



**Sardis Congregational Chapel,
Station Terrace, Bedlinog**

Preliminary Roost Assessment

November 2023

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DOCUMENT CONTROL

Sardis Congregational Chapel, Bedlinog 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 Sardis Congregational Chapel, Station Terrace, Bedlinog, CF46 6TT (Ordnance Survey Grid Reference: SO 094 011).
Proposed Works	Proposed works entail the change of use of chapel to a three-bedroom residential property with two parking spaces, and demolition of the existing front porch. The new dwelling will have a first floor above existing ground floor, a single storey rear extension and rear patio areas.
Survey Methodology	The preliminary bat roost assessment comprised a daytime internal and external inspection of the chapel 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	The site inspection recorded approximately seven bat droppings within the interior and exterior of the chapel. Five droppings were identified on the northern gable wall of the porch, one on the window on the western elevation and one on the door on the northern elevation. The chapel is within a high-quality area for foraging and commuting bats.
Suitability of the Chapel to Support Roosting Bats	The chapel 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 the species roosting within the chapel, the roosting location/s and accurately characterise the roost/s. As the chapel is a moderate-confirmed roost, 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 6: Proposed Surveyor Positions).
Predicted Impacts of Development on Bats and Nesting Birds	Full impacts on bats and birds will be considered after 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	Evidence of bats has been confirmed within the barn, and consequently, a bat development licence will be required from Natural Resources Wales prior to works being undertaken on the barn. The Natural Resources Wales bat development licence application will need to be accompanied by a detailed method statement which sets out the activities to be carried out under the licence to ensure that bats will not be harmed during development. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of the development.
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 chapel at Station, Terrace, Bedlinog, CF46 6TT (Ordnance Survey Grid Reference: SO094011)¹.

The chapel is within the boundary of Merthyr Tydfil Council.

1.2. Site Description

The chapel is located 147m north-east of the village of Bedlinog, and 5.7km from the south-east of the town of Bargoed. Directly to the north-east of the chapel lies Station Terrace. Residential properties border the chapel to the south-east and the north-west. The chapel is built on a steep slope to the south-west which is bordered immediately with mature broadleaved trees and terraced gardens.

The chapel is shown on Plan 1: Location Plan.

1.3. Proposed Works

The development proposals involve the change of use of the chapel to a three-bedroom residential property with two parking spaces. The existing front porch is to be demolished. A new first floor above the existing ground floor, a single storey rear extension and rear patio areas are to be built. A planning application has been submitted under reference P/23/0230².

Existing and proposed plans can be found in Drawings 1 and 2: Development Proposals (Planning Reference number: P/23/0230).

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: 51.702046 , -3.312371 / what3words: lawyer.rival.craftsmen

²<https://publicaccess.merthyr.gov.uk/online-applications/applicationDetails.do?activeTab=externalDocuments&keyVal=S1EA9EKQM1Q00>

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 chapel 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 2nd November 2023 by Rebecca Corley¹¹ and Margareth Necesito¹².

Bat droppings¹³ were collected into grip seal bags without handling (i.e. wearing disposable gloves or using tweezers) to avoid cross contamination, and stored in a cool, dry area.

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.

¹⁰ Bats can utilise gaps approximately 8mmx17mm 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 Margareth graduated with a degree in International Wildlife Biology from University of South Wales and a degree in Global Ecology and Conservation from Cardiff University. Margareth is currently working as an Assistant Ecologist and receiving training from Acer Ecology. Further details of her qualifications and experience can be found at <https://www.linkedin.com/in/margareth-necesito>.

¹³ Pygmy shrew (*Sorex minutus*) droppings can closely resemble bat droppings (i.e. this species is an insectivore and so the droppings are crushable, and contain insect remains and so can easily be confused with bat droppings).

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.

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 (November) coincides with the time when bats are spending longer amounts of time in torpor and some bats begin hibernation. However, signs of roosting activity from previous summers was identified 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 Loft Void and Lean-to Extensions

Not all parts of the chapel could be inspected during the preliminary roost assessment. The small void present within the front porch could not be inspected as no loft hatch was present. In addition, the interior of both lean-to extensions was inaccessible as all previous access points have all been sealed with breezeblocks. The survey is only slightly constrained, and this is not considered to have significantly affected the accuracy of the assessment as further surveys are recommended.

Restricted Access to Underground Crawl Space

The underground crawl space beneath the chapel could not be inspected due to the lack of an entrance. The building inspection found that the underground crawl space has hibernation potential for bats. As there is no possible access into the crawl space, the ability to undertake hibernation surveys is limited as it would require the removal of floorboards/external wall which could disturbance to any existing roosts within the chapel.

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. 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.

This approach is consistent with CIEEM's Guidelines for Accessing and Using Biodiversity Data (2020), which states that in low impact/small-scale scenarios, such as an extension to a residential property, a LRC search may not be required.

3. Baseline Ecological Conditions

3.1. Desk Study

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

The planning portal search¹⁴ 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 chapel.

Other Protected Sites Within 2km

There are no statutory designated sites such as SACs, SSSIs, National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) either within the proposed development site or within 2km of the chapel.

Non-statutory Protected Sites

Ancient Woodland Sites

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

Table 1: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW) ¹⁵	27
Restored Ancient Woodland Sites (RAWS) ¹⁶	Six
Plantations on Ancient Woodland Sites (PAWS) ¹⁷	Three
Ancient Woodland Sites of Unknown Category ¹⁸	Two
Nearest Area of Ancient Woodland	An unnamed area of ASNW located 0.17km to the south-west of the site

¹⁴ <https://publicaccess.merthyr.gov.uk/online-applications/simpleSearchResults.do?action=firstPage>

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'.

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Protected Sites Summary

Given the small scale and localised nature of the proposed development, no adverse impacts to the ancient woodland 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 E2: Rural lighting zone, with low district brightness (Institute of Lighting Professionals, 2012). The chapel is situated on the edge of the village, on a street with only one streetlight, close to a large rural area where only very limited artificial lighting is present.

Ecological Context

The habitats surrounding the site include terraced housing with linked back gardens to the north and south-east of the site, with treelines and areas of broadleaved woodland to the north and east of the site. These habitats provide a continuous connected network to the areas of broadleaved woodland 0.5km to the east of the chapel, and both Nant Llwynog and Taff Bargoed approximately 250m to the east and west of the site respectively. The wider surroundings are comprised of open grassland with mature woodland to the south and south-west of the site, which also provide optimal habitat which would be used by bats to commute and forage.

These features, along with the low level of lighting and noise that the chapel is likely to experience at night, make the area of high-quality for foraging and commuting bats.

3.2.2. Building Description from the Perspective of Bat Habitat

The table below summarises the key features of the chapel.

Table 2: Key Features of Chapel

Building Type	The chapel is a single-storey structure (Photo 1). A dual-pitched extension adjoins the chapel on the northern front, and two mono-pitched extensions adjoin the chapel on the southern rear (Photos 1 and 2).
Roof	The roof of the chapel is dual-pitched and constructed from concrete interlocking tiles and concrete ridge tiles (Photo 3). Along both pitches of these roofs, the roof tiles are raised and the end tiles are not impeded by close-fitted guttering, exposing gaps which can be utilised by roosting bats (Photo 4). The plastic trim is not tightly fitted to the end tiles on each of the gable ends, exposing gaps which could be utilised by roosting bats (Photo 3). There is a loosely fitted end tile on the western pitch of the chapel (Photo 5) which could also be utilised by roosting bats.
Lead Flashing	Lead flashing adjoins the northern extension to the chapel (Photo 6). This is raised, providing a suitable roosting location for crevice dwelling bats.
Soffits, Fascias and Bargeboards	The bargeboards and fascias are composed of timber. These are generally in poor condition. The bargeboards on both gable ends are raised, creating a gaps which are suitable for crevice dwelling bats (Photos 7 and 8).

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Vents	There are two vents present on the eastern and western side of the chapel (Photos 9 and 10). Due to the small size of the gaps present, they are considered unsuitable for use by bats. However, there is a gap underneath the western side vent that could be exploited by roosting bats (Photo 10).
External Walls	The external walls are constructed of brick and mortar, with a pebbledash render (Photo 1). The chapel is built on a steep slant, and so exposes stone present beneath sections of the rendering (Photo 11). There are missing bricks present for ventilation, which allows direct access into the crawl space beneath the chapel (Photos 11 and 12).
Windows	The windows sit in uPVC frames, these appear to be well sealed within their frames (Photo 13). There are multiple gaps between the lintels and the fascia boards on both eastern and western sides of the chapel which could be utilised by roosting bats (Photo 14).
Roof Construction, Void and Lining	There is no dedicated roof void present within the chapel. The roof of the chapel is supported internally by two metal prefabricated roof trusses (Photo 15). There is a gap present in the interior of the chapel at the apex of the southern rear. This could be accessible to roosting bats to gain access from into the interior from beneath the roof tiles (Photo 16).
Extensions/Lean-tos/Attached Garage	<u>Southern Extensions</u> There are two lean-to extensions which adjoin the southern elevation of the chapel. The easternmost extension is constructed of brick with pebbledash rendering, and the westernmost extension is constructed of concrete breezeblocks. The window and door present on the easternmost extension have been tightly sealed with breezeblocks (Photo 2). The roofs of both extensions are flat and composed of corrugated sheeting. There are gaps beneath the corrugated sheeting and the timber roof support is exposed on the easternmost extension (Photo 17), which provides a suitable access point and roosting location for bats. The timber fascia on the easternmost extension is in poor condition and is both missing and raised, providing a suitable roosting location for crevice dwelling bats and access into the interior (Photo 17). <u>Northern Extension</u> The northern extension is a porch which adjoins the northern elevation of the chapel (Photo 1). The roof is dual pitched and has both concrete interlocking roof tiles and concrete ridge tiles (Photo 3). There are large gaps between the plastic trim and the end tiles which provide access into the interior (Photo 3). The timber door on the northern front is tightly sealed. The window on the western elevation sits in a timber frame which is tightly sealed, however there is a large gap present between the fascia and the window frame which leads directly to the roof space and could be utilised by roosting bats (Photo 18). Numerous gaps are present within the ceiling of the porch and the external wall, potentially allowing bats to access the interior of the porch from the roof space (Photos 19 and 20).
Underground Crawl Space	The crawl space underneath the chapel is inaccessible. There are large ventilation cavities along the western and eastern elevations, which provide potential access points for bats (Photo 21).

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Photos Showing the Chapel and its Features

Photo 1: Northern Front



Photo 2: Southern Rear



Photo 3: Example of Loosely Fitted Plastic Trim on Northern Extension (Circled)



Photo 4: Example of Gaps Between the Gutter and the End Tiles on the Northern Front



Photo 5: Loosely Fitted Tile on the Western Pitch of Chapel Roof (Circled)



Photo 6: Raised Lead Flashing on the Northern Gable End (Circled)



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Photo 7: Raised Bargeboard on Northern Gable End (Circled)



Photo 8: Raised Bargeboard and a Gap on the Apex on the Southern Gable End (Circled)



Photo 9: Gaps on the Metal Vent on the Eastern Side



Photo 10: Gaps Underneath the uPVC Vent on the Western Side



Photo 11: Exposed Stone Underneath the Rendering with Missing Brick



Photo 12: Missing Brick Underneath the Rendering



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Photo 13: Windows are Tightly Sealed to the Frame



Photo 14: Example of Gaps Between the Lintel and Fascia Board



Photo 15: Interior of the Chapel



Photo 16: Gap Present at the Apex of the Interior Wall on the Southern Elevation



Photo 17: Gaps Between the Corrugated Sheeting and the Timber Support on Easternmost Extension. Fascia is in Poor Condition



Photo 18: Window Tightly Sealed to the Frame. Large Gap Present Between the Window Frame and the Fascia



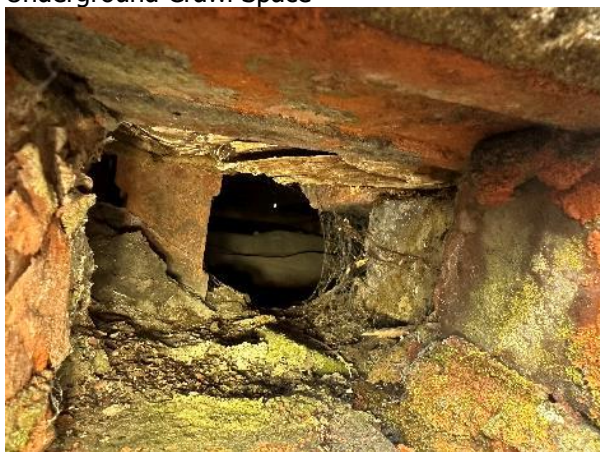
Photo 19: Gap on the Ceiling of the Porch on the Northern Elevation



Photo 20: Gaps on the Ceiling of the Porch on the Southern Elevation



Photo 21: Gap in Missing Brick Showing the Underground Crawl Space



3.2.3. Potential Bat Access Points and Bat Roosting Locations

Potential Access Points for Bats in the Chapel

There are numerous potential access points for bats to gain entry into the interior. Bats could gain entry through the gaps between the corrugated sheeting and the timber frame on the easternmost rear extension, the raised bargeboards and fascias on all elevations of the chapel and extensions, gaps between the plastic trim and the end tiles on the chapel and northern extension, gaps in the external wall on the eastern and western elevations of the chapel and gaps present within the ceiling of the porch and the external wall.

Potential Roosting Features for Bats

The following potential roost features were recorded:

- PRF 1 – Gaps beneath the roof tiles (see Photo 5);
- PRF 2 – Gaps between the end tiles and guttering (see Photo 4);
- PRF 3 – Gaps between the plastic trim and the end tiles (see Photo 5);

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- PRF 4 – Gaps underneath the lead flashing on northern gable end (see Photo 6);
- PRF 5 – Gaps underneath the bargeboards and fascias (see Photos 7, 8, 17 and 18);
- PRF 6 – Gaps underneath the uPVC vent on the western elevation (see Photo 10);
- PRF 7 – Gaps between the lintels and fascia boards on eastern and eastern elevations of the chapel (see Photo 14); and
- PRF 8 – Within the underground crawl space (Photo 21).

3.2.4. Evidence of Bats

Five bat droppings were identified within the interior of the chapel (concentrated towards the northern gable wall of the porch), and also on the external of the chapel (one on the window on the western elevation and one on the door on the northern elevation of the northern extension).

Photos Showing Droppings

Photo 21: Cluster of Droppings Next to Gap in Ceiling



Photo 22: Example of Bat Dropping on Interior Wall



Photo 24: Bat Dropping Found by the Window (Circled)



3.2.5. Nesting Bird Survey

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

4. Evaluation

4.1. Summary of Preliminary Roost Assessment

During the preliminary roost assessment, a total of seven bat droppings were found within the interior (five concentrated towards the northern gable wall of the porch) and the exterior (one on a window on the western elevation and on one the door on the northern elevation) of the chapel. These droppings were black in colour and fresh, indicating that they have been deposited this season.

4.2. Confirmed Summer Roosts

Droppings were found within the ceiling of the chapel confirming the presence of bats. However, it was not possible to determine if the droppings were produced by crevice-dwelling bats (*Pipistrellus* species and smaller *Myotis* species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*)) or roof-void dwelling bats (long-eared¹⁹ species, large *Myotis* bats such as Natterer's bat (*Myotis nattereri*)).

The chapel is assessed as:

- Moderate suitability for use by crevice dwellers (*Pipistrellus* species and smaller *Myotis* species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*)). The building supports multiple roosting locations which are likely to be used by bats on a continuous basis (more than opportunistically);
- Moderate suitability for use by roof void-dwelling bats (long-eared species, large myotis bats such as Natterer's bat (*Myotis nattereri*)). Only a small scattering of droppings was recorded. The roost site is unlikely to support a roost of high conservation status (see Appendix 2) due to the size, shelter, protection, conditions and surrounding habitat of the roost features; and
- Moderate suitability for use by direct access species requiring a large access point and large roost space (lesser (*Rhinolophus hipposideros*) and greater horseshoe (*Rhinolophus ferrumequinum*)). The underground crawl space provides a structure which could be used as hibernation roost, which has suitable access points via the cavities along the western and eastern elevations.

The chapel 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 3).

4.3. Characterisation of Identified Roosts

Further surveys will be required before the status of the roost can be accurately characterised²⁰, to determine the roosting and access locations, confirm species identification and identify if any additional species are roosting within the chapel.

¹⁹ It should be noted that in non-maternity roosts long-eared bats can make use of crevice features without gaining access into a roof void.

²⁰ The following roost types are identified in Section 3.3 of Bat Surveys for Professional Ecologists: day roost; night roost; feeding roost; transition/occasional roost; swarming site; mating site; maternity roost; hibernation roost; and satellite roost.

4.4. Potential Winter Roosts

The crevices beneath the roof tiles and underground crawl space provide potential hibernation sites for bats. However, a full assessment of the potential for winter use (i.e. hibernation) will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.

4.5. 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

Evidence of bat roosting has been confirmed within the barn, and consequently, a European Protected Species (EPS) licence will be required from Natural Resources Wales prior to works being undertaken on the chapel. The details of the licence and method statement will be finalised after further dusk emergence surveys have been completed.

5.2. Further Work

Works should not commence until further surveys have been carried out. This will enable the likely impacts of the proposals on bats to be assessed, determine if a 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 survey visits should be undertaken on buildings with moderate roost suitability comprising two dusk emergence surveys. The surveys should be undertaken from May to September, with at least one of the surveys between May and August and will be supplemented by use of night vision aids. To ensure that all potential bat access/roosting features are covered, both surveys will require three surveyors present (see Plan 4: Proposed Surveyor Positions).

Surveys should be timed to sample as much of the survey period as possible, undertaken at intervals of at least three weeks apart (Collins, 2023). This increases the possibility of encountering bats that may only use the building for short periods throughout the summer. Ideally, at least one survey should be undertaken in the core maternity period of mid-June to mid-July.

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. 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. This is because bats are highly mobile and so the numbers of bats present may have increased or decreased in numbers since the survey was undertaken. The guidance acknowledges that presence/status data (not absence data) older than this can have considerable value, particularly when 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 scratch²¹.

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.

²¹ 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 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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CIEEM (2020) *Guidelines for Accessing, Using and Sharing Biodiversity data in the UK*. <https://cieem.net/wp-content/uploads/2016/03/Guidelines-for-Accessing-and-Using-Biodiversity-Data-March-2020.pdf>

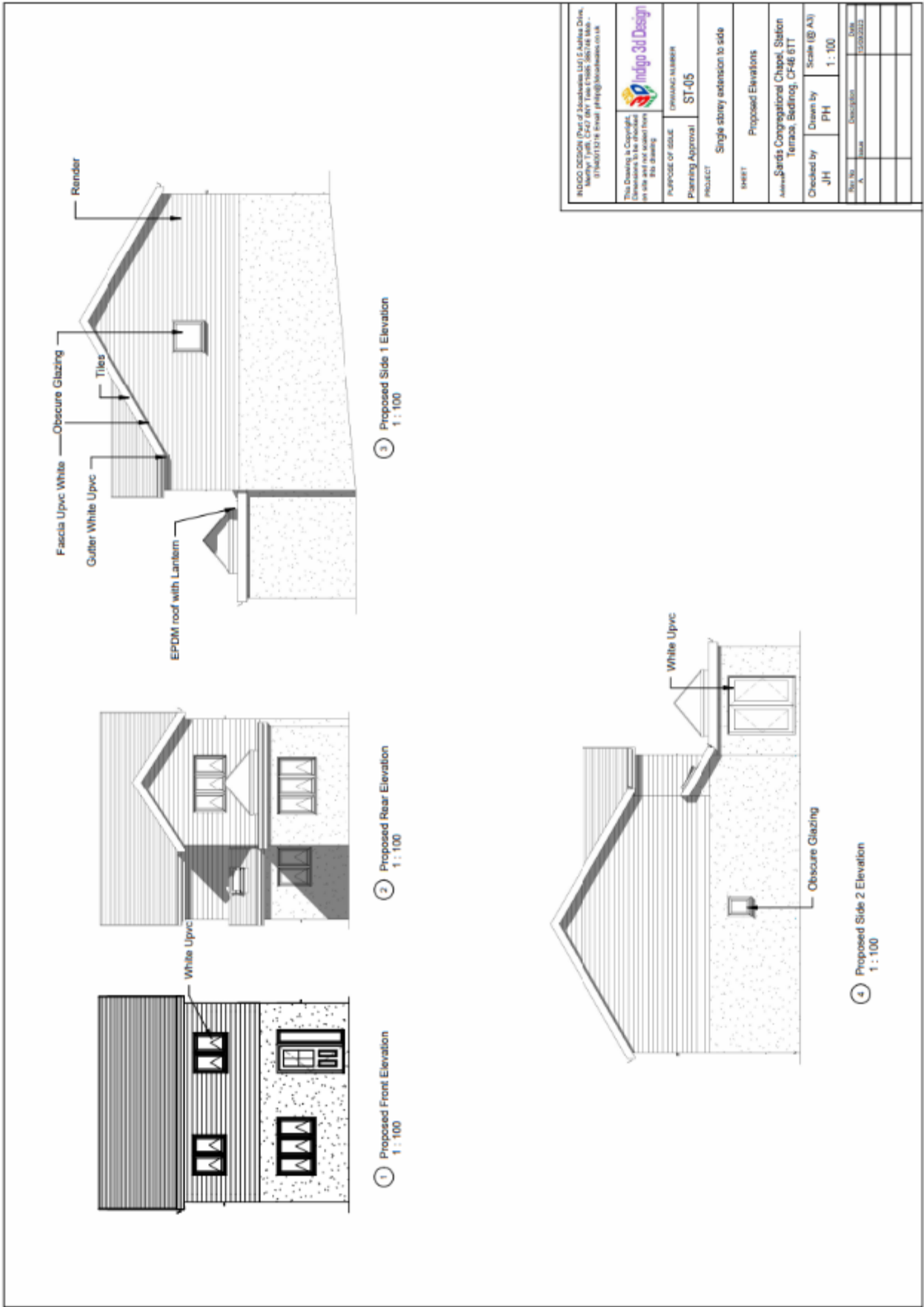
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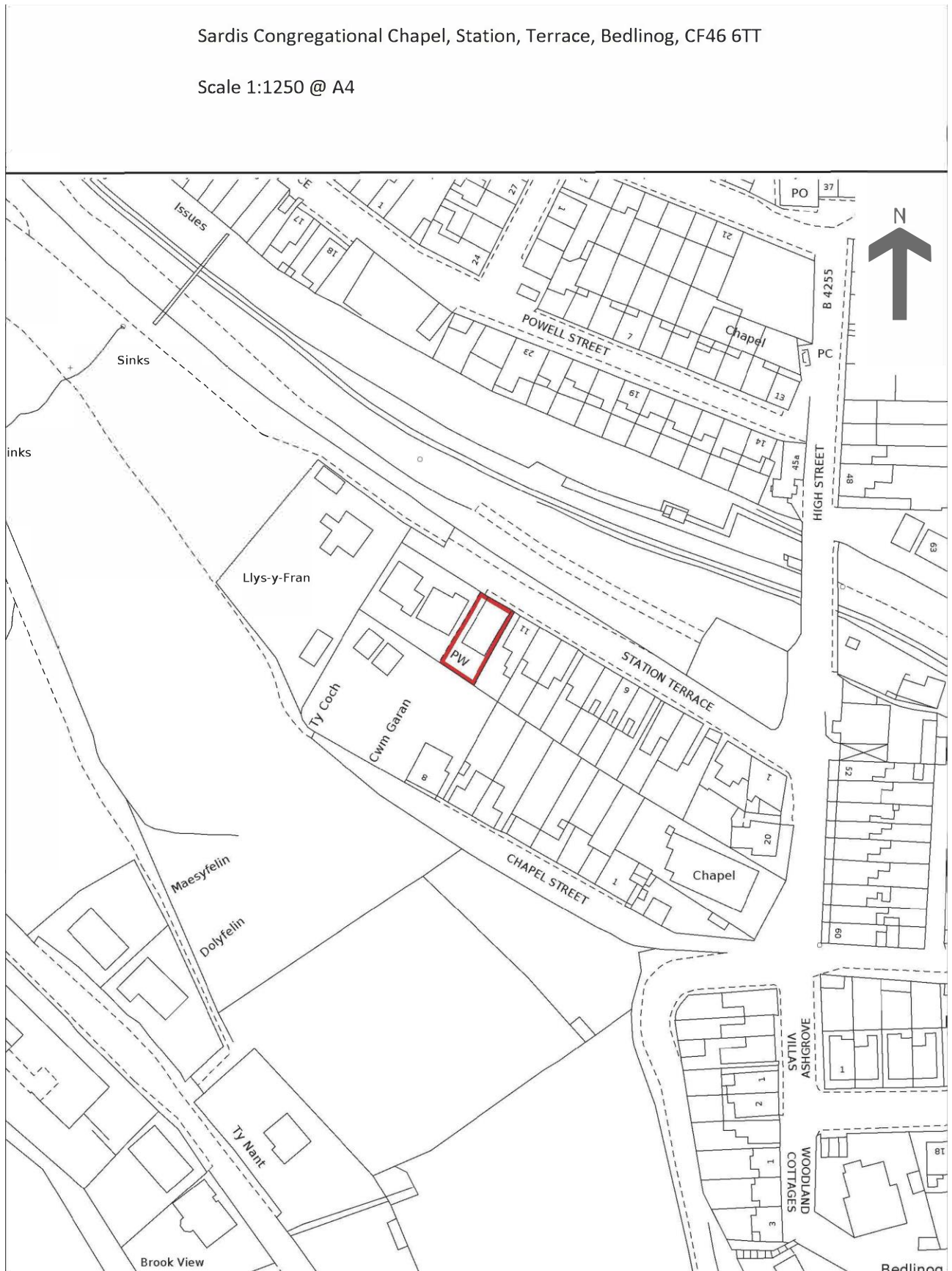
Drawing 2: Proposed Development



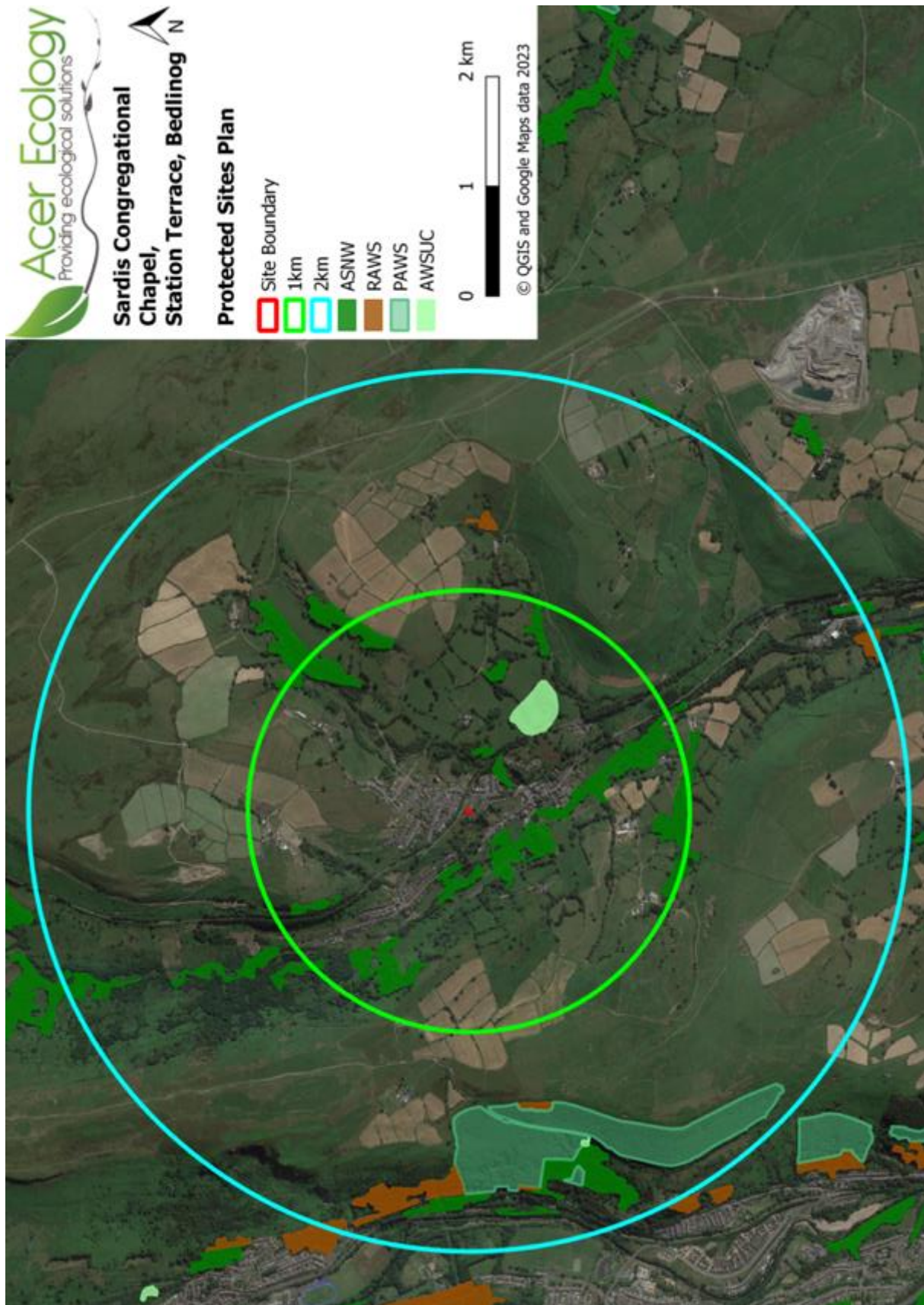
Plan 1: Location Plan



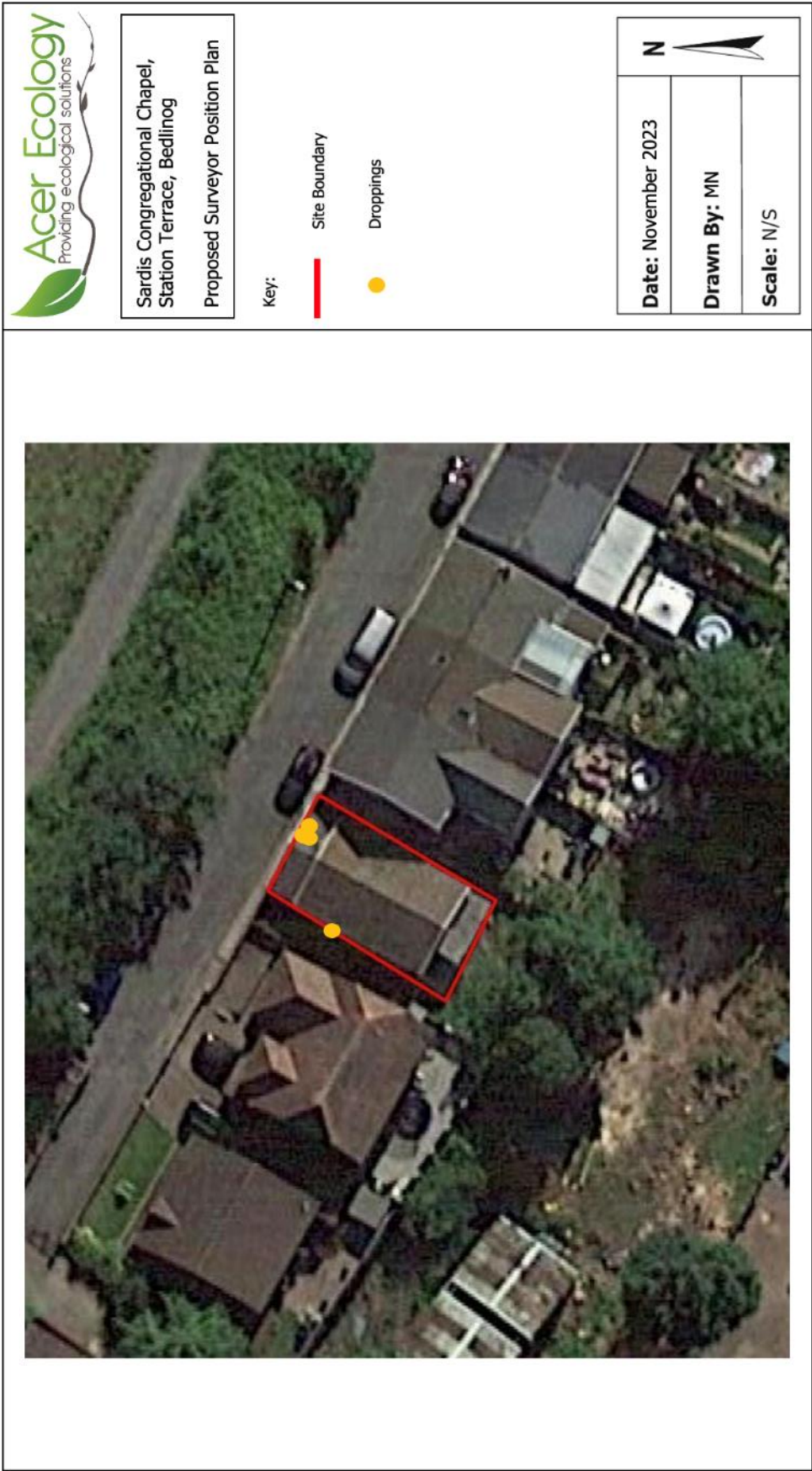
Plan 2: Location/Block Plan



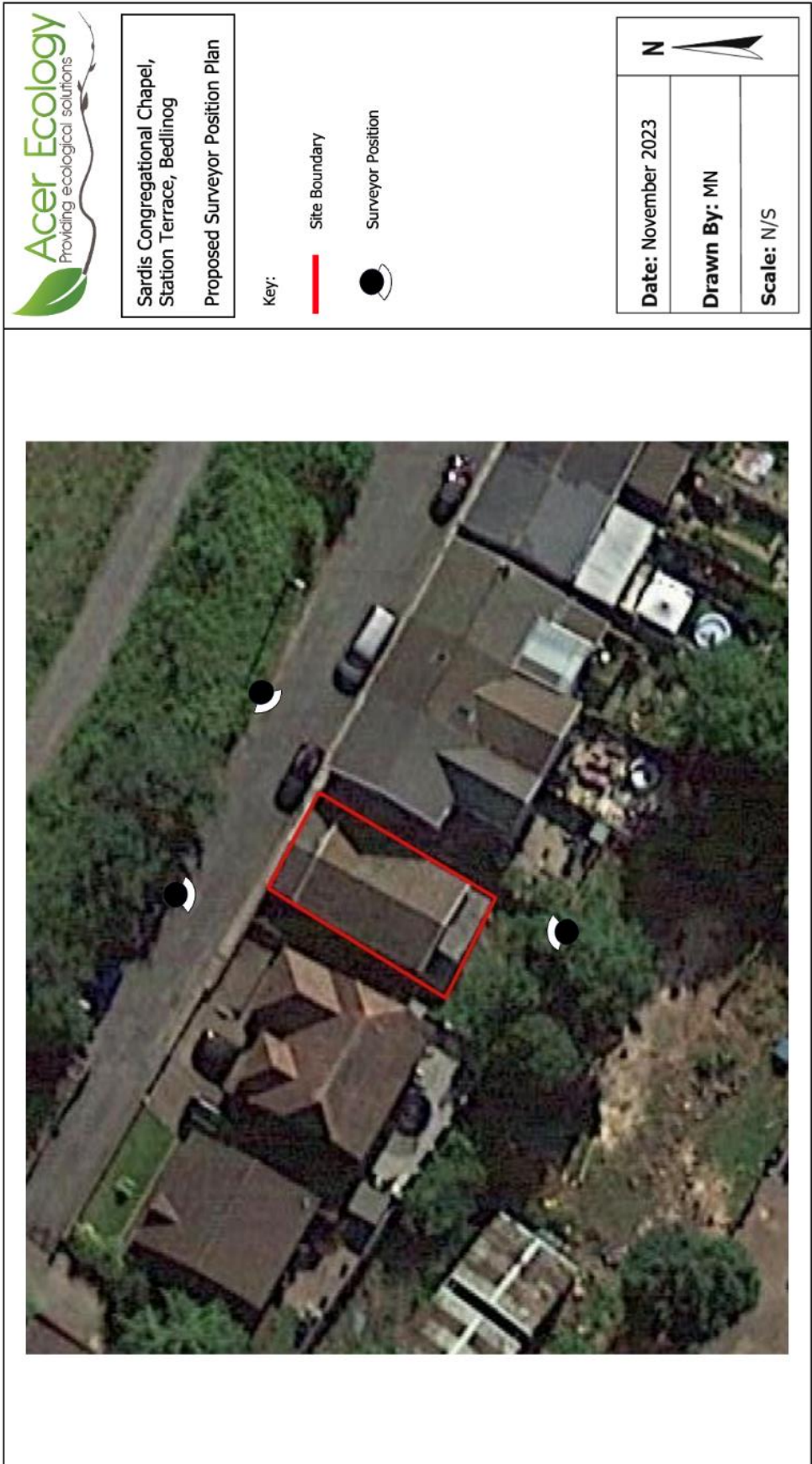
Plan 3: Protected Sites Within 2km



Plan 5: Building and Preliminary Roost Inspection



Plan 6: 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 (*Rhinolophus ferrumequinum*) 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 2016²² 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 (*Plecotus auritus*), lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats (*Rhinolophus ferrumequinum*)).

²² <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 ²³	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 ²⁴ 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 ²⁵).
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.

²³ 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).

²⁴ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

²⁵ 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 ²⁶
Negligible	None.
Low	One survey visit comprising of a dusk emergence survey ²⁷ between May and August for structures. No further surveys are required for trees assessed as low suitability.
Moderate	Two separate dusk emergence survey visits ²⁸ . Surveys must occur between May and September ²⁹ , with at least one survey between May and August ³⁰ .
High	Three separate dusk emergence survey visits. Surveys must occur between May to September, with at least two surveys between May and August.

²⁶ Adapted from Tables 7.1 and 7.2 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

²⁷ 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.

²⁸ 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.

²⁹ 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.

³⁰ 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.