Bat Survey Report

Site: Racket Town, Tresco, Isles of Scilly

Grid Reference: SV 89286 14924

12th July 2024

Plan for Ecology Ltd
Tremough Innovation Centre
Tremough Campus, Penryn, Cornwall, TR10 9TA
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Document Control:

Site Name:	Racket Town, Tresco, Isles of Scilly
OS Grid Reference:	SV 89286 14924
Report Author:	Naomi Scala BSc (Hons) MSc ACIEEM
Document Approved by:	Lucy Wright BSC (Hons) MSC PhD MCIEEM; bat licence no. 2024-11908-CL18-BAT (Level 2)
Client:	Tresco Estate
Report Reference Number:	P4E3397
Version:	01
Date:	12th July 2024

Declaration:

"The information, evidence and advice, which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology & Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions."

Naomi Scala	[redacted]
Lucy Wright	

Report Lifespan:

Ecological features can change over time, particularly if site management/ use changes. At the time of writing, Cornwall Council considers Bat Survey Reports to be valid for 12 months (until June 2025), unless stated otherwise. Plan for Ecology Ltd considers phase 2 bat surveys to be valid for 24 months for planning purposes (until June 2026).

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1.0 Summary

Bat evidence?	Two common pipistrelle bat (*Pipistrellus pipistrellus*) day roosts (comprising five individuals and one individual respectively) confirmed during the emergence surveys;; and one brown long-eared bat (*Plecotus auritus*) occasional day roost (at least one individual) confirmed through DNA analysis of droppings.
Proposed works?	Partial demolition, refurbishment and extension of existing property.
Bat specific mitigation:	Works will not commence until an appropriate licence has been obtained from Natural England. The licence cannot be obtained until planning consent is in place. The named ecologist or an accredited agent must deliver an on-site toolbox talk to the contractors immediately prior to commencement of works. Works with potential to impact bats will be carried out under an ecological watching brief and scheduled for a time of year when bats are least likely to be negatively impacted. Two temporary Large Multi Chamber Woodstone bat boxes (or comparable product) will be installed onto a nearby tree to accommodate any bats uncovered during works. The existing common pipistrelle day roost located between roof/ridge tiles and the bitumen membrane at the southern gable end should be retained or re-created post-development. The access point should be protected, or re-instated post-development through installation of a bat slate slate and/or raised ridge tile in this location (over bitumen type 1F). The identified common pipistrelle day roost within the south-eastern projection will be lost to allow for the development. Loss of the roost site will be compensated by either a). spacing off of the fascia board on the new south-east wing by 25mm to create a gap behind for bats to roost within; or b). installation of a single Schwegler Bat Access panel with back plate within the fabric of the building. post-development. The brown long-eared bat day roost within the roof void should be retained, if possible, and alternative suitable access points incorporated with corresponding gaps in the bat safe membrane (bitumen type 1F) to allow the bats access to the void space. Alternatively, compensate loss by installing a bat box within the fabric of the modified building. Where bats can make contact with the roof membrane, this **must** comprise **bitumen type 1F** or a non-bitumen coated roofing membrane (NBCRM)

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	with a test certificate approved by Natural England. This is because modern synthetic membranes are harmful to bats and their use will not be permitted by Natural England. No exterior lighting will be installed close to the temporary and permanent replacement bat roosting features or access points.

2.0 Introduction

2.1 Background

Diana Mompoloki, on behalf of Tresco Estate, commissioned Plan for Ecology Ltd to undertake a Preliminary Bat and Bird Assessment (sometimes referred to as a Bat and Barn Owl Assessment) of Racket Town, Tresco, Isles of Scilly (OS Grid Ref: SV 8928 1492) in March 2020. The client proposes to refurbish and extend the property, including partial demolition of the existing building (south-east projection). Proposed site plans are provided at Appendix 1. Evidence of roosting bats in the form of bat droppings was found within the roof void. In addition, a number of external features with potential to support crevice dwelling bats were noted (Plan for Ecology Ltd, 2020a). Racket Town was assessed as being of 'moderate suitability' for roosting bats and further bat surveys were recommended. In accordance with the 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (Collins, 2016), the recommended further survey work comprised a minimum of two bat emergence or re-entry surveys during the bat active season (May to September inclusive), a static detector survey and DNA analysis of droppings. In May 2020 Diana Mompoloki, on behalf of Tresco Estate, commissioned Plan for Ecology Ltd to undertake the further survey work, the results of which are presented in the Bat Survey Report (Plan for Ecology Ltd, 2020b). For completeness, the results of the 2020 bat surveys are also summarised within this report. In 2024, Tresco Estate commissioned Plan for Ecology Ltd to update the bat survey work. A Preliminary Roost Assessment of the building was undertaken on 28th March 2024 (Plan for Ecology, 2024) and bat emergence surveys were undertaken on 22nd May and 20th June 2024. The results of these surveys are presented within this report.

This report describes and evaluates the use of the buildings by bats, and details mitigation recommendations to minimise impacts upon bats in accordance the 'Bat Surveys for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2016; 2023) and UK Bat Mitigation Guidelines (Reason and Wray, 2023).

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2.2 Project Administration

Property Address:	Racket Town, Tresco, Isles of Scilly
OS Grid Reference:	SV 8928 1492
Client:	Tresco Estate
Planning Authority:	Council of the Isles of Scilly
Planning Reference Number:	Unknown
Report Reference Number:	P4E3397
Proposed work:	Partial demolition (south-east projection), refurbishment and extension of the property.
Visual Assessment Dates:	11th March and 25th June 2020 28th March 2024
Emergence Survey Dates:	11th and 25th June 2020 22nd May and 20th June 2024
Static Detector Survey Dates:	11th – 15th June 2020
Ecologists & Licence Number:	Naomi Scala BSc (Hons) MSc ACIEEM; Bat licence No. 2018-34120-CLS-CLS Caroline Davey BSc (Hons) MSc ACIEEM; bat licence no: 2022-10817-CL18-BAT; CL29/00037 (barn owl) held by Kim Jelbert BSc (Hons) MSc PhD MCIEEM (Registered Consultant RC224) Lucy Wright BSc (Hons) MSc PhD MCIEEM; bat licence no. 2024-11908-CL18-BAT Chloe Balmer MSci (Hons) ACIEEM; bat licence No: 2020-47040-CLS-CLS; Barn Owl licence No. 2022-10943-CL29-OWL. Holly Thomas FdSc Qualifying CIEEM member Katherine Biggs BSc (Hons) MSc ACIEEM: Bat licence No. 2016-22188-CLS-CLS

2.3 Legislation & Planning Policy

Planning: The local planning authority has a statutory obligation to consider impacts upon protected species resulting from development. Planning permission will not be granted with outstanding ecological surveys, and if applicable an appropriate mitigation plan.

Bats: In Britain protection of European Protected Species (EPS) such as bats is achieved through their inclusion on Schedule 2 of the Conservation and Habitats Regulations 2017 (as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019)), Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 12 of the Countryside and Rights of Way Act 2000 (HM Government, 1981, 2000, 2017, 2019).

As a result of this statutory legislation, it is an offence to:

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- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat/s in its roost;
- Intentionally or recklessly damage, destroy or obstruct access to a bat roost (even if bats are not occupying the roost at the time);
- Possess or sell or exchange a bat (dead or alive) or part of a bat.

Works with potential to cause significant disturbance to roosting bats may require a European Protected Species (EPSL) licence, Bat Mitigation Class Licence (CL21) or Bat Earned Recognition Class Licence (WML-CL47) from Natural England before works can legally commence. Works likely to result in less significant disturbance may be carried out under a Bat Mitigation Method Statement. The magnitude of disturbance and, therefore, the requirement for an EPSL, Bat Mitigation Class Licence, Bat Earned Recognition Class Licence or method statement is assessed on a case-by-case basis by the bat ecologist. The Bat Mitigation Method Statement or appropriate licence application must be prepared and/or applied for by a suitably experienced and licenced bat ecologist. Where planning permission is required, the appropriate licence cannot be obtained until planning permission has been granted.

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3.0 Methodology

3.1 Summary Visual Assessment

A visual assessment of Racket Town was undertaken on 11th March 2020. A further visual inspection of the roof void was undertaken when collecting the static detector on 25th June 2020. An updated visual assessment was undertaken on 28th March 2024. The ecologists (Naomi Scala, Katherine Biggs and Caroline Davey respectively) assessed the suitability of the building and the surrounding habitat to support bats. A high-power torch was used to illuminate all accessible areas of the building with potential to support roosting bats. The ecologists searched for signs of bats including droppings, fur oil staining, urine staining, feeding remains, audible squeaking, bat-fly (Nycteribiid) pupal cases and odour.

The 2020 assessment was carried out in accordance with the 'Bat Survey for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2016). Potential/ confirmed bat roosts identified during the visual inspections of the buildings were categorised as to their suitability in accordance with the 2016 guidelines (Collins, 2016) as described below:

Negligible: negligible features with potential to support roosting bats.

Low: one or more features with potential to support individual bats on an occasional basis. Unlikely to support large numbers of bats.

Moderate: one or more features with potential to support roosting bats but unlikely to be of high conservation status.

High: one or more features with potential to support large numbers of bats on a regular basis.

The update Preliminary Roost Assessment (PRA) undertaken in 2024 was carried out in accordance with the 'Bat Surveys for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2023) (Table 1).

Table 1: Categorisation of bat roost suitability in accordance with the Bat Conservation Trust's (BCT) Good Practice Guidelines (Collins, 2023).

Suitability Category	Description
None	No habitat features on site likely to be used by roosting bats at any time of year.
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more features with potential to support individual bats opportunistically at any time of year. 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.
Moderate	A 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.

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Suitability Category	Description
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts such as maternity or classic hibernation roosts.

The desk study is a search of records of granted bat European Protected Species (EPS) licences within a 2km radius of the site shown on Natural England's MAGIC website https://magic.defra.gov.uk/.

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3.2 Roost Characterisation / Emergence Surveys

Bat emergence surveys of the building were undertaken on 11th and 25th June 2020, and updated on 22nd May and 20th June 2024; the survey dates, surveyors present, and the equipment used on each survey occasion are detailed in Table 2 below. An emergence survey involves an ecologist(s) counting the number of bats emerging from the building at dusk for a period of at least 1.75 hrs (or until low light levels prevent observation of emerging bats). The surveyor(s) record the calls of any bats that emerge using a bat detector and recording equipment; this enables identification of the species present and the location of bat access points.

The various types of bat detector use different methods of detecting; the Echo Metre Touch 2 and Elekon Batscanner Stereo detectors use heterodyne and real-time expansion; and the Elekon Batlogger M2 uses heterodyne, real-time expansion and frequency division. These methods of detection are described below:

- Frequency division: this method automatically and continuously records bat calls at all frequencies, and makes them audible to the human ear by dividing the call frequency by 10. Calls are played in real time and can be readily identified with sound analysis.
- Heterodyne: this method identifies bat calls echolocating at the frequency set by the operator but will fail to/ or only partially record bat calls outside this frequency.
- A real-time expansion bat detector digitally records ultrasonic bat calls and then plays them back at a slower rate and frequency to give an audible output.

In addition to surveyor observation and handheld bat detectors, on 22nd May and 20th June 2024, all surveyors used video recording equipment and infrared lamps in accordance with the interim guidance note on the use of night vision aids (BCT, 2022) and 'Bat Survey for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2023). The Nightfox Whisker cameras are widely and successfully used to record bats emerging from buildings. The field of view at the start and end of the survey are shown in the images at Appendix 2.

Table 2: Racket Town - emergence survey metadata

Emergence survey date	Surveyors	Equipment	Sunset time	Start and end times
11th June 2020	Lucy Wright Chloe Balmer	EMT2 EMT2	21:34	21:19 – 22:34
25th June 2020	Lucy Wright	EMT2	21:38	21:33 – 22:53

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Emergence survey date	Surveyors	Equipment	Sunset time	Start and end times
	Chloe Balmer Katherine Biggs	EMT2 EMT2 & Elekon Batscanner Stereo		
22nd May 2024	Chloe Balmer	EMT2; Nightfox Whisker Camera & XB5 Pro Infrared Torch	21:15	21:00 – 22:45
	Lucy Wright	EMT2; Nightfox Whisker Camera & XB5 Pro Infrared Torch		
	Unmanned camera	Anabat Express; Nightfox Whisker Camera & XB5 Pro Infrared Torch		
20th June 2024	Naomi Scala	EMT2; Nightfox Whisker Camera & XB5 Pro Infrared Torch	21:38	21:23 – 23:08
	Holly Thomas	Batlogger M2; Nightfox Whisker Camera & XB5 Pro Infrared Torch		
	Unmanned camera	Anabat Chorus; Nightfox Whisker Camera & XB5 Pro Infrared Torch		

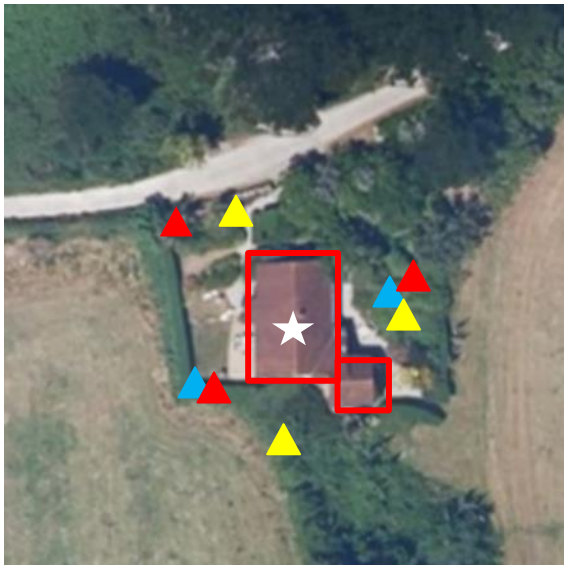

Figure 1: Emergence surveys – surveyor & camera locations. Racket Town is outlined in red. Blue triangles show surveyor locations on the first 2020 emergence survey, yellow triangles show surveyor locations on the second 2020 emergence survey. Red triangles show surveyor and/or camera locations on both the 2024 emergence surveys. The white star shows the location of the static detector within the roof void.

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3.3 Static Detector Survey

To provide more detailed information about bat activity, a static detector survey was carried out of the interior void of the building between the nights of 11th and 15th June 2020. A static bat detector (Anabat Express) was installed in the interior of the roof void (Fig. 1; white star). The detector was set to record continuously overnight (30 minutes prior to sunset until 30 minutes after sunrise) for a total of 5 nights (Table 5). The Anabat Express uses the frequency division method of detecting as described in Section 3.2 above.

3.4 DNA analysis

A sample of bat droppings was collected from the roof void of Racket Town just prior to the start of the second emergence survey on 25th June 2020. The sample was sent for DNA analysis to provide further information on the bat species present. DNA analysis was carried out by SureScreen Scientifics Ltd, Derbyshire, U.K.

3.5 Ecological Evaluation

The value of the buildings for roosting bats is determined following the framework provided by Reason and Wray (2023). This framework determines the appropriate value of a roost on a geographic scale, based on the relative rarity of the bat species using the site (based on the known distribution and population size in the U.K. and within the region in which the roost is located), as well as the type of roost (based on the results of the emergence/ re-entry and static detector surveys (where applicable)). Where more than one bat species is present within the site, each species is valued individually, and the highest value obtained is assigned to the site.

Table 3 (below) categorizes bat species by their distribution and rarity in England. Table 4 (below) assigns a value for each roost type for the different rarity categories (Tables 3 and 4 are adapted from Reason and Wray 2023).

Table 3: Relative rarity of bat species in England (adapted from Reason and Wray 2023)

Rarity (within range)	**Region**
	Southwest England & South Wales
Widespread	Common pipistrelle (*Pipistrellus pipistrellus*) Soprano pipistrelle (*Pipistrellus pygmaeus)* Brown long-eared (*Plecotus auritus*)
Widespread in many geographies, but not as abundant in all	Whiskered (*Myotis mystacinus)* Brandt's (*Myotis brandtii)* Daubenton's (*Myotis daubentonii)* Natterer's (*Myotis nattereri)* Noctule (*Nyctalus noctula)*
Rarer or restricted distribution	Lesser horseshoe (*Rhinolophus hipposideros)* Leisler's (*Nyctalus leisleri)* Nathusius' pipistrelle (*Pipistrellus nathusii)* Serotine (*Eptesicus serotinus)*
Rarest Annex II species and very rare	Greater horseshoe (*Rhinolophus ferrumequinum)* Bechstein's (*Myotis bechsteinii)* Barbastelle (*Barbastella barbastellus)* Grey long-eared (*Plecotus austriacus)*

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Table 4: Value of bat roosts (adapted from Reason and Wray, 2023)

Conservation status/ distribution	**Feeding perches; night-roosts; individual or very small occasional/ transitional/ opportunistic roosts**	**Non-breeding day roosts (small numbers of species)**	**Mating sites (excluding individual trees and larger swarming sites); small numbers of hibernating bats)**	**Larger transitional Roosts**	**Hibernation sites**	**Autumn swarming sites (largely, vesper species which hibernate underground)**	**Maternity sites**
Widespread all geographies	Site	Site	Site	Site/ Local	District/County	District/County	Unlikely to exceed District importance unless colonies are atypically large
Widespread in many geographies, but not as abundant in all	Site	Site	Site, dependent on local distribution	District	District/County importance dependent on size and number of species	County/Regional importance dependent on size; importance increased for larger sites that serve larger numbers/species	Unlikely to exceed County importance unless colonies are atypically large
Rarer or restricted distribution	Site (very well-used night roosts may be of District importance for some species)	Site/Local/ District, dependent on local distribution	Site/Local/ District, dependent on local distribution	District	District/ County importance dependent on size and local distribution	County/Regional importance on size and local distribution	County/ Regional importance on size and local distribution
Rarest Annex II species and very rare	Site (very well-used night roosts may be of District importance for some species)	Site/Local/ District, dependent on local distribution	Site/Local/ District, dependent on local distribution	District	County/ Regional importance on size and local distribution	County/ Regional importance on size and local distribution	County/ Regional importance on size and local distribution' increased value for assemblages.

3.6 Weather Conditions

- 11th June 2020: Dry with part cloud cover and a temperature of 15°C at the beginning of the survey; and 13°C, dry and clear at the end of the survey; in accordance with the Beaufort Scale, wind was no greater than a 'light breeze'.
- 25th June 2020: Dry with full cloud cover and a temperature of 16.5°C at the beginning of the survey; and 14°C, dry with part cloud at the end of the survey; in accordance with the Beaufort Scale, wind was no greater than 'light air'.
- 22nd May 2024: Dry with full cloud cover and a temperature of 14°C at the beginning of the survey; and 12°C, dry with full cloud cover at the end of the survey; in accordance with the Beaufort Scale, wind was no greater than 'light breeze'.
- 20th June 2024: Dry with no cloud and a temperature of 14°C at the beginning of the survey; and 13°C, no cloud and dry at the end of the survey; in accordance with the Beaufort Scale, wind was no greater than 'light air'.

Table 5: Bat Static Monitoring Survey - survey information and weather conditions

Survey period	Assessor(s)	Weather
11th – 15th June 2020	Chloe Balmer	Weather conditions in line with seasonal norms; no spells of heavy rain or high wind.

3.7 Impact Assessment

Where an impact (positive or negative) on the integrity of a defined feature (habitat, species or ecosystem) was identified, the impact significance has been described in the following terms: major, moderate, minor and negligible.

The likelihood of the impact occurring was described as: certain / near certain (probability estimated at 95% chance or higher), probable (probability estimated above 50% but below 95%), unlikely (probability estimated above 5% but below 50%) and extremely unlikely (probability estimated below 5%).

Reference has also been made to the extent and magnitude of impact (i.e., area affected) and duration (short-term impacts associated with construction and long-term impacts associated with the operational phase of the development).

The impact significance of the proposed development on the integrity of the site as a whole has been determined using the framework described above. A significant effect is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general (CIEEM, 2018).

Available guidance and information, notably on the distribution and status of the species, and characterisation of impacts on the species/ species group (Reason and Wray, 2023), along with professional judgment have been used to determine impact significance.

3.8 Mitigation Recommendations

Recommendations are provided using the Mitigation Hierarchy (British Standard, 2013; CIEEM, 2018). The Mitigation Hierarchy seeks to avoid impacts, then to mitigate unavoidable impacts, and, as a last resort, to compensate for residual impacts that remain after implementation of avoidance and mitigation measures.

3.9 Limitations

There are a number of visible features on the exterior of the building with potential to support roosting bats, which could not be fully inspected for evidence of bats. This limitation was addressed by undertaking bat emergence surveys, DNA and static detector surveys. In 2020, two surveyors were used for the first survey, although it was deemed necessary to include a third surveyor for the second survey in order to fully observe all elevations of the building. In 2024, two surveyors and an unmanned camera with bat detector were used to cover all elevations of the building.

The bat surveys were undertaken in accordance with best practice guidance; however, the results of these surveys represent only a snapshot of use at the time of survey.

The calls of four bat species are notoriously difficult to record: the long-eared bats (*Plecotus spp.)* and the barbastelle bat (*Barbastella barbastellus*) have a quiet echolocation call, and the horseshoe bats (*Rhinolophus hipposideros* & *R. ferrumequinum*) have highly directional calls. The long-eared, barbastelle and horseshoe species can be easily missed during bat detector surveys. Where applicable, we presume all *Plecotus spp.* recordings are those of brown long-eared bat (*Plecotus auritus*) because Cornwall is outside the known range of the grey long-eared bat (*Plecotus austriacus*).

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4.0 Bat Survey Results

4.1 Site Description and Habitat Assessment

Racket Town is located centrally on the island of Tresco, Isles of Scilly, *c*. 0.3 km east of New Grimsby beach, *c.* 4.5 km north-west of Hugh Town on St Marys and *c*. 4.4 km west of Higher Town on St Martin's, Isles of Scilly. The location is rural in character with the property next to an area of broadleaved woodland to the north and mixed farmland (pasture and arable with hedgerows) to the south, east and west. An area of reedbeds (Section 41 NERC Act (2006) / UK BAP Priority Habitat) is located *c.* 130 m south of the property. Great Pool (Tresco) Site of Special Scientific Interest (SSSI) is present 140 metres to the south of the site, Castle Down (Tresco) SSSI is present 800 metres to the north west of the site and Pentle Bay, Merrick and Round Islands SSSI is present 630 metres to the north east of the site. Buildings in the wider area comprise a mixture of period and modern properties, outbuildings and barns. In combination these features provide potential high-quality foraging and roosting habitat for bats.

4.2 Bat Visual Assessment and Desk Study Summary

The desk study search was undertaken on 11th July 2024. The desk study revealed no granted bat EPS licences within 2km of the site. Plan for Ecology Ltd are aware of several common pipistrelle bat roosts (day roosts and maternity roosts) within 2km of the site. A search of all ecological records and site designations held by the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS, to 2024) within a 1km radius of the site, undertaken as part of an Ecological Impact Assessment of the site in 2024 (Plan for Ecology Ltd, 2024), revealed records for two bat species within a 1km radius of the site. These comprised fifty-three records for common pipistrelle and two records for brown long-eared bat.

The visual assessment and inspection of the building for evidence of roosting bats was undertaken on 11th March & 25th June 2020; for full details and images of the Preliminary Assessment see Plan for Ecology Ltd (2020). The visual assessment was updated on 28th March 2024 (see Plan for Ecology Ltd, 2024).

The property 'Racket Town' is a single-story building of stone construction with a pitched roof and a small porch (Figs 2-4). The roof is of interlocking clay roof tiles with clay ridge tiles (Figs 2-4). There are wooden fascias and soffits; on the southwest corner the fascia is rotten. There is wooden cladding on the north and south elevations. There is a small projection off the south-eastern elevation, which is clad with ivy. There is a concrete chimney on the eastern elevation and gaps were observed under the lead flashing. Gaps beneath the lead flashing and a gap in the rotten wooden fascia board provide potential habitat for roosting bats/ provide potential bat access to the building interior.

Internally, the roof void supports a fink style traditional wooden roof structure, is bitumen lined, with rolled insulation between the joists. The void measures *c*. 1.5 m to the apex. Gaps at the wall tops with potential to permit bats access/ provide roosting locations were observed. During the initial visual assessment, *c*. 50 bat droppings were observed scattered throughout the roof void and a further cluster of *c.* 10 bat droppings were observed beneath, and on, the internal chimney breast. No fresh droppings were noted during the inspection on 25th June 2020. A scattering of bat droppings was observed on the rolled insulation during the update visual inspection on 28th March 2024 (Plan for Ecology Ltd, 2024).

External features were identified with potential to support roosting bats, and bat droppings were observed within the building interior. The property 'Racket Town' was assessed as being of **'moderate suitability'** for roosting bats.

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Figure 2: View of the west elevation of Racket Town.

Figure 3: View of the east elevation of Racket Town.

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Figure 4: View of the north elevation of the Racket Town.

Figure 5: View of the eastern elevation of the south-east projection of Racket Town.

4.3 Bat Emergence Surveys

2020 surveys:

During the first emergence survey on 11th June 2020, no bats were seen to emerge from the building.

During the second emergence survey on 25th June 2020, a single common pipistrelle was seen to emerge from the building, from a gap behind the soffit on the western face of the south-eastern projection (one access point) (Fig 7).

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Figure 7: West elevation (left) and aerial view (right) of the south-east projection, showing emergence location of a single common pipistrelle bat on 25th June 2020.

2024 surveys:

During the first emergence survey on 22nd May 2024, one common pipistrelle bat was observed to emerge from the apex of the southern gable end (one access point) (Fig. 8).

During the second emergence survey on 20th June 2024, five common pipistrelle bats emerged from the same access point as the first survey (from the apex of the southern gable end) (Fig. 8).

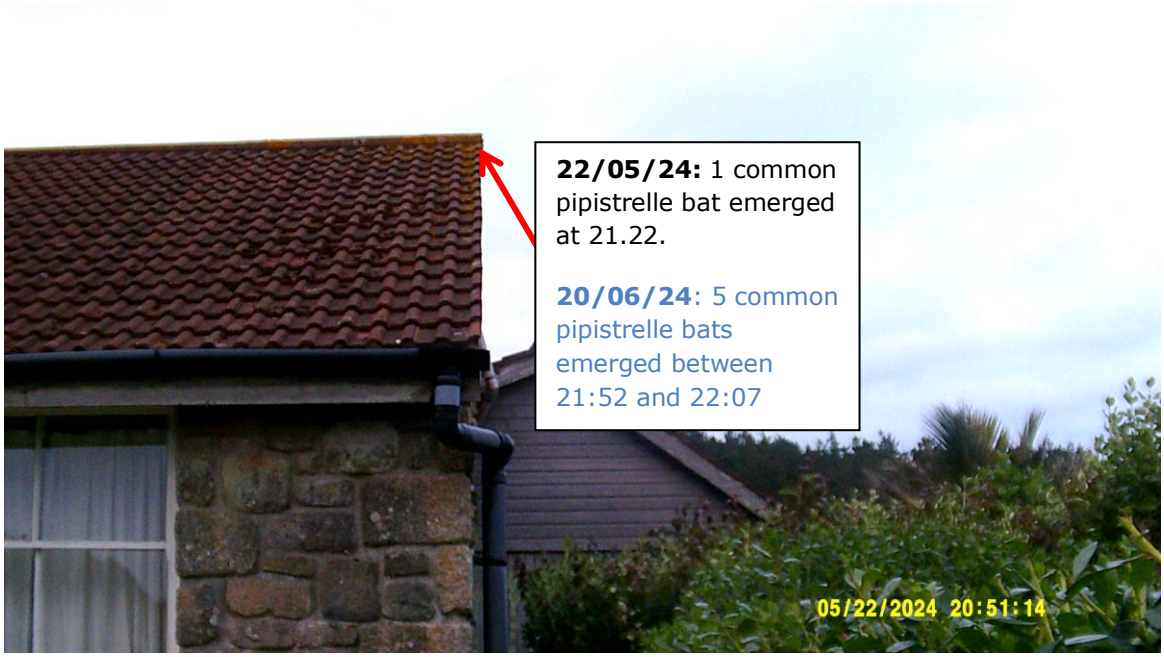

Figure 8: Southern gable end of Racket Town, showing emergence location of a single common pipistrelle bat on 22nd May and five common pipistrelle bats on 20th June 2024.

4.4 DNA Analysis

DNA analysis of droppings collected from the roof void of Racket Town confirmed the presence of brown long-eared bat.

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4.5 Static Monitoring Survey

A static detector survey of the roof void was undertaken between the nights of 11th and 15th June 2020. During the monitoring period no bat activity was recorded within the roof void.

4.6 Bat Species Evaluation

The combined survey results have shown that Racket Town supports three bat roosts; these are detailed in Table 6 below:

Table 6: Racket Town Bat Roosts: type, species, roost feature location, peak count and ecological importance.

Roost Type	Species	Peak Count	Roost Feature	Status*
Occasional day	Brown long-eared bat	1	Roof void (access point unknown but likely to be gaps at the wall tops).	Site
Day	Common pipistrelle	1	Gap behind the soffit on the western face of the south-eastern projection (Fig. 7)	Site
Day	Common pipistrelle	5	Beneath roof/ ridge tiles; accessed via a gap at the apex of the southern gable end (Fig. 8).	Site

*Roost status has been determined using Reason and Wray (2023)

The combined survey results have shown that Racket Town supports 1) a common pipistrelle bat day roost supporting at least one individual located beneath the soffit on the western face of the south-eastern projection (Fig. 7); 2) a common pipistrelle bat day roost supporting at least five individuals located between the roof/ ridge tiles and bitumen lining and accessed from a gap beneath a roof tile near the apex on the southern gable end (Fig. 8); and 3) a brown long-eared bat occasional day roost (comprising at least 1 individual) within the roof void, confirmed through DNA analysis of droppings.

The common pipistrelle bat: is a crevice dwelling bat species that typically roosts between slates/ tiles and the roofing felt, or beneath fascia boards/ soffits. This species is common and widespread throughout the UK. The population is considered to have increased since 1999 (BCT, 2023).

The brown long-eared bat: is both a crevice dwelling and void dwelling bat species, that benefits from being able to fly around in a void before emergence. The brown long-eared bat often roosts under hanging tiles, above soffits, in cavity walls and under ridge tiles. It is considered to be common but widespread in England and Wales. The population is considered to be unchanged since 1999 (BCT, 2023).

The brown long-eared bat occasional day roost and the common pipistrelle day roosts within Racket Town are considered to be of **low conservation significance** for these bat species.

Following the framework described by Reason and Wray (2023), as outlined in Section 3.5 above (Tables 3-4), the rarity of the bat species recorded on-site is 'widespread' for brown long-eared bat and common pipistrelle bat. The corresponding value for day roosts for small numbers of non-breeding brown long-eared and common pipistrelle bats (widespread species) is 'Site' level.

Racket Town is, therefore, considered to be of **Site** importance for roosting bats.

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5.0 Impacts and Mitigation Recommendations

5.1 Evaluation of Development Proposals and Impacts

The combined survey results have shown that Racket Town supports an occasional day roost for brown long-eared bat and a two day roosts for common pipistrelle bats; these are listed in Table 5 above. The client proposes to refurbish and extend the existing property, including demolition of the south-east projection, where one of the common pipistrelle day roosts is located.

In the absence of mitigation, the proposals have the potential to disturb, injure or kill bats and result in the loss of the identified roosts; the impact of this on the local bat populations is detailed in Table 7 below:

Table 7: Predicted impact of the proposed development on the local bat populations in the absence of mitigation.

Roost Type	Species	Peak Count	Predicted Impact
Occasional day	Brown long-eared bat	1	Long-term, near certain, negative, Site
Day	Common pipistrelle	1	Long-term, near certain, negative, Site
Day	Common pipistrelle	5	Long-term, near certain, negative, Site

In the absence of mitigation, the proposals have the potential to disturb, injure or kill common pipistrelle and brown long-eared bats and to result in the loss of all bat roosts listed in Table 7. In the absence of mitigation, the identified impact on roosting bats is considered likely to be **long-term in duration, of near certain occurrence, negative within the Site and of moderate significance**.

5.2 Bat Mitigation

To avoid, mitigate and compensate for potential impacts, an outline of the recommended mitigation is provided below (to be agreed with the client). The proposals have potential to have a significant impact on roosting bats; an appropriate licence must be obtained from Natural England before works can lawfully commence. The appropriate licence will set out the mitigation required to maintain the favourable conservation status (FCS) of the bat species using Racket Town, Tresco. The identified roosts should be retained wherever possible in the first instance. Where this is not feasible, alternative roost provision within the modified building must be provided.

Outline of recommended mitigation:

- Works will not commence until an appropriate licence has been obtained from Natural England. The named ecologist or an accredited agent must deliver an on-site toolbox talk to the contractors immediately prior to commencement of works and supervise all works with potential to impact roosting bats. If the licence application is to be delayed beyond May 2025, then an update emergence survey(s) of the building is likely to be required, to be undertaken between May-September. **NB**. This is a condition of the licence application and is not a planning requirement. The current level of survey effort is sufficient to inform a planning application. No further survey effort is required to inform the planning application. The licence cannot be obtained until planning consent is in place.

- Works will be scheduled for a time of year when bats are least likely to be impacted.

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- Works with potential to impact bats will be carried out under an ecological watching brief. A licensed bat ecologist will oversee works to the roof / roof voids/ fascias/ soffits etc. Prior to demolition of any parts of the building, the roof must be 'soft stripped' under an ecological watching brief; any common pipistrelles or brown long-eared bats uncovered will be relocated to temporary bat boxes installed onto nearby trees. NB: the bat boxes (x2 Large Multi Chamber Woodstone bat boxes or a comparable product) will be installed in advance of works commencing and in a location that will not be disturbed as a result of building works. See https://www.nhbs.com/ for product specification.

- The existing common pipistrelle day roost located between roof/ridge tiles and the bitumen membrane at the southern gable end should be retained or re-created post-development (if re-roofing is proposed). The access point (gap beneath end roof tile) should be protected, or re-instated post-development through installation of a bat slate slate (https://www.leadworx.co.uk/product-tag/bat-access-slate) and/or raised ridge tile in this location, featuring a 20mm x 50mm gap to allow the bats between the roof tiles and bat safe membrane (bitumen type 1F).

- The existing common pipistrelle day roost behind the soffit on the west elevation of the south-eastern projection will be lost to allow for the development. Loss of this roost will be compensated by creation of a new roost feature within the new south-east wing. This could either take the form of spacing off of fascia boards by 25mm to create a gap behind for bats to roost within, or installation of one Schwegler 1FE bat access panel with back plate (or comparable product) within the fabric of the building, to be located on a south or west elevation of the property post-development.

- The existing brown long-eared bat day roost within the roof void should be retained, if possible, which appears to be feasible within the constraints of the proposed development. The existing brown long-eared bat access points are unknown; but existing gaps at the wall tops that provide the potential access point(s) will likely be lost. Suitable bat access into the retained roof void will created by spacing off the fascia boards by 25mm to create a gap behind for bats to access at the wall tops, or installation of two bat slates onto each of the eastern and western aspects of the roof with a corresponding slit created in the bitumen felt underneath to enable brown long-eared bats to access the roof void below. Alternatively, two raised ridge tiles featuring a gap as described above with corresponding slit in the roof membrane can be used to provide access to the roof void. The roof must be lined with type 1F bitumen as opposed to a synthetic breathable membrane, which can be harmful to bats. If retention of the roof void is not possible, then alternative provision for roosting bats must be made within the modified building by installation of an appropriate bat box (e.g. Schwegler Bat Access panel with back plate) integrated within the fabric of the modified building or on the exterior of the building. Where bats can make contact with the roof membrane, this **must** comprise **bitumen type 1F** or a non-bitumen coated roofing membrane (NBCRM) with a test certificate approved by Natural England. This is because modern synthetic membranes are harmful to bats and their use will not be permitted by Natural England.

- No exterior lighting will be installed close to the temporary and permanent bat roost features or access points, and no bat roost features will be located close to proposed glazing so to avoid sources of potential light spill.

- Building contractors will be briefed prior to commencement of site works. Contractors will be notified about the potential presence of bats and informed that if a bat/s is/are uncovered during works, then work must stop immediately (as soon as it is safe to do so) and advice sought from the licensed bat ecologist/s (Plan for Ecology Ltd, 01326 218839).

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5.3 Residual Impacts

The residual impact of the proposed development on roosting bats is predicted to be **neutral at a site scale, subject to the successful implementation of the mitigation outlined in this report.**

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6.0 References

Baker *et al*., (2019) Biodiversity Net Gain: Good Practice Principles for Development.

BCT (2023) The National Bat Monitoring Programme Annual Report 2022. Bat Conservation Trust, London.

BCT (2022) Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys. BCT.

BSI (2013) BS 42020: 2013 Biodiversity: Code of Practice for Planning and Development. BSI.

Collins (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition, Bat Conservation Trust, London.

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

Cornwall Mammal Group (accessed October 2023) https://www.cornwallmammalgroup.org/our-publication-the-atlas

HM Government (1981 as amended) The Wildlife and Countryside Act 1981 (as amended). HMSO, London.

HM Government (1997) Statutory Instrument 1997 No.1160. The Hedgerow Regulations 1997. HMSO, London.

HM Government (2000) The Countryside and Rights of Way Act 2000. HMSO, London.

HM Government (2006) The Natural Environment and Rural Communities Act 2006. HMSO, London.

HM Government (2017) The Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.

HM Government (2019) The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. HMSO, London.

Plan for Ecology Ltd (2020a) P4E1126 Racket Town, Tresco, Isles of Scilly – Preliminary Bat and Bird Assessment. Plan for Ecology Ltd, Cornwall.

Plan for Ecology Ltd (2020b) P4E1199 Racket Town, Tresco, Isles of Scilly – Bat Survey Report. Plan for Ecology Ltd, Cornwall.

Plan for Ecology Ltd (2024) P4E3404 Racket Town, Tresco, Isles of Scilly – EcIA & Preliminary Roost Assessment Report. Plan for Ecology Ltd, Cornwall.

Williams C.A. and Cornwall Bat Group (2009) Bats. In CISBFR, Red Data Book for Cornwall and the Isles of Scilly. 2nd Edition. Croceago Press, Praze-an-Beeble.

Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

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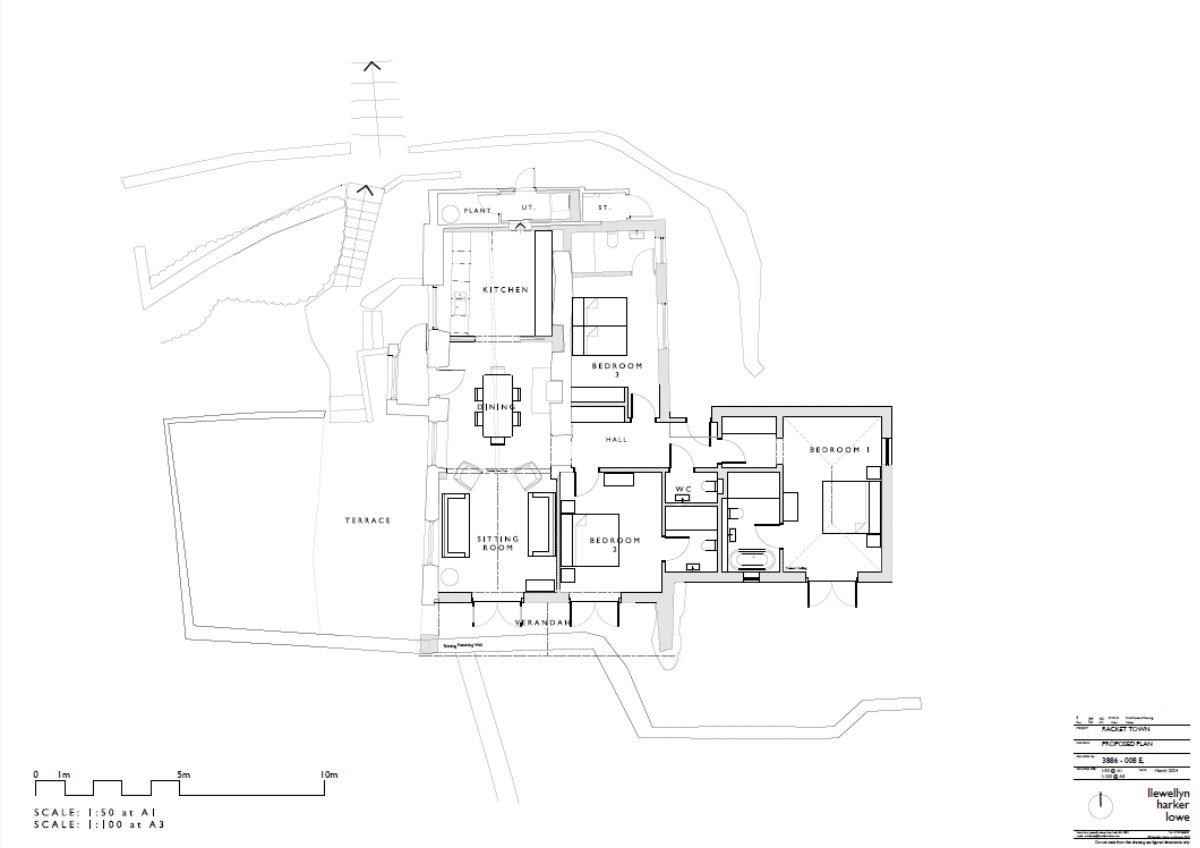
7.0 Appendix 1: Indicative Site Proposals



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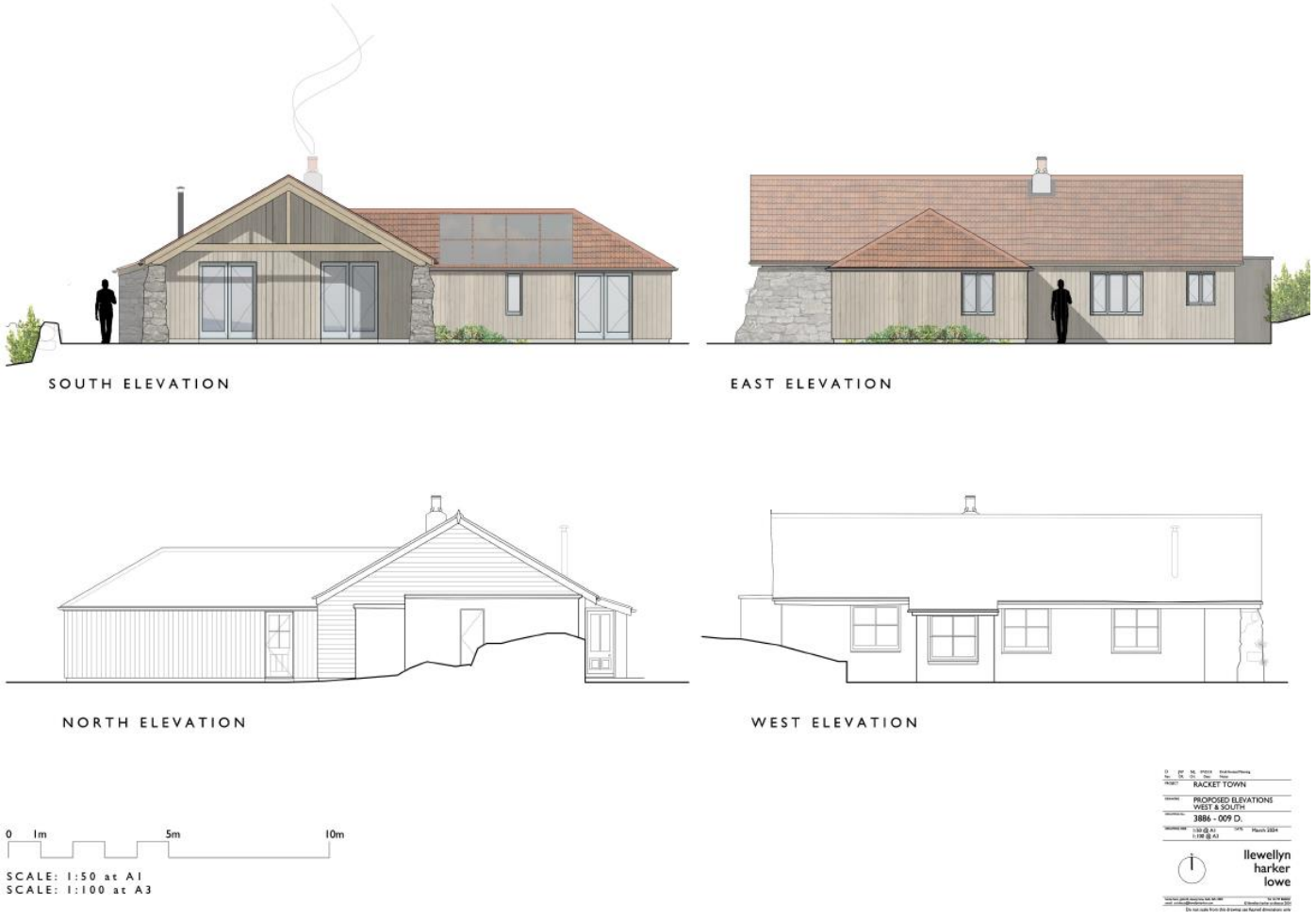

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8.0 Appendix 2: Start and End Images of Buildings Surveyed.

	
25.05.2024 – North & West Elevations (Start)	25.05.2024 – North & West Elevations (End)
	
25.05.2024 – East Elevation (Start)	25.05.2024 – East Elevation (End)
	
25.05.2024 – South apex & west elevation of projection (Start)	25.05.2024 – South apex & west elevation of projection (End)
	
20.06.2024 – East Elevation (Start)	20.06.2024 – East Elevation (End)

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20.06.2024 – South apex & west elevation of projection (Start)	20.06.2024 – South apex & west elevation of projection (End)
20.06.2024 – Images available on request	20.06.2024 – Images available on request

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