

A Bat Activity Survey Report on behalf of

Mr. Gary Godfrey
For Land to the Rear of:
51-56 Ernest Street
Merthyr Tydfil
CF47 0YP



Produced by: Little Wing Ecology CYF (A Not-for-profit Company Limited by Guarantee)
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Executive Summary

Summary	Following the recommendation of a Preliminary Ecological Appraisal (PEA), Little Wing Ecology (CYF) was commissioned to undertake bat activity surveys on a store/workshop building at a site known as, 'Land Rear of Ernest Street, Merthyr Tydfil, CF47 0YP (the 'Site'). The survey was undertaken to inform the client of any constraints, and associated planning requirements with regards to bat and bird species, and to inform a planning application.
About the Site	The Site, currently used as a private allotment, is actively used by the owner. There is a small greenhouse and a block-built store/workshop (Building A). The south-west corner is fenced off with Heras fencing to create a space that was formally used to house chickens. The north-west corner of higher ground is fenced off with 6ft steel fencing currently used to store a caravan. The site covers an area of approximately 250 square meters and is situated less than 600 meters south-southeast of Merthyr Tydfil Town Centre. Access is available via a tarmac track that extends along the rear of Ernest Street - a row of traditionally built terraced houses. Merthyr Tydfil is situated at the northern edge of the Taff Valley and borders the southern limit of the Brecon Beacons National Park.
Proposed Development	The proposed development includes: • Six single and one double garage (all attached); and, • A new retaining wall to the rear of the garages. This development will extend over the whole of the lower section of ground on the site and will include the building of a retaining wall which will increase the width of the lower section and decrease the width of the higher ground.
Results: Bats	A Preliminary Roost Assessment (PRA) confirmed a number of gaps in the external fabric of Building A. The resultant assessment based on best practice guidance categorised this structure as having a moderate risk building requiring a dusk survey on two occasions, no less than 14 days apart. Due to gaps within the internal insulation and the presence of a void between the insulation and the roofing material, an internal, five-night passive survey was also required. The dusk emergence surveys returned a positive result of two bat species using the Site and its surroundings; however, no bats were observed using Building A for roosting. No bats were recorded using the inside of Building A during the passive survey. Taking these results into consideration, bats are considered likely absent from Building A. It is therefore considered that there are no specific restrictions or limitations, and works may continue as planned. Should works not start for two years after the survey (June 2022) then an updated survey would be required to confirm the continuing likely absence of bats.
Other Ecological Considerations	Re-development of the site provides an opportunity to enhance boundary habitat features of tree lines and hedgerows. These features provide screening as well as important connective corridors for a wide variety of species. This would help support the 104 species in Wales identified on the UK Biodiversity Action Plan in addition to the local bat and bird populations.
Recommendations	As concluded in the initial Preliminary Ecological Appraisal (PEA), the following enhancement features are recommended in order to support the local bat and bird population for net-gain at the Site (post-development). 1. The incorporation of Eco Rocket Bat Box for bats in the development. 2. A sympathetic planting scheme to be included behind the proposed garages to improve connectivity to the surrounding habitats and provide nesting opportunities for birds and support the commuting of bats. 3. No external lighting is planned for the site. If any changes occur with regards to this, then the provision of suitable external lighting to support the foraging and commuting of bats.
This Executive Summary is intended to provide an overview of the assessment of the site based on information received by Little Wing Ecology (CYF) at the time of production. This Executive Summary should be read in conjunction with the full report.	

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SECTION ONE: INTRODUCTION

Following the recommendation of a Preliminary Ecological Appraisal (PEA), Little Wing Ecology (CYF) was commissioned to undertake bat activity surveys on a store/workshop building at a site known as, 'Land Rear of Ernest Street, Merthyr Tydfil, CF47 0YP (figure 1).' For the purposes of this report, this land will be referred to as, 'the Site.'

This report contains the results from two dusk activity surveys and a five-day static survey on the interior of the building, as well as an assessment of the likely impact that the proposed works will have on bat interest at the site. This report has been prepared with recommendations for enhancement features to improve opportunities for local species post-development.

The site is positioned at grid reference SO 05228 05469

1.1 Proposed Works:

Planning permission is sought for seven new-build garages, on a plot of land currently used as a private allotment.

The proposed development includes:

- Six single and one double garage (all attached); and,
- A new retaining wall to the rear of the garages.

This development will extend over the whole of the lower section of ground on the site and will include the building of a retaining wall which will increase the width of the lower section and decrease the width of the higher ground.

1.2 Site Description:

The site is actively used by the owner as a private allotment space. There is a small greenhouse and a store/workshop on site. For the purposes of this report, this store/workshop will be referred to as, 'Building A,' and this building will be the focus of survey work. The south-west corner is fenced off with Heras fencing to create a space that was formally used to house chickens. The north-west corner of higher ground is fenced off with 6ft steel fencing currently used to store a caravan.

The site covers an area of approximately 250 square meters and is situated less than 600 meters south-southeast of Merthyr Tydfil Town Centre. Access is available via a tarmac track that extends along the rear of Ernest Street - a row of traditionally built terraced houses. Merthyr Tydfil is situated at the northern edge of the Taff Valley and borders the southern limit of the Brecon Beacons National Park.

Habitats in the immediate vicinity of the site comprise residential properties, buildings and made surfaces, such as roads and pavements (figure 2). The on-site habitat (an allotment) is bordered by neighbouring garages to the north and south. The adjacent street to the west (Clare Street) sits opposite a railway viaduct, the arches of which are filled in, and utilised as commercial premises. This feature forms both a natural boundary (wall) locally and a linear feature creating connectivity with other sites to the north and south. The Afon Tâf is located 40m west of the site, on the far side of the railway. This feature also provides connectivity north and south.

There are several small woodlands within Merthyr Tydfil itself, but these are mostly small and fragmented in nature.

1.3 Policy and Legislation

In Britain, all bat species and their roosts are legally protected, by both domestic and international legislation. This means you may be committing a criminal offence if you:

- Deliberately take, injure or kill a wild bat.
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time).
- Possess, advertise, sell, exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.

The framework for this protection is provided within three pieces of legislation from the Government of Wales and the UK Government.

These are;

- The Conservation of Habitats and Species Regulations (2017) - as amended,
- The Environment (Wales) Act 2016, and;
- The Wildlife and Countryside Act (1981) - as amended.

Additional information on the legal scope of these acts can be found in table 1 (below) and a link to the full documentation can be found in, 'References and Bibliography.'

1.3.1 Merthyr Tydfil Nature Recovery Plan (2019-2024)

Given the requirements set out in the Environment (Wales) Act 2016, Merthyr Tydfil County Borough Council have prepared key policies as outlined within the Merthyr Tydfil Nature Recovery Plan (2019-2024). In the context of the planned development, these policies require that there are no significant effects on biodiversity and that development will only be permitted where it protects and, where possible, enhances biodiversity.

The context for these is outlined in the Merthyr Tydfil Nature Recovery Plan (2019-2024) as follows:

'Throughout our operations we will (where possible) seek to maintain and enhance the diversity of our natural environment to make it resilient and able to support the social, economic, health and well-being of local communities, both for enjoyment and for its own inherent value'.

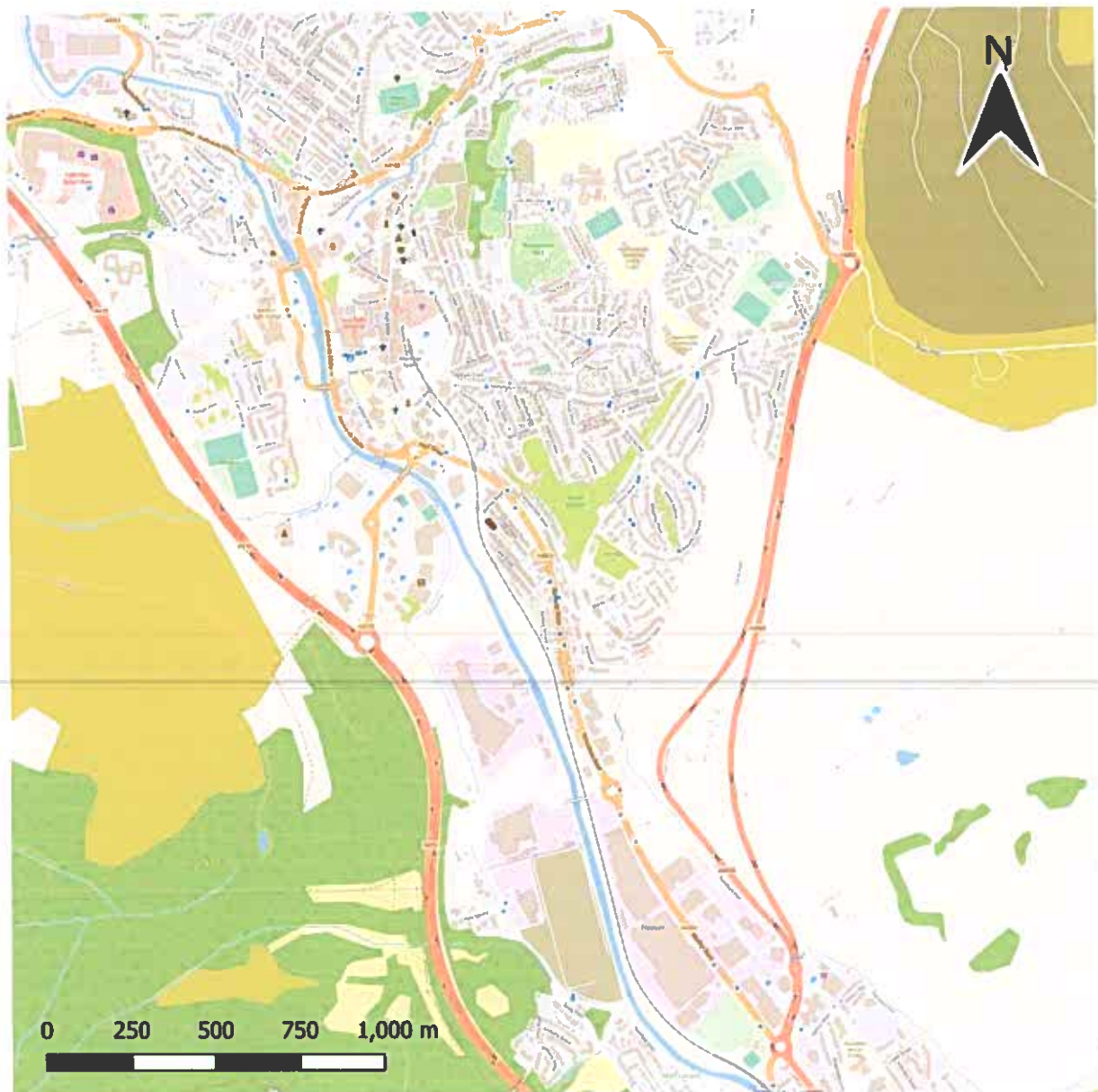
1.4 Survey Aims & Objectives:

Considering this legal framework and local planning requirements, the objectives of this survey were to:

- determine if bat roosts are present in Building A;
- determine the species of bat present;
- determine the type of roost present (maternity, day roost etc);
- identify any bat foraging or commuting behaviour in relation to the Site;
- consider if there will be impacts on bats from the proposed works;
- consider if nesting birds are present which might be affected by the development proposals; and,

- gather sufficient information to be able to make appropriate recommendations, inform mitigation and licencing.

FIGURE 1: The Location: Land to the Rear of 51-56 Ernest Street, Merthyr Tydfil, CF47 OYP



Key

 Site Location

Date: May 2022

Produced by: Little Wing Ecology

Job Reference: LT019-BAS

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

Figure 2: A Site Plan



Key

-  Building A
-  Site Boundary

Date: May 2022

Produced by: Little Wing Ecology

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Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

Policy	Description
Conservation of Habitats and Species Regulations 2017 (as amended)	Bats are specifically protected by the Conservation of Habitats and Species Regulations 2017 (as amended) (The Habitat Regulations). The Habitat Regulations are the way in which EU legislation is transposed into UK law. All species protected via this legislation are defined as 'European Protected Species.' The Habitat Regulations make it an offence to deliberately capture, kill, disturb, or trade in European Protected Species (i.e. those listed on Schedule 2), of which all UK bats are included. However, these actions can be made lawful through the granting of a license by Natural Resources Wales (NRW). Licenses may be granted for a number of purposes but only after the LPA and NRW is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on the wild populations of bats.
The Environment (Wales) Act 2016	Section 7 of the Environment (Wales) Act 2016 requires all statutory authorities including Local Planning Authorities (LPA) to have due regard for living organisms and types of habitat that are of key significance to sustain and improve biodiversity in relation to Wales. Furthermore, the LPA have a duty under the Act to take all reasonable steps to maintain and enhance the living organisms and types of habitat included on any list published under Section 7 and to encourage others to take such steps.
Wildlife and Countryside Act 1981 (as amended)	The Wildlife and Countryside Act 1981 (as amended) (The WCA 1981) is the principal legislation by which most species are protected in Wales. Bats are protected under Schedule 5 of the WCA 1981, which makes it an offence to damage or destroy a bat roost; intentionally or recklessly disturb a bat or a roost, or intentionally or recklessly 2 Page obstruct access to a roost. The interpretation of a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". Because bats tend to reuse the same roosts, the legal opinion is that the roost is protected whether or not the bats are present at the time. In relation to birds, the WCA 1981 makes it an offence to intentionally kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built. Schedule 1 of the WCA Act 1981 includes bird species for which addition the additional offence of disturbing these species at their nests or their dependent young.

Table 1: Bats and The Law: Legislation in Wales and the UK

SECTION TWO: THE SURVEY METHOD

2.1: Desktop Survey

A review of aerial photography was undertaken to assess the provision of suitable foraging and commuting habitat within close proximity to the Site (figure 3). This information was used in combination with a review of statutory designated sites, via the MAGIC website, including Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) to help in confirming the presence of bat species locally.

Bats are often considered cryptic species which can be difficult to confirm whether they are present or not. Although the provision of a Local Environmental Records Centre data search would provide a range of information, such records can only be relied upon as relative, where they are reasonably recent and when supplied by an experienced bat surveyor. It was therefore considered necessary to undertake a detailed survey regardless of the data search results, as this is most likely to be beyond the acceptability of current data as defined in BS 42020:2013 Biodiversity: Code of practice for planning and development and will not be as effective as spending time monitoring the buildings for the presence of bats.

2.2: Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) was carried out on Saturday 19th February 2022 as part of a Preliminary Ecological Appraisal (PEA) by N Aldridge, a Natural Resources Wales (NRW) licenced bat worker. Nic has five years of experience in surveying bats throughout Wales, specialising in projects for residential extension and barn conversions. The focus of the assessment, Building A, was a block built store/workshop located at the northern boundary of the Site.

The external fabric of the structure was methodically inspected using a high-powered torch for potential access points such as gaps in the fabric of the building, beneath lifted roof materials or other gaps in the roof. Loose flashing, smudge marks and droppings on walls directly below eaves and gables etc were also searched for. A description of the building, including construction material and current condition was recorded.

Internally, the roof space of the property was searched using a high-powered torch to identify possible links to exterior roost entrances and clear signs of presence via urine staining, feeding remains, odour, piles of droppings, live bats and bat carcasses. The space was also examined in the dark to identify areas where the presence of light would identify potential entry points for birds and bats.

An internal cavity between the roofing material and internal insulation was not accessible.

Appropriate precautions were taken with respect to Covid-19.

2.3: Activity Surveys

Following guidelines set out on Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016), two dusk activity surveys were completed on Tuesday 3rd May and Tuesday 17th May 2022. Present on the surveys were N Aldridge and E Winstanley. This represented the minimum recommended number of surveys visits for presence absence surveys to give confidence in a negative result for structures.

Full details of the survey team can be found in Table 2 (below). The survey was conducted using Pettersson D240x time expansion bat detectors and Tascam DR-05X Portable Digital Recorders.

This equipment provides high quality recordings of bat calls which were analysed using BatSound software. Recordings were annotated by the surveyor to provide contextual information on bat behaviour and flight patterns, at the Site. Details of the date, time, sunset time and weather information was noted on all survey visits and is detailed in Table 5 (below).

Two surveyors were present for each survey (May 2022). Surveyors were located at the south-west and north-east elevation on the first visit and the north-west elevation and south-east elevation on the second visit. All elevations were fully observed at both visits (figure 4).

2.4: Internal Passive Survey

A static bat detector was placed inside Building A for five consecutive nights. This survey was carried out using a Anabat SD2 frequency division bat detector. This detector was programmed to record between 20:30-05:50hrs each night. The detector was powered by a 12v external battery. This equipment was set up by N Aldridge on Thursday 12th May 2022 and collected on Tuesday 17th May 2022 and results were analysis using Analook software.

2.5: Additional Ecological Considerations

Nesting birds were also considered at the time of the survey, with the surveyors looking for signs of bird activity, nests, nest building, feeding at nest sites, and evidence of collections of bird droppings, feathers, or any other indications of use by birds.

2.6: Limitations of the Survey Method

The activity survey was conducted in suitable weather conditions and within the appropriate season for detecting roosting bat activity.

An internal cavity between the roofing material and internal insulation was not accessible.

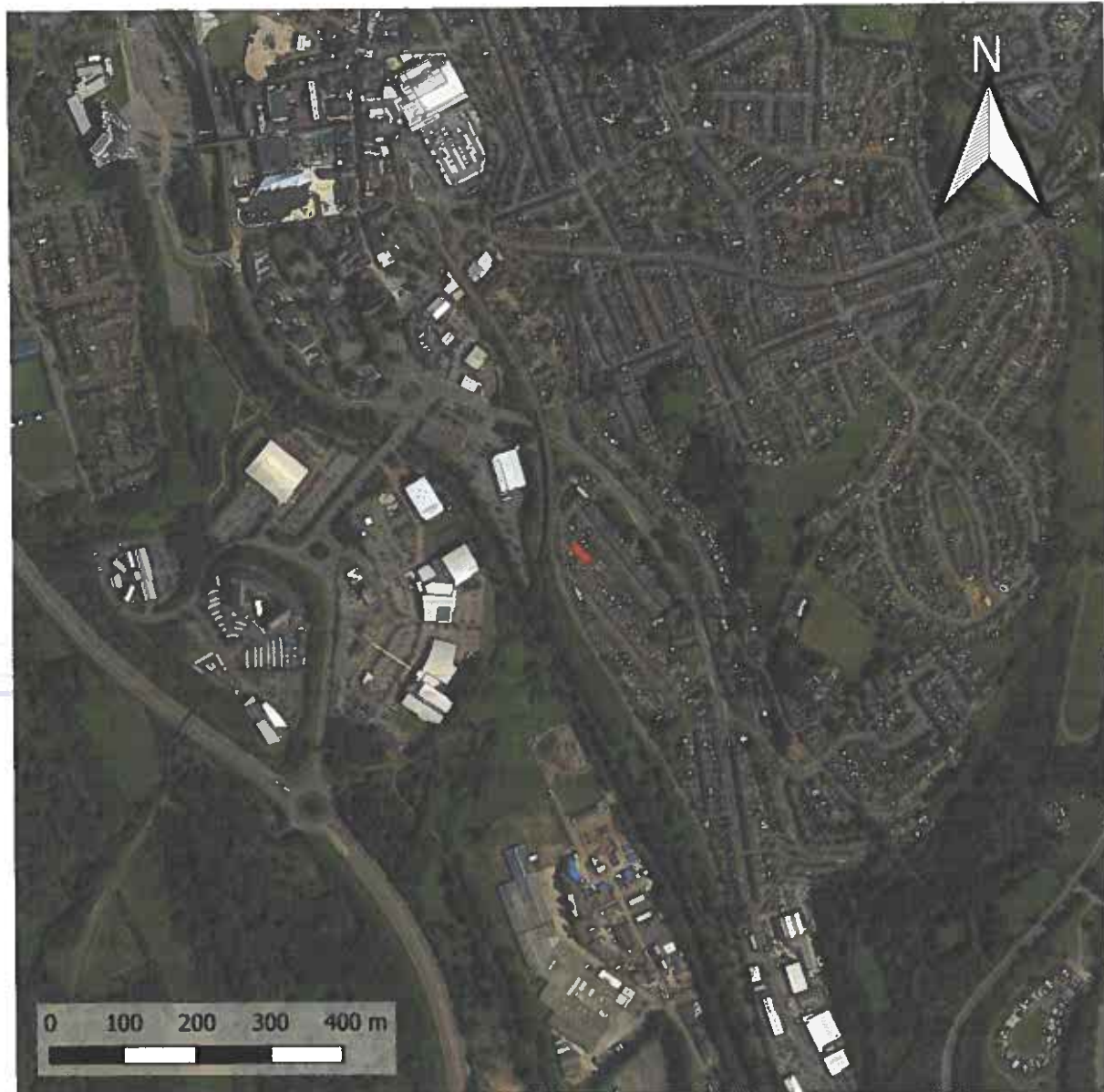
No additional limitations to the survey were experienced.

2.7: Meet Our Survey Team

Name / Licence	Equipment	Experience
Nicholas Aldridge BSc (Hons), MSc, PGCE, Lead Ecologist NRW Bat Licence: S089980/1 (22nd July 2021 - 21st July 2022).	Pettersson D240x Time Expansion Bat Detector Tascam DR-05X Portable Digital Recorder. Batsound Analysis Software.	Nic Aldridge is the lead ecologist with Little Wing Ecology and the author of this report. He is a licensed bat worker with over 20 years' experience in education and conservation and over five years' experience surveying built-structures, open habitats, and woodlands for bats. Following a degree in Botany and Zoology, Nic completed an MSc in Wildlife Management, Conservation and Control, at the University of Reading. He has practical experience in field-based research with a focus on invertebrate and vegetation diversity and producing phase 1 habitat surveys and habitat management plans. He has carried out the ringing of Daubenton's bats as part of a multi-year project on the species and has undertaken monitoring work on several important lesser horseshoe bat roosts. He has attended courses with the Bat Conservation Trust to improve his knowledge and skills and has led voluntary projects to develop habitats and collect species data. Nic founded Little Wing Ecology in 2021, as a social enterprise, to build a bridge between the skills and expertise of an ecological consultancy and the needs of the local community, in supporting local conservation projects and provide training and education for the next generation of ecologists.
Elizabeth Winstanley BSc Wildlife Surveyor	Pettersson D240x Time Expansion Bat Detector Tascam DR-05X Portable Digital Recorder	Liz is a Nature Recovery Officer with the Gwent Wildlife Trust and a wildlife surveyor with Little Wing Ecology. She has over seven years' experience working in practical conservation. Following a degree in Outdoor Education, Liz volunteered with the Gwent Wildlife Trust before taking on her current responsibilities. She has worked for the Trust since 2015. During this time, Liz has undertaken numerous surveys and monitoring projects, including work on butterfly transects, phase 1 habitat surveys, reptile and amphibian surveys, upland monitoring, BTO bird box round, dormouse training and recording, bumblebee conservation – bee walks and many more. Currently Liz is responsible for the management of seven Nature Reserves including four SSSI 's. Liz has also attended several training sessions to develop her knowledge, understanding and practical skills in bat monitoring and bat ecology.

Table 2: The Survey Team

Figure 3: Satellite Image Showing Site Location in Relation to the Local Environment



Key

Site Location

Date: May 2022

Produced by: Little Wing Ecology

Job Reference: LT019-BAS

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

SECTION THREE: RESULTS

3.1: Desktop Survey Results

The site covers an area of approximately 250 square meters and is situated less than 600 meters south-southeast of Merthyr Tydfil Town Centre. Access is available via a tarmac track that extends along the rear of Ernest Street - a row of traditionally built terraced houses. Merthyr Tydfil is situated at the northern edge of the Taff Valley and borders the southern limit of the Brecon Beacons National Park.

Habitats in the immediate vicinity of the site comprise residential properties, buildings and made surfaces, such as roads and pavements. The on-site habitat which is presently an allotment is bordered by neighbouring garages to the north and south. The adjacent street to the west (Clare Street) site opposite a railway viaduct, the arches of which are filled in and utilised as commercial premises. This feature forms both a natural boundary locally and a linear feature creating connectivity with other sites. The Afon Tâf is located 40m west of the site, on the far side of the railway. This feature also provides connectivity north and south.

There are several small woodlands within Merthyr Tydfil itself, but these are mostly small and fragmented in nature. These habitats, when compared with criteria given in table 14.1 of the bat survey guidelines (Collins, 2016 [ed.]) can be considered as having moderate suitability for commuting and foraging bats.

During the Preliminary Ecological Appraisal (PEA) a request was placed with the South East Wales Biodiversity Records Centre (SEWBRc) for any records for protected and priority species within the local vicinity of the development site along with records of statutory and non-statutory sites (within 1km). In addition, the survey location was examined by consulting Magic Map. No part of the site contains, or is within, any statutory sites of nature conservation interest, such as a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) etc. (Refer to PEA – March 2022 for full details).

N.B. Due to the nature and proximity of this site to local woodland, care was taken to identify foraging and commuting potential and identify connectivity with the surrounding habitat.

The ecological data received from SEWBRc revealed one statutory protected site (e.g., LNR, SSSI, SPA, SAC or Ramsar) within the 1km of the site. This is Cwm Glo a Glyndyrys, a Site of Special Scientific Interest (SSSI).

Name	Designation	Distance (metres)	Direction from site
Cwm Glo a Glyndyrys	Site of Special Scientific Interest (SSSI)	564	SW

Table 3: Statutory Sites within 1km of the site

In addition, the data search identified the presence of four local non-statutory protected sites within 1km of the proposed site. These include three Sites of Importance to Nature Conservation (SINC - Adopted), and a B-Lines designated area. In addition, there are two priority areas within the search zone.

Name	Designation	Distance (metres)	Direction from site
Afon Tâf	Site of Importance to Nature Conservation – Adopted (SINC)	40	W
Rhydyar West	Site of Importance to Nature Conservation – Adopted (SINC)	535	SW
Cwm Glo	Site of Importance to Nature Conservation – Adopted (SINC)	671	W
B-Lines	B-Lines are a series of 'insect pathways' running through our countryside and towns. They link existing wildlife areas together, creating a network, across the landscape.	750	N
Ancient Woodland	Priority Area.	570	SSE

Heathland and Grassland. This overlaps the designated SSSI and SINC (above) and continues further south beyond their boundaries.	Natural Resources Wales (NRW) Priority Area.	534	SW
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Table 4: Non-Statutory Sites within 1km of the site

Refer to PEA – March 2022 for full details

3.2: Preliminary Roost Assessment

The preliminary roost assessment (PRA) confirmed a small number of gaps in the external fabric at Building A. The resultant categorisation based on best practice guidance was a moderate-risk building requiring two dusk surveys (Collins, J. [Ed.] (2016).

Description	Preliminary Roost Assessment (PRA)	Evidence	Assessment
<u>Southern Elevation: Building A</u> A block-built workshop/store with a corrugated steel roof which extends from the southern elevation, creating a covered external area (veranda). An opening in the building (a door space with no door or frame present) provides access to the interior of the building.	Gaps are present between the corrugated steel roof and the top of the block wall. At places this gap is filled by sheet polystyrene (which has been used internally as insulation) but in places this is missing providing an entrance to an internal roof void.	No evidence of bats but roof void appears to go back some way. Table 4: Photograph: 1 & 2	Moderate
<u>Eastern Elevation: Building A</u> A block-built workshop/store with a corrugated steel roof which extends from the eastern elevation, creating a covered external area (veranda).	Gaps are present between the corrugated steel roof and the top of the block wall. At places this gap is filled by sheet polystyrene (which has been used internally as insulation) but in places this is missing providing an entrance to an internal roof void.	No evidence of bats but roof void appears to go back some way. Table 4: Photograph: 3	Moderate
<u>Western Elevation: Building A</u> A block-built workshop/store with a corrugated steel roof finished with corner barge flashings. The northern wall forms part of a retaining wall of approximately 1200mm high. Above this there is a gap of approximately 300mm between Building A and the adjacent garage.	Corner barge flashings were well sealed with only a few very small gaps present between the barge board on the block wall.	No external evidence of bats found. Table 4: Photograph: 4	Low
<u>Northern Elevation: Building A</u> A block-built workshop/store with a corrugated steel roof finished with corner barge flashings. There is a small space between the western elevation and an adjacent retaining wall (approximately 300mm) which is overgrown with bramble.	Corner barge flashings were well sealed with only a few very small gaps present between the barge board on the block wall.	No external evidence of bats found. Table 4: Photograph: 5	Low
<u>Interior Space: Building A</u> A block-built workshop/store with a corrugated steel roof. Beneath the steel roof is a layer of rudimentary polystyrene insulation. This has created a cavity between the insulation board on the steel roof, which was not accessible for inspection.	One piece of insulation board is absent creating an addition access to this roof void at the interior of the structure.	No external evidence of bats was found but the void appears to cover the whole of the roof space. Table 4: Photograph: 6	Moderate

Table 5: Preliminary Roost Assessment

The results of the assessment were used to categorise Building A as having moderate potential to support roosting bats.

	
Photograph 1: Southern Elevation:	Photograph 2: Southern Elevation:
	
Photograph 3: Eastern Elevation:	Photograph 4: Western Elevation:
	
Photograph 5: Northern Elevation:	Photograph 6: Interior Space:

Table 6: Photographic Evidence of the Preliminary Roost Assessment

3.3: Suitability for Hibernating Bats

The features identified within Table 5 are not considered to be suitable at offering the hibernating conditions that bats prefer. Building A is considered to only offer potential for use by bats as an opportunistic roost in the summer months.

3.4: Nesting Birds

No evidence of nesting birds was recorded at the Site. There were no signs of nesting and no pellets indicating perching.

3.5 Activity Surveys

Activity surveys were carried out on Tuesday 3rd May 2022 and Tuesday 17th May 2022.

3.5.1 First Dusk Emergence Survey (Tuesday 3rd May 2022)

The dusk emergence survey was conducted during weather conditions considered to be appropriate for bat surveys, with temperatures exceeding 10°C with low wind speeds (Table 7). Surveyors stood at the south-west and north-west corners, to enable observation of the entire structure for the duration of the survey.

Environmental conditions are recorded in Table 5.

The first bat seen was a common pipistrelle, which was heard but not seen at the north-eastern elevation at 21.06. Additional commuting activity from common and soprano pipistrelle continued to be recorded at this position, until 21.31 when a soprano pipistrelle was noted to commute over the Site from west-east. This was the final bat recorded, followed by a very quiet period until the conclusion of the survey.

Bats were noted to commute over the property from west to east, south of Building A, with some foraging over the Site (figure 7).

A full set of results can be found in Table 6.

3.5.2 Second Dusk Emergence Survey (Tuesday 17th May 2022)

The dusk emergence survey was conducted during weather conditions considered to be appropriate for bat surveys, with temperatures exceeding 10°C with low wind speeds. Surveyors stood at the north-west, and south-east corners to enable observation of the entire structure for the duration of the survey.

Environmental conditions are recorded in Table 7.

The first bat seen was a Common pipistrelle, which was heard but not seen at the north-east elevation at 21:41. Bats were noted to commute over Building A from south to north in addition to foraging. Regular commuting activity from Common pipistrelle continued to be recorded over the Site. The final bat recorded was a Common pipistrelle at 22:41, followed shortly by the conclusion of the survey.

A full set of results can be found in Table 9.

3.5.2 Five-night Passive Monitoring (Tuesday 12th-17th May 2022)

An internal static survey was conducted during weather conditions considered to be appropriate for bat surveys, with temperatures expected to exceed 10°C on each of the nights in question. A static bat detector was placed inside Building A for five consecutive nights. This survey was carried out using a Anabat SD2 frequency division bat detector. This detector was programmed to record between 20:30-05:50hrs each night. The detector was powered by a 12v external battery. This equipment was set up by N Aldridge on Thursday 12th May 2022 and collected on Tuesday 17th May 2022.

Temperature was automatically recorded at the start of each recording session (Table 8).

Anabat data logs confirmed correct operation of the equipment. No bat recordings were made inside Building A on any of the five nights (Table 10).

3.6 Additional Ecological Constraints (Results)

No evidence of nesting birds using the property was recorded.

3.7 Summary of Results

No evidence of bat roosting activity was observed. Recorded bat activity was restricted to commuting across the Site (Predominantly west-east) and foraging within the garden.

Date	Timings (BST)		Survey Type & Surveyors	Weather Conditions		
	Start	End		Variable	Start	End
04.05.2022	20.30	21.42	Sunset: 20:40	Temp (°C)	11.7	10
			Internal and external inspection followed by Bat activity survey	Cloud Cover (Oktas)	3	4
				Precipitation	Nil	Nil
			Nic Aldridge (NA)	Humidity (%)	73	82
			Elizabeth Winstanley (EW)	Beaufort Scale	1	0
17.05.2022	20.46	22.02	Sunset: 20:40	Temp (°C)	18.6	11.3
			Internal and external inspection followed by Bat activity survey	Cloud Cover (Oktas)	3	4
				Precipitation	Nil	Nil
			Nic Aldridge (NA)	Humidity (%)	73	84
			Elizabeth Winstanley (EW)	Beaufort Scale	0	0

Table 7: Field Survey: Field Survey Details & Weather Conditions

Figure 4: Location of Surveyors



Key

- Location of Surveyors (03.05.22)
- Location of Surveyors (17.05.22)
- ▣ Building A
- ▭ Site Boundary

Date: May 2022

Produced by: Little Wing Ecology

Job Reference: LT019-BAS

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

Land to the Rear of 51-56 Ernest Street, Merthyr Tydfil, CF47 OYP | May 2022

Time 24hr	Species (Common Name)	Recording No.	Observed Activity
21.06	Common pipistrelle	37 NA	Heard not seen. Single pass, presumed commuting.
21.06	Common pipistrelle	51 EW	Commuting (no recording) – Recorded by NA (37 NA - above)
21.14	Common pipistrelle	38 NA	Heard not seen. Single pass, presumed commuting.
21.18	Common pipistrelle	39 NA	Heard not seen. Single pass, presumed commuting – at some distance (quiet – poor quality recording).
21.26	Common pipistrelle	40 NA	Heard not seen. Two passes, presumed foraging.
21.26	Common pipistrelle	52 EW	Commuting/Foraging (no recording) – Recorded by NA (52 NA - above)
21.31	Soprano pipistrelle	41 NA	Heard not seen. Single pass, presumed commuting. Liz saw traveling west to east.

Table 8: Results of Dusk Observation 03.05.2022

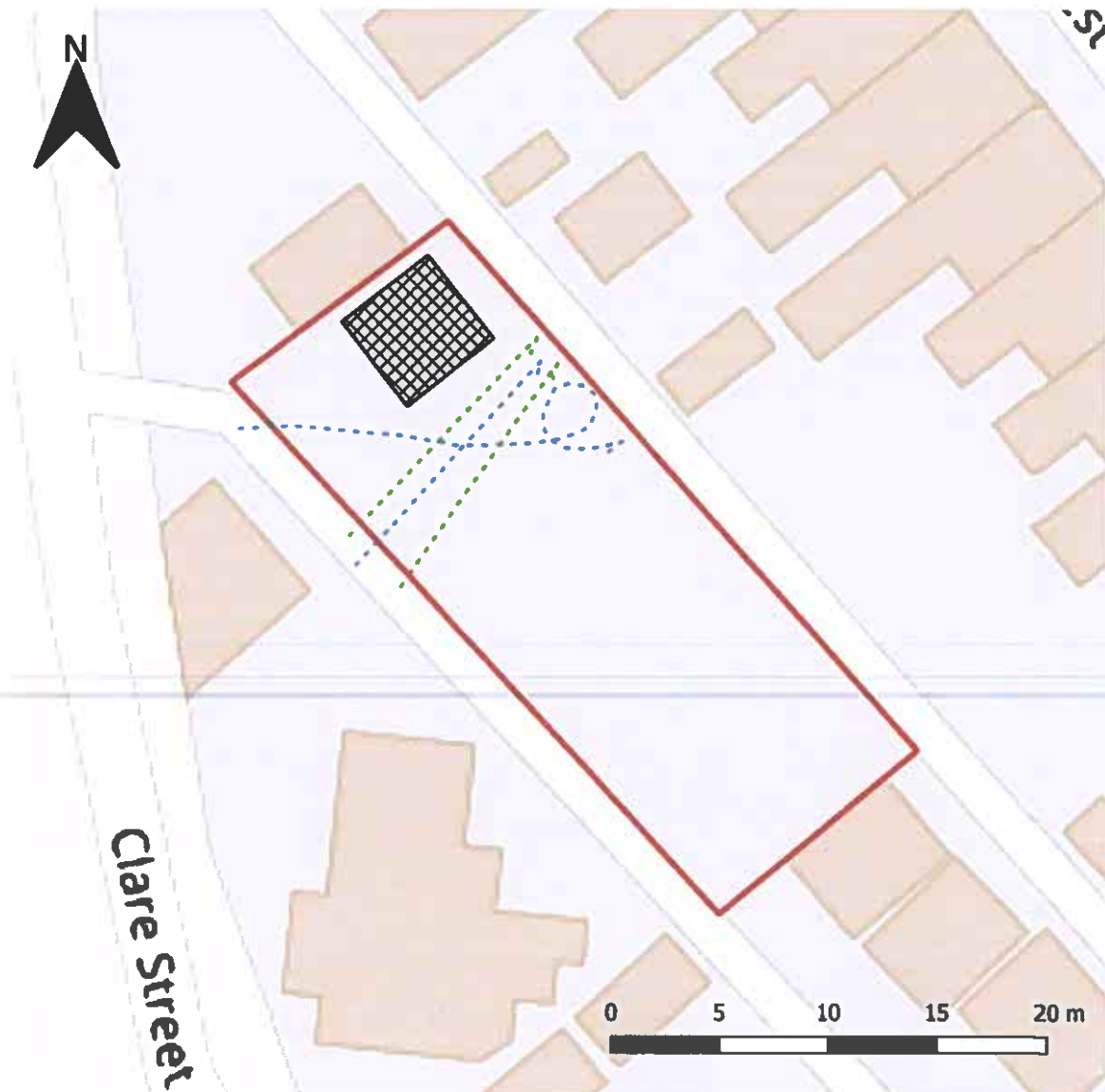
Time 24hr	Species (Common Name)	Recording No.	Observed Activity
21.41	Common pipistrelle	57 NA	Heard not seen – distant.
21.41	Common pipistrelle	58 NA	Heard not seen.
21.48	Common pipistrelle	59 NA	Heard not seen followed by a feeding buzz – Foraging.
21.51	Common pipistrelle	60 NA	Heard not seen.
21.53	Soprano pipistrelle	61 NA	Commuting south to north across the site.
21.41	Common pipistrelle	90 EW	Commuting.
21.46	Common pipistrelle	91 EW	Commuting.
21.48	Common pipistrelle	92 EW	Foraging.

Table 9: Results of Dusk Observation 17.05.2022

Time 24hr	Date	Species (Common Name)	Notes
20.30 – 05.50	12.05.2022	No recordings	Log confirms start temperature 13°C, no recordings. Anabat SD2 - Sensitivity 2.2.
20.30 – 05.50	13.05.2022	No recordings	Log confirms start temperature 15°C, no recordings. Anabat SD2 - Sensitivity 2.2.
20.30 – 05.50	14.05.2022	No recordings	Log confirms start temperature 18°C, no recordings. Anabat SD2 - Sensitivity 2.2.
20.30 – 05.50	15.05.2022	No recordings	Log confirms start temperature 15°C, no recordings. Anabat SD2 - Sensitivity 2.2.
20.30 – 05.50	16.05.2022	No recordings	Log confirms start temperature 16°C, no recordings. Anabat SD2 - Sensitivity 2.2.

Table 10: Results of 5-night Passive Monitoring

Figure 5: Record of Bat Activity and Flight Behaviour



Key

- Bat Flight Activity (03.05.22)
- Bat Flight Activity (17.05.22)
- Building A
- Site Location Ernest Street

Date: May 2022

Produced by: Little Wing Ecology

Job Reference: LT019-BAS

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>

SECTION FOUR: CONCLUSIONS

A Preliminary Roost Assessment (PRA) confirmed a number of gaps in the external fabric of Building A. The resultant assessment based on best practice guidance categorised this structure as having a moderate risk building requiring a dusk survey on two occasions, no less than 14 days apart. Due to gaps within the internal insulation and the presence of a void between the insulation and the roofing material, an internal, five-night passive survey was also required.

The dusk emergence surveys returned a positive result of two bat species using the Site and its surroundings; however, no bats were observed using Building A for roosting.

No bats were recorded using the inside of Building A during the passive survey.

Taking these results into consideration, bats are considered likely absent from Building A. It is therefore considered that there are no specific restrictions or limitations, and works may continue as planned. Should works not start for two years after the survey (June 2022) then an updated survey would be required to confirm the continuing likely absence of bats.

Bats are opportunistic animals and will exploit any opportunity for roosting if it arises and the conditions are favourable. Therefore, if a bat is discovered during development, all works must immediately cease, and an NRW-licensed bat worker must be contacted for advice.

SECTION FIVE: RECOMMENDATIONS & ENHANCEMENTS

Based on the results of this report the following recommendations have been made.

5.1: Recommendations

Interpreting the results confirms the likely absence of bats using Building A, meaning that there are no specific restrictions or limitations for the demolition of the structure, and works may continue as planned. Should works not start for two years after the survey (May 2024) then an updated survey would be required to confirm the continuing likely absence of bats.

Bats are opportunistic animals and will exploit any opportunity for roosting if it arises and the conditions are favourable. Therefore, if a bat is discovered during the course of development, all works must immediately cease, and an NRW-licensed bat worker must be contacted for advice.

5.2: Enhancement

As concluded in the initial Preliminary Ecological Appraisal (PEA) the following enhancement features are recommended in order to support the local bat and bird population for net-gain at the Site (post-development).

- 1 The incorporation of Eco Rocket Bat Box for bats in the development (See PEA: Site Plan - Appendix A12, Example - Appendix C1).
- 2 A sympathetic planting scheme to be included behind the proposed garages to improve connectivity to the surrounding habitats and provide nesting opportunities for birds and support the commuting of bats (See PEA: Appendix A12).
- 3 No external lighting is planned for the site. If any changes occur with regards to this, then the provision of suitable external lighting to support the foraging and commuting of bats (See PEA: Appendix C8).

SECTION SIX: ADDITIONAL INFORMATION

6.1 ENCOUNTERING A PROTECTED SPECIES DURING WORKS

If at any point during works a protected species is encountered on-site, it is essential that all work is to cease and that a suitably experienced ecologist is contacted for advice.

6.2 EXPIRATION OF THIS REPORT

Should works not start within two years (i.e., May 2024) further survey and assessment will be necessary to qualify the results of this report and its recommendations.

This report is valid for two years (i.e., May 2024).

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About Us

Little Wing Ecology is a not-for-profit ecological consultancy based in the South Wales Valleys. Specializing in bat surveys for housing developments, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

We are a small ecological consultancy dedicated to providing an easy-to-use and jargon-free service. We produce the following products:

- Preliminary Ecological Appraisal
- Preliminary Roost Assessment
- Bat Surveys
- Mitigation Planning
- European Protected Species License Applications
- On-site Services to Support Planning Applications and Development

As a Consultancy, we use our experience, expertise, and love of wildlife to provide an easy to access and pragmatic service, that upholds the highest standards of conservation.

As a Not-for-Profit Social Enterprise, we reinvest our profits. We work with valleys communities, conservation groups, local authorities, and other groups to support these three key areas;

A. Helping Nature

Developing and supporting habitat gain in the valleys through:

- habitat improvement;
- developing the built environment for the benefit of wildlife, and;
- long-term monitoring projects for wildlife populations in the valleys.

B. Working with People

Providing employment, training and voluntary opportunities for

- the local community and young people to help them build their skills, develop a stronger relationship with nature and build confidence in themselves.

C. Supporting Communities

- Reinvesting in nature and people, locally;
- Supporting education within communities to promote a positive relationship between people and wildlife, and;
- Providing pro-bono surveys for worthwhile causes.

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