THE BAT SURVEYOR

Dovedale Property

Preliminary Roost Assessment

Old Miner's Rescue Station

Infirmary Road, Chesterfield, S41 7NG

Project number 038

Version 1

December 2020

Document control

	Project Information
Client	Dovedale Property
Project Name	Old Miner's Rescue Station
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Project Type	Preliminary Roost Assessment
Principal Author	Jo Pedder

Report Issue	Notes	Author	Date
01	Original document to client.	Jo Pedder	15/12/2020
02			
03			
04			
05			

Non-technical summary

Non-Technical Summary
Background
In December 2020, Jo Pedder was instructed by Dovedale Property to undertake a Preliminary Roost Assessment of Old Miner's Rescue Station, Infirmary Road, Chesterfield, S41 7NG (Ordnance Survey (OS) grid Reference SK 38535 71866).
Aims
Identify Potential Roosting Features on structures at the Site Assess the potential value of those features for bats following best practice Identify signs of nesting birds Recommend further surveys if necessary Recommend mitigation, compensation and enhancement measures.
Site Description
The building is a former miner's rescue station. It is currently empty and was last used as an arts centre by Chesterfield College. The building is part one storey and part two storey with brick walls, parapets and a flat roof. The roofs are solid slabs. There is a large cellar which includes several rooms and tunnels used for mine rescue training. Until recently the cellar was flooded, and it is currently being pumped out.
Development Proposals
The proposals are to renovate the building into flats.
Information used for the assessment
Preliminary Roost Assessment Online desk study
Outline Assessment and Recommendations
The building is currently unsuitable for bats and no further work with regard to bats is required for the planning application. The basement is an ideal environment for hibernating bats, but there hasn't been access for bats into the structure until very recently. Now that water levels are reduced, and a small gap under the basement door has been exposed bats could find the structure in future years. The door should therefore be repaired to prevent this from happening. As the building has strong (concrete slab) flat roofs, there is an opportunity to retrofit green roofing to the structure. This would ensure that the project meets biodiversity net gain targets.

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1 Introduction

1.1 Terms of Reference

In December 2020, Jo Pedder was instructed by Dovedale Property (the Client) to undertake a Preliminary Roost Assessment of the Old Miner's Rescue Station, Infirmary Road, Chesterfield, S41 7NG (Ordnance Survey (OS) grid Reference SK 38535 71866) (The Site).

Information for the assessment was obtained from:

Preliminary Roost Assessment
Online desk study

The building is a former miner's rescue station. It is currently empty and was last used as an arts centre by Chesterfield College. The building is part one storey and part two storey with brick walls, parapets and a flat roof. The roofs are solid slabs. There is a large cellar which includes several rooms and tunnels used for mine rescue training.

Until recently the cellar was flooded, and it is currently being pumped out.

The proposals are to renovate the building into flats.

1.2 Aims and Objectives

The aims of the study were to:

Identify Potential Roosting Features on structures at the Site
Assess the potential value of those features for bats following best practice
Identify signs of nesting birds
Recommend further surveys if necessary
Recommend mitigation, compensation and enhancement measures.

2 Methodology

2.1 Personnel

The survey was led and reported by Jo Pedder. Jo Pedder BSc. hons MCIEEM is an ecologist with over 17 years' experience in the environmental consulting sector. Jo holds survey licences for bats (level 2) and great crested newts (level 1) and development licences for bats and newts. Jo has experience in a range of projects from barn conversions to sites over 300 ha and has worked in the minerals, housing and energy sectors.

2.2 Desk Study

Given the limited scale of the proposals and limited potential for impacts to arise outside the Site, a full data search was not commissioned for this stage of the project. Ordnance Survey maps and online aerial photos were used to provide site context and the online Multi-Agency Geographical Information Centre[1] (MAGIC) was used to identify any internationally and nationally statutory protected areas within 1 km of the Site.

2.3 Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) was undertaken on the 14/12/2020. The PRA followed the Bat Conservation Trust (BCT) guidelines criteria[2] (see Appendix 1). This entails inspecting a structure (e.g. a building or tree) for field evidence of roosting bats such as feeding remains, droppings, urine staining and Potential Roosting Features (PRFs) such as voids, cracks and crevices. The survey is undertaken from the ground level (or floor level within buildings).

Any direct evidence, type and number of PRFs and the Site's environment is then used to grade the structure's suitability for bats. The assessment is based on the potential value of a roost in the structure, not the likelihood of a bat roost at the structure. A low suitability structure would, at most, have features that individual bats could roost in opportunistically. Structures with a moderate suitability may support bats regularly, but are not likely to include hibernation or maternity roosts. A high suitability structure would have one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis.

2.4 Survey Constraints

Any ecology assessment must be considered as a 'snapshot' of the site conditions at the time of the survey. Ecological constraints will change over time and therefore the findings of this report are considered to be valid for a period of one year, after which the report should be reviewed to assess whether the survey should be updated.

The survey was undertaken in the winter months when bats may be hibernating. They may therefore not be occupying their summer roosts. Evidence of bats that may have accumulated on the outside of buildings or trees in summer may have been washed away by rain.

No constraints were such that they affect the overall conclusions and recommendations made herein.

[1] www.magic.go.uk (Accessed 15 December 2020)

[2] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

3 Results

3.1 Surrounding Area

Regional Context

The Site is in the Nottinghamshire, Derbyshire and Yorkshire Coalfield National Character Area (NCA). The NCA is an area that has seen great change over the past few centuries. The impact of widespread industrialisation and development on the landscape and settlement pattern within the NCA is clear, influencing the visual and ecological landscape. The geological deposits of coal and iron, along with the water supply, brought mass industrialisation to the area to exploit these resources.

A generally low-lying area, with hills and escarpments above wide valleys, the landscape embraces major industrial towns and cities as well as villages and countryside. Over half of the NCA (64 per cent) is currently designated as greenbelt land; this maintains some distinction between settlements and represents areas that are often under pressure for development and changes in land use.

Very little of the NCA is designated for geology or nature conservation, but instead the landscape is dotted with many pockets and patches of habitat where species find refuge. This is often on land that was once worked for minerals or occupied by major industry, and as these enterprises have declined the land they once dominated has opened up with opportunities to create a new landscape which will continue to provide a strong sense of place for local populations.

There are no statutory designated wildlife sites within 1 km of the Site.

Local Context

Habitats within 500 m of the Site are mostly urban – residential houses and gardens, roads, Chesterfield College, the A61 and a rail line. There is a river 200 m west and a golf course 400 m west (which includes areas of grassland and woodland).

Figure 1, an aerial photograph of the Site, shows the Site in context with the surrounding landscape.

Figure 1 – Site Location

Table 1 – Designated Wildlife Sites

Designation / Location	Ecological Feature
Local Wildlife Sites	
None	n/a
Potential Local Wildlife Sites[3]	
None	n/a
Sites of Special Scientific Interest	
None	n/a
Special Areas of Conservation	
None	n/a
Special Protection Areas	
None	n/a
Ramsar Sites	
None	n/a

[3] Potential Local Wildlife Sites are sites that have been identified as having nature conservation interest, but where that interest has not been fully assessed against the Wildlife Site Selection Guidelines.

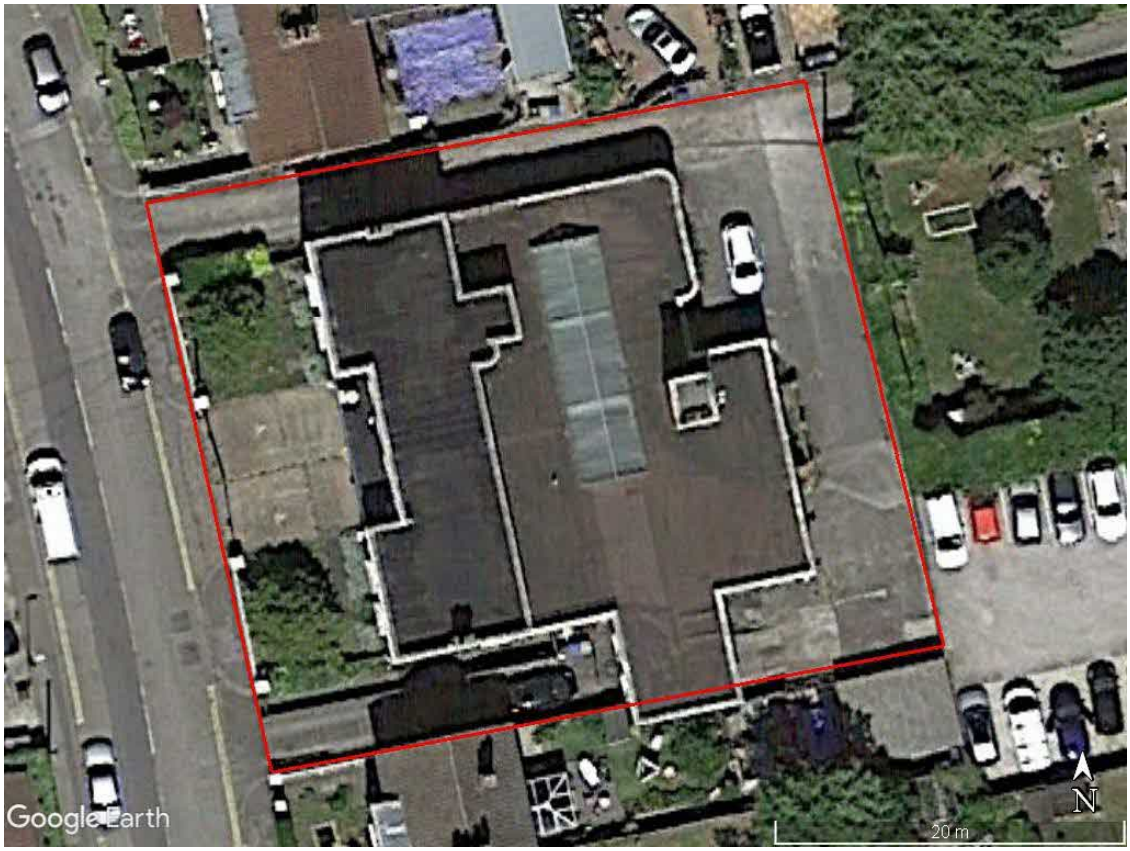
3.2 Site's Habitats

The building is a former miner's rescue station. It is currently empty and was last used as an arts centre by Chesterfield College. The building is part one storey and part two storey with brick walls, parapets and a flat roof. The roofs are solid slabs. There is a large cellar which includes several rooms and tunnels used for mine rescue training.

Until recently the cellar was flooded, and it is currently being pumped out.

Photos taken during the survey and detailed survey results are in Appendix 2.

Figure 2 – Site Area



There are two wooden slatted vents on a large chimney at the rear of the building. This structure presumably used to service a large boiler, which has now been removed. The shaft is now blocked from the main building at roof level. The slats do not have a mesh backing, so bats could theoretically enter the structure. The structure appears to be metal lined and lacking in roosting crevices inside. I consider it unlikely that bats would choose to roost in this structure.

There are no other potential roosting features (PRF) on the outside of the building and no potential access points for bats to enter and roost within the building. Two features, a chimney flue in the cellar (which is possibly housed inside the large chimney) and a gap under a door to the cellar have been discounted; the flue is too tall and narrow to allow bats passage from its top to the cellar where the flue terminates, and the door gap is usually under water. It was exposed during the survey due to recent pumping but is believed to be usually under water when active pumping is not being carried out.

The building has negligible potential to support bat roosts.

4 Assessment

4.1 Project Proposals

The proposals are to renovate the building into flats.

4.2 Ecological Constraints

There are no ecological constraints to the proposed works at the Site at the current time.

Note that if the gap at the bottom of the door is maintained by water pumping, bats could eventually find the cellar and it is very suitable for hibernating. The door should be repaired once dry.

4.3 Ecological Opportunities

Under the National Planning Policy Framework and the 25-year environmental plan the government has set out policies and aims to deliver a net gain in biodiversity through improved green infrastructure and increased opportunities for wildlife. In accordance with these policies enhancement measures are recommended for inclusion in the proposed development.

Enhancement measures should go beyond those required for mitigation and create new opportunities for biodiversity at the Site.

For enhancement of the proposed development, it is recommended that green roofs are considered on the existing flat roofs, which would be relatively easy to retrofit, and provide additional insulation to the building as well as a biodiversity gain.

4.4 Conclusion

The building is currently unsuitable for bats and no further work with regard to bats is required for the planning application. The basement is an ideal environment for hibernating bats, but there hasn't been access for bats into the structure until very recently. Now that water levels are reduced, and a small gap under the basement door has been exposed bats could find the structure in future years. The door should therefore be repaired to prevent this from happening.

As the building has strong (concrete slab) flat roofs, there is an opportunity to retrofit green roofing to the structure. This would ensure that the project meets biodiversity net gain targets.

Appendix 1 Legislation, Policy and Best Practice

Legislation

There are many active pieces of legislation which are aimed at protecting wildlife and habitats within the UK. These are summarised in Table 2.

Table 2 - Summary of Primary Legislation in the UK

Legislation	Description
The Wildlife and Countryside Act (WCA) 1981	The WCA is the primary piece of legislation relating to nature conservation in Great Britain. The Act is supplemented by provisions in the CRoW Act 2000 and the NERC Act 2006. It provides for the notification and confirmation of Sites of Special Scientific Interest by Natural England. It also sets out, in schedules, important and invasive species which are legally protected or require active management. The WCA consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain (NB Council Directive 79/409/EEC has now been replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version)).
The Conservation of Habitats and Species Regulations 2017	The Conservation of Habitats and Species Regulations 2017 consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations came into force on 30th November 2017 and extend to England and Wales (including the adjacent territorial sea) and to a limited extent in Scotland (reserved matters) and Northern Ireland (excepted matters).
The Countryside and Rights of Way (CRoW) Act 2000	The CRoW applies to England and Wales only, received Royal Assent on 30 November 2000, with the provisions it contains being brought into force in incremental steps over subsequent years. Containing five Parts and 16 Schedules, the Act provides for public access on foot to certain types of land, amends the law relating to public rights of way, increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB). The Act is compliant with the provisions of the European Convention on Human Rights, requiring consultation where the rights of the individual may be affected by these measures.
Natural Environment & Rural Communities (NERC) Act 2006	The NERC places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations. The NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list replaces the UK Biodiversity Action Pans (UKBAP) and has been drawn up in consultation with Natural England, as required by the Act. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. Fifty-six habitats of principal importance (HPI) are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. Of most relevance to the Site, they include ponds, open mosaic habitats on previously developed land and lowland heathland. There are 943 species of principal importance (SPI) included on the S41 list. These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

Protected Species

Bats

All species of bat in Britain are 'European Protected Species' (EPS) and are protected under the Conservation of Habitats and Species Regulations 2010, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to EPS and their habitats, making it an offence to:

Deliberately capture, injure or kill a bat.
Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time).
Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat.
Intentionally or recklessly obstruct access to a bat roost.

The Natural Environment & Rural Communities (NERC) Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

European Protected Species Licencing

The animal and plant species listed on Schedule 2 and 4 of The Conservation of Habitats and Species Regulations 2010 (as amended) are referred to as European Protected Species (EPS).

If a project is likely to impact a EPS and breach the Conservation of Habitats and Species Regulations 2010, and where best practice guidance avoidance measures either cannot be followed or are not applicable, licences can be obtained to allow persons to carry out activities that would otherwise be prohibited, without committing an offence. Natural England has powers to grant such licences in England if it meets three 'derogation tests'.

The three tests are that:

1. The activity to be licensed must be for imperative reasons of overriding public interest[4] or for public health and safety ('public' can in some circumstances be interpreted as an individual or family).
2. There must be no satisfactory alternative.
2. Favourable conservation status of the species must be maintained.

There are two licencing routes available (depending on the location of the project). A Project Licence, where the developer would apply for a licence for their project and be the licensee, or a District Licence, where a third party (a Natural England or a Local Authority) is already a licensee and grants permission for the development to be undertaken under their licence.

Project Licence

The licence application consists of three documents, Section one - Application details (a basic application form), Section two - Method Statement (MS) (specifying the proposals, mitigation, compensation and schedule and demonstrating how the project meets Test 3) and Section three - Reasoned Statement (RS) (demonstrating how the project meets Tests 1 and 2). The Application form and Method Statement are usually completed by your ecologist (who is included in the application as a Named Ecologist) and the Reasoned Statement by the client or their planning consultant or environmental lawyer.

The developer is usually the applicant and licensee and is legally responsible to carrying out the method statement. In order to protect other people working on the project (and also to legally tie them to the MS) contractors and consultants that may affect the EPS, such as demolition or construction contractors and the ecologist should be appointed as 'accredited agents' to the licence by the licensee.

[4] This is usually arguable where the project meets an identified planning need, i.e. social housing. 'Public' can be interpreted as an individual or family.

Natural England aim to determine an application within 30 working days, at which point they make a Further Information Request (FIR) if there are uncertainties or they do not agree with the MS or RS. At the end of the licensable activities the licensee is required to submit a licence return (although this is usually completed on their behalf by the Named Ecologist), where they declare the success (or failure) of the mitigation and are obliged to report on breaches to the MS.

District Licence

District Licencing is a relatively new approach to licencing projects which impact great crested newts in the UK (and may be rolled out to other protected species). There are currently three schemes, which are being managed slightly differently. In each scheme a third party holds the district level licence and a developer applies to join the licence:

Cheshire and Kent, licensed and managed by Natural England,
Woking Borough, licensed and managed by the local authority,
South Midlands, licensed by the local authorities and managed by NatureSpace.

- Central Bedfordshire, Bedford Borough, Milton Keynes, Aylesbury Vale, South Oxfordshire, Vale of the White Horse, Oxford City.

The developer pays the licensee, (or their agent in the case of the South Midlands District License) a fee, which funds off-site compensatory habitat creation. There is a first stage payment, which covers costs of assessing the application, and a second stage payment which funds the compensation works.

District licences do not need to be supported by survey information on local ponds (although this can help inform the licence) and on-site mitigation or compensation is typically reduced compared to an individual project licence.

BCT Roost Assessment Criteria

Suitability	Description of Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat, but unlikely to support a roost of high conservation status5.	Continuous habitat connected with the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions' and surrounding habitat.	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. 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. Site is close to and connected to known roosts.

[5] With respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed.

Policy

National Planning Policy Framework (NPPF) (2018)

Chapter 15 of the National Planning Policy Framework (NPPF) aims at conserving and enhancing the natural environment and states that planning policies and decision should contribute to and enhance the natural and local environment. In terms of biodiversity this should be achieved by:

protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils
recognising the intrinsic character and beauty of the countryside, and wider benefits from natural capital and ecosystem services
minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures

The NPPF states that to protect and enhanced biodiversity, [local] plans should:

identify and safeguard components of wildlife-rich habitats and wider ecological networks
promote the conservation and enhancement of priority habitats and ecological networks and the protection and recovery of priority species

The NPPF states that when determining planning applications, local planning authorities should refuse applications which:

cause significant harm to biodiversity which can not be avoided, adequately mitigated or as a last resort, compensated for
plan to develop on land within or outside of a Site of Special Scientific Interest (SSSI) and which is likely to have an adverse effect on it (either individually or in combination with other developments)
result in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and where a suitable compensation strategy exists

The local planning authority should support developments whose primary objective is to conserve or enhance biodiversity, especially where this can secure measurable net gains in biodiversity.

HM Government – 25 Year Environment Plan

The 25-year plan to improve the environment sets out what the government intends to do to increase biodiversity, reduce climate change and secure ecosystem services. It aims to deliver cleaner air and water, protect threatened species and provide richer wildlife habitats.

Appendix 2 Results

Old Miner's Rescue Station Survey Record

Date: 14/12/2020

Address: Old Miner's Rescue Station, Infirmary Road, Chesterfield, S41 7NG

Grid Reference: SK 38535 71866

Weather: 10ºC, Bf2, 10% cloud cover.

Field Notes

The building is a former miner's rescue station. It is currently empty and has was last used as an arts centre by Chesterfield College. The building is part one storey and part two storey with brick walls, parapets and a flat roofs. The roofs are solid slabs. There is a large cellar which includes several rooms and tunnels used for mine rescue training.

Until recently the cellar was flooded, and it is currently being pumped out.

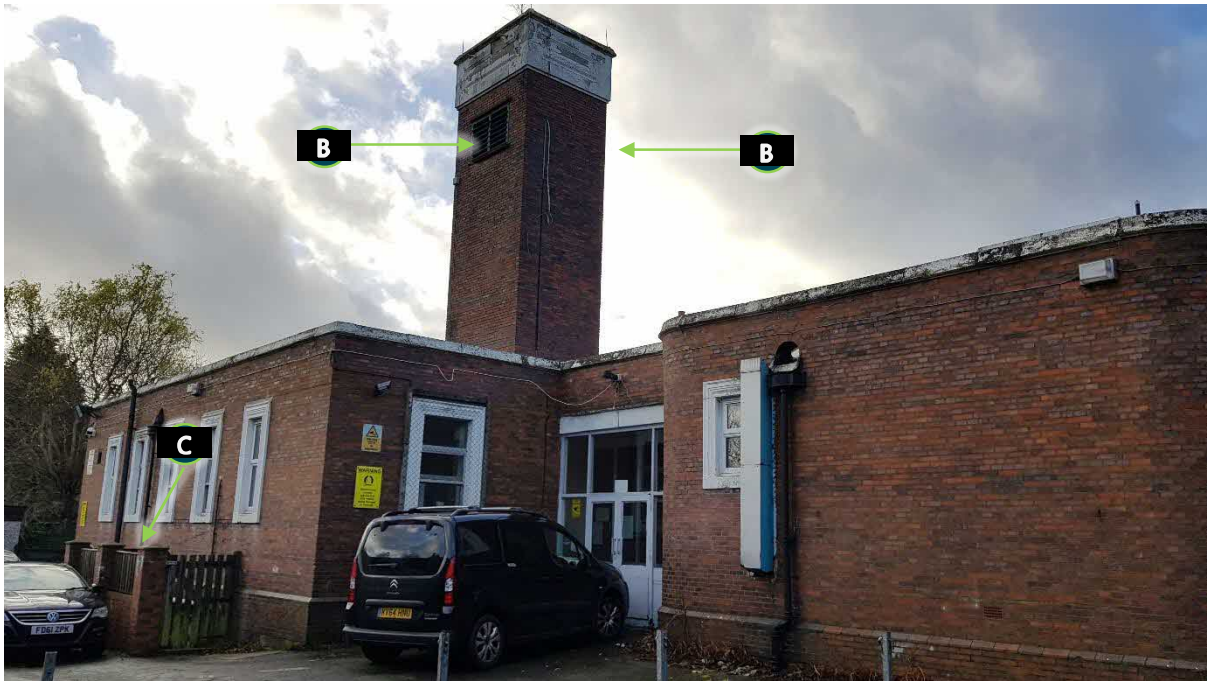
Reference	Notes	Reference	Notes
A	Holes drilled into brick to allow pipes. Gaps around pipes appear too small for bats.	B	Vents in chimney stack. Stack is no longer connected to a boiler and is blocked off at ceiling level. There is no mesh behind the vents.
C	Gap under basement door		

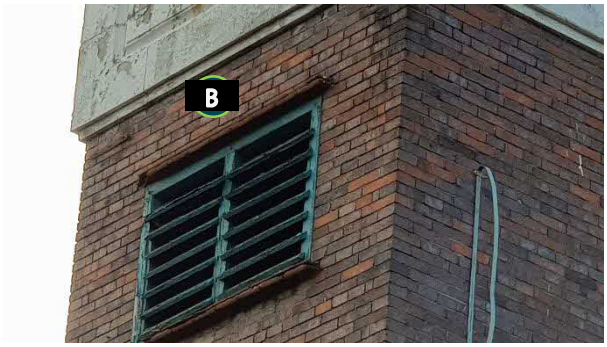
Front (west) elevation

No potential bat roosting features recorded.

North elevation

South Elevation



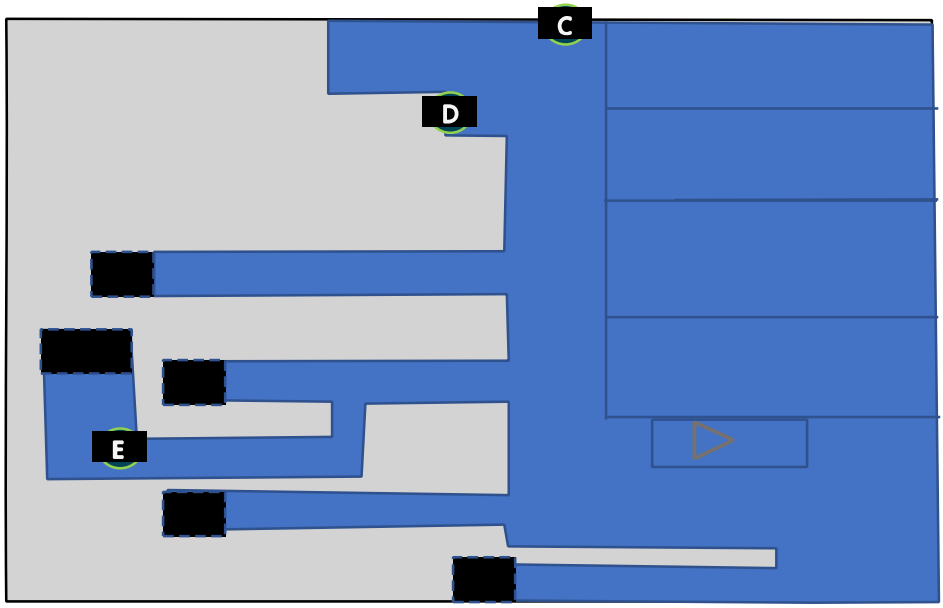


West elevation

No potential bat roosting features recorded.

Basement

Reference	Notes	Reference	Notes
C	Gap under external door	D	Chimney flue
E	SAFETY WARNING Hole to cavity below floor level (flooded)		



The basement was constructed for mine rescue practice. It contains rooms, narrow corridors, brick piles, metal-lined tunnels (which are overfilled with rubble and / or sandbags. The floor is partially flooded. There may be a further sub-basement, as water filled holes were found in the floor of one area (E).

The sketch plan of the basement is very approximate. The narrow corridors were only partly explored, and tunnel sections were not entered due to risk of collapse, potential for restricted air and other confined space issues.

There are potential roosting features suitable for hibernating bats throughout the structure – hibernating bats may use crevices or free hang from surfaces. The walls and ceiling throughout are suitable for free hanging. Suitable crevices were found throughout the structure, including holes in the ceiling leading to a cavity below the ground floor, holes in walls for pipes, the miner's tunnels and surrounding infill, a small chimney, gaps around floor supports, and gaps in brick piles.

However, the structure is well sealed from the outside. There are only two places where bats could enter the basement – at a small gap at the bottom corner of the door to the outside and down a narrow chimney. I consider that the chimney is too narrow for bats to fly down, and too long to expect them to crawl. The gap at the door could potentially be used, but it is below the water level of the flooded cellar and only exposed due to recent pumping. When completely dry, there will be another gap along the bottom of the door. The cellar has a history of flooding and I understand that without active pumping, the door bottom is typically submerged.

Gap at door

External door from outside

Inside narrow chimney flue

Example room

Main corridor

Example holes in ceiling

Example loose brickwork

Example rubble

Example narrow corridor

Example tunnel infill

Example tunnel

Hole in floor

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The Ecology Surveyor and The Bat Surveyor are trading names of Jo Pedder, a freelance ecologist based in Belper, Derbyshire.