Isaburn, Kirkland

Preliminary Bat Roost Assessment Survey and Dusk Emergence Surveys for Bats

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July 2024

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DOCUMENT CONTROL

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CONTENTS

EXECUTIVE SUMMARY

This report relates to a Preliminary Roost Assessment and Dusk Emergence (Presence / Likely Absence) Surveys for bats carried out on a residential building proposed for works at Isaburn, Kirkland, Frizington.

A small number of old bat droppings were noted within the loft of the building during the Preliminary Roost Assessment. The building was assessed to provide moderate suitability for roosting bats.

No bats were observed emerging from the surveyed building during the Dusk Emergence Surveys and there is no evidence to indicate current or recent bat roosting activity within the surveyed building. Therefore, no further surveys, mitigation, or licensing are required for roosting bats. The risk of causing an offence under relevant wildlife legislations during the proposed works on site is highly unlikely.

In the unlikely event of discovering roosting bats or bat evidence during the works, all activities should cease, and advice should be sought from a licensed bat ecologist.

A sensitive lighting strategy is recommended to be implemented on-site as part of the proposal. The site can be improved for roosting bats through the provision of bat boxes.

The building provides suitable provisions for nesting birds and any works taking place during the bird breeding season (March – September) should consider that all British birds are protected by law when nesting.

1.0 INTRODUCTION

1.1 Background

Lakeland Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) and Dusk Emergence Surveys for bats at Isaburn, Kirkland, Frizington. This report was prepared by Patryk Gruba BSc (Hons) MCIEEM.

1.2 Site Location

The site is situated at Isaburn, Kirkland, Frizington, CA26 3XY – see Figure 1. The site comprises a residential building and adjacent grounds; the building considered in this assessment is centred at OSGB Reference NY 07176 17767 – see Figure 2.

The site is situated within the small village of Kirland in the Copeland district, 1.5km west from the Lake District National Park boundary. The village of Frizington is located 3.5km west and the town of Cleator Moor is 5.5km southwest.

The surrounding landscape primarily comprises extensive grazed agricultural pastures bordered by stone walls, hedgerows, scattered trees and small blocks of woodland, as well as scattered residential and agricultural buildings. Stockhowhall Priority Deciduous Woodland is located 0.5km west from site. Croasdale Beck (River Ehen tributary) along with associated riparian woodland habitat runs 1.5km southeast from site. Broadmoor plantation is 2km southeast and Ennerdale Water is 2.5km southeast from site.

1.3 Proposal

It is proposed to create a new gable along the eastern elevation of the building. The existing dormer currently present along the eastern elevation will be shortened and refurbished. New skylights will be added along the western and eastern pitches of the roof, and two redundant chimneys will be removed.

Additionally, a small porch will be added along the eastern elevation of the building, and the existing conservatory located along the western elevation will be re-roofed with lightweight synthetic tiles.

See Appendix I for the proposed plan and elevations.

1.4 Survey Objectives

The main objective of the survey was to provide results of an ecological appraisal for bats on site as part of the planning application to convert the building on site as specified in Figure 2. The secondary objective was to highlight any evidence and / or potential for nesting birds within the surveyed building.

This report aims to:

- Outline the legislative protection afforded to bats;
- Summarise the findings of the preliminary roost assessments survey i.e. bat evidence and roosting potential within the surveyed building;
- Summarise the findings of the presence / likely absence (dusk emergence) surveys for bats;
- Highlight any evidence and/or potential for nesting birds;
- Provide an assessment of the potential ecological constraints to proposed conversion works; and
- Outline avoidance measures and / or mitigation strategy for the scheme where appropriate.

A summary of the relevant legislation is provided in Appendix II.

2.0 METHODOLOGY

2.1 Desk Study

A search for relevant information was made on MAGIC (www.magic.gov.uk) - DEFRA's interactive, web-based database. This search identified information on any European Protected Species Mitigation Licence (EPSML) applications relating to bats that have been granted within a 2km radius from site.

The desk study also included a review of any previous ecological reports or other information available for the site.

A species data search was not commissioned and was considered not necessary to inform the report evaluation, as the current survey is considered to be sufficient to provide an assessment based on the field evidence.

2.2 Bat Roost Assessment

The Preliminary Bat Roost Assessment survey was completed by Patryk Gruba MCIEEM - Natural England (NE) Level 2 Bat Survey Licence ref: 2015-11080-CLS-CLS on the 17th April 2024. The survey methodology followed the Bat Conservation Trust's (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

The exteriors of the building were systematically inspected during daylight and any features suitable for bats were noted, such as weatherboarding, hanging tiles, soffit boxes, gaps in stonework, cracks, crevices, slipped or broken tiles and gaps around ridge tiles and lead flashing. Roof coverings were viewed from the ground using close-focussing binoculars (Viking ED 8x42). Any potential bat access points were identified and inspected for signs of bats using a high-powered torch (Ledlenser P17) and endoscope (Teslong NTS 300). Signs of bats include droppings, feeding remains (in association with droppings), wear marks on potential egress points, oily staining on stone / brick / timber, the smell of bats, audible signs of bats or presence of live bats or bat corpses.

The interiors to the building were accessed and the internal spaces, where safely accessible, were accessed and inspected. Beams, joists, surfaces, floors, stored contents and internal walls and wall tops were inspected where accessible.

The exterior walls, windows, doors, floors, lintels and other flat surfaces were examined for droppings that may have adhered to them.

The grounds surrounding the building were examined for droppings that may have collected beneath roost sites. Areas that were inaccessible, but which had potential for bats were noted.

During the Preliminary Roost Assessment, the surveyed building was also categorised for its bat roosting potential. The following categories based on the BCT Guidelines have been used:

- Negligible suitability – a building or structure providing negligible features for roosting bats;
- Low suitability - a building or 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 to be suitable for maternity or hibernation);

- Moderate suitability – a building or structure 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 status;
- High suitability - A building or structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis & potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.3 Bat Dusk Emergence Surveys

The survey methodology followed the Bat Conservation Trust's (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023).

Two dusk emergence surveys were completed on site in May and June 2024 in order to cover all relevant elevations / aspects of the surveyed building. The dusk emergence surveys commenced 15 minutes before sunset and continued for 1.5 hours after sunset.

The dusk emergence surveys were undertaken by Patryk Gruba (PG) MCIEEM - Natural England (NE) Class 2 bat licence (ref: 2015-11080) and Cathy Gruba (CG) - Natural England (NE) Class 2 bat licence (ref: 2018-34229).

The date, survey times, weather conditions and personnel involved in each of the surveys are provided in Table 1 below.

The surveyors were equipped with Echo Meter Touch 2 (full spectrum) bat detectors. The sound analysis software used to analyse bat calls included AnalookW 4.6e, Kaleidoscope Lite 5.5.0 and Anabat Insight 2.0.7.

In addition, night vision aids (NVAs) in the form of infra-red cameras were used to complement the field surveyors during each dusk emergence survey. The NVAs included: 2 No. Canon XA20 Camcorders and 2 No. Nightfox Whisker HD night vision binoculars paired with Nightfox XC5 850NM infrared floodlights. Chorus static bat detectors were paired with NVAs where applicable.

The footage from the infra-red cameras was analysed afterwards, where applicable. Still shots from the infra-red cameras, taken at the darkest point of the survey, are shown in Appendix III

Location of the surveyors and NVAs are shown in Figure 3.

Table 1: Dates, times, weather conditions and personnel for the surveys

Survey	Date	Sunset	Start	Finish	Start Temp (°C)	End Temp (°C)	Rain	Wind (Beaufort scale)	Cloud (% cover)	Surveyors
1	20.05.24	21:21	21:06	22:51	14	12	None	1	40 to 10%	PG and CG
2	26.06.24	21:53	21:38	23:23	19	16	None	3 to 2	90 to 60%	PG and CG

2.4 Limitations

It is considered that the absence of bat evidence at suitable roosting locations does not equate to evidence of absence. Evidence of roosting is often inconspicuous (particularly in the case of day or transient roosts used by a low number of bats) and use can differ throughout the season. In cases where crevice dwelling bat species might be present, evidence may be located within the stonework cavities or between roof tiles and bitumen felt roof lining. It is often the case that it is not possible to fully inspected such features without significant damage or destruction of a potential roost location.

A full inspection of the boxed-in lofts along the west and east ends of the roofs was not possible due to restricted access and health and safety limitations; however, this is not considered to be a significant constraint as the majority of the interior space within these lofts was visible from the access point near the entrance.

A species data search was not commissioned, and it was considered not necessary to inform the report evaluation. The current survey effort is deemed sufficient to provide a comprehensive assessment on the presence or likely absence of roosting bats, based on the field evidence and results of the multiple survey visits conducted on site. Therefore, the lack of a species data search is not considered a limitation for this assessment.

In line with CIEEM Guidance (CIEEM, 2019) the details of this report will remain valid for a period of 12 months from the date of the survey after which the validity of this document should be reviewed to establish if any updates are required.

2.5 Nesting Birds

The surveyed building was visually inspected for any current or past evidence of nesting bird activity.

3.0 RESULTS

3.1 Desk Study

A search on Natural England MAGIC portal showed no Statutory Designated Sites with bats as qualifying interest or no Granted EPSM Licences for bats within 2km radius from the site.

3.2 Preliminary Bat Roost Assessment

During the Preliminary Bat Roost Assessment, a small number of old scattered bat droppings were identified within the main loft space of the building, with approximately four droppings counted during the survey (see Plate 1 and Figure 2 for the Site Plan with Evidence).

Plate 1 – Old bat droppings on the rockwool insulation with the main loft

Additionally, a single bat dropping was identified adjacent to the small gap between the roof boarding and the roof timber in the upper floor cupboard in the southwest section of the building (see Plate 2 and Figure 2).

Plate 2 – Bat dropping adjacent to the roof boarding within the cupboard

Results of the Preliminary Bat Roost Assessment including building description and potential roosting features have been provided in the Table 2 below.

Table 2 – Building's description and potential roosting features

Description	Potential Roosting Features	Bat Roost Suitability
The main building on the site was a two-story, brick-built residential dwelling, which was rendered on the exterior.  	Gaps under lifted tiles at several location throughout the roof - roosting potential for crevice dwelling species between the roof covering and underlying bitumen felt.  Few gaps under edge roof tiles – southern gable 	Moderate

Description	Potential Roosting Features	Bat Roost Suitability
The roof of the main house was finished with concrete tiles and lined underneath with bitumen felt. There were two dormers along the eastern and western elevations.  	Gaps around dormers – where dormers join the main roof. Gaps behind the dormer roof overlap.  	Moderate

Description	Potential Roosting Features	Bat Roost Suitability
Internally, there was a small loft space (approximately 1m tall and 2m wide) that extended across the entire length of the roof underneath the ridge. Additionally, there were two boxed-in loft spaces below the dormer level along the west and east pitches of the roof.  	Internal loft areas – void dwelling species.  Gaps around chimney flashing 	Moderate

Description	Potential Roosting Features	Bat Roost Suitability
Adjacent to the north of the main building, there was a single-story extension, and adjacent to the west, there was a conservatory. 		

3.3 Dusk Emergence Surveys

3.3.1 First Dusk Emergence Survey – 20th May 2024

During the first dusk emergence survey, no bats were recorded emerging from the surveyed building.

Moderate levels of common pipistrelle *Pipistrellus pipistrellus,* commuting and foraging activity were observed on-site during the survey; the activity predominantly involved between one and two bats. The first bat (a common pipistrelle) was observed commuting from the north at 21:04

Individual noctule *Nyctalus noctula* passes were recorded above the site at 21:10, 22:28 and 22:30.

3.3.2 Second Dusk Emergence Survey – 26th June 2024

During the second dusk emergence survey, no bats were recorded emerging from the surveyed building.

Low levels of common pipistrelle *Pipistrellus pipistrellus,* commuting and foraging activity were observed on-site during the survey; the activity predominantly involved between one and two bats. The first bat (a common pipistrelle) was observed commuting from the north at 22:07

An individual soprano pipistrelle *Pipistrellus pygmaeus* pass was recorded east of the site at 22:14.

3.4 Nesting Birds

No obvious evidence of previous or current nesting bird activity was noted within the surveyed building.

4.0 EVALUATION & RECOMMENDATIONS

4.1 Bats

Bats and their roosts are protected under the Habitat Regulations and the Wildlife & Countryside Act (see Appendix II for detailed legislation).

There was evidence of previous bat activity within the roof area of the building. A small number of bat droppings were scattered throughout the main loft as well as within the western

roof area. The droppings were relatively small, likely indicating the presence of pipistrelle species of bat *Pipistrellus sp*. The identified droppings appeared relatively old and crumbly, suggesting they were not from the recent bat active seasons.

The surveyed building was assessed as offering moderate suitability for roosting bats.

The potential roosting features present within the building were considered to provide roosting potential for individual or opportunistic bats during the active season but were considered unlikely to be suitable for breeding bats. The building it is located in an exposed location and surrounded by intensively grazed pastures and other buildings with few habitat connectivity features and sub-optimal foraging grounds located within the immediate surroundings, which is likely to reduce its suitability for breeding bats. No evidence was found during the Preliminary Roost Assessment and Dusk Emergence Surveys to indicate the use of the building by a maternity colony or a large group of bats.

Furthermore, these potential features were deemed to have very limited suitability for hibernacula as they would not typically provide the necessary protection from weather, favourable temperature, and humidity conditions required during the winter period.

Following the BCT Survey Guidelines (Collins, 2023), two dusk emergence surveys were conducted on the building during bats' active season.

No bats were observed emerging from the surveyed building during the dusk emergence survey. Therefore, no additional surveys, mitigation, or licensing are required for roosting bats, and the risk of causing an offense under relevant wildlife legislations during the works to the building on site is highly unlikely.

As no evidence of current bat roosting activity was found within the roof of the building, it is considered that there are no active bat roosts currently present within the building and the old droppings identified within the loft resulted from an individual / opportunistic bat investigating the loft of the building in the past.

4.2 Recommendations & Enhancement Measures for Bats

In the highly unlikely event of roosting bats or evidence of bats being discovered during the works, all activities should stop, and advice should be sought from a licensed bat ecologist.

The potential roosting provisions for bats on site can be enhanced by providing bat boxes. These could be in the form of external bat boxes such as the Vivara Pro WoodStone Bat Box, Low Profile WoodStone Bat Box, or 2F Schwegler Bat Box. It is recommended that two bat boxes be placed on the southern gable wall of the building.

Sensitive lighting strategy is recommended to be implemented on site as part of the proposed scheme; this should be in line with the *Bats and artificial lighting in the UK Guidance Note* (BCT, 2023). The lighting design should consider:

- Consideration of the available lighting technology to minimise impacts on bats, i.e. use of LED lights (as opposed to high pressure sodium, mercury, and white SON). These have been shown to have the least impact on bats (as well as invertebrates). LED lighting also emits little UV light (which attracts invertebrates), and these lamps can be programmed to switch off, or dim at certain times;
- The lights being directional with light spillage avoided. Hoods / cowls can be used to direct light below the horizontal plane (ideally at an angle less than 70 degree);
- Lights designed to be as low to the ground as possible; and;
- Avoidance of direct lighting on the existing bat roosting features / potential roosting features on site.

4.3 Nesting Birds

All breeding wild birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (see Appendix II for detailed legislation).

No evidence of bird nesting activity was found within the surveyed building. However, since the building might provide suitable nesting provisions, works commencing during the breeding bird season (March to September) should be aware of the potential for breeding birds and any active nests must not be disturbed until the young have fledged.

5.0 REFERENCES

CIEEM. (2019). Advice Note on the Lifespan of Ecological Reports & Surveys. Available from: https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th ed.). The Bat Conservation Trust, London.

Barn Owl Trust (2012) Barn Owl Conservation Handbook, Pelagic Publishing, Exeter.

ILP (2023) Bats and artificial lighting at Night, Guidance Note 08/23.

Mitchell-Jones, A.J., (2004), Bat mitigation guidelines, Version January 2004, English Nature: Peterborough

FIGURES

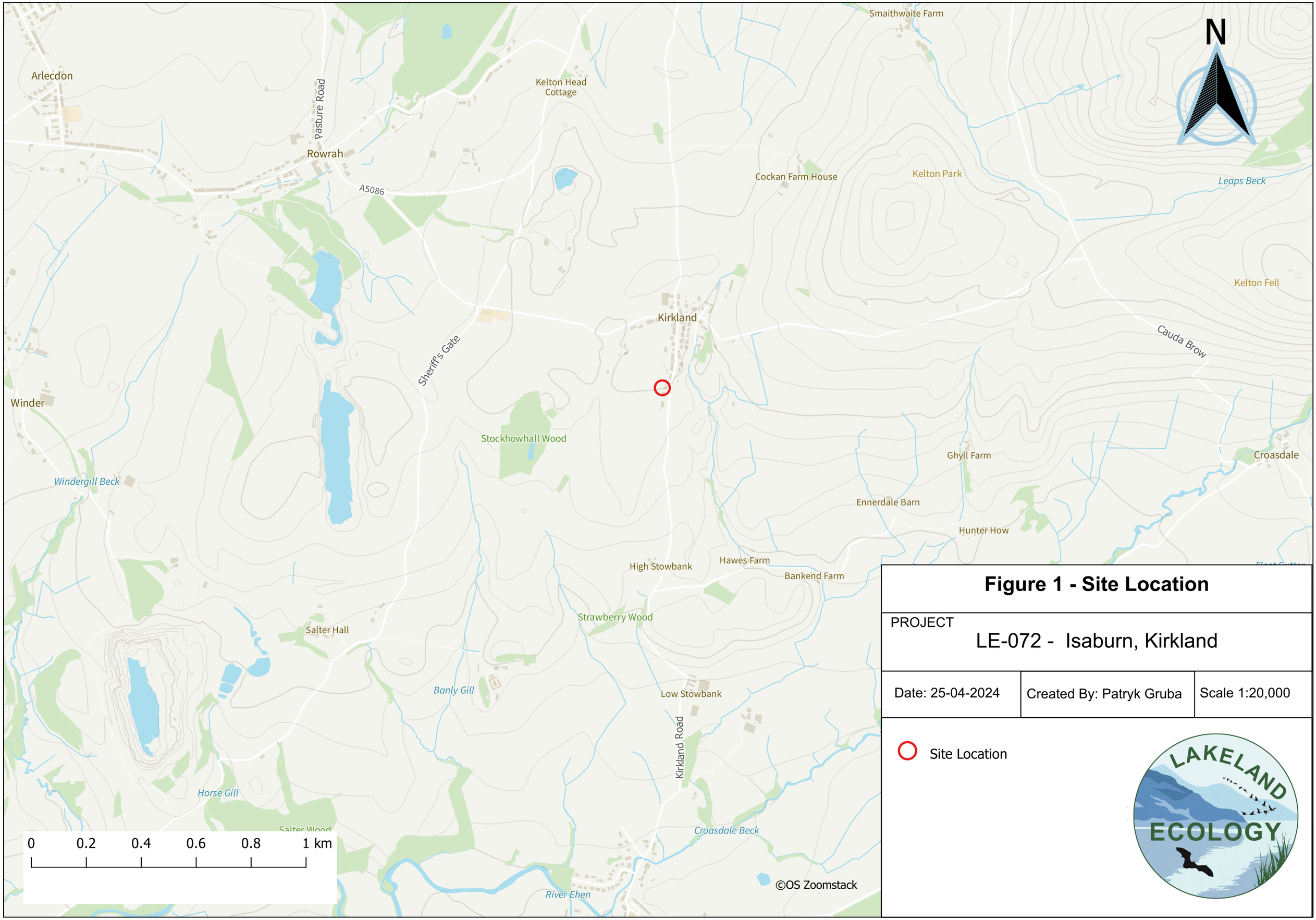


Figure 1 - Site Location

PROJECT

LE-072 - Isaburn, Kirkland

Date: 25-04-2024	Created By: Patryk Gruba	Scale 1:20,000

Site Location

LAKELAND ECOLOGY

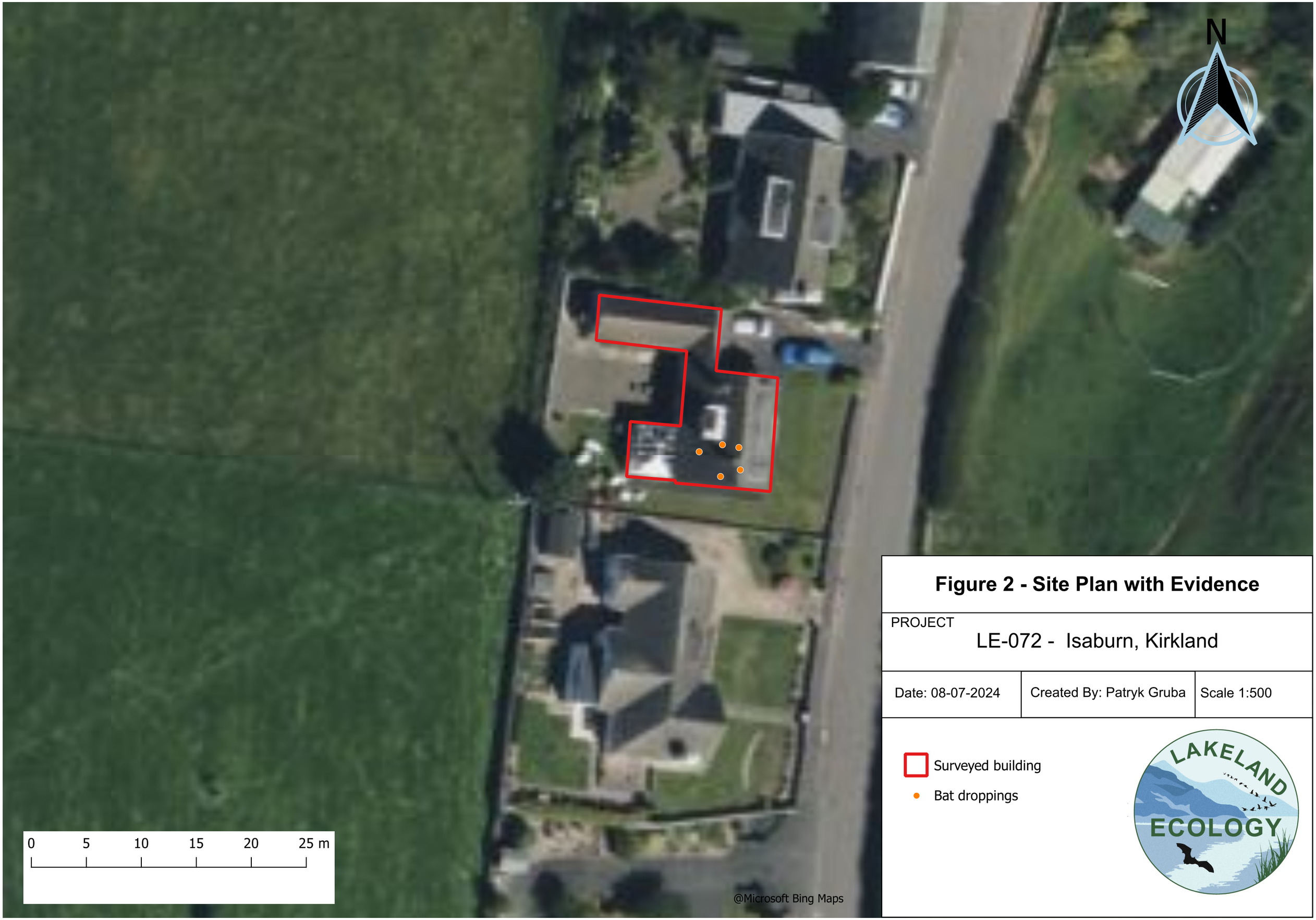


Figure 2 - Site Plan with Evidence

PROJECT

LE-072 - Isaburn, Kirkland

Date: 08-07-2024	Created By: Patryk Gruba	Scale 1:500

Surveyed building

Bat droppings

LAKELAND ECOLOGY

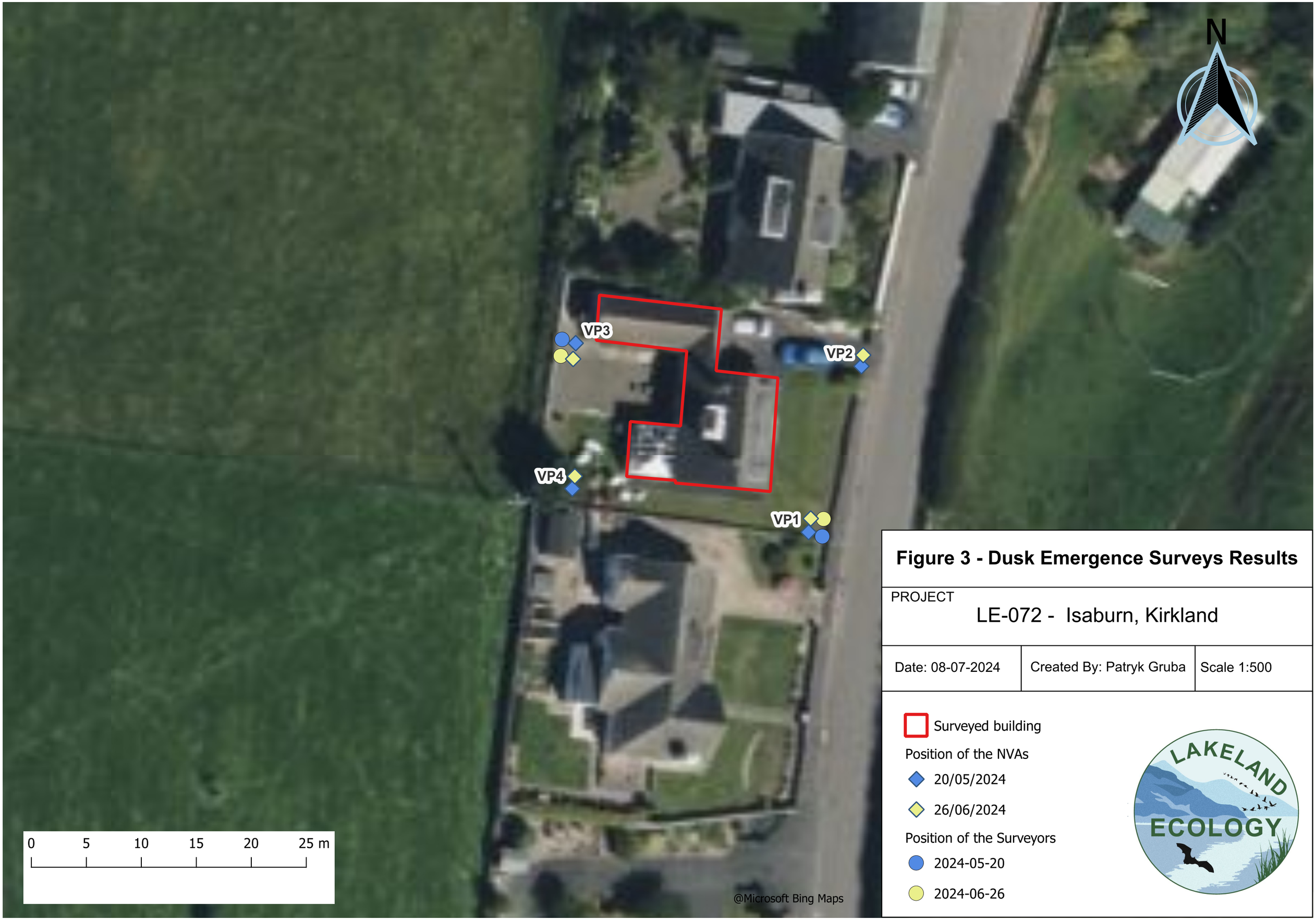


Figure 3 - Dusk Emergence Surveys Results

PROJECT

LE-072 - Isaburn, Kirkland

Date: 08-07-2024	Created By: Patryk Gruba	Scale 1:500

Surveyed building

Position of the NVAs

20/05/2024

26/06/2024

Position of the Surveyors

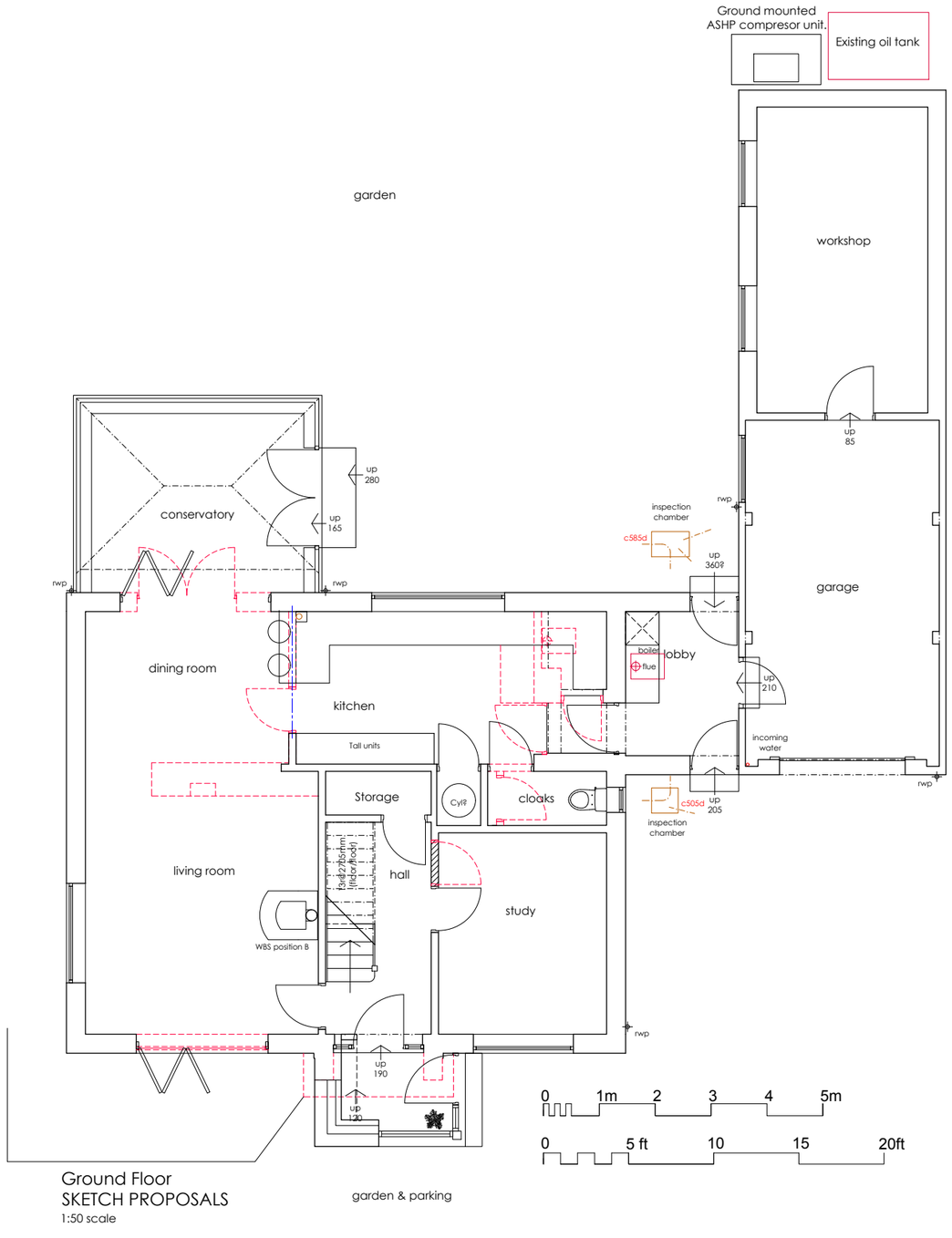
2024-05-20

2024-06-26

LAKELAND ECOLOGY

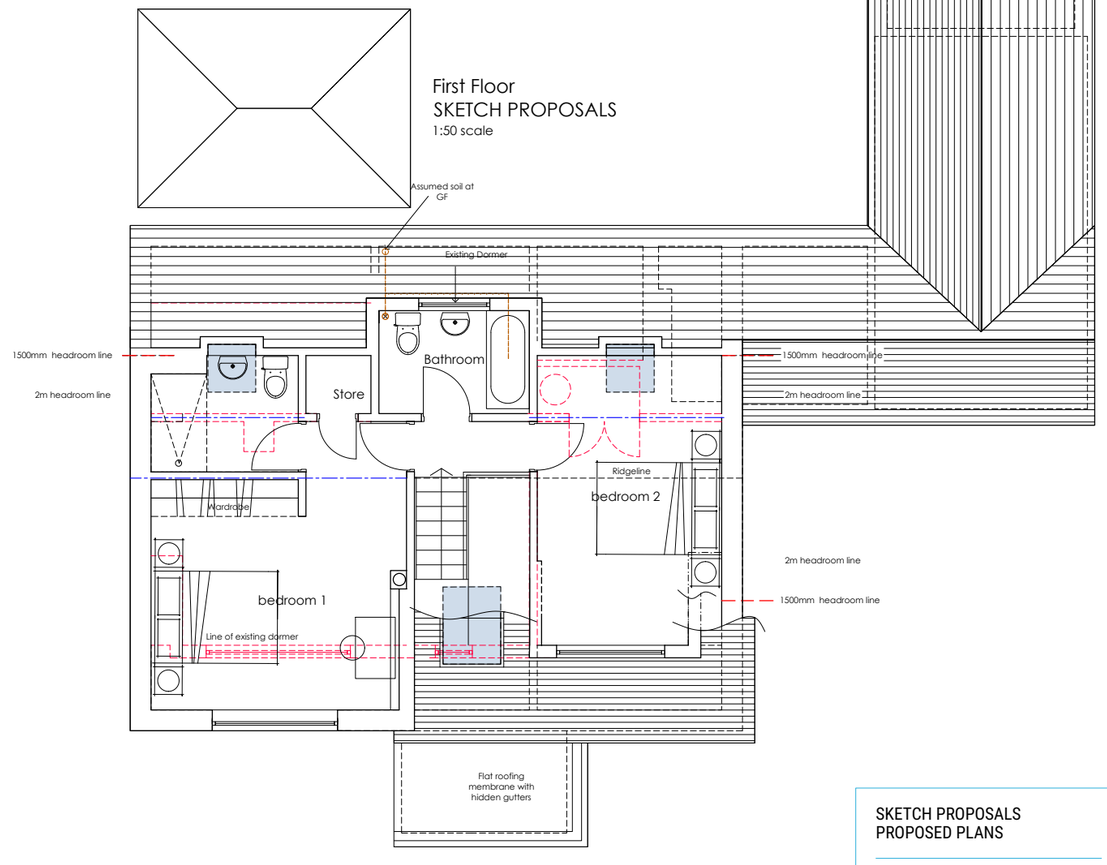
APPENDIX I – PROPOSED PLAN AND ELEVATIONS

RV	DATE	COMMENTS
-		
-	-	-
-	-	-
-		



Ground Floor
SKETCH PROPOSALS
1:50 scale

garden & parking



SKETCH PROPOSALS
PROPOSED PLANS

PROPOSED ALTERATIONS
ISABURN
KIRKLAND
Lynne Veitch

DRAWING NO. : 23.34.07
SCALE : 1:50@A1
DRAWN BY : CW
DATE : March 24

WK DESIGN ARCHITECTS
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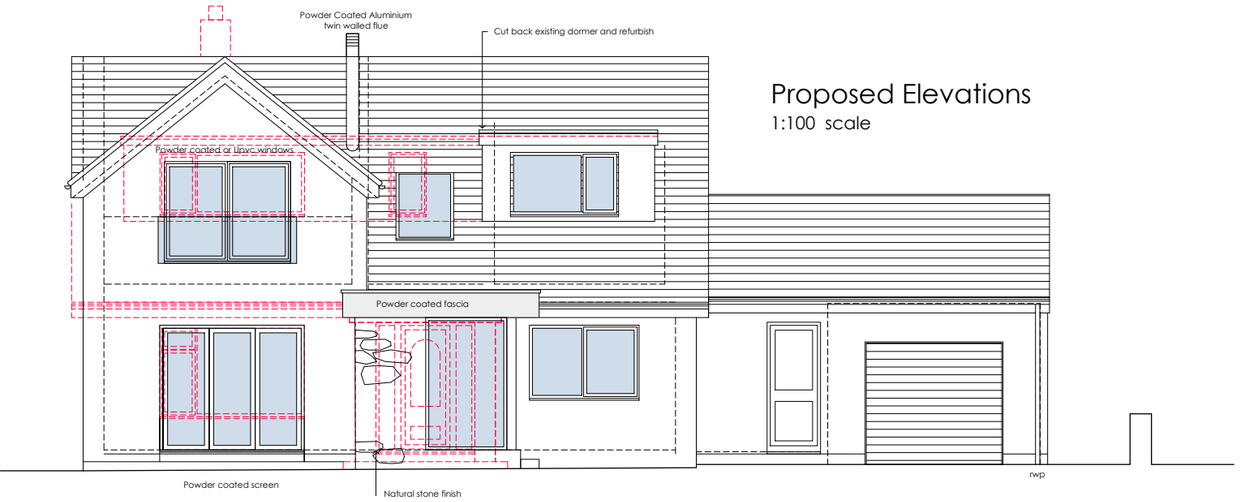
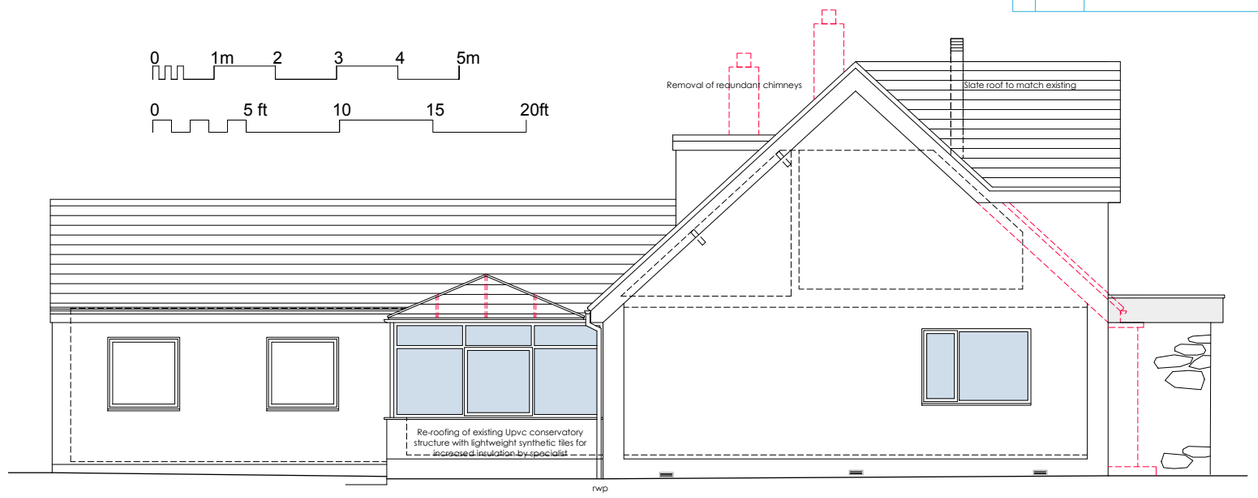
Carolyn Williamson 07773 329572 | Paul Kitchin 07968 094847

RV	DATE	COMMENTS
-		-
-		-
-		-
-		-

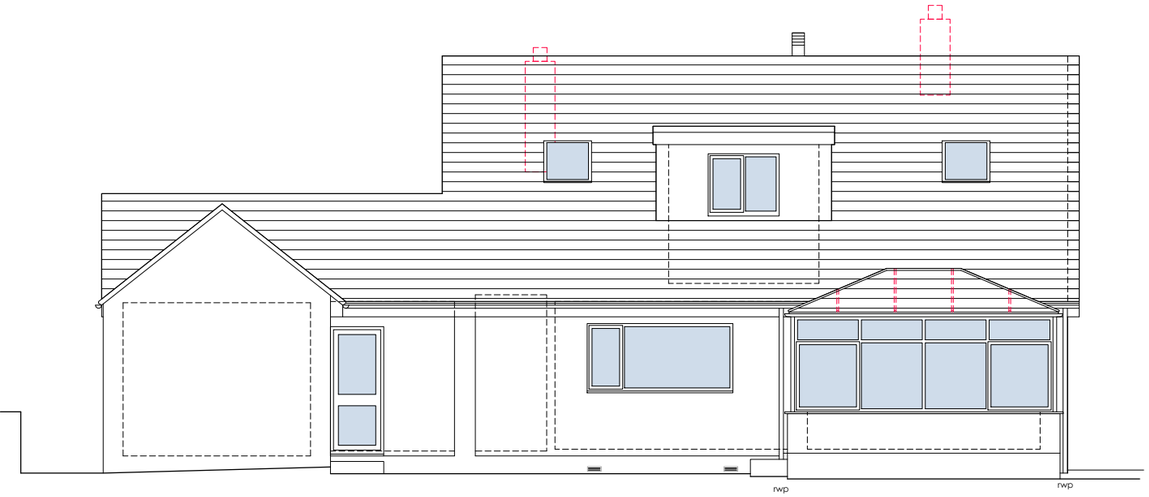
Proposed Elevations
1:100 scale



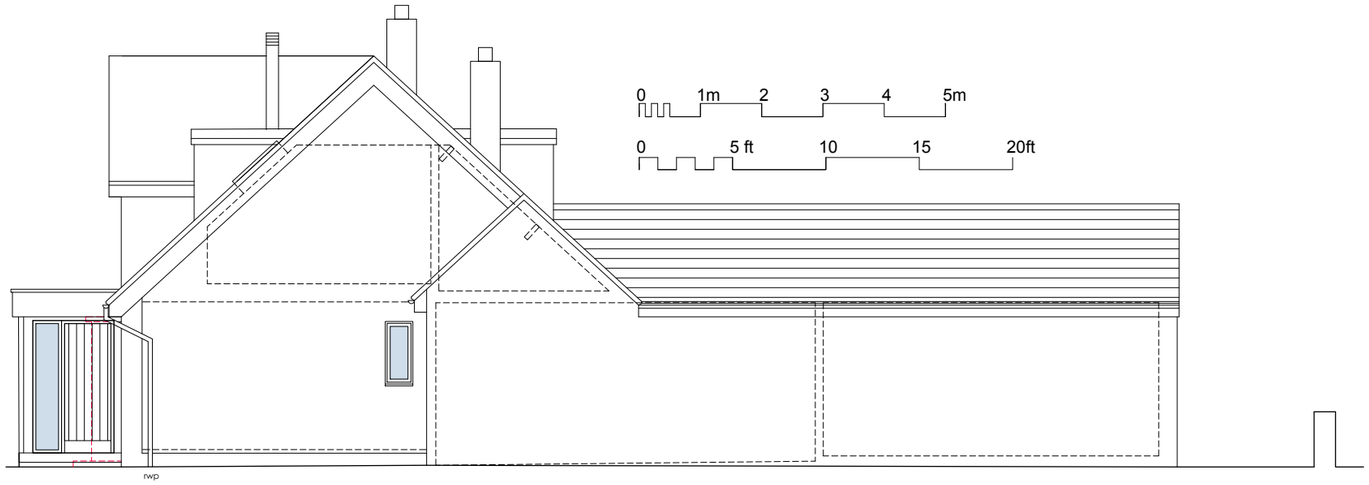
Front (E) Elevation



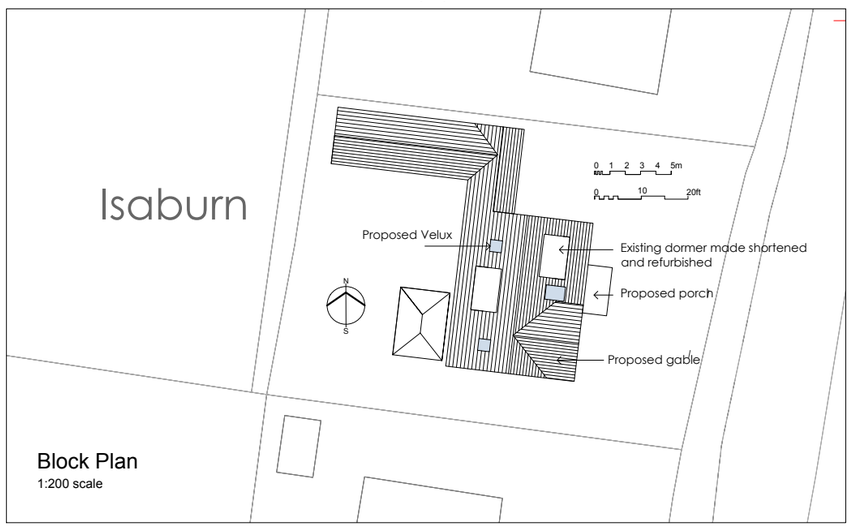
Side (S) Elevation



Rear (W) Elevation



Side (N) Elevation



Block Plan
1:200 scale

Site Location Plan
1:1250 scale

BLOCK AND SITE LOCATION
PROPOSED ELEVATIONS

PROPOSED ALTERATIONS
ISABURN
KIRKLAND
Lynne Veitch

DRAWING NO. : 23.34.08
SCALE : Scale as noted@A1
DRAWN BY : CW
DATE : March 2024

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APPENDIX II – RELEVANT LEGISLATION

All British bat species are given special protection within England by their inclusion on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

- As a result, it is 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's roosting place (even if bats are not occupying a roost at the time);
- Possess or advertise, sell or exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

With specific reference to the offence of disturbance, Regulation 41(1) of the Conservation of Habitats and Species Regulations 2017 (as amended) states that a person commits an offence if they:

"…deliberately disturb wild animals of any such species [i.e. a European Protected Species] in such a way as to be likely significantly to affect:

(i) the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or

(ii) the local distribution or abundance of that species".

Where development will result in damage to, or obstruct access to, any bat roost (whether occupied or not) or risks harming or significantly disturbing bats, a European Protected Species (EPS) Mitigation Licence is required from Natural England to allow the development to proceed.

Bats are also afforded more general protection in England (and Wales) within the Natural Environment and Rural Communities Act (NERC) 2006. This imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, *"…to have due regard, so far as is consistent with the proper exercise of those functions, to the*

purpose of conserving biodiversity" [Section 40 (1)]. It notes that "conserving biodiversity includes restoring or enhancing a population or habitat" [Section 40 (3)].

All nesting birds, their nests (whilst being built or in use), eggs and dependent young, are protected from disturbance by the Wildlife and Countryside Act 1981. Barn owls are also listed under Schedule 1 of the Wildlife and Countryside Act, which awards additional protection from disturbance during the breeding season

PPENDIX III – STILL SHOTS FROM THE INFRA-RED CAMERAS

20/05/24 – VP1	
20/05/24 – VP2	

20/05/24 – VP3	
20/05/24 – VP4	

26/06/2 4 – VP1	
26/06/2 4 – VP2	

26/06/24 – VP3	
26/06/24 – VP4