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# PLAN FOR ECOLOGY

## **Ecological Impact Assessment (EcIA) & Preliminary Roost Assessment (PRA) and Nesting Bird Survey**

Site:

Racket Town, Tresco, Isles of Scilly

Grid Reference: SV 89286 14924

19<sup>th</sup> April 2024



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### Document Control:

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<b>OS Grid Reference:</b>	SV 89286 14924
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<b>Document Approved By:</b>	Kim Jelbert
<b>Client:</b>	Tresco Estate
<b>Report Reference Number:</b>	P4E3404
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<b>Date:</b>	19 <sup>th</sup> April 2024

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### 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."

<b>Caroline Davey</b>	
<b>Kim Jelbert</b>	

### Report Lifespan:

Ecological features can change over time, particularly if site management/ use changes. At the time of writing, Ecological Impact Assessments are typically considered to be valid for 12 months (until March 2025), unless stated otherwise.



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## 1.0 Non-Technical Summary

Tresco Estate commissioned Plan for Ecology Ltd to undertake a Preliminary Ecological Appraisal / Ecological Impact Assessment (PEA/ EcIA) and an update Preliminary Roost Assessment and Nesting Bird Survey of the property known as Racket Town and its surrounding habitats in Tresco, Isles of Scilly (OS Grid Ref: SV 89286 14924) in March 2024. It is understood that the client proposes to refurbish and extend the property, which will include partial demolition of the existing building and an extension of the footprint of the property.

The Ecological Impact Assessment (EcIA) comprised a desk study and a Phase 1 survey, including a UK Habitat Classification Survey and an assessment of the potential of the site to support protected species. This EcIA report describes and evaluates the results of the desk study and survey and assesses the impacts of the proposed development in accordance with the CIEEM Guidelines for Ecological Impact Assessment (CIEEM, 2018).

The application site, measuring c. 0.2 ha, includes the building of Racket Town and surrounding habitats within the red line boundary shown on Map 1 below. Racket Town is located c. 0.45km south-east of New Grimsby, on the west side of Tresco, c. 4.5km north of Hugh Town on St Mary's and c.1.3km east of The Town on Bryher, c.48km west of the mainland at Land's End.

There are no protected or priority habitats within the site boundary. Three habitat features of ecological interest are present. These are 'other woodland mixed/plantation (w1h 29) dense scrub/introduced shrub (H3 847) and built linear feature/hedgebank (u1e 111). Notable species / species groups with potential to occur on-site include breeding birds; bats (roosting, foraging and commuting); lesser white-toothed shrew and amphibian species, invertebrate species and vascular and non-vascular plants.

**Designated Sites:** Racket Town lies within close proximity to several International and National sites designated for nature conservation; however, the proposed development site is considered to be sufficiently distant for the proposed constructional activities and subsequent operational use not to impact the designated sites of nature conservation significance in the wider area. These are listed below:

- The Isles of Scilly Complex Special Area of Conservation (SAC)
- The Isles of Scilly RAMSAR site
- The Isles of Scilly Special Protection Area (SPA)
- The Pentle Bay, Merrick and Round Islands Site of Special Scientific Interest (SSSI)
- Great Pool SSSI
- Castle Down SSSI

Ecological constraints and opportunities are detailed on the accompanying 'Ecological Constraints and Opportunities Plan' (ECOP) shown on Map 1 below. Table 1 summarises the assessment of impact of the proposed development on ecological features.

Table 1: Summary assessment of impact of the proposed development on features of ecological importance before and after mitigation.



Feature	Effect without mitigation	Mitigation Summary	Significance of effect of residual impact after mitigation
<b>Other woodland mixed/plantation (w1h 29)</b>	Degradation and loss of plantation woodland habitat	Trees to be retained and protected according to principles of the BS5837:2012 Trees in relation to design, demolition and construction. If any trees are to be removed an equal or greater number must be planted to avoid an overall net loss of biodiversity	Neutral – opportunity for enhancement
<b>Dense scrub/introduced shrub (h3 847)</b>	Loss of scrub/introduced shrub habitat from construction and operational activities.	New beds of ornamental shrubs and scrub habitat to be incorporated into the proposed landscaping scheme	Neutral – opportunity for enhancement
<b>Built linear feature/hedgebank (u1e 111)</b>	Degradation and loss of traditional granite hedge	Ensure construction activities do not impact the granite wall/boundary hedge. Ensure access to the property during construction is from the east side and there is a buffer of 2-5m between the hedge and storage of plant and materials.	Neutral
<b>Bats (foraging, commuting)</b>	Small loss of foraging habitat but this is unlikely to impact populations. Artificial lighting when the site is operational could impact foraging and commuting activity.	Light levels to be kept <0.5lux along the boundaries of the site and minimised across the remainder of the site.	Neutral
<b>Bats (roosting)</b>	Potential impact on a known bat roost through construction works.	Retain or reinstate confirmed bat roosts post-development. Two update bat emergence surveys are required to be undertaken during the bat active season (May-September) to inform the planning application and potential licencing requirements.	Neutral
<b>Birds</b>	Small loss of foraging habitat but this is unlikely to impact populations. Disturbance to active nests from construction and operational activities.	Trees to be retained and buffered from the development. Any removal or pruning of shrub habitat, and partial demolition of the building to be undertaken outside the bird breeding season or be preceded by inspection undertaken by an ecologist. Precautionary measures to be implemented to protect	Neutral – opportunity for enhancement



Feature	Effect without mitigation	Mitigation Summary	Significance of effect of residual impact after mitigation
		individual animals and active nests from harm. Replacement swallows nests to be incorporated into the design of the new building	
<b>Amphibians</b>	Small loss of habitat but this is unlikely to impact populations. Potential injury during construction.	Precautionary measures to be implemented to protect individual animals from harm during construction.	Neutral – opportunity for enhancement
<b>Invertebrates</b>	Small loss of foraging habitat and shelter but this is unlikely to impact populations.	Follow mitigation for habitats	Neutral – opportunity for enhancement
<b>Vascular plants</b>	Reduction in plant diversity from habitat loss and degradation.  Spread of non-native invasive species.	Follow recommendations for habitats. Habitat enhancements will increase plant diversity. A pre-construction, post-planning walkover survey for invasive plants will be required. Implement the Invasive Species Control Plan given at Appendix 3.	Neutral – opportunity for enhancement
<b>Non-vascular plants</b>	Reduction in plant diversity from habitat loss and degradation.	Habitat enhancements will increase plant diversity.	Neutral – opportunity for enhancement

**Further surveys and assessments:** Two update bat emergence surveys in the bat active season (May-September) are required to inform the planning application.

A post-planning, pre-construction survey will be required for invasive species. An ecological watching brief will be required if trees or shrubs are to be cleared or if partial demolition of the building is required during the bird nesting season (March – August/September).

A Biodiversity Metric and BNG report may be required to inform the planning application. All eligible minor developments will need to demonstrate a 10% BNG from 2<sup>nd</sup> April 2024 onwards.



Table 2: The baseline statement of predicted change (habitat losses and gains)

<b>Ecological Receptor</b>	<b>Ecological Value</b>	<b>Loss (approximate)</b>	<b>Gain (approximate)</b>
<b>Other woodland; mixed/plantation (w1h 29)</b>	Local	0 m2 for footprint of new extension	unknown
<b>Dense scrub/introduced shrub (h3 847)</b>	Local	0 m2 for footprint of new extension. Unknown area for clearance during construction phase	unknown
<b>Modified grassland/mown (g4 106)</b>	Within the Zone of Influence	Small area east of extension. Area unknown	unknown
<b>Non-native and ornamental hedgerow (h2b)</b>	Within the Zone of Influence	Approx. 32m east and south garden hedges likely to be impacted	unknown
<b>Built up areas and gardens/introduced shrub (u1 847)</b>	Within the Zone of Influence	Approx. 75m2	unknown
<b>Urban, artificial unsealed surface (u1c)</b>	Negligible	Approx. 100m2	unknown
<b>Built linear feature/hedgebank (u1e 111)</b>	Local	0m2	unknown
<b>Buildings (u1b5)</b>	Negligible	0m2	Approx. 175m2

**The residual impact of the proposed development is predicted to have a neutral impact, at a local scale on the ecology of the site,** subject to the successful implementation of the mitigation outlined in this report. There is an opportunity for the development to have a positive impact with the inclusion of biodiversity enhancements.





## **2.0 Ecological Constraints and Opportunities Plan (ECOP)**

**Opportunities:** One bird box or bat box is recommended to be incorporated into the fabric of the building.

Swallow nesting bowls are recommended to be incorporated onto the exterior of the new building on the north and west facing elevations to continue providing nesting habitat for swallows.

One bee brick is recommended to be incorporated into the new building or a bee post in the garden.

Maximise the value of the site for invertebrates, amphibians, reptiles and lesser white-toothed shrew by providing piles of deadwood or stones and standing water features.

Plant native tree and shrub species as opposed to introduced ornamental species within any landscaped parts of the site post-development. There is opportunity to achieve a net gain in trees post-development.

There is opportunity to achieve a gain of habitat on-site by incorporating new Cornish hedges topped with native trees and shrubs within the site layout.

The successful eradication of Schedule 9 (WCA, 1981) invasive plant species will enhance the biodiversity value of the site and help to protect semi-natural habitats within the area.

The provision of a log pile, within a hedgerow buffer will improve the site for reptiles, amphibians, invertebrates and non-vascular plants.

**Constraint:** Update surveys; Two bat emergence surveys to be undertaken between May and September.

Implement the invasive species control plan in Appendix 3. A pre-construction, post-planning walkover survey for invasive plants will be required.

**Target notes:**

1. Closely mown lawn in garden area
2. Location of timber lean-to and swallow nests
3. Area of hardstanding; vehicular access to east side of Racket Town
4. Vegetation dominated by mature Olearia at southern end
5. Area of plantation woodland with Monterey pine, olearia and escallonia
6. Modified grassland with longer sward at southern end
7. Bat droppings found in roof void here



**Constraint: Bats (roosting):** Two bat emergence surveys are required to be undertaken during the bat active season (May-September) to inform the planning application and potential licencing requirements

**Constraint: Bats (foraging):** Light levels to be kept <0.5lux along the boundaries of the site and minimised across the remainder of the site.

**Constraint: Birds:** Trees to be retained and buffered from the development. Any removal or pruning of shrub habitat to be undertaken outside the bird breeding season.

Swallow nests were observed on the exterior of the northern end of the building during the survey. Any works to the building should be undertaken outside the bird nesting season (between October and February), subject to their being no constraints associated with roosting bats. If this is not possible works must be preceded by an inspection by an ecologist.

Precautionary measures to be implemented to protect individual animals and active nests from harm.

**Constraint: Other woodland/mixed plantation (w1h 29):** Trees to be retained and protected according to principles of the BS5837:2012 Trees in relation to design, demolition and construction. If any trees are to be removed an equal or greater number must be planted to avoid an overall net loss of biodiversity

**Constraint: Dense scrub/introduced shrub (h3 847):** New beds of ornamental shrubs and scrub habitat can be incorporated into the proposed landscaping scheme to mitigate for loss of this habitat through construction works.

**Constraint: Built linear feature/hedgebank (u1e 111):** Ensure construction activities do not impact the granite boundary hedge. Retain a hedge buffer between 2-5m from any plant and storage of materials during the construction phase.

**Constraint: Lesser white toothed shrew:** Any loss of 'other mixed woodland/plantation' and 'dense scrub/introduced shrub habitat' should be mitigated for by the planting of an equivalent area of habitat with native trees and shrubs.

## Map 1: Racket Town, Tresco - UK HAB Distribution & Ecological Constraints & Opportunities Plan (ECOP)

### Key

- Montbretia (Sch 9, WCA, 1981) invasive species
- Three cornered garlic (Sch 9, WCA, 1981) invasive species
- Target note
- Built linear feature/hedgebank (u1e 111)
- Non-native and ornamental hedgerow (h2b)
- Urban, artificial, unsealed surface (u1c)
- Building (u1b5)
- Dense scrub/introduced shrub (h3 847)
- Built up areas and gardens/introduced shrub (u1 847)
- Other woodland/mixed plantation (w1h 29)
- Modified grassland (g4)
- Approx. site boundary



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## 3.0 Introduction

### 3.1 Background & Purpose of Survey

Tresco Estate commissioned Plan for Ecology Ltd to undertake a Preliminary Ecological Appraisal / Ecological Impact Assessment (PEA/ EcIA) and a Preliminary Roost Assessment (PRA) and Nesting Bird Survey of Racket Town, Tresco, Isles of Scilly (OS Grid Ref: SV 89286 14924) in March 2024. It is understood that the client proposes to refurbish and extend the property, which will include partial demolition of the existing building.

An indicative site layout is shown in Figure 1 below. A location plan showing the designated sites of nature conservation importance within a 1km radius of the site is provided at Appendix 1. The Ecological Constraints and Opportunities Plan (ECOP) for the site is shown on Map 1 above.

### 3.2 Site Location & Description

The application site, measuring c. 0.2 ha, which includes Racket Town and surrounding habitats within the red line boundary shown on Map 1 above. Racket Town is located c. 0.2km east of New Grimsby, on the west side of Tresco, c. 4.5km north of Hugh Town on St Mary's, c.1.3km east of The Town on Bryher and c.48km west of the mainland at Land's End.

The site comprises the house 'Racket Town' and sub-tropical gardens associated with the property, and habitats outside the curtilage of the property which include a small area of plantation woodland, modified grassland and some dense scrub/introduced shrub habitat. The location is rural in character with the property sitting adjacent to an area of mixed plantation woodland to the north and mixed farmland (pasture and arable) to the south, east and west. An area of Reedbeds, a UK BAP priority habitat protected under Section 41 NERC Act ,2006 is c. 130 m south of the property.

There are two Schedule 9, WCA (1981) invasive plant species growing within the site boundary. These are three cornered leek (*Allium triquetrum*) and montbretia (*Crocsmia x crocosmiiflora*).

### 3.3 Proposed Site Plans

The applicant seeks planning consent to refurbish and extend the property. The works will include partial demolition of the existing building and construction of the new building (Figure 1). The grassland strip will be retained for access to the property.

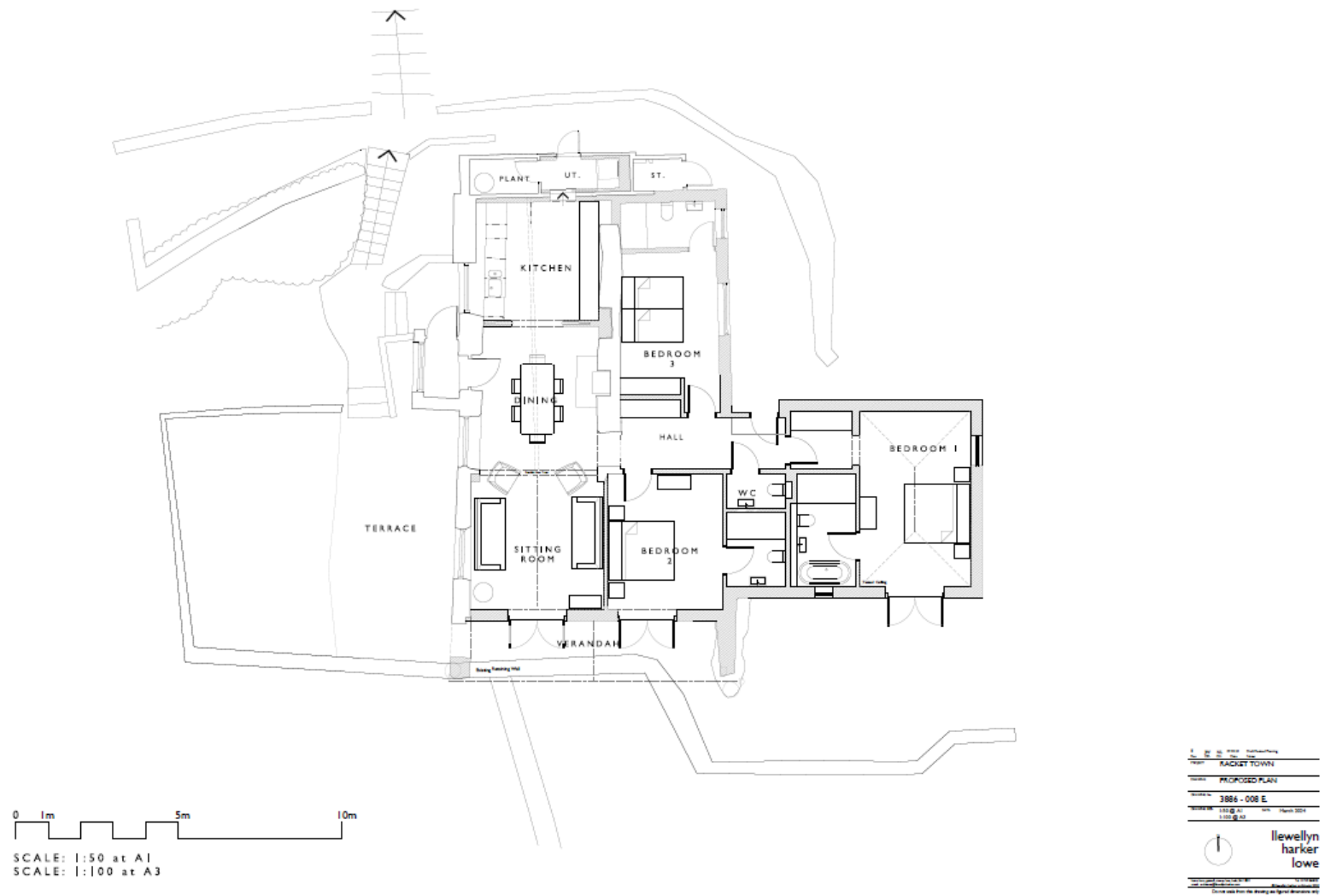


Figure 1. Proposed layout of the refurbishment



### 3.4 Project Administration

<b>Site Name:</b>	Racket Town, Tresco, Isles of Scilly, TR24 0QJ
<b>OS Grid Reference:</b>	SV 89286 14924
<b>Client:</b>	Tresco Estate
<b>Planning Authority:</b>	Cornwall Council
<b>Report Reference Number:</b>	P4E3404
<b>Site proposals:</b>	The applicant seeks planning consent to partially demolish and extend the property 'Racket Town.'
<b>Survey Dates:</b>	28 <sup>th</sup> March 2024
<b>Surveyor &amp; Licence Numbers:</b>	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)

### 4.0 Methodology

This assessment has been carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal' produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017); BS42020-2013 Biodiversity – Code of Practice for Planning & Development, as adopted by local planning authorities (British Standard, 2013); and the CIEEM Guidelines for Ecological Impact Assessment (CIEEM, 2018).

#### 4.1 Desk Study

The desk study is 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. The distance between the site boundary and nearby European sites was measured using MAGIC <http://www.magic.gov.uk> to determine if the site falls within a European site Zone of Influence.

#### 4.2 Site Survey

##### Phase 1 Survey

The survey comprised an extended Phase 1 Survey of land within the planning application boundary referred to as the 'site'. The survey was undertaken on 28<sup>th</sup> March 2024 to identify the habitats present according to the UK Habitat Classification system (UKHab Ltd, 2023) and their associated plant species, and assess the potential of the site to support protected species and species of conservation concern.

The surveyor noted down the presence of invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and species listed as injurious (harmful) under the Weeds Act 1959 within the site and within c.7m of the site boundary (where access was available), but a detailed survey for these species was not undertaken. Survey data was digitised using QGIS.



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### Update Preliminary Roost Assessment and Nesting Bird Survey

Racket Town was assessed for its suitability for supporting bats and birds. A high-power torch was used to illuminate all accessible areas of the building with potential to support roosting bats and roosting/ nesting birds. The ecologist searched for signs of bats including droppings, fur oil staining, urine staining, feeding remains, audible squeaking, bat-fly (Nycteribiid) pupal cases and odour; and for field signs of current use by nesting birds and barn owls, including liming, pellets, moulted feathers and signs of barn owl nesting (e.g. presence of adult or juvenile barn owls, eggs or egg fragments, nest debris and moulted feathers and down) and other bird species nests.

The assessment was carried out in accordance with the 'Bat Survey for Professional Ecologists - Good Practice Guidelines' produced by the Bat Conservation Trust (Collins, 2023).

### **4.3 Ecological Evaluation**

The methods and standards for site evaluation within the British Isles are defined in 'A Nature Conservation Review' (Ratcliffe, 2009). They are broadly used across the United Kingdom to rank sites, so priorities for nature conservation can be attained. The criteria are size, diversity, naturalness, rarity and fragility, with secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units.

The assessment judges features within the site in relation to other sites because a number of habitats may be of nature conservation importance when combined.

The legislative and planning policy context are important and have been given full consideration in this assessment.

There are also a number of other important considerations as follows:

- Designated Sites and Features e.g. Special Protection Areas (SPA), Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI; ecologically important hedgerows etc.);
- Biodiversity Value (use of Biodiversity Action Plans and local development plans);
- Potential Value;
- Secondary or Supporting Value;
- Social or Economic Value; and
- Legal Designation.

Based on the criteria above and professional judgement, the likely value of ecological features is determined within a geographical context in accordance with the CIEEM Guidelines for Ecological Impact Assessment (CIEEM, 2018). Value is assigned in decreasing order of importance as follows: International (Europe), National (UK), Regional (Southwest), County, District, Parish, Local, Zone of Influence and Negligible.

This evaluation method identifies 'important ecological features' (considered to be of Local value and above) which could potentially be affected by the proposed development.

Potential bat roosts identified during the visual inspection of the building were categorised as to their suitability in accordance with the Bat Conservation Trust's (BCT) Good Practice Guidelines (Collins, 2023) as detailed in Table 3 below:



Table 3: 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.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts such as maternity or hibernation roosts.

Defining and recording use by barn owl during the visual inspection of the building is categorised in accordance with Shawyer (2011) as detailed in Table 4 below:

Table 4: Categorisation of barn owl use.

Category	Description
Potential Nest Site (PNS)	Features with a hole of at least 80mm diameter or vertical slot of this width backed by a sufficiently large and dark chamber with a floor area normally greater than 250mm x 250mm.
Active Roost Site (ARS)	A place where breeding does not occur, but where the bird is seen or heard regularly, or its current or recent presence can be recognised by signs such as liming, pellets or moulted feathers. Regularity and timing of use is indicated by amount of evidence and its age.
Temporary Rest Site (TRS)	Small amounts of liming, pellets or moulted feathers beneath a perch indicative of occasional use.
Occupied Breeding Site (OBS)	A place where breeding is taking place or has done so in the recent past as indicated by the presence of a breeding pair with nest debris, eggs, egg shells, chicks or down present.





## 4.4 Impact Assessment

Where the impact of the proposed scheme on an ecological receptor(s) can be determined without further survey or design information, an ecological impact assessment is undertaken within the Preliminary Ecological Appraisal (PEA) report. Where the impact of the scheme on an ecological receptor(s) cannot be determined, then this is clearly stated.

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).

Site integrity has been defined as follows: 'The integrity of a site is the coherence of its ecological structure and function, across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified (CIEEM, 2018). Site integrity is dependent on the extent, magnitude and duration of impacts upon each ecological feature (habitats or species). The accumulative impact, across all features, is therefore used to determine overall impact significance on the integrity of the site, and in EIA terms. Available guidance and information, such as the distribution and status of the species or features, and professional judgment have been used to determine impact significance.

## 4.5 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.

Where an identified adverse impact cannot be fully mitigated, the residual impact remains. This residual impact in combination with similar impacts locally could constitute a cumulative impact. Due to the small scale and nature of the proposed development, only cumulative impact arising from potential development of adjoining land is considered within this assessment.

## 4.6 Biodiversity Net Gain

This report identifies potential biodiversity enhancements that can be included in the scheme which would contribute to a Biodiversity Net Gain (BNG). The proposed scheme is classed as a 'minor' development and all eligible minor developments are now required to deliver a 10% BNG (introduced in April 2024). Further information is presented in section 6.4.





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## 4.7 Limitations

It is possible to undertake Phase 1 surveys at any time of year, with the optimal period between April – September. Many plant species remain visible all year round and can be readily identified from their vegetative characteristics. It is usually possible to classify habitats, notably hedgerow, scrub and urban habitats, year-round due to the nature of the vegetation present.

March is a sub-optimal time of year to undertake more detailed vegetation surveys, including invasive plant surveys and BNG baseline habitat condition assessments. This is because some species will not be visible (remaining quiescent below ground), and few will be in flower or with seed capsules present (important species identification features). Most of the habitats recorded at Racket Town are modified and the timing of the survey was not considered to be a significant limitation but, where any further surveys of specific habitats or species groups in the optimal period (April – September) is considered necessary to inform the EcIA, this is clearly stated in this report.

Weather conditions during the survey were in line with seasonal norms. There are no limitations to the survey associated with weather conditions.

Ecological features can change over time, particularly if site management/ use changes. Typically, habitat surveys are valid for 12 Months (until March 2025). A search for Tree Preservation Orders (TPO's) or Conservation Area status does not form part of this assessment.

## 4.8 Technical Competence

All survey work, reporting and mitigation recommendations have been undertaken by Caroline Davey BSc (Hons) MSc ACIEEM who holds the following protected species licence for bats: 2022-10817-CL18-BAT. Caroline has 13 years of experience as an ecological consultant, is an associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM), has an Honours degree in Zoology and a Master's Degree in Environmental Analysis and Assessment.



## 5.0 Assessment Results

### 5.1 Designated Sites and Local Conservation Initiatives

There are three statutory designated sites of international conservation importance and three statutory sites of national importance within a 1km radius of the site (Appendix 1).

Designated sites of international conservation importance within 1km of Racket Town are as follows:

- The Isles of Scilly RAMSAR site: This is a coastal designation encompassing marine and intertidal habitats surrounding the island of Tresco and it lies c. 0.7km east of Racket Town. RAMSAR sites are wetland sites of international importance. The Isles of Scilly site qualifies for this status because it supports 2.9% of the breeding population of lesser black gull (*Larus fuscus*).
- The Isles of Scilly Complex Special Area of Conservation (SAC): This is a coastal designation encompassing marine and intertidal habitats surrounding the island of Tresco and it lies c.0.4km west of Racket town at its closest point. SACs are internationally important sites designated for habitats and species of European importance. The Annex I habitats for which this site has been designated are sandbanks which are slightly covered by seawater at all times and mudflats and sandflats not covered by seawater at low tide and reefs. The qualifying Annex II species for selection of this site are shore dock (*Rumex rupestris*) and grey seal (*Halichoerus grypus*).
- The Isles of Scilly Special Protection Area (SPA): This is a coastal designation encompassing marine and intertidal habitats surrounding the island of Tresco and it lies c.0.4km west of Racket Town. SPAs are internationally important sites classified specifically for the protection of birds. The Isles of Scilly SPA has been designated for supporting lesser black gull, storm petrel (*Hydrobates pelagicus*) and its general assemblage of sea birds.

Designated sites of national conservation importance within 1km of Racket Town are:

- The Pentle Bay, Merrick and Round Islands Site of Special Scientific Interest (SSSI): This site lies c.0.8km east of Racket Town at its nearest point. This is a site of national nature conservation importance, designated for its transition from dunes to lichen-rich heathland and uninhabited islands important for breeding seabirds.
- Great Pool (Tresco) SSSI: This site lies c.0.1km south-west of Racket Town and is of national importance, designated for the largest freshwater pool on Scilly (1km across), protected from the sea by a narrow sandbank. The SSSI supports a range of wetland habitats and two notable vascular plant species: balm-leaved figwort (*Scrophularia scorodonia*) and Babington's leek (*Allium babingtonii*). The surrounding reed beds and willow carr are important for breeding and migrant birds.
- Castle Down SSSI: This site lies c.0.75km north-west of Racket Town. The site has been designated for its maritime heathland with a particularly important lichen flora. A range of rare oceanic heathland species including the only known European record of *Heterodermia propagulifera* together with *H. leucomelos* and *H. obscurata*. These *Heterodermia* communities are now very rare and comparable sites, outside Scilly, only occur in Brittany



and Channel Islands. In addition, the short lichen rich heathland on the Downs supports an important breeding colony of Common Tern (*Sterna hirundo*).

Racket Town lies within the 'Zone of Influence' of three internationally important sites: The Isles of Scilly RAMSAR site, The Isles of Scilly Complex SAC and the Isles of Scilly SPA.

Racket Town does not lie within the recreational Zone of Influence of any European site that is considered to be vulnerable to recreational pressure associated with an increase in local population density (Cornwall Council, 2021).

Racket town is also within the SSSI impact risk zone of Great Pool SSSI, lying c. 0.1km north-east of the SSSI.

The proposed partial demolition and re-build of Racket Town is considered unlikely to have an impact on the nearby designated sites because of the separation distance and lack of hydrological and other pathways and no further mitigation is required.

In the absence of mitigation, the nature of the identified impacts on designated sites is considered to be **negligible**. See section 6.1 for mitigation measures.

## 5.2 UK Habitat Classification

A total of eight UK Habitat Classification (UKHab) habitat types (inclusive of notable secondary codes) were recorded within the site during the site visit. These are listed below, and their distribution is shown on Map 1 above:

- Other mixed woodland/plantation (w1h 29)
- Dense scrub/introduced shrub (h3 847)
- Modified grassland (g4)
- Non-native and ornamental hedgerow (h2b)
- Built up areas and gardens/introduced shrub (u1 847)
- Urban, artificial unsealed surface (u1c)
- Built linear feature/hedgebank (u1e 111)
- Buildings (u1b5)

**Other mixed woodland/plantation (w1h 29), dense scrub/introduced shrub (h3 847) and built linear feature/hedgebank (u1e 111) are considered to be of notable ecological value and are described in section 5.3.**

Modified grassland (g4), non-native ornamental hedgerow (h2b), built up areas and gardens/introduced shrub (u1 847), urban, artificial unsealed surface (u1c) and buildings are all of negligible or low ecological value and are briefly described below:

### Modified grassland (g4)

A strip of modified grassland runs the length of the site along the eastern boundary (Figure 1). This is the field margin of the adjacent field, which has been fenced off to create a vehicular access to the property. For the most part, the grass is mown with a section of grassland in the south of the site, south of the house, with a longer sward. Grasses include abundant Yorkshire fog with frequent perennial rye grass (*Lolium perenne*), red fescue (*Festuca rubra*), cock's-foot (*Dactylis glomerata*) and common bent (*Agrostis capillaris*). Forbs include abundant ribwort plantain (*Plantago*



*lanceolata*), with occasional daisy (*Bellis perennis*), white clover (*Trifolium repens*), alexanders (*Smyrnium olusatrum*), nettle and hogweed. Other species which are present but rare include common cat's ear (*Hypochaeris radicata*), common mouse ear (*Cerastium fontantum*), dandelion (*Taraxacum officinale*) and perennial sow thistle (*Sonchus arvensis*). A further small area of closely mown lawn is present within the garden at Racket Town.

The grassland is limited in area but provides shelter for a range of faunal species, particularly in the area south of the house where the sward has been left to grow longer and at the margins with scrub and woodland habitat. Overall, this habitat is considered to be of ecological value **'within the Zone of Influence.'**

### **Non-native and ornamental hedgerow (h2b)**

Ornamental garden hedges are present along the western boundary, part of the southern boundary and create the boundary between the garden in the east of the site and the strip of modified grassland (Figure 2). All these hedges are single species, dense, well managed and trimmed to a uniform height. These hedges all comprise one of the following species: *Escallonia*, *Olearia* or garden privet (*Ligustrum ovalifolium*).

Non-native and ornamental hedgerows within the site provide shelter for a range of faunal species and potential nest sites for birds and are considered to be of ecological value **'within the Zone of Influence.'**

### **Built up areas and gardens/introduced shrub (u1 847)**

Surrounding the house are beds of sub-tropical shrubs and flowers, typical of properties on Tresco (Figure 3). A range of ornamental shrubs, succulents and flowers are present creating a colourful garden with a range of height, texture and microclimates. Species here include occasional to locally frequent *Agapanthus*, bear's breeches (*Acanthus mollis*), *Echium*, foxglove (*Digitalis purpurea*), aloe (*Aloe arborescens*), canary spurge (*Euphorbia mellifera*), giant herb robert (*Geranium maderense*), New Zealand Flax (*Phormium tenax*), tall Cape honey flower (*Melianthus major*), Rosemary (*Salvia rosmarinus*), New Zealand broadleaf (*Griselinia littoralis*), tree house leek species (*Aonium spp.*) and Mexican fleabane (*Erigeron karvinskianus*).

Although the majority of the species in the garden are non-native, the shrubs and flowers provide a range of microclimates, foraging habitat and shelter for faunal species. The gardens are considered to be of ecological value **'within the Zone of Influence.'**

### **Urban, artificial unsealed surface (u1c)**

The habitat immediately surrounding the house at Racket Town comprise areas of levelled gravel both east and west of the house (Figure 4). There are also steps and a hardstanding area adjacent to the road just north of the house.

This habitat is considered to be of **'negligible'** ecological value.

### **Buildings (u1b5)**

The house at Racket Town has been described in detail in Section 5.4. The building is devoid of vegetation and is considered to be of **'negligible'** ecological value (Figure 5). The potential of the





building to support protected species (roosting bats and nesting birds) was assessed; see Section 5.4.



Figure 1: Modified grassland (g4). Mown grassland in foreground, longer sward in background



Figure 2: Non-native and ornamental hedgerow (h2b)





Figure 3: Built up areas and gardens/introduced shrub (u1 847)



Figure 4: Urban, artificial unsealed surface (u1c)





Figure 5: Buildings (u1b5)

### 5.3 Notable Habitats

#### Other mixed woodland/plantation (w1h 29)

A small area of plantation woodland is present within the site boundary at Racket Town, in the north-east of the site (Figure 6). This woodland comprises a mix of three non-native tree/shrub species. These are Monterey pine (*Pinus radiata*), mature *Olearia* sp. and *Escallonia* sp. Ground flora is largely absent and comprises a carpet of dead pine needles with an occasional scattering of the following species: red campion (*Silene dioica*), agapanthus (*Agapanthus* sp.), navelwort (*Umbilicus rupestris*), montbretia (*Crocsmia x crocosmiiflora*) and three cornered leek (*Allium triquetrum*). This mix of non-native and native trees, shrubs and flowering plants is very typical of Tresco.

Other mixed woodland/mixed plantation provides potential nest sites for birds, foraging habitat for bats, foraging/shelter for invertebrates and the lesser white toothed shrew, and is considered to be of 'Local Value' for biodiversity. Although this small patch of plantation woodland is limited in its diversity and comprises predominantly introduced species, it forms part of a much more extensive area of woodland north of Racket Town and contributes to the green infrastructure of the island. Furthermore, although non-native, Monterey pine trees are a traditional part of the landscape of Cornwall and the Isles of Scilly.

#### Dense scrub/introduced shrub (h3 847)

In the south of the site, south of the property and outside the formal gardens, but within the site boundary there is an area of unmanaged dense scrub/introduced shrub habitat (Figure 7). This comprises a mix of ornamental species that have spread from the garden in combination with some native scrub species. *Escallonia* (*Escallonia* sp.), fuschia (*Fuschia* sp.) and bramble (*Rubus fruticosus*) are co-dominant with patches of locally dominant sea beet (*Beta vulgaris* ssp. *maritima*)



and nettle (*Urtica dioica*). Cleavers (*Galium aparine*) is abundant; hogweed (*Heracleum sphondylium*) is frequent; red campion (*Silene dioica*) is locally frequent; and echium (*Echium sp.*), Yorkshire fog (*Holcus lanatus*) and montbretia (*Crocsmia x crocosmiiflora*) are occasional.

Dense scrub/introduced shrub habitat provides shelter for a range of faunal species and potential nest sites for birds and is considered to be of '**Local Value**' for biodiversity. Although introduced shrub habitat is not usually considered to have a notable ecological value, in the Isles of Scilly the range of ornamental and native plants growing together is unique and typical of the islands, and this mix of species creates an interesting and diverse habitat which can support a range of other faunal species.

### **Built linear features/hedgebank (u1e 111)**

The northern boundary of the property comprises a traditional granite wall which is partially vegetated with a mix of native and non-native species including succulents, grasses, ferns, lichens and flowering plants (Figure 8). Bermuda buttercup (*Oxalis pes-caprae*) is abundant and deltoid leaved dewplant (*Oscularia deltoides*) is locally abundant. Navelwort, ribwort plantain, ivy (*Hedera helix*) and red fescue are frequent and three cornered leek is locally frequent. Occasional species include common polypody (*Polypodium vulgare*), bramble, red campion and wood false brome (*Brachypodium sylvaticum*). Rarely occurring species include broad buckler fern (*Dryopteris dilatata*).

This wall habitat has a rich lichen flora, is a traditional Cornish hedge, granite faced with an earth core. It is sparsely vegetated but is an important landscape feature in Cornwall and the Isles of Scilly, providing habitat for invertebrate species and is considered to be of '**Local Value**' for biodiversity.



Figure 6: Other mixed woodland/plantation (w1h 29)





Figure 7. Dense scrub/Introduced shrub (h3 847)



Figure 8: Built linear features/hedgebank (u1e 111)

## 5.4 Notable Species

Notable species and species groups with potential to use the site are described below. Further information about wildlife legislation is provided at Appendix 3.



## Badger

Badger (*Meles meles*) is absent from the Isles of Scilly. The site is considered to be of '**negligible**' importance for badger. The impact of the works on badger is therefore '**negligible.**'

## Hedgehog

Hedgehog (*Erinaceus europaeus*) (NERC Section 41 (2006); Schedule 6 WCA (1981) is absent from Tresco. The site is considered to be of '**negligible**' importance for hedgehog. The impact of the works on hedgehog is, therefore, '**negligible.**'

## Bats (Roosting)

The ERCCIS desk study revealed records for two bat species within a 1km radius of the site (ERCCIS, 2024). These comprise fifty-three records for common pipistrelle (*Pipistrellus pipistrellus*) and two records for brown long-eared bat (*Plecotus auritus*).

All bat species are European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2017 (as amended), Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the WCA 1981 (as amended). Some bat species are also identified as UK BAP priority species and protected under Section 41 of the NERC Act 2006.

In 2020 a preliminary roost assessment and two bat emergence surveys of Racket Town were carried out. During the preliminary roost assessment bat droppings were collected from the roof void. DNA analysis revealed that droppings were deposited by brown long-eared bat (Plan for Ecology, 2020 Ltd). During the emergence surveys a single common pipistrelle bat emerged from the soffit on the south-east projection of the building. The results confirm that in 2020 the building was used by at least one common pipistrelle bat as an occasional day roost, and by at least one brown long-eared bat as a likely occasional day roost (Plan for Ecology, 2020 Ltd).

An update Preliminary Roost Assessment (PRA) was undertaken of Racket Town as part of this ecological assessment. Racket Town was reassessed for its suitability for supporting roosting bats. The visual assessment was made on 28<sup>th</sup> March 2024. See Figure 9 for the aerial view of Racket Town.





Figure 9: Aerial view of Racket Town (shown by the yellow outline)

Racket Town is a traditional island bungalow with a small porch, orientated north to south and set into the sloping hillside. The roof is pitched with interlocking composite roof tiles and ridge tiles. Guttering is plastic. The original part of the building was constructed from granite, and this can still be seen on the west elevation (Figure 10). The house was extended on its eastern side with a timber framed and boarded extension (Figure 11). All fascia boards and soffits are of timber construction.

There are some small gaps between the timber fascia/soffit and the wall close to the porch that could allow access for bats (Figure 12).

The walls of the south elevation are of timber construction which sit on a double course of concrete blocks. The upper half of the wall comprises timber shiplap (Figure 13). There are some gaps between the timber work on the soffit and fascia board and there is some mortar missing beneath a roof tile (Figures 14 and 15). There is a gap behind the fascia board on the south-west corner (Figure 16).

The gable end of Racket Town is on the north elevation (Figure 17). There is a further small flat roofed timber lean-to on this side of the building which houses the boiler. There is a gap behind the soffit of the gable end which could provide access to bats (Figure 18). There are further gaps behind the timber fascia of the boiler room that could provide access for bats (Figure 19).

Internally, the roof void has a fink truss style timber structure (Figure 20) and is lined with bitumen with rolled insulation between the joists. It is c. 1.5m to the apex. The roof is cold and draughty. There are numerous droppings present in the roof void. Many of these are large and likely to be white toothed shrew but a scattering of bat droppings on the rolled insulation were identified from the roof hatch (Figure 21).

As Racket Town still has numerous suitable features for roosting bats and as droppings were observed in the roof void, the building was assessed as being of '**moderate suitability**' for roosting bats and is considered to be a 'confirmed bat roost'.



Figure 10: West elevation of Racket Town



Figure 11: East elevation of Racket Town





Figure 12: Gap between timber fascia board and the wall at the porch (yellow arrow)



Figure 13: South elevation of Racket Town





Figure 14: Gaps between fascia boards and soffit on the south elevation (yellow arrow)



Figure 15: Gap beneath roof tile on the south elevation (yellow arrow)





Figure 16: Gap behind fascia on the south-west corner of Racket Town (yellow arrow)



Figure 17: North elevation of Racket Town





Figure 18: Gap behind soffit on the north elevation allowing potential access for bats (yellow arrow)



Figure 19: Gap between timbers allow access into the boiler room on the north elevation (yellow arrow)





Figure 20: Interior roof structure of Racket Town with fink style roof truss



Figure 21: Droppings in the roof void at Racket Town

### **Bats (foraging and commuting)**

There are fifty-three records for common pipistrelle and two records for brown long-eared bat within a 1km radius of Racket Town (ERCCIS, 2024) and there is evidence that pipistrelle and brown long-eared bat roost in Racket Town (Plan for Ecology Ltd, 2020). It is, therefore, likely that the habitats



surrounding Racket Town are used for foraging and commuting. The garden habitats, scrub, hedgerows, grassland and woodland all provide potential foraging and commuting habitat for bats.

Racket Town is assessed as being of '**low suitability**' for foraging and commuting bats due to its small size relative to bat species foraging territory.

### **Lesser white-toothed shrew (Scilly shrew)**

The ERCCIS desk study revealed 10 records for lesser white-toothed shrew (*Crocidura suaveolens*) within 1km of Racket Town (ERCCIS, 2024). Lesser white-toothed shrew is listed on the GB Rd List as Near Threatened and included in the Cornwall Red Data Book (RDB). The garden habitats, scrub/introduced shrub and woodland may provide suitable habitat for the lesser white toothed shrew, which feeds on invertebrates, including beetles, worms and sand hoppers.

The site is considered to be of up to '**Local Value**' for lesser white-toothed shrew.

### **Reptiles**

The ERCCIS desk study revealed one record for leather back sea turtle (*Dermochelys coriacea*) (Schedule 5 WCA, 1981; NERC Section 41 (2006) within 1km of Racket Town (ERCCIS, 2024).

There are no other records for reptiles within 1km of the site. The Isles of Scilly has one native introduced reptiles species, slow worm (*Anguis fragilis*) (Schedule 5 WCA, 1981; NERC Section 41 (2006)), which is understood to be restricted to the islands of St Mary's and Bryher. Due to the likely absence of terrestrial reptiles on the island of Tresco, the site is considered to be of '**negligible**' Importance for this species group.

### **Amphibians**

There is one record for palmate newt (*Lissotriton helveticus*) within 1km of the site (ERCCIS, 2024) and it is possible that the two other commonly occurring amphibian species: common toad (*Bufo bufo*) and common frog (*Rana temporaria*) (Section 41 NERC Act (2006); Schedule 5 WCA, 1981) are present in the area. Habitats on-site have potential to support these species during their terrestrial life phase; however, the site lacks standing water, a prerequisite for breeding amphibians.

The site is considered to be of value for amphibians '**within the Zone of Influence**'. Demolition of the building and construction of the new extension may have a short-term impact on individual amphibians during the construction phase but is unlikely to have any long-term impacts.

In the absence of mitigation, the nature of the identified impacts on amphibians is considered likely to be **short-term negative impact of likely occurrence, of minor significance within the Zone of Influence**. See section 6.3 for mitigation recommendations.

### **Birds**

Two hundred and seventy bird species of conservation concern have been recorded within a 1km radius of the site (ERCCIS, 2024). Of the species recorded, those with some potential to breed within the site are listed in Table 5 below. The ornamental hedgerows, scrub/introduced shrub, garden/introduced shrub and plantation woodland are likely to be used by nesting birds during the breeding season (March – August/ September). None of the trees have any voids that are suitable for nesting barn owl and the building had no suitable access or nesting places for barn owl. All wild bird species are legally protected whilst nesting under the WCA 1981 (as amended).



Evidence of nesting birds was found in the flat roofed boiler room on the north elevation of the building. Here two swallow (*Hirundo rustica*) nests were identified (Figure 21).

On site suitable bird nesting habitat include the plantation woodland, dense scrub/introduced shrub habitat, hedgerows, garden/introduced shrub habitat and the building itself.

Table 5: Bird species of conservation concern with potential to breed within the site.

Species Scientific	Species Venacular	International & National Designation	National & Local Status
<i>Phylloscopus sibilatrix</i>	Wood Warbler		England_NERC_S.41, BAP-2007, Bird-Red, Bird_RedList_GB_post2001-VU_Breeding;Cornwall RDB
<i>Troglodytes troglodytes</i>	Wren	Bern-A2	Bird-Amber
<i>Delichon urbicum</i>	House Martin	Bern-A2	Bird-Red, Bird_RedList_GB_post2001-VU_Breeding
<i>Columba palumbus</i>	Woodpigeon	BirdsDir-A2.1	Bird-Amber
<i>Apus apus</i>	Swift		Bird-Red, Bird_RedList_GB_post2001-EN_Breeding
<i>Turdus philomelos</i>	Song Thrush	BirdsDir-A2.2	Bird-Amber
<i>Emberiza citrinella</i>	Yellowhammer	Bern-A2	England_NERC_S.41, BAP-2007, Bird-Red
<i>Cecropis daurica</i>	Red-rumped Swallow	Bern-A2	
<i>Hirundo rustica</i>	Swallow	Bern-A2	
<i>Passer domesticus</i>	House Sparrow		England_NERC_S.41, BAP-2007, Bird-Red
<i>Chloris chloris</i>	Greenfinch	Bern-A2	Bird-Red, Bird_RedList_GB_post2001-EN_Breeding
<i>Linaria cannabina</i>	Linnet	Bern-A2	Bird-Red, Bird_RedList_GB_post2001-NT_Breeding
<i>Prunella modularis</i>	Dunnock	Bern-A2	Bird-Amber
<i>Carduelis carduelis</i>	Goldfinch	Bern-A2	
<i>Anthus cervinus</i>	Red-throated Pipit	Bern-A2	
<i>Pyrrhula pyrrhula</i>	Bullfinch		Bird-Amber
<i>Streptopelia decaocto</i>	Collared Dove	BirdsDir-A2.2	Bird_RedList_GB_post2001-NT_Breeding
<i>Passer montanus</i>	Tree Sparrow		England_NERC_S.41, BAP-2007, Bird-Red, Bird_RedList_GB_post2001-VU_Breeding
<i>Corvus frugilegus</i>	Rook	BirdsDir-A2.2	Bird-Amber, Bird_RedList_GB_post2001-NT_Breeding

Key:

WACA-Sch1_part1	Protected under Schedule 1 of the Wildlife and Countryside Act 1981
RedList_GB_post2001-CR_Breeding	British Red Data List – critically endangered breeding population
RedList_GB_post2001-EN_Breeding	British Red Data List – endangered breeding population
RedList_GB_post2001-NT_Breeding	British Red Data List – near threatened breeding population
RedList_GB_post2001-VU_Breeding	British Red Data List – vulnerable breeding population





England_NERC_S.41	Protected under Section 41 of the Natural Environment and Rural Communities Act 2006
BAP-2007	Included in the UK Biodiversity Action Plan (2007)
Bird-Red	BTO list of globally threatened species
Bird-Amber	BTO list of species with an unfavourable conservation status in Europe
Cornwall RDB	Cornwall Red Data Book
BirdsDir- A2.1	Birds Directive Annex 2.1 lists birds which may potentially be hunted under national legislation within the geographical land and sea area to which the Directive applies.
Birds Dir - A2.2	Birds Directive Annex 2.2 lists birds which may potentially be hunted under national legislation only within certain specified Member States.
Bern-A2	Berne Convention on the Conservation of European Wildlife and Natural Habitats



Figure 21: Swallow nest in the flat roofed boiler room on the north elevation

The site also provides a small area of foraging habitat for birds year-round, with the hedgerows, scrub and grassland offering a source of berries, fruit and invertebrates. Habitat size and quality indicate that the site is likely to be of value for birds **'within the Zone of Influence'**.

The small extent of habitat change is unlikely to affect local populations, but breeding birds could be disturbed if vegetation clearance and/or partial demolition of the building is carried out during the nesting season (March – August/ September). In the absence of mitigation, the nature of the identified impacts on bird species is considered to be **short-term, negative, of likely occurrence, and of minor significance within the Zone of Influence**. See Section 6.3 below for mitigation measures.

### **Invertebrates**

The ERCCIS desk study revealed records for ninety-three invertebrate species of conservation importance within a 1km radius (ERCCIS, 2024). Species which could potentially be present within the site are listed in Table 6. Most of the species that have previously been recorded are associated



with the freshwater, marine and coastal habitats within 1km of Racket Town. Some invertebrate species have legal protection under Schedule 5 WCA 1981 and the NERC Act 2006.

Within the site, the hedgerows, trees, scrub/introduced shrub habitat, plantation woodland and modified grassland have potential to support a diversity of invertebrate species. The presence of significant populations of rare species or diverse invertebrate assemblages is unlikely because of the small size of the site, diversity of habitats and sub-optimal habitat quality. The site is considered to be of value for invertebrates '**within the Zone of Influence**'.

Two non-native invasive invertebrates, Australian flatworm (*Australoplana sanguinea*) and Anderson's land planarian (*Kontikia andersoni*) have been recorded locally within 1km of the site (ERCCIS, 2024). These are included on Schedule 9 of the WCA 1981, making it an offence to cause these species to spread in the wild. The flatworm is typically found in cool, dark, damp places e.g., in soil, leaf litter, at the bases of plants, or under logs, stones and other objects, and it could potentially be present within the site. Anderson's land planarian is associated with freshwater and as there are no ponds, lakes, streams or rivers on site; this species is unlikely to be present.

The proposed development will result in the loss and degradation of a small area of garden habitat, ornamental hedges and some scrub/introduced shrub and modified grassland and potential decline in hedgerow and scrub habitats from construction and operational activities. Habitat changes are unlikely to affect local populations. Earthworks could result in the spread of the invasive flatworm which could potentially have long-term impacts. In the absence of mitigation, the nature of the identified impact on invertebrates is considered to be **long-term, negative, of unlikely occurrence, and of minor significance within the Zone of Influence**. See Section 6.2 below for mitigation measures.

Table 6. Invertebrate species conservation concern with potential to be present within the site.

Species Group	Species Scientific	Species Venacular	International & National Designation	National & Local Status
flatworm (Turbellaria)	<i>Australoplana sanguinea</i>		WACA Sch 9 Pt 1	
harvestman (Opiliones)	<i>Nelima gothica</i>			Cornwall RDB
insect - beetle (Coleoptera)	<i>Cryptopleurum crenatum</i>			Notable
insect - beetle (Coleoptera)	<i>Atomaria scutellaris</i>			Cornwall RDB
insect - butterfly	<i>Danaus plexippus</i>	Monarch	CMS_A2	
insect - cockroach (Dictyoptera)	<i>Blatta orientalis</i>	Oriental Cockroach		RedList_GB_post2001-NE
insect - earwig (Dermaptera)	<i>Forficula lesnei</i>	Lesne's Earwig		Nationally Scarce; Cornwall RDB
insect - hymenopteran	<i>Stenammas debile</i>			Cornwall RDB
insect - hymenopteran	<i>Bombus rupestris</i>	Hill Cuckoo Bee		Notable-B; Cornwall RDB
insect - hymenopteran	<i>Andrena hattorfiana</i>	Large Scabious Mining Bee		Cornwall RDB
insect - hymenopteran	<i>Lasius umbratus</i>			Cornwall RDB
insect - moth	<i>Nothris congressariella</i>	Cornish Groundling		Cornwall RDB
insect - moth	<i>Spilosoma lutea</i>	Buff Ermine		England_NERC_S.41, BAP-2007



Species Group	Species Scientific	Species Venacular	International & National Designation	National & Local Status
insect - moth	<i>Pediasia contaminella</i>	Waste Grass-veneer		Notable-B
insect - moth	<i>Oegoconia caradjai</i>	Straw Obscure		Notable-B
insect - moth	<i>Scrobipalpa ocellatella</i>	Beet Moth		Notable
insect - moth	<i>Agrochola lychnidis</i>	Beaded Chestnut		England_NERC_S.4 1, BAP-2007
insect - moth	<i>Dichomeris alacella</i>	Lichen Sober		Notable
insect - moth	<i>Anchoscelis litura</i>	Brown-spot Pinion		England_NERC_S.4 1, BAP-2007
insect - moth	<i>Eudonia lineola</i>	White-line Grey		Notable-B
insect - moth	<i>Scopula marginepunctata</i>	Mullein Wave		England_NERC_S.4 1, BAP-2007
insect - moth	<i>Hydraecia micacea</i>	Rosy Rustic		England_NERC_S.4 1, BAP-2007
insect - moth	<i>Acronicta rumicis</i>	Knot Grass		England_NERC_S.4 1, BAP-2007
insect - moth	<i>Dolicharthria punctalis</i>	Long-legged China-mark		Notable-B
insect - moth	<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet		England_NERC_S.4 1, BAP-2007
insect - moth	<i>Arctia caja</i>	Garden Tiger		England_NERC_S.4 1, BAP-2007
insect - orthopteran	<i>Conocephalus fuscus</i>	Long-winged Cone-head		Cornwall RDB
insect - orthopteran	<i>Platycleis albopunctata</i>	Grey Bush-cricket		Nationally Scarce; Cornwall RDB
insect - stick insect (Phasmida)	<i>Clitarchus hookeri</i>	Smooth Stick-insect		RedList_GB_post2001-NE; Cornwall RDB
insect - stick insect (Phasmida)	<i>Acanthoxyla prasina subsp. geisovii</i>	Prickly Stick-insect		RedList_GB_post2001-NE; Cornwall RDB
insect - stick insect (Phasmida)	<i>Bacillus rossius</i>	Corsican Stick-insect		RedList_GB_post2001-NE; Cornwall RDB
insect - true fly (Diptera)	<i>Xanthandrus comtus</i>			Cornwall RDB
insect - true fly (Diptera)	<i>Volucella zonaria</i>	Hornet Hoverfly		Cornwall RDB
spider (Araneae)	<i>Cryptachaea veruculata</i>			RedList_GB_post2001-NE
spider (Araneae)	<i>Pardosa tenuipes</i>	Tall grass wolf spider		Nationally Scarce

Key:

RedList_GB_post2001-EN_Breeding	British Red Data List – endangered breeding population
RedList_GB_post2001-NT_Breeding	British Red Data List – near threatened breeding population
RedList_GB_post2001-VU_Breeding	British Red Data List – vulnerable breeding population
England_NERC_S.41	Protected under Section 41 of the Natural Environment and Rural Communities Act 2006
BAP-2007	Included in the UK Biodiversity Action Plan (2007)
Cornwall RDB	Cornwall Red Data Book
WACA Sch 9 Pt 1	Listed on Schedule 9, part 1, of the Wildlife and Countryside Act, 1981. Non-native invasive faunal species that may present a threat to native flora and fauna



## Vascular Plants

The desk study found records for sixty-four vascular plant species of conservation importance within a 1km radius of the site. Many of these species typically occur in heathland, acid grassland, wetland and sand dune habitats and are unlikely to be present within the site. It is possible that some species could occur in the grassland, garden, scrub and wall habitats as Racket Town lies in close proximity to habitats of conservation importance and Tresco gardens are unique in their species assemblage, supporting a range of native and non-native species. None of these species, however, were identified during the survey. Those with some potential to occur on site are listed in Table 7.

The mixed scrub/introduced shrub habitat and the modified grassland supported the most diverse range of native plants. The garden itself had the most diverse range of vascular plants but most of these are non-native ornamental plants. No plants of conservation importance were recorded although the survey was conducted in March and additional species are likely to be present in the spring and summer. The site is considered to be of value for vascular plant species **'within the Zone of Influence'**.

Table 7: Vascular plant species of conservation concern recorded within 1km of the site which could potentially occur within the site.

Species Scientific	Species Venacular	National & Local Status
<i>Potentilla erecta</i>	Tormentil	RedList_ENG_post2001-NT,RedList_GB_post2001-LC
<i>Lavatera cretica</i>	Smaller Tree-mallow	Nationally Rare
<i>Calystegia soldanella</i>	Sea Bindweed	RedList_ENG_post2001-VU,RedList_GB_post2001-LC
<i>Allium ampeloprasum</i>	Wild Leek	Nationally Scarce
<i>Cynodon dactylon</i>	Bermuda-grass	Nationally Rare, WL
<i>Mentha suaveolens</i>	Round-leaved Mint	Nationally Scarce, RedList_ENG_post2001-NT,RedList_GB_post2001-DD
<i>Polycarpon tetraphyllum</i>	Four-leaved Allseed	Nationally Rare
<i>Scrophularia scorodonia</i>	Balm-leaved Figwort	Nationally Scarce
<i>Ornithopus pinnatus</i>	Orange Bird's-foot	Nationally Rare
<i>Hyacinthoides non-scripta</i>	Bluebell	
<i>Chenopodium murale</i>	Nettle-leaved Goosefoot	RedList_ENG_post2001-EN,RedList_GB_post2001-EN
<i>Briza minor</i>	Lesser Quaking-grass	Nationally Scarce
<i>Chamaemelum nobile</i>	Chamomile	England_NERC_S.41, BAP-2007, RedList_ENG_post2001-VU,RedList_GB_post2001-VU
<i>Trifolium suffocatum</i>	Suffocated Clover	Nationally Scarce
<i>Glaucium flavum</i>	Yellow Horned-poppy	RedList_ENG_post2001-NT,RedList_GB_post2001-LC
<i>Solidago virgaurea</i>	Goldenrod	RedList_ENG_post2001-NT,RedList_GB_post2001-LC
<i>Lotus subbiflorus</i>	Hairy Bird's-foot-trefoil	Nationally Scarce
<i>Trifolium glomeratum</i>	Clustered Clover	Nationally Scarce
<i>Chenopodium bonus-henricus</i>	Good-King-Henry	RedList_ENG_post2001-VU,RedList_GB_post2001-VU
<i>Anagallis arvensis subsp. foemina</i>	Blue Pimpernel	Nationally Scarce
<i>Viola kitaibeliana</i>	Dwarf Pansy	Nationally Rare, RedList_ENG_post2001-NT,RedList_GB_post2001-NT
<i>Trifolium occidentale</i>	Western Clover	Nationally Scarce



Species Scientific	Species Venacular	National & Local Status
<i>Calystegia sepium</i> <i>subsp. roseata</i>		Nationally Scarce
<i>Stachys arvensis</i>	Field Woundwort	RedList_ENG_post2001-NT,RedList_GB_post2001-NT
<i>Centunculus minimus</i>	Chaffweed	RedList_ENG_post2001-EN,RedList_GB_post2001-NT
<i>Vicia sativa</i> <i>subsp. sativa</i>	Cultivated Vetch	WL
<i>Medicago polymorpha</i>	Toothed Medick	Nationally Scarce
<i>Jasione montana</i>	Sheep's-bit	RedList_ENG_post2001-VU,RedList_GB_post2001-LC

Key:

RedList_GB_post2001-EN	British Red Data List - endangered species
RedList_GB_post2001-VU	British Red Data List - vulnerable species
RedList_GB_post2001-LC	British Red Data List - species of least concern
RedList_GB_post2001-DD	British Red Data List - data deficient
RedList_ENG_post2001-EN	England Red Data list of endangered species
RedList_ENG_post2001-NT	England Red Data list of near threatened species
RedList_ENG_post2001-VU	England Red Data list of vulnerable species
England_NERC_S.41	Section 41 of the Natural Environment and Rural Communities Act 2006
BAP-2007	Included in the UK Biodiversity Action Plan (2007)
Nationally Scarce	Occurring in 16-100 10 x 10km hectads of the OS national grid
Cornwall RDB	Cornwall Red Data Book
WL	British Red Data List -Waiting list for designation

## Invasive Plants

In the UK, a number of non-native invasive plant species are listed on Schedule 9 of the WCA 1981 (as amended) or Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019, making it an offence to cause them to spread to the wild. The desk study revealed multiple records for eleven species, listed on these schedules, within a 1km radius of the site (ERCCIS, 2024). Of these species eight have some potential to be present; these are listed in Table 8 below. The remaining three species are freshwater species and as there are no ponds or wetlands within the site, they will not be present.

During the survey two Schedule 9 (WCA, 1981) species were recorded in multiple locations around the garden and in the scrub/introduced shrub habitat. These are montbretia and three cornered garlic (Map 1).

It is possible that other invasive species may be present at a more favourable time of year for botanical recording (April – September).

Table 8. Invasive plant species listed on Schedule 9 WCA 1981 and Schedule 2 IASO 2019 recorded within a 1km radius which could potentially be present within the site.

Species Scientific	Species Venacular	International & National Designation	National & Local Status
<i>Crocsmia pottsii</i> x <i>aurea</i> = <i>C. x crocosmiiflora</i>	Montbretia	WCA Sch 9 Pt 2	
<i>Rhododendron ponticum</i>	Rhododendron	WCA Sch 9 Pt 2	
<i>Fallopia japonica</i>	Japanese Knotweed	WCA Sch 9 Pt 2	
<i>Allium triquetrum</i>	Three-cornered Garlic	WCA Sch 9 Pt 2	
<i>Disphyma crassifolium</i>	Purple Dewplant	WCA Sch 9 Pt 2	





Species Scientific	Species Venacular	International & National Designation	National & Local Status
<i>Carpobrotus edulis</i>	Hottentot-fig	WCA Sch 9 Pt 2	
<i>Cotoneaster simonsii</i>	Himalayan Cotoneaster	WCA Sch 9 Pt 2	
<i>Cotoneaster horizontalis</i>	Wall Cotoneaster	WCA Sch 9 Pt 2	

Key:

WCA Sch 9 Pt 2	Wildlife and Countryside Act 1981 – Schedule 9
IASO Sch 2 Pt 2	Invasive Alien Species (Enforcement and Permitting) Order 2019 – Schedule 2

The proposed development will result in the loss and degradation of very minimal areas of ornamental hedgerow, scrub/introduced shrub habitat and some modified grassland from construction and operational activities. These works are likely to affect the diversity and abundance of vascular plants on-site. Site clearance and earthworks have the potential to spread invasive species within the site and off-site which could have long-term ecological impacts on vascular plant diversity and habitat quality.

In the absence of mitigation, the nature of the likely impact of development on vascular plants is considered to be **long-term in duration, of likely occurrence, and of minor significance within the Zone of Influence**. See Section 6.2 below for mitigation measures.

### Non-Vascular Plants and Fungi

The ERCCIS desk study revealed records for forty-five species of conservation significance within a 1km radius of the site (ERCCIS, 2024) (Table 9). Most of these species are associated with habitats of higher ecological value, such as heathland, acid grassland and wetland habitats in close proximity to Racket Town and not associated with the site itself.

A detailed survey for non-vascular plants and fungi was outside the scope of the Phase 1 survey. The site lacks those features, such as metalliferous mining waste, ancient woodland and mature trees with potential to support the most diverse assemblages of lower plant species. The boundary wall is rich in lichens and the trees on site have some potential for this species group and the site is considered to be of value for non-vascular plants and fungi '**within the Zone of Influence**'.

Vegetation clearance and increased dust during construction will have an impact on lower plants present. Habitat degradation from operational activities is unlikely to have significant impacts. In the absence of mitigation, the nature of the likely impact on non-vascular plants is considered to be **short-term, negative, of unlikely occurrence, and of minor significance within the Zone of Influence**. See Section 6.2 below for mitigation measures.

Table 9. Non-vascular plants of conservation concern recorded within a 1km radius of the site

Species group	Species Scientific	Species Venacular	International & National Designation	National & Local Status
Fungus	<i>Clathrus ruber</i>	Red Cage		Cornwall RDB
Fungus	<i>Puccinia porri</i>	Allium Rust		Cornwall RDB
Fungus	<i>Coprinellus silvaticus</i>	Woodland Inkcap		Cornwall RDB
Lichen	<i>Heterodermia japonica</i>	Coralloid Rosette-Lichen	WACA-Sch8	
Lichen	<i>Pertusaria monogona</i>			Nationally Scarce



Species group	Species Scientific	Species Venacular	International & National Designation	National & Local Status
Lichen	<i>Pertusaria pluripuncta</i>			Nationally Rare, RedList_GB_post2001-NT;Cornwall RDB
Lichen	<i>Teloschistes flavicans</i>	Golden Hair-Lichen	WACA-Sch8	England_NERC_S.41, BAP-2007, Nationally Scarce, RedList_GB_post2001-VU;Cornwall RDB
Lichen	<i>Lecidea sarcogynoides</i>			Nationally Rare, RedList_GB_post2001-VU;Cornwall RDB
Lichen	<i>Acrocordia macrospora</i>			Nationally Scarce
Lichen	<i>Pseudocyphellaria aurata</i>			England_NERC_S.41, BAP-2007, Nationally Rare, RedList_GB_post2001-CR;Cornwall RDB
Lichen	<i>Cladonia portentosa</i>		HabDir-A5	
Lichen	<i>Heterodermia leucomelos</i>	Ciliate Strap-Lichen	WACA-Sch8	England_NERC_S.41, BAP-2007, Nationally Rare, RedList_GB_post2001-EN;Cornwall RDB
Lichen	<i>Bacidia friesiana</i>			Nationally Scarce
Lichen	<i>Lobaria pulmonaria</i>	Lungwort Lichen	WACA-Sch8	
Lichen	<i>Cladonia firma</i>			Nationally Scarce
Lichen	<i>Roccella phycopsis</i>			Nationally Scarce, RedList_GB_post2001-NT;Cornwall RDB
Lichen	<i>Gyalecta flotowii</i>			Nationally Scarce, RedList_GB_post2001-NT;Cornwall RDB
Lichen	<i>Sarcogyne hypophaea</i>			Nationally Scarce
Lichen	<i>Rinodina beccariana</i>			Nationally Scarce
Lichen	<i>Ramalina portuensis</i>			Nationally Scarce
Lichen	<i>Lecanora argentata</i>			Nationally Scarce
Lichen	<i>Cladonia ciliata</i> var. <i>ciliata</i>		HabDir-A5	
Lichen	<i>Dirina massiliensis</i> f. <i>massiliensis</i>			Nationally Scarce, RedList_GB_post2001-NT;Cornwall RDB
Lichen	<i>Roccella fuciformis</i>			Nationally Scarce, RedList_GB_post2001-NT;Cornwall RDB
Lichen	<i>Cladonia ciliata</i> var. <i>tenuis</i>		HabDir-A5	
Lichen	<i>Gyalecta jenensis</i> var. <i>macrospora</i>			Nationally Rare, RedList_GB_post2001-DD;Cornwall RDB
Lichen	<i>Pertusaria excludens</i>			Nationally Scarce
liverwort	<i>Fossombronia maritima</i>	Sea Frillwort		Cornwall RDB
liverwort	<i>Telaranea murphyae</i>	Murphy's Threadwort		Nationally Rare;Cornwall RDB
liverwort	<i>Lophocolea semiteres</i>	Southern Crestwort		Cornwall RDB



Species group	Species Scientific	Species Venacular	International & National Designation	National & Local Status
liverwort	<i>Sphaerocarpos texanus</i>	Texas Balloonwort		England_NERC_S.41, BAP-2007;Cornwall RDB
liverwort	<i>Riccia crystallina</i>	Blue Crystalwort		Nationally Rare;Cornwall RDB
Moss	<i>Leucobryum glaucum</i>	Large White-moss	HabDir-A5	
Moss	<i>Pogonatum aloides</i>	Aloe Haircap		Cornwall RDB
Moss	<i>Campylopus pilifer</i>	Stiff Swan-neck Moss		Cornwall RDB
Moss	<i>Tortula viridifolia</i>	Bristly Pottia		Cornwall RDB
Moss	<i>Microbryum starckeanum</i>	Starke's Pottia		Cornwall RDB
Moss	<i>Calyptrochaeta apiculata</i>	Southern Hookeria		Nationally Rare
Moss	<i>Tortula solmsii</i>	Solms' Screw-moss		Nationally Rare;Cornwall RDB
Moss	<i>Bryum donianum</i>	Don's Thread-moss		Cornwall RDB
Moss	<i>Campylopus pyriformis</i>	Dwarf Swan-neck Moss		Cornwall RDB
Moss	<i>Sematophyllum substrumulosum</i>	Bark Signal-moss		Nationally Rare;Cornwall RDB
Moss	<i>Fissidens crispus</i>	Herzog's Pocket-moss		Cornwall RDB
Moss	<i>Bryum dunense</i>	Dune Thread-moss		Cornwall RDB
Moss	<i>Leptophascum leptophyllum</i>	Vectis-moss		Nationally Rare;Cornwall RDB

Key:

HabDir-A5	EC Habitats Directive 1992 - Annex 5
England_NERC_S.41	Section 41 of the Natural Environment and Rural Communities Act 2006
BAP-2007	Included in the UK Biodiversity Action Plan (2007)
Nationally Scarce	Occurring in 16-100 10 x 10km hectads of the OS national grid
Cornwall RDB	Cornwall Red Data Book



## 6.0 Mitigation Recommendations

Recommendations are provided using the Mitigation Hierarchy in accordance with BS42020-2013 (British Standard, 2013) and BS 8683-2021 (British Standard, 2021). 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. The mitigation measures listed below should be secured through appropriate planning conditions.

### 6.1 Designated Sites

The proposed development site is considered to be sufficiently distant from designated sites for the proposed constructional activities and subsequent operational use not to impact any sites of nature conservation significance in the wider area.

### 6.2 Habitats

Habitat losses are summarised in Table 1 in the Non-Technical Summary. Of the habitats within the site, the Other mixed woodland/plantation (w1h 29), Dense scrub/introduced shrub (h3 847) and built linear feature/hedgebank (u1e 111) are considered to be of local ecological value. Mitigation recommendations for habitat loss and disturbance are provided below.

1. **Other mixed woodland/plantation (loss and degradation):** The current proposals retain this habitat. If it becomes necessary to remove any mixed plantation woodland, then the EcIA should be revised to reflect this, and any loss should be mitigated for by incorporating new woodland habitat of equivalent or greater ecological value to avoid an overall net loss.
2. Trees to be retained and protected according to the principles of the BS5837:2012 Trees in relation to design, demolition and construction. A 5m development free buffer separating woodland from the development is required to prevent degradation. The development free buffer must be fenced during the construction period to protect retained plantation woodland from degradation arising from construction.
3. **Dense scrub/introduced shrub habitat:** If the proposals require the removal of the dense scrub/introduced shrub habitat, new beds of mixed ornamental and native shrubs can be incorporated into the proposed landscaping scheme. Some of the modified grassland on the margins of the site could also be left to scrub over to re-create this habitat.
4. **Built linear feature/hedgebank:** Ensure construction activities do not result in degradation or loss of the boundary hedge. Ensure access to the property during the construction phase is from the east side and create a buffer of between 2-5m between the granite hedge and plant and material storage.

### 6.3 Species

The site proposals have potential to impact bats (roosting, foraging and commuting), breeding birds, amphibian species, lesser white toothed shrew, invertebrates, vascular and non-vascular plants. Impacts on these species/ species groups will be avoided and/or mitigated by following the recommendations detailed below.





5. **Bats (roosting):** Racket Town is a confirmed bat roost and was reassessed as being of 'moderate suitability' for supporting roosting bats. Two update bat emergence surveys are required to inform the development works at Racket Town.
6. A preliminary ground level roost assessment (PGLRA) of trees within the site was outside the scope of the assessment but will be required if any trees are to be felled, pruned or lit with artificial light.
7. **Bats (Foraging and commuting):** In accordance with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023) the site is assessed as being of 'low suitability' for foraging and commuting bats. Small-scale habitat loss and disturbance is unlikely to affect local populations, but bat activity could be impacted by artificial lighting once the site is occupied. It is recommended that light levels along the boundary features are kept at <math><0.5\text{lux}</math> during the construction and operational phases of the development to maintain dark foraging and commuting corridors. Further survey for foraging and commuting bats is not required.
8. **Birds:** Habitats within the site have potential to support breeding bird species of conservation significance, notably within woodland, dense scrub/introduced shrub habitat and within/on the exterior of the building. Two swallow nests were observed in the lean-to timber boiler room. Any works to buildings on site should be undertaken outside of the bird nesting season (i.e., between October-February), subject to there being no constraints associated with roosting bats. If building works have to be undertaken during the nesting season, they must be preceded with an inspection for nesting birds (to be undertaken by an ecologist). If an active bird nest is uncovered during works, works within 5m of the nest must stop until nesting activity has ceased. Works are most likely to be delayed between April and July. Replacement swallow nest boxes should be incorporated into the design of the new building.
9. **Lesser white-toothed shrew:** The habitats on site have potential to support the lesser white-toothed shrew. Any loss of 'other mixed woodland/plantation' and 'dense scrub/introduced shrub' habitat should be mitigated for by the planting of an equivalent area of habitat with native trees and shrubs.
10. **Amphibians, invertebrates and non-vascular plants:** Follow mitigation recommendations for habitats (section 6.2).
11. **Invertebrates:** Follow mitigation recommendations for habitats to maintain a range of niches for invertebrates (Section 6.2). Take precautions to avoid the spread of the Schedule 9 WCA 1981 species Australian flatworm and Anderson's land planarian. Prior to site clearance, ensure an ecologist checks for its presence under any leaf litter, and loose soil, rocks and stones within areas to be cleared. If found, this species will be disposed of humanely. An Invasive Species Control Plan is presented at Appendix 5.
12. **Vascular, non-vascular plants and fungi:** Follow recommendations for habitats (Section 6.2).
13. **Invasive plants:** Montbretia and three cornered garlic are present within the site in numerous locations. These species are listed on Schedule 9 WCA (1981) making it an offence to cause them to spread to the wild. There is potential for additional non-native invasive plant species to be present within the site that were not visible during the Phase 1



survey, due to the sub-optimal time of the survey. An Invasive Species Control Plan is presented at Appendix 3.

14. Invasive species can spread, and new species can colonise the site in the time elapsed between the March 2024 survey and the start of construction. Therefore, a post-planning, preconstruction survey for plant species listed under Schedule 9 WCA 1981 will be required to ensure compliance with wildlife legislation.

## 6.4 Biodiversity Enhancements

Biodiversity Net Gain (BNG) is an approach to development, and/or land management, that aims to leave the natural environment in a measurably better state than it was beforehand. BNG is described as a measurable target(s) for development projects where impacts on biodiversity are outweighed by the mitigation hierarchy approach to first avoid, and then minimise, impact including through restoration and/ or compensation (Baker *et al.*, 2019).

BNG in England is a mandatory requirement introduced by the Environment Act 2021 and become law on 12<sup>th</sup> February 2024 for major applications and 2<sup>nd</sup> April 2024 for eligible minor applications. The Environment Act 2021 requires all eligible developments to achieve a minimum 10% BNG. Habitat losses and gains resulting from development are measured using the Biodiversity Statutory Metric for major applications or the Small Sites Metric for minor applications (Natural England, 2021, 2022, 2023; DEFRA, 2024) to achieve a minimum 10% BNG.

The biodiversity value of the site could potentially be enhanced by successfully implementing the following recommendations:

15. The newly developed building should incorporate bat and/or bird boxes, in addition to any mitigation required to mitigate impact on confirmed bat roosts. One bird box or bat box is recommended; ideally the boxes will be incorporated into the fabric of the building. Suitable products are available at <https://www.nhbs.com>, <https://www.greenandblue.co.uk> and <https://www.wildcare.co.uk/>. As two swallow's nests were identified within the lean-to of the building during the survey, it is recommended that continued access for swallows be maintained. If this is not possible, then artificial nesting bowls should be erected within a covered area (i.e., within a porch, lean-to, garage or shed) to continue providing nesting habitat for swallows. Eco Swallow Nest Bowl <https://www.wildcare.co.uk/swallow-nest-bowl.html>.
16. Any new residential units should incorporate bee bricks on a sunny aspect of the building and at a height of approximately 1m.
17. Maximise the value of the site for invertebrates, amphibians and lesser white-toothed shrew by providing piles of deadwood or stones and standing water features.
18. Plant native tree and shrub species as opposed to introduced ornamental species within any landscaped parts of the site post-development. There is opportunity to achieve a net gain in trees post-development.
19. There is opportunity to achieve a gain of habitat on-site by incorporating new Cornish hedges topped with native trees and shrubs within the site layout.



20. The successful eradication of Schedule 9 (WCA, 1981) invasive plant species will enhance the biodiversity value of the site and help to protect semi-natural habitats within the area.
21. The provision of a log pile, within a hedgerow buffer will improve the site for reptiles, amphibians, invertebrates and non-vascular plants.

## 6.5 Further surveys and assessment

Two update bat emergence surveys are required to support this planning application. These have been commissioned and are scheduled for spring 2024.

Eligible minor developments must demonstrate a 10% BNG. A Biodiversity Metric and BNG report may be required.

## 6.6 Monitoring

Ecological monitoring of the site post-development may be required to satisfy any planning conditions. Ecological monitoring of the site post-development is likely to be required to ensure that the adopted mitigation measures, including any new habitat creation or bat mitigation, are successfully implemented.

## 6.7 Habitat Loss/ Gain Summary

A habitat loss/ gain summary balance table is provide within the Non-technical Summary (Table 1). This outlines the baseline statement of predicted change resulting from the proposed development.

## 7.0 Impact Assessment

Table 10: Assessment of Impact of the proposed development on features of ecological importance before and after mitigation.

Feature	Characterisation of unmitigated impact	Effect without mitigation	Mitigation & Enhancement (Points 1 – 21 Sections 6.0 – 6.4)	Significance of effect of residual impact after mitigation
<b>Other woodland; mixed/plantation (w1h 29)</b>	Degradation and loss of plantation woodland habitat	Trees to be retained and protected according to principles of the BS5837:2012 Trees in relation to design, demolition and construction. If any trees are to be removed an equal or greater number must be planted to avoid an overall net loss of biodiversity	1,2	Neutral – opportunity for enhancement
<b>Dense scrub/introduced shrub (h3 847)</b>	Loss of scrub/introduced shrub mosaic habitat from construction and	New beds of ornamental shrubs and scrub habitat to be incorporated into the proposed	3,18,19	Neutral – opportunity for enhancement





Feature	Characterisation of unmitigated impact	Effect without mitigation	Mitigation & Enhancement (Points 1 – 21 Sections 6.0 – 6.4)	Significance of effect of residual impact after mitigation
	operational activities.	landscaping scheme		
<b>Built linear feature/hedgebank (u1e 111)</b>	Degradation and loss of Cornish hedge	Ensure construction activities do not impact the boundary hedge. Ensure access to the property during construction is from the east side and avoid storing plant and materials within 5m of the hedge.	4,19	Neutral
<b>Bats (foraging, commuting)</b>	Small loss of foraging habitat but this is unlikely to impact populations. Artificial lighting when the site is operational that could impact foraging and commuting activity.	Light levels to be kept <0.5lux along the boundaries of the site and minimised across the remainder of the site.	7,18,19	Neutral
<b>Bats (roosting)</b>	Potential impact on a known bat roost through construction works.	Two bat emergence surveys are required to be undertaken during the bat active season (May-September) to inform the planning application and potential licencing requirements	5,6,15	Neutral
<b>Birds</b>	Small loss of foraging and nesting habitat but this is unlikely to impact populations. Disturbance to active nests from construction and operational activities.	Trees to be retained and buffered from the development. Any removal or pruning of shrub habitat to be undertaken outside the bird breeding season. Precautionary measures to be implemented to protect individual animals and active nests from harm. Replacement swallows nests to be incorporated into the design of the new building	8,15,18,19	Neutral – opportunity for enhancement



Feature	Characterisation of unmitigated impact	Effect without mitigation	Mitigation & Enhancement (Points 1 – 21 Sections 6.0 – 6.4)	Significance of effect of residual impact after mitigation
<b>Amphibians</b>	Small loss of habitat but this is unlikely to impact populations. Potential injury during construction.	Follow mitigation for habitats	1 – 4, 21	Neutral – opportunity for enhancement
<b>Invertebrates</b>	Small loss of foraging habitat and shelter but this is unlikely to impact populations.	Follow mitigation for habitats	11,16,18,19,21	Neutral – opportunity for enhancement
<b>Vascular plants</b>	Reduction in plant diversity from habitat loss and degradation.  Spread of non-native invasive species.	Follow recommendations for habitats. Habitat enhancements will increase plant diversity. A pre-construction, post-planning walkover survey for invasive plants will be required. Implement the Invasive Species Control Plan given at Appendix 4.	1-4,18-21	Neutral – opportunity for enhancement
<b>Non-vascular plants</b>	Reduction in plant diversity from habitat loss and degradation.	Habitat enhancements will increase plant diversity.	1-4,12,19,21	Neutral – opportunity for enhancement

## 8.1 Residual Impacts

**The residual impact of the proposed development is predicted to have a neutral impact, at a local scale on the ecology of the site,** subject to the successful implementation of the mitigation outlined in this report. There is an opportunity to enhance the site and provide biodiversity gains.



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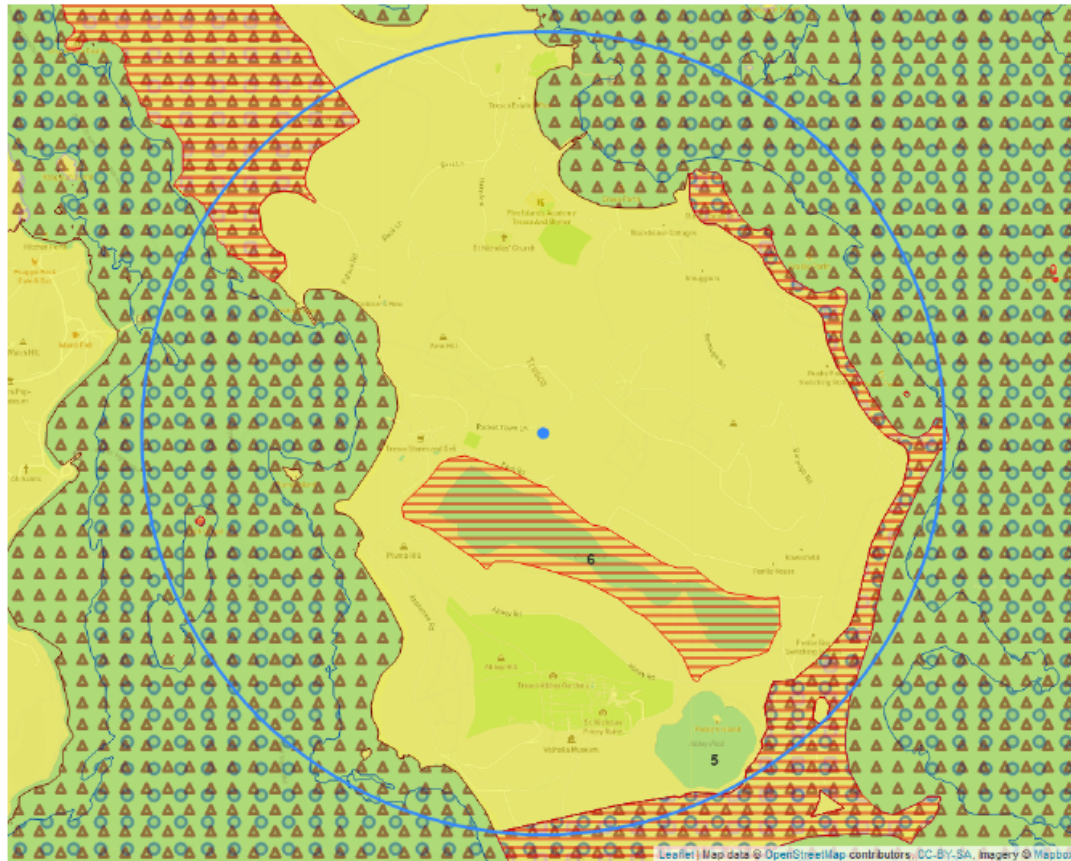
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## 10.0 Appendix 1: Location of Site & Designated Sites

**Statutory Sites Map**



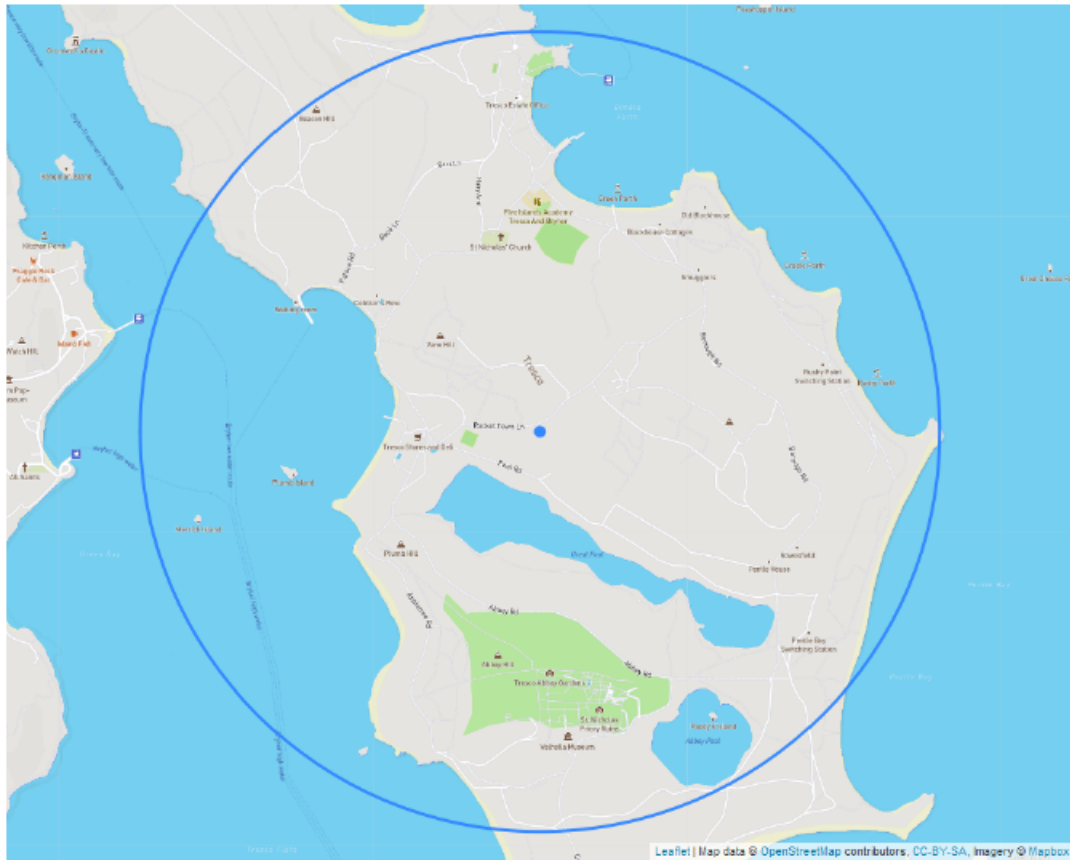
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Location	Site Code	Site Type	Site Name	Colour
1	17	AONB	Isles Of Scilly	
2	UK11033	RAMSAR	Isles of Scilly	
3	UK0013694	SAC	Isles of Scilly Complex	
4	UK9020288	SPA	Isles of Scilly	
5	1000980	SSSI	Pentle Bay, Merrick and Round Islands	
6	1001100	SSSI	Great Pool (Tresco)	
7	1001225	SSSI	Castle Down (Tresco)	





### Non-Statutory Sites & Reserves Map



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Location	Site Code	Site Type	Site Name	Colour
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## 11.0 Appendix 2: Legislation and Planning Policy

### Protected Habitats, Species and Designated Sites

- **The Conservation of Habitats and Species Regulations (HM Government, 2017) (as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019))**, referred to here after as the '**Habitat Regulations**', encompasses Special Areas of Conservation (SACs) and provides additional protection for Special Protected Areas (SPA's), RAMSAR Sites and European Protected Species (EPS). Protection is afforded from direct and indirect impacts, particularly where mobile wildlife populations for which the SAC is designated may be significantly affected. A Habitats Regulations Assessment/Appropriate Assessment must be completed by the competent authority, based on sufficient information provided by the applicant, to meet Regulation 63 of the Habitats Regulations. The Waddenzee judgement ruled that a plan or project may be authorised only if a competent authority has made certain that the plan or project will not adversely affect the integrity of the site. A decision can only be reached "where no reasonable scientific doubt remains as to the absence of such effects". Competent authorities must be "convinced" that there will not be an adverse effect. Where doubt remains as to the absence of adverse effects, the plan or project must not be authorised, subject to the procedure outlined in the Habitats Regulations regarding imperative reasons of overriding public interest.
- **The Countryside and Rights of Way (CRoW) Act (HM Government, 2000, as amended)** The CROW Act places a statutory duty on Statutory Nature Conservation Organisations (SNCO) to have regard to biodiversity conservation and to promote conservation action by others. Section 74 of the Act requires the preparation and maintenance of lists of priority species and habitats. It also places a statutory duty on public bodies to conserve SSSIs and enhance their value, and provides SNCOs with the power to impose Management Schemes on owners of SSSIs. The CROW Act strengthens the legal protection for threatened species with regard to killing, injuring, disturbing or destroying places used for shelter and protection.
- **The Hedgerows Regulations (1997)** The Hedgerow Regulations 1997 were made under Section 97 of the Environment Act 1995 (HM Government, 1995) and took effect on 1 June 1997. They introduced arrangement for local planning authorities (LPAs) to protect important countryside hedgerows through a system of notification. Such hedgerows are frequently valuable because of their historical, ecological and landscape characteristics.

Under the Hedgerow Regulations 1997, an offence occurs when:

- o A person intentionally or recklessly removes, or causes or permits another person to remove, a hedgerow in contravention of regulation 5(1) or (9); and when
  - o A person contravenes or fails to comply with regulation 6(2).
  - o A hedgerow is a boundary line of shrubs or trees and is 'important', and protected, under the Hedgerow Regulations 1997 if it meets a specific criterion (see Table 1 and Appendix 1). Cornish hedgerows do not necessarily meet the criteria of the Hedgerow Regulations 1997 but are typically of great historic, landscape and biodiversity value. The Hedge (and wall) Importance Test (HIT), developed by the Guild of Cornish Hedgers, is an alternative measure of value and is required to inform planning decisions impacting hedgerows in Cornwall (Cornwall Council, 2018).
- **The Natural Environment and Rural Communities (NERC) Act (HM Government,**



**2006)** bestows a legal duty on public authorities to conserve biodiversity. The Section 40 duty requires Local Authorities to have regard to the purpose of conserving biodiversity. This particularly relates to Section 41 Habitats and Species of Principal Importance (sometimes called 'priority habitats' or 'priority species'.

- **The Protection of Badgers Act (1992)** protects badgers as specified below.
- **The Wildlife and Countryside Act (HM Government 1981, as amended)** encompasses the protection of wildlife (fauna and flora), SSSIs, SPAs, National Nature Reserves (NNRs) and RAMSAR Sites.

**Birds:** In Britain the nests (whilst in use or being built) and eggs of wild birds are protected against taking, damage and destruction under the Wildlife and Countryside Act 1981 (as amended) (HM Government, 1981).

Some species (i.e. barn owl) are also listed on Schedule 1 of the Wildlife and Countryside Act (HM Government, 1981 as amended); it is an offence to:

- Intentionally capture, injure or kill a Schedule 1 listed species;
- Intentionally or recklessly disturb a Schedule 1 listed species whilst nesting;
- Intentionally or recklessly disturb a dependent young Schedule 1 listed species.

**European Protected Species (EPS) (Bat, dormouse, otter, water vole, sand lizard, smooth snake & great crested newt):** EPS are listed on Annex IV(a) of the European Communities Habitats Directive.

In Britain protection of EPS is achieved through their inclusion on Schedule 2 of the Conservation and Habitats Regulations 2019 (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 & 2010).

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

- Deliberately capture, injure or kill an EPS;
- Intentionally or recklessly disturb an EPS in its place of rest/ breeding Site;
- Intentionally or recklessly damage, destroy or obstruct access to a EPS place of rest/ breeding Site (even if the EPS is not occupying the resting / breeding place at the time);
- Possess or sell or exchange an EPS (dead or alive) or part of an EPS.

**Reptiles** (adder, common lizard, slow worm and grass snake): reptiles are protected under Schedule 5 (section 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to kill and/ or injure reptiles, and sell or transport for the purpose of sale. Sand lizard and smooth snake are also EPS (see above legal protection of EPS).

**Invasive plants:** The WCA 1981 states that if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence. Anyone convicted of an offence under Section 14 of the WCA 1981 may face a fine of £5,000 and/or 6 months imprisonment, or 2 years and/or unlimited fine or indictment. The following legislation is relevant to invasive plants:



*Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019:* This regulation places restrictions on a list of species known as 'species of Union concern'. The new regulations make it an offence to keep, breed or release these animals and as a result, and revoke licences that RSPCA and others hold in England to rehabilitate some species. The transport of these animals is also prohibited under the new regulation.

*Control of Pesticides Regulations (CoPR) 1986:* CoPR 1986 require any person who uses a pesticide to take all reasonable precautions to protect the health of human beings, creatures and plants, safeguard the environment and in particular avoid the pollution of water. For application of pesticides in or near water, approval from the Environment Agency should be sought before use.

*Environmental Protection Act 1990 (EPA 1990):* EPA 1990 contains a number of legal provisions concerning 'controlled waste', which is set out in Part II. Material containing the propagules of species listed on Schedule 9 is classified as controlled waste and must be safely disposed of at an appropriately licensed landfill site in accordance with the Environmental Protection Act 1990 (Duty of Care) Regulations 1991. Section 33 (1a) and (1b) create offences to do with the deposit, treating, keeping or disposing of controlled waste without a license. Exemptions from licensing are available in some circumstances, and are set out in Schedule 3 to the Waste Management Licensing Regulations 1994 as amended, which makes it an offence to keep, treat or dispose of controlled waste in a manner likely to cause pollution of the environment or harm to human health. Anyone convicted is subject to a maximum fine of £20,000 and/or 6 months imprisonment and if prosecuted under the Crown court, this escalates to an unlimited fine and/or a maximum of two years imprisonment. Section 34 places duties on any person who imports, produces, carries, keeps, treats or disposes of controlled waste. Waste must be handled responsibly and in accordance with the law at all stages between its production and final recovery or disposal. Waste must be transferred to an authorized person i.e. either a registered carrier or exempted from registration by the Controlled Waste (Registration of Carriers and Seizure of Vehicle Regulations 1991). A waste transfer note must be completed and signed giving a written description of the waste, which is sufficient to enable the receiver of the waste to handle it in accordance with his or her own duty of care. The provisions concerning waste transfer notes are set out in the Environmental Protection (Duty of Care) Regulations 1991(as amended). Failure to comply with these provisions is an offence, with a penalty of a fine not exceeding £5000 up to an unlimited fine in Crown court.

*Hazardous Waste Regulations 2005 (HWR 2005):* HWR 2005 contains provisions about the handling and movement of hazardous waste. Consignment notes must be completed when any hazardous waste is transferred, which include details about the hazardous properties and any special handling requirements. If a consignment note is completed, a waste transfer note is not necessary. Material containing knotweed that has been treated with herbicide may be classified as hazardous waste.

*Waste Management Licensing Regulations (WMLR 1994):* WMLR state that failure to use a licensed operative could leave you liable to prosecution. The 'waste relevant objectives' are described in paragraph 4 of Schedule 4. These objectives require that waste is recovered or disposed of "without endangering human health and without using processes or methods which could harm the environment and in particular without risk to water, air, soil, plants or animals; or causing nuisance through noise or odours; or diversely affecting the countryside or places of special interest".

### **Statutory Designated Sites**

**Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)** are of International nature conservation importance.





**Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)** are of National importance. Development proposals with potential to affect a SAC, SSSI or NNR require permission from Natural England.

**Local Nature Reserves (LNRs)** are protected from development; the Local authority is responsible for LNRs.

### **Non-Statutory Designations**

Non-statutory Sites include **County Wildlife Sites (CWS)**, **Site of Nature Conservation Interest (SNCI)**, **Site of Importance for Nature Conservation (SINC)**, **County Geology Sites (CGS)**, **Roadside Verge Audit Biological Sites** and **Ancient Woodlands**. CWSs, SNCI, SINC and CGSs are of at least county importance for wildlife/geology; all are given increased protection through the planning process.

**Biodiversity Action Plans (BAPs)**: BAPs distinguish National and County level priority habitats and species for conservation. The list of habitats and species of principal importance under Section 41 NERC Act (2006) in England includes 56 habitats and 943 species first identified as priority habitats and species. The Local Authority has a duty to conserve habitats and species of principal importance; these habitats and species were previously identified as UK BAP priority habitats and species under Section 74 of the CRow Act (2000).

**Red Data Books & Lists**: detail the status of species in relation to threat.

### **Planning Context**

The local planning authority has a statutory obligation to consider impacts upon protected species resulting from development. Paragraph 99 ODPM Circular 06/2005 states: *'It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted. However, bearing in mind the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development. Where this is the case, the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/or planning obligations, before the permission is granted'*.

**National Policy**: The National Planning Policy Framework (NPPF) was revised on 20 July 2021 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012, revised in July 2018 and updated in February 2019.

Chapter 15 of the NPPF (2021) 'conserving and enhancing the natural environment' sets out how the planning system should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);



- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Of note are the following paragraphs:

NPPF Paragraph 175 states that 'Plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries'.

NPPF Paragraph 179 states that 'To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity. English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters. For the purposes of paragraphs 176 and 177, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined. Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system. Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them'.

NPPF Paragraph 180 states that 'When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it



of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.

NPPF Paragraph 181 states that 'The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites'.

NPPF Paragraph 182 states that 'The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site'.

### **Local Policy**

See

<https://www.scilly.gov.uk/sites/default/files/document/planning/Adopted%20Local%20Plan%202015-2030%20Website%20Version.pdf> for policies relevant to the environment and biodiversity.



## 12.0 Appendix 3: Invasive Species Control Plan

Control and eradication of species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is required to prevent these species spreading to the wild and to prevent a legal offence being committed. Invasive plant species can be controlled by manual/ mechanical removal and/ or chemical treatment. Before embarking on the recommended control measures detailed below, the following recommendations should be observed and adhered to:

- Cordon off land within at least 7m of confirmed invasive plant stands by installing Heras fencing/ high visibility protective fencing and prevent vehicle movement, excavation works and disposal of landfill in this area. Invasive plant control must be implemented prior to construction according to the recommendations for each individual species provided below.
- Herbicides use within 5m of a watercourse has the potential to impact upon the water quality. In England, the Environment Agency requires a WQM1 notification to be submitted two weeks prior to the treatment. NB: The recommended control methods below do not appear to require herbicide usage within 5m of a watercourse. Only use approved herbicides <https://www.hse.gov.uk/pesticides/> and carry out a COSHH Assessment prior to use.
- It is recommended that a fully qualified weed contracting company be employed to undertake this work; alternatively, the site owners/ applicant can carry out this work provided that the recommendations detailed in this report are followed.
- Always wear Personal Protective Clothing (PPE) in accordance with the herbicide instructions.
- Only use the herbicide in accordance with the manufacturer's instructions.
- On-site burning or burial may be required to dispose of the invasive plant material, though disposal at a registered landfill site is recommended. To undertake burning or burial operations, it is important to get permission from the Environment Agency and the local council.

### Montbretia

- Plants should be removed by mechanical excavation to remove underground (corms/bulbs or root mass) and aerial parts of the plant; it is important that all parts of the plant material including the underground corms/ roots are removed. Plants in areas unsuitable for mechanical excavation, such as on hedgebanks, can be removed by hand digging to remove both the underground and aerial parts of the plant; corms/ bulbs should be crushed (achieved using a garden roller) and dried, then burnt on-site or preferably disposed of as controlled waste (latter recommended). NB. if waste invasive plant material is to be burnt on-site, the Environment Agency and the local council must be informed at least one week in advance, and a registered waste exemption or environmental permit will likely be required.
- All soils with potential to support montbretia and to be taken off-site must be disposed of at a registered landfill. Material containing the propagules of species listed on Schedule 9 is classified as controlled waste and must be safely disposed of at an appropriately licensed landfill site in accordance with the Environmental Protection Act 1990 (Duty of Care) Regulations 1991.
- It may be difficult to remove all of the underground corms/ roots resulting in some new growth later in the season; new growth should be treated with an appropriate Glyphosate





herbicide (e.g., Roundup ProBiactive) by wiping/ targeted spraying of the leaves. Herbicide treatment should be carried out during the active growing season as outlined below; repeat treatments will likely be required. These species will be most conspicuous in July/August when in flower but are more likely to be concealed by dense vegetation in late summer. July is a good time of year to eradicate this species. Montbretia dies back in winter and remains quiescent (viable but not visible) below ground level.

- For further information see <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>.

### **Three cornered garlic**

- Ideally, cut the plant back to ground level before seeding i.e. at the latest by mid-April and maintain it at this level before and during construction to prevent seeding. If there are no seeds, the cut material can be composted. If there are seeds, dry the material for 2 / 3 weeks and then compost. If the soil is to be moved as part of the proposed works, the three cornered leek bulbs, stems and leaves must be removed and disposed of to ensure the plant cannot spread to other sites.

### **Australian flatworm**

Although not recorded on-site, this small invertebrate could be present under stones and logs. Therefore, precautionary measures will be taken prior to site clearance. Any logs and stones present within the area to be cleared will be checked by an ecologist for the presence of Australian flatworm and any found will be disposed of humanely.

