantations on Ancient Woodland Sites (PAWS) ¹⁷	Nine
Ancient Woodland Sites of Unknown Category ¹⁸	Seven
Nearest Area of Ancient Woodland	An unnamed area of ASNW located 0.1km south-east of the site

Protected Sites Summary

Given the small scale and localised nature of the proposed development, and the distance between the proposed development and any designated or non-designated sites, as well as the limited scope for impacts outside of the footprint of the proposed works, no adverse impacts to the protected sites are likely to occur. These sites are not mentioned further in this report.

3.2. Field Study

3.2.1. Lighting and Ecological Context

Lighting

The site is within an E3: Suburban lighting zone, with medium district brightness (Institute of Lighting Professionals, 2012). Several streetlights are present on Williams Terrace, the street where the commercial building is situated on, which generate extensive artificial lighting, decreasing the quality of foraging and commuting bat habitat¹⁹.

Ecological Context

The habitats surrounding the commercial building includes areas of grassland with lines of trees to the north-west and west of the site, and residential housing with linked back gardens. Though not completely continuous, and separated by the B4254 running directly adjacent to the south of the site, these habitats act as an ecological corridor between the commercial building and the surrounding landscape, including the areas of broadleaved woodland are located 0.2km to the south-east of the site. Consequently, the site provides moderate-quality bat foraging and commuting habitat.

¹⁵ Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.

¹⁶ Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaved now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

¹⁷ Plantation on Ancient Woodland Sites (PAWS) – sites which are believed to have been continuously wooded for over 400 years and currently have a canopy cover of more than 50 percent non-native conifer tree species.

¹⁸ Ancient Woodland Site of Unknown Category (AWSU) – woodlands which may be ASNW, RAWS or PAWS. These areas are predominantly in transition and existing tree cover is described as 'shrubs', 'young trees', 'felled' or 'ground prepared for planting'.

¹⁹ Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

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3.2.2. Building Description from the Perspective of Bat Habitat

The table below summarises the key features of the commercial building.

Table 3: Key Features of the Commercial Building

Building Type	The commercial building is a two-storey concrete rendered structure (Photos 1-4). It formerly contained office spaces; however the interior has since been stripped.
Roof	The roof is pitched, running along a north-west to south-east axis with a complex roof structure. Both the pitched and hipped sections are constructed from slate, however the ridge is constructed of clay tiles along the pitched section. Numerous slates and ridge tiles are lifted and broken. The roof has two lifted slates on the south-western pitch (Photo 8 & 20), and a raised and broken ridge tile on the pitched roof (Photos 9 & 20). These features provide potential roosting opportunities for bats.
Lead Flashing	The lead flashing is raised in multiple locations, including along the ridge of the southern roof (Photo 7), where the timber decoration joins the external wall on the north-eastern and southern elevation (Photos 13 & 18), and where the north-eastern roof pitch joins to the adjacent building (Photo 20). These features could be utilised by roosting bats.
Soffits, Fascias and Bargeboards	Areas of exposed rafters are missing beneath the eaves on the southern rear as well as gaps between the soffits (Photo 10). There are also gaps between the soffit box and the external wall, and the timber soffits and exposed rafters on all elevations (Photo 12). On the eastern elevation the fascia is lifted from the soffit (Photo 16). All these features can be utilised by roosting bats.
External Walls	The majority of the external walls appear to be in good condition. However, there are sections where small cracks are present where the render has eroded (Photo 5), some of which are considered deep enough and suitable for use by bats. Other areas of the decorative timber is raised from the external wall providing access to roosting bats (Photos 19 & 20 – 21).
Render	The commercial building is covered in white concrete render which is in good condition (Photos 1-3).
Windows	The windows and doors sit in timber frames, which are generally in good condition, however, the timber windowsills along the first floor of the southern elevation are deteriorating and there are gaps between the frames and the external walls that could be utilised by roosting bats (Photo 14). The top right window on the southern elevation has previously been broken and has been partially boarded leaving a large gap that could provide access for roosting bats (Photo 11). There are windows which were propped open during the survey on the north-east and eastern elevations which could be utilised by roosting bats to gain access into the interior (Photo 2).
Roof Void and Lining	The roof is lined with bitumen felt. There are large tears in the felt which could be used by bats to gain access to the loft void (Photo 6). No light ingress was noted within the void. No insulation was present, and the floor of the void was lined with plyboard.
Roof Construction	The roof void has traditional rough sawn timbers in an attic truss design (Photo 5).

Photos Showing the Commercial Building and its Features

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Photo 1: North-Eastern Elevation



Photo 2: Eastern Elevation



Photo 3: Southern Elevation



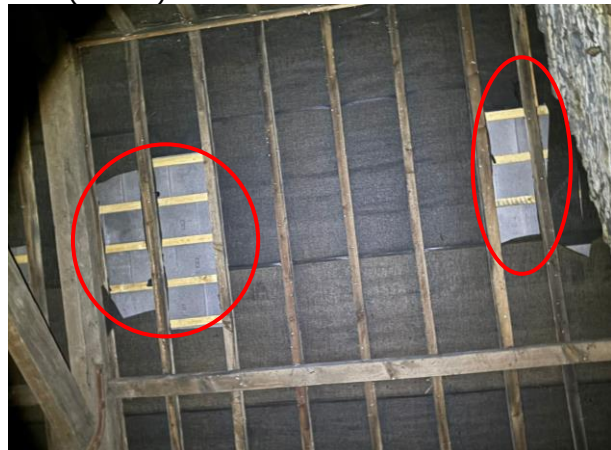
Photo 4: South-Western Elevation



Photo 5: Internal View of Roof Void



Photo 6: Gaps in Bitumen Felt Lining Within Roof Void (Circled)



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Photo 7: Lifted Lead Flashing on the South-Western Roof Pitch (Circled)



Photo 8: Lifted Roof Tiles on the South-Western Roof Pitch (Circled)



Photo 9: Gap Under Ridge Tile (Circled)



Photo 10: Gap Between The Soffits on South-Western Elevation (Circled)



Photo 11: Partially Boarded Window on First Floor of Southern Elevation (Circled)



Photo 12: Example of Gaps Between Soffit Box and External Wall and Gaps Around Rafters on All Elevations (Circled)



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Photo 13: Raised Lead Flashing on Southern Elevation (Circled)



Photo 14: Gap Beneath Windowsill on First Floor of Southern Elevation (Circled)



Photo 15: Gap Between Decorative Timber and External Wall on the Eastern Elevation (Circled)



Photo 16: Fascia Lifted from Soffit on Eastern Elevation (Circled)



Photo 17: Gap Between Decorative Timber and External Wall on North-Eastern Elevation (Circled)



Photo 18: Lifted Lead Flashing North-Eastern Elevation (Circled)



Photo 19: Gap in Decorative Timber on North-Eastern Elevation (Circled)



Photo 20: Raised Lead Flashing, Broken Slates and Missing Ridge Tile on the North-Eastern Pitch (Circled)



Photo 21: Gap Between Decorative Timber and Timber Window Frames on North-Eastern Elevation (Circled)



Photo 22: Gap in Decorative Timber on North-Eastern Elevation (Circled)



3.2.3. Potential Bat Access Points and Bat Roosting Locations

Potential Access Points for Bats in the Commercial Building

There are numerous potential access points for bats to gain entry into the interior. Bats could gain entry through gaps under lifted roof and ridge tiles, gaps where there are missing timbers beneath the eaves, the open windows, and gaps between the soffit box and the external wall.

Potential Roosting Features for Bats

The following potential roost features were recorded:

- PRF 1 – Raised ridge tiles and slates (Photos 8 – 9 & 20);
- PRF 2 – Gaps between the fascia and soffit boards (Photo 16);
- PRF 3 – Gaps between the soffit board and external wall (Photos 10 & 12);
- PRF 4 – Gaps between the windowsills and external wall (Photo 14);
- PRF 5 - Potential to roost within the void if access is gained (Photos 5 - 6);

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- PRF 6 - Gaps within the decorative timber surrounding the windows (Photo 19); and
- PRF 7 – Gaps beneath the lead flashing (Photo 13, 18 & 20).

3.2.4. Nesting Bird Survey

No signs of recent nests were found within or on the exterior of the commercial building.

4. Evaluation

4.1. Summary of Preliminary Roost Assessment

The preliminary roost assessment found no evidence of bats roosting within or on the external parts of the commercial building.

4.2. Suitability of Summer Roosts

The commercial building is assessed as having:

- Moderate suitability for use by crevice-dwelling bats (*Pipistrellus* species and smaller *Myotis* species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*)) due to the multiple access points and roosting features which could be used, including raised ridge tiles and slates, gaps between the fascia and soffits, and gaps between the soffits and external wall.
- Moderate suitability for use by roof-void-dwelling bats⁵ (long-eared species (*Plecotus* species) and large *Myotis* bats, such as Natterer's bat (*Myotis nattereri*) and serotine bats (*Eptesicus serotinus*)) due to potential access into the void via the lifted tiles/slates, the missing rafters on the south-western elevation and the gaps between the soffit box and the external wall; and
- Negligible suitability for use by direct-access species requiring a large access point⁶ and large roost space (lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe (*Rhinolophus ferrumequinum*) bats)) due to the presence of one suitable access point in the boarded window, however the interior of the building does not have any suitable features which would support this species, and is subject to high levels of light throughout the day.

The commercial building has an overall moderate bat roosting suitability due to the reasons stated above. This assessment will be used to determine the level of further survey effort required (see Appendix 2).

4.3. Birds – Interpretation of Nesting Bird Survey

No evidence of past or current nesting by birds was observed during the survey. Further surveys for nesting birds will be undertaken at the same time as the dusk emergence surveys, and the assessment of its importance subsequently updated.

5. Required Actions

5.1. Licensing Requirements for Bats

It has not been possible to determine whether a NRW bat development licence will be required. This will be determined after the emergence surveys have been completed.

5.2. Further Work

Works should not commence until the further surveys have been carried out. This will enable the likely impacts of the proposals on bats to be assessed, determine if a NRW bat development licence will be required, inform the avoidance measures (timing of works), and determine the requirement for mitigation (retention of roosts and access points) and/or compensation measures (creation of new replacement/additional bat roosts).

Current best practice guidelines (Collins, 2023) state that two separate dusk emergence surveys should be undertaken on a commercial building with moderate roost suitability. The surveys should be undertaken from May to September, with at least one of the surveys between May and August and will be supplemented with night vision aids. The surveys should also be spaced at least three weeks apart. To ensure that potential bat access/roosting features are covered, both surveys will require three surveyors to be present (See Plan 3: Proposed Surveyor Positions).

5.3. Avoidance, Mitigation, Compensation and Enhancement Measures for Bats

These measures will be formulated after the completion of dusk emergence surveys.

5.4. Avoidance, Mitigation, Compensation and Enhancement Measures for Birds

These measures will be formulated after the completion of dusk emergence surveys.

5.5. Longevity of Report

If development works do not begin within twelve to eighteen months of the date of this report, an updated survey may be required to determine if conditions and bat usage has changed since described in the current report.

Bat Surveys for Professional Ecologists (Collins, 2023) states that survey data should ideally be from the most recent optimal survey season before a planning or licence application is submitted, although often presence/status data (not absence data) older than this can have considerable value, particularly were collected over a number of years using different techniques. The value of older data should be considered when updating surveys as it may not be necessary to start from scratch²⁰.

²⁰ The factors identified are as follows: Were the original surveys carried out according to good practice guidelines?; Were the original surveys constrained in any way (in terms of timings, weather conditions, equipment used, number of surveyors, surveyor expertise, etc.)?; Do the results of the original surveys support the original conclusions and are these still relevant?; Has the nature of the site or the surrounding area changed since the original surveys were undertaken (e.g. has a structure deteriorated and become less suitable for a roost or has human occupation ceased and the structure become more suitable for a roost; and are additional surveys

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CIEEM have issued an Advice Note on the Lifespan of Ecological Reports and Surveys (CIEEM, 2019), which states that a survey report that is less than 12 months old is likely to be valid in most cases; reports 12-18 months old are likely to be valid with some exceptions; reports 18 months to 3 years old require a site visit plus consideration of repeating the surveys (depending on the circumstances) and reports older than this are likely to require most of the surveys to be repeated.

The NRW EPS mitigation license application asks, *'is the survey data less than two active seasons old?'* and if not, to *'please provide sound ecological reasoning for why this is acceptable.'*

likely to provide information that is material to a decision (such as a planning consent, the design of mitigation measures, or specific advice relating to a proposed activity?)

6. References

Bat Conservation Trust (2022) *Interim Guidance Note: Use of Night Vision Aids for Bat Emergence Surveys and Further Comment on Dawn Surveys*. Available online at <https://cdn.bats.org.uk/uploads/pdf/Interim-guidance-note-on-NVAs-May-2022-FINAL.pdf?v=1653399882>

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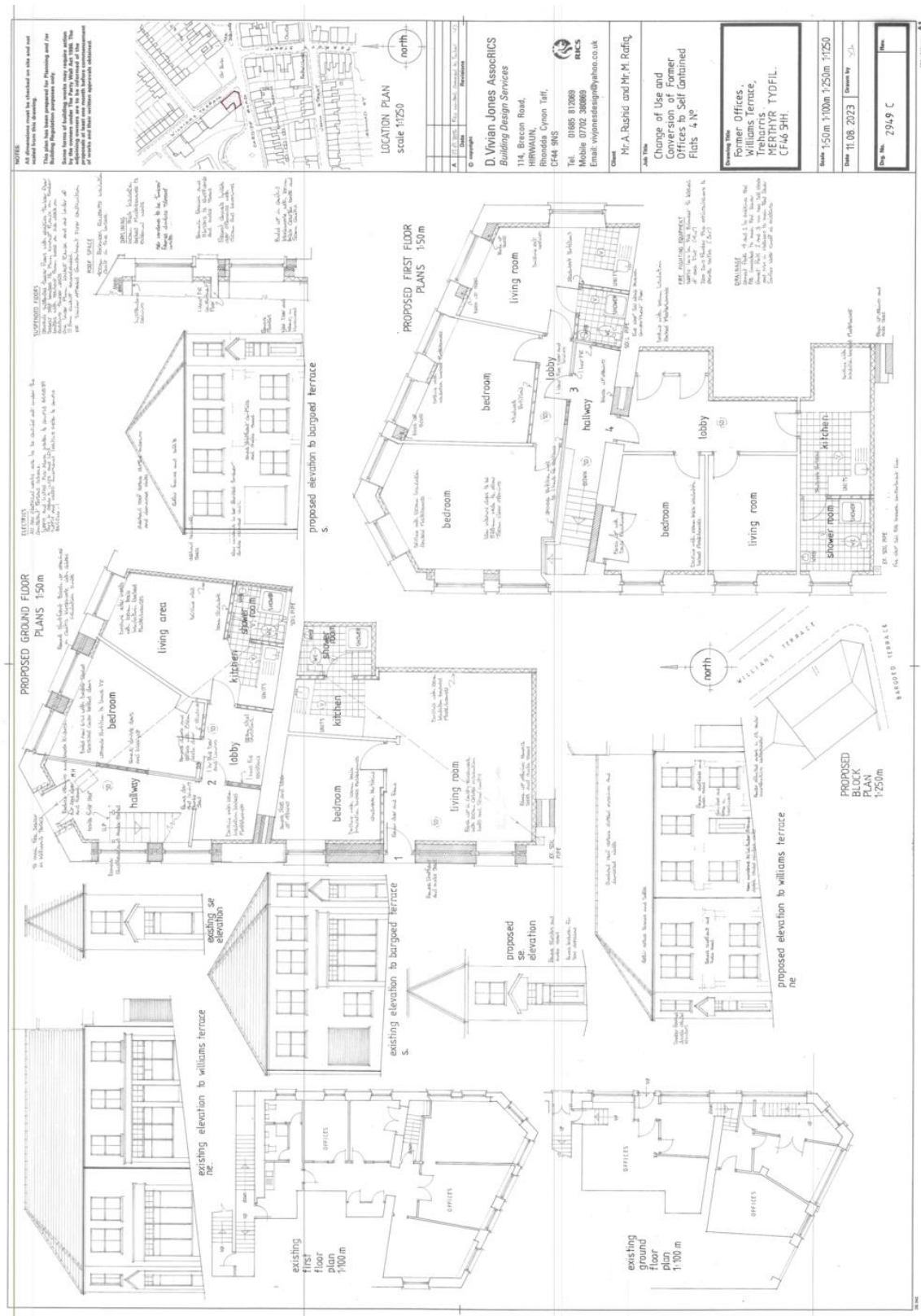
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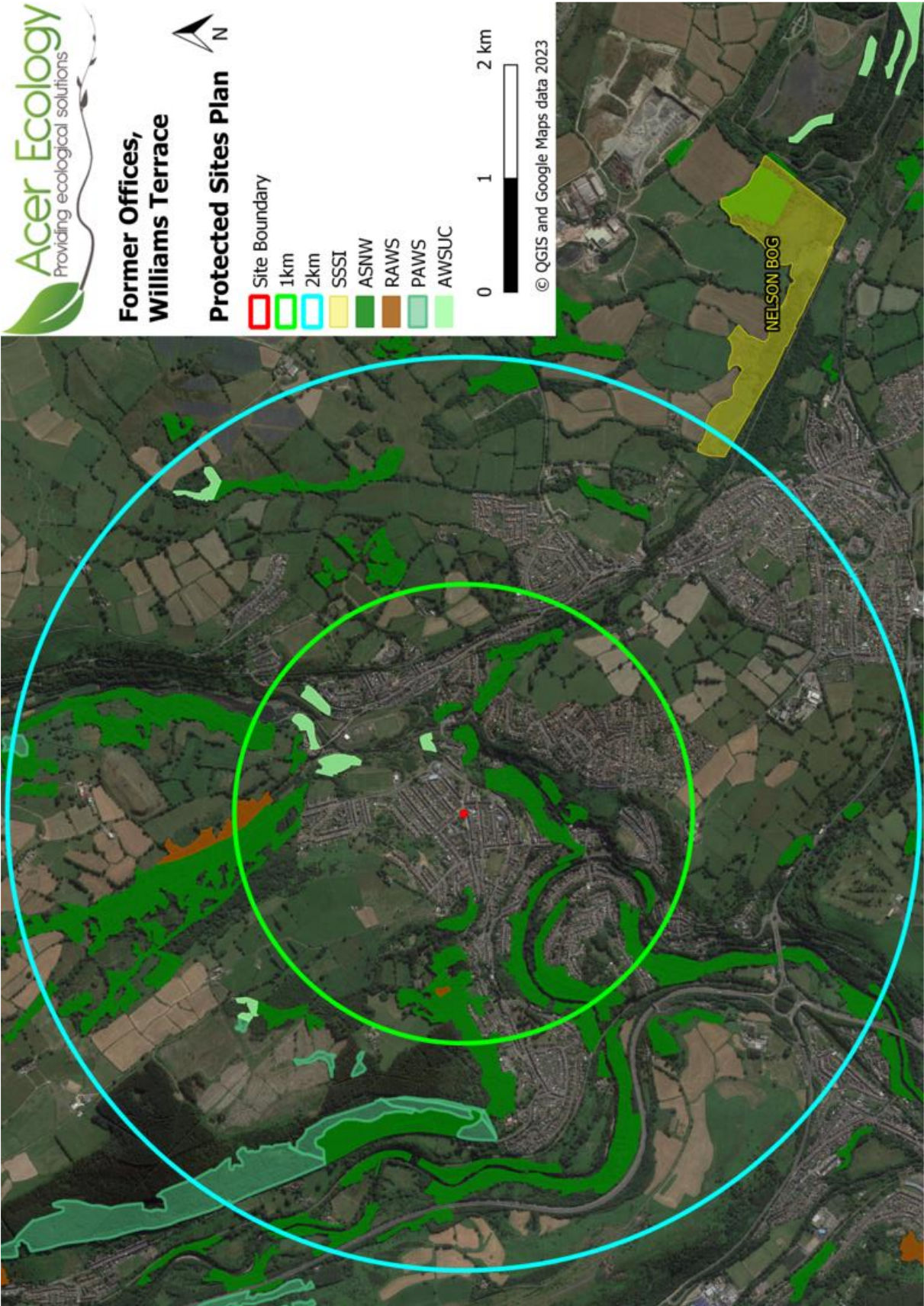
Drawing 1: Proposed Development



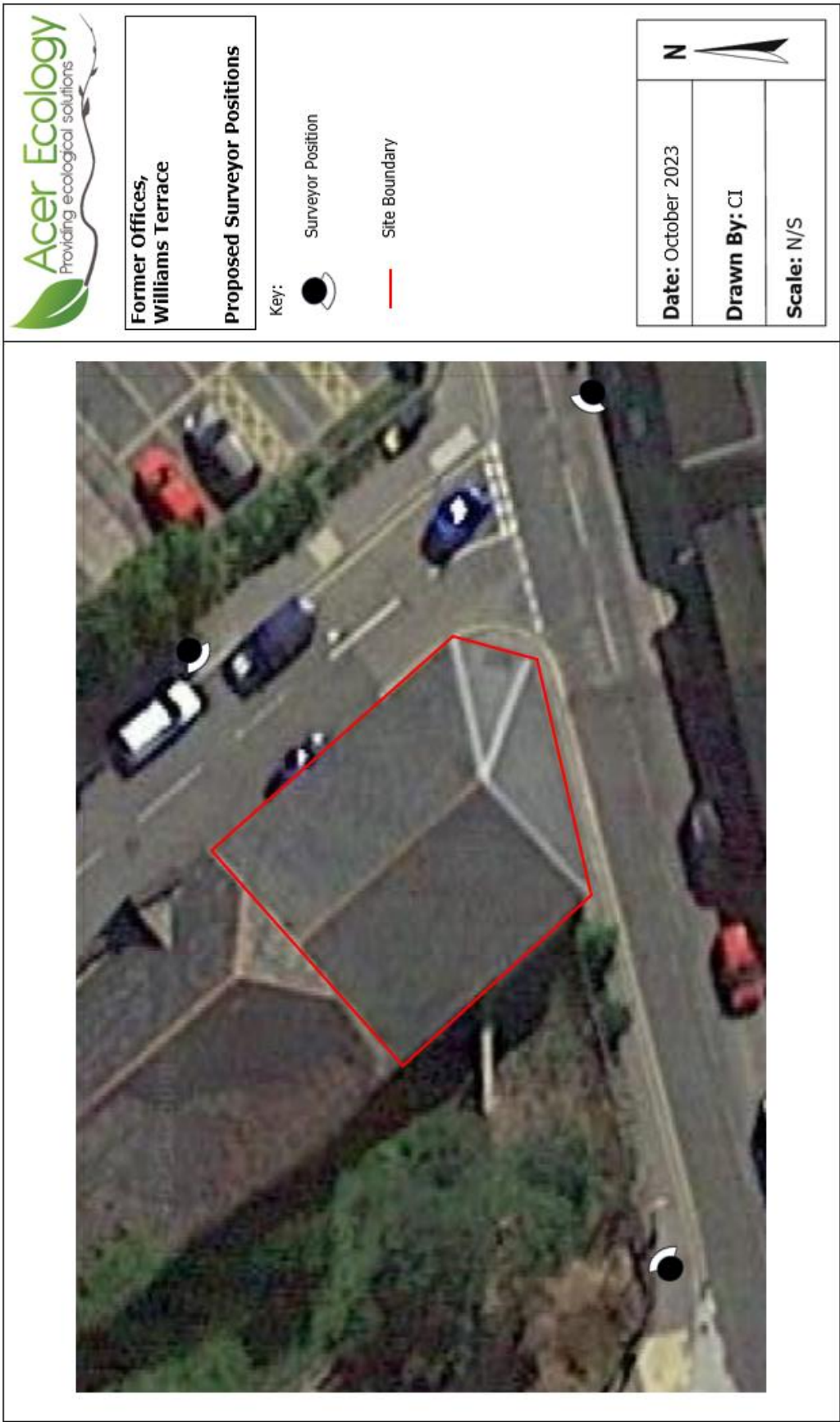
Plan 1: Location Plan



Plan 2: Protected Sites Within 2km



Plan 3: Proposed Surveyor Positions for Dusk Emergence Surveys



Appendix 1: Bat Ecology and Legislation Protecting Bats and Their Roosts

Bat Ecology

There are 17 known breeding species of bat found in the UK, with additional species recorded as migrants or vagrants. They are all small, nocturnal, flying, insectivorous mammals that are under conservation threat with many having undergone massive population declines over the last century. Some species, such as common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) are relatively common and widespread in the UK, while others, such as greater horseshoe bats, have an extremely restricted distribution.

Most bats will use a variety of roosts of different types throughout the year. The winter hibernation sites typically have cool, humid conditions with a stable microclimate and low levels of disturbance. Most British bats hibernate in caves or artificial structures that fulfil these requirements, such as mines, tunnels and cellars. Bats emerge from hibernation around late March or early April and move into transition or intermediary roosts. Around early May, female bats gather in colonies to form summer or maternity roosts, and it is here where they will give birth between late May and early July. A colony may consist of many individuals (sometimes hundreds of bats) of mixed age and sex. Roosts occur in a variety of habitat types, including tree-holes, caves, buildings and other secure crevices or internal spaces with appropriate stable temperatures and humidity. Bats may change roost locations many times during a year, and colonies may split up and reform during this period. Males occupy solitary roosts in autumn, to which they attract females for mating.

Legislation

All British bat species and any place used for shelter or protection, or as a breeding site or resting place (their roosts) are fully protected under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019. The roosts are protected irrespective of whether bats are present at the time. The aforementioned legislation make it illegal to deliberately or recklessly:

- kill, injure, or capture bats;
- disturb bats;
- damage, destroy, or obstruct access to bat roosts (including sites that are currently unoccupied);
- possess or transport a bat or any part of a bat unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

Disturbance is defined as that which is likely to impair bats ability:

- to survive, to breed or reproduce, or to rear or nurture their young;
- to hibernate or migrate; or
- to significantly affect the local distribution or abundance of the species to which they belong.

Habitats Regulations Licensing

If a European Protected Species will be affected by a development, Natural Resources Wales (NRW) can issue licences under the Habitats Regulations to permit otherwise prohibited acts. Licences for certain activities can be granted providing “three tests” are satisfied, that is:

1. the purposes of “preserving public health or safety, or for reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment”;
2. there must be “no satisfactory alternative”; and,
3. the action is “not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Where Planning regulations apply, NRW will only issue a licence after planning consent has been granted. The licence application will require the production of a detailed method statement, which sets out the activities to be carried out under the licence to minimise the risk of bats being harmed during construction works and ensure that bats will be conserved during the development of the site. This will need to detail the mitigation proposed (such as the replacement or compensation roost); the timescale and schedule of works, the number, size and locations of bat access points to be provided; the type of materials to be used (roofing material, roof lining, fascias, soffits, and bargeboards etc.); lighting proposals; action to be taken in the event bats are found during works; and a post-development monitoring programme. The method statement will need to be accompanied by scaled plans and maps detailing the bat mitigation features. A cross-section of the access points and roost space is often required. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of development works. In some instances, a method statement is requested by the Local Planning Authority or Natural Resources Wales before the planning application is determined.

Planning Policy Wales

Section 6.4 Paragraph 6.4.5 of Planning Policy Wales Edition 11 (2021) that focuses on Biodiversity and Ecological Networks, Section 6 of The Environment (Wales) Act 2016²¹ that details the requirement for enhanced biodiversity and resilience of ecosystems, TAN 5 and Section 40(1) of the Natural Environment and Rural Communities Act (NERC) 2006 all encourage developments in Wales to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally.

Part 1, Section 7 of the Environment (Wales) Act 2016 provides a list of the ‘*living organisms of principal importance for maintaining and enhancing biodiversity in relation to Wales*’. This includes seven bat species (soprano pipistrelle, barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteini*), noctule (*Nyctalus noctula*), brown long-eared, lesser horseshoe and greater horseshoe bats).

²¹ <http://www.legislation.gov.uk/anaw/2016/3/contents>

Appendix 2: Guidelines for Assessing Potential Bat Roosting Suitability

Protentional Suitability	Roosting Habitats in Structures
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible ²²	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ²³ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ²⁴).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions (see footnote from low suitability) and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure 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 (see footnote from low suitability) and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g., maternity or classic cool/stable hibernation site.
Confirmed Roost	Evidence of bats or use of bats found.

²² Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

²³ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

²⁴ Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

Appendix 3: Guidelines for Determining Required Number of Dusk Surveys

Suitability	Minimum Number of Dusk Surveys Required ²⁵
Negligible	None.
Low	One survey visit comprising of a dusk emergence survey ²⁶ between May and August for structures. No further surveys are required for trees assessed as low suitability.
Moderate	Two separate dusk emergence survey visits ²⁷ . Surveys must occur between May and September ²⁸ , with at least one survey between May and August ²⁹ .
High	Three separate dusk emergence survey visits. Surveys must occur between May to September, with at least two surveys between May and August.

²⁵ Adapted from Tables 7.1 and 7.2 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

²⁶ Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see para 5.2.44). In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

²⁷ Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more.

²⁸ September surveys are both weather- and location-dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. September surveys are likely to miss maternity roosts due to dispersal before this time, but may still pick up mating roosts.

²⁹ Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least three weeks apart, preferably more. Survey timings should consider the prevailing conditions in the year of survey, which will vary geographically. In years with a cold spring, the surveys should not be started in early May or all be completed in May. The surveys should maximise the possibility of detecting maternity roosts, which can switch roosts between pregnancy and lactation, and the optimum coverage includes the pre-parturition, post-parturition, and mating periods.

Acer Ecology

Appendix 4: Guidelines for Assessing Bat Habitat Suitability

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<u>Commuting Habitat</u> 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. <u>Foraging Habitat</u> 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	<u>Commuting Habitat</u> 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. <u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	<u>Commuting Habitat</u> 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. <u>Foraging Habitat</u> 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. <u>Proximity to Known Bat Roosts</u> The site is close to and connected to known roosts.