

Preliminary Ecological Appraisal
Land adjacent to Ty Hanner, Cornwall
July 2022

A report by

Yolande Knight BSc (Hons) PhD MRSB, Ecologist
Natural England licence no: 2020-47431-CLS-CLS

Report details

Site address:	Old Road, Polbathic, Cornwall PL11 3EX
Grid reference:	SX351568
Survey date:	21 st June 2022
Report date:	8 th July 2022
Report author:	Yolande Knight BSc (Hons) PhD MRSB (Natural England licence no: 2020-47431-CLS-CLS)
Report reviewer:	Colin Hicks BSc (Hons) MCIEEM
Report reference:	WOR-3107

Declaration of compliance

BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of practice for planning and development.

Code of Professional Conduct

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

Validity of survey data and report

The findings of this report are valid for 12 months from the date of survey. If work has not commenced within this period, an updated survey by a suitably qualified ecologist will be required.

Table of contents

Non-technical summary	4
1. Introduction	6
1.1 Proposed development	6
1.2. Survey aims	6
1.3. Site location	6
2. Survey methodology	7
2.1. Desktop survey	7
2.2. Field survey	7
2.3. Method for valuation of habitats	8
2.4. Survey constraints	8
2.5. Study area	8
3. Results.....	9
3.1. Site description	9
3.2. Phase 1 habitats	9
3.3. Desktop survey	10
Map 1. Phase 1 habitats	11
3.4. Potential for species of nature conservation importance	12
4. Evaluation of ecological features and potential impacts	13
4.1. Habitats of nature conservation importance	13
4.2. Species of nature conservation importance	13
4.3. Invasive Non-native Species.....	15
4.4. Statutory Nature Conservation Sites	15
4.5. Non-Statutory Nature Conservation Sites	16
5. Recommendations for mitigation and further surveys.....	17
5.1 Habitats of nature conservation importance	17
5.2. Protected species and species of nature conservation importance	18
5.3. Invasive Non-native Species.....	20
5.4. Statutory Nature Conservation Sites	20
5.5. Non-statutory Conservation Sites.....	21
5.6. Summary of net gains and losses	21
6. Further survey work	23
7. Biodiversity enhancement	24
7.1. Birds	24
7.2. Bats	25
7.3. Invertebrates.....	26
References	27
Appendix 1:.....	28

Non-technical summary

Western Ecology has been commissioned to complete a Preliminary Ecological Appraisal of land adjacent to Ty Hanner in Polbathic, Cornwall. A single residence is proposed.

The Site comprises a vegetated garden with amenity grassland and introduced shrub planting. A steep bank boundary to the south is heavily vegetated with a mix of tall ruderals, scattered scrub and saplings. A short section of hedgerow is present towards the eastern end of the bank habitat.

To ensure compliance with the following recommendations are made with regards to habitats:

Hedgerow

Plans indicated the loss of ~8m of hedgerow: at least an equal extent should be replanted. Any retained hedgerow habitat that has the potential to be impacted during the construction phase should be protected by a 2m protection zone.

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to species:

Bats

Precautionary mitigation in relation to external lighting and light-averse bat species should be adopted to allow them to continue to use Site boundaries.

Nesting birds

It is likely that occasional common bird species nest within Site habitats. If any of these habitats are to be cleared or disturbed during the accepted bird nesting season (March to August inclusive), the habitat should be thoroughly inspected within 5 days prior to work by a suitably qualified person, prior to disturbance. If nesting birds are found, all activities likely to damage the immediate area should be delayed until chicks have fledged.

Hedgehog

Mitigation is recommended during construction and to enable continued movement through the site.

Reptiles

Reasonable Avoidance Measures are recommended during any vegetation clearance, or potential impact on the southern bank, prior/during the construction phase.

Invasive Non-native Species

Montbretia, and a potentially invasive rhododendron species, are present within the Site. control is recommended to prevent spread, with the plants either retained on Site, or achieved using a suitable herbicide applied in line with the manufacturer's recommendations. All arisings, including associated soil and corm material will be disposed of in licenced landfill, or retained onsite.

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to Statutory Nature Conservation Sites:

[Plymouth Sound and Estuaries SAC](#)

The Site is within the Zone of Influence for the Plymouth Sound Special Area of Conservation. Dependent upon the scale of the proposal, the developers may be required to provide a shadow screening assessment to the planning authority to aid in its Habitat Regulations Screening assessment of the likely impacts on this SAC.

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to Non-statutory Nature Conservation Sites:

[Lower Lynher Estuary County Wildlife Site and Polbathic/Tredis Woods Ancient Woodland Inventory Site](#)

It is recommended that a Construction Environmental Management Plan (CEMP) should be produced prior to, and adopted during, the construction phase of the development.

[Further surveys](#)

Information within this report is sufficient to allow a robust assessment of the potential effects on ecological features associated, or potentially associated, with this site. No further surveys are required.

[Biodiversity Enhancements](#)

Biodiversity enhancements are recommended within the report.

1. Introduction

Western Ecology has been commissioned to complete a Preliminary Ecological Appraisal of land adjacent to Ty Hanner, Old Road, Polbathic, Cornwall.

1.1 Proposed development

A single residence is proposed.

1.2. Survey aims

The survey and this report identify features of conservation importance that could constitute a constraint to the proposals for this site. Where appropriate, recommendations for impact avoidance, mitigation and post-development enhancement are made to ensure compliance with wildlife legislation and relevant planning policy.

This survey has been prepared in accordance with the 'Guidelines for Preliminary Ecological Appraisal' produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017).

1.3. Site location

The land surveyed is situated at the eastern edge of the village of Polbathic in south-eastern Cornwall.

2. Survey methodology

2.1. Desktop survey

In light of the habitats present within the site, a biological records search was not considered appropriate for the scale and probable impact of the proposed development.

The desktop survey identified any statutory nature conservation sites that may be affected by the proposals. This comprises an important part of the assessment process, providing information on ecological issues that may not be apparent during the site survey.

Consultees for the data search included:

- Natural England - GIS datasets of Statutory Nature Conservation Sites.
- Cornwall County Council- Interactive Map

The location of nature conservation sites was examined to determine their ecological and landscape relationships with the proposed site. An assessment was then made of how the sites may be affected by the proposal, taking into account these relationships, and the species and/or habitat types for which the nature conservation site was chosen.

SSSI Impact Risk Zones are areas where the proposed planned change to the environment could either create significant damage to a local SSSI, or might require additional planning and consultation in order to avoid impacting such sites. The assessments are made according to the particular sensitivities of the features for which the SSSI is notified, and specifies the types of development that have the potential for adverse impacts.

In compliance with the terms and conditions relating to its commercial use, the full desk study data is not provided within this report.

2.2. Field survey

A Preliminary Ecological Appraisal of the site was completed by Yolande Knight BSc (Hons) PhD MRSB (Natural England licence no: 2020-47431-CLS-CLS).

The survey was completed on 21st June 2022 between 12:15 and 12:45 with an air temperature of 21°C, calm, dry and with 10% cloud.

Habitats were classified using the Phase 1 Habitat Survey methodology developed by the Joint Nature Conservation Committee (JNCC, 2010) and modified by the Institute of Environmental Assessment (IEA, 1995). The main plant species were recorded, and broad habitat types mapped (Map 1). Habitats encountered are described within the Results section, with a map included within the report. Plant species were identified according to Stace (1997).

2.3. Method for valuation of habitats

The ecological value of habitats present is provided in line with Guidelines for Ecological Impact Assessment (CIEEM, 2018), and those which are important in terms of legislation or policy are identified. Table 1 summarises this information and details the extent of each habitat recorded here.

The nature conservation value, or potential value, of the habitat is determined within the following geographic context:

- International importance (e.g. internationally designated sites such as Special Areas of Conservation, Special Protection Areas, Ramsar sites);
- National importance (e.g. nationally designated sites such as Sites of Special Scientific Interest or species populations of importance in the UK context);
- County importance (e.g. SNCI, habitats and species populations of importance in the context of Cornwall);
- Local importance (e.g. important ecological features such as old hedges, woodlands, ponds);
- Site importance (e.g. habitat mosaic of grassland and scrub which may support a diversity of common wildlife species);
- Negligible importance. Usually applied to areas such as built development or areas of intensive agricultural land.

The examples are not exclusive and are subject to further professional ecological judgment.

2.4. Survey constraints

All areas of the site were readily accessible at the time of survey. Although some plant species would have not been visible during the survey period, within such a simple site comprising common and widespread habitat types, the timing of this survey is not a significant constraint to a robust initial site assessment.

It should be noted that habitats, and the species they may support, change over time due to natural processes and because of human influence. In line with current guidelines, the survey on which this report is based is only valid for one year, after which time it will need updating. This report is valid until 21st June 2023.

2.5. Study area

The study area for the desktop survey is within 2km for Statutory Nature Conservation Sites and 1km for Non-statutory Nature Conservation Sites. The study area for the Preliminary Ecological Appraisal was the footprint of the proposed development, hereafter referred to as the 'Site', and its immediate boundaries. This is the area included within the line described as "Survey area" within the legend of Map 1.

3. Results

3.1. Site description

The Site comprises a vegetated garden with amenity grassland and introduced shrub planting. A steep bank boundary to the south is heavily vegetated with a mix of tall ruderals, scattered scrub and saplings. A short section of hedgerow is present towards the eastern end of the bank habitat.

3.2. Phase 1 habitats

Table 1: Habitat description and biodiversity value and extent (see map 1).

Habitat type	Description	Biodiversity value
Amenity grassland	The majority of the Site comprises very close-managed amenity grassland, including frequent Yorkshire fog with occasional cock's-foot and <i>Festuca spp.</i> . Forbs included occasional white clover, daisy and creeping buttercup. Towards the edge habitats, additional herb species were present including germander speedwell, yarrow and self-heal.	Negligible
Introduced shrubs	Garden planting to the west and north of the Site comprises mature introduced shrub planting, including tutsan, ornamental conifers, non-invasive cotoneaster and weigela cv. Rhododendron (potentially <i>ponticum</i>) is also present. The understorey comprise a mix of ivy, hart's-tongue ferns and pendulous sedge. Montbretia is also present.	Site
Vegetated half-bank	A steep halfbank is heavily vegetated with majority tall ruderals such as frequent hogweed, common nettle and broad-leaved dock. Other occasional species include red campion, dog's mercury and cleaver, with patchy grass species including false brome and false oat-grass. Scattered saplings are also present, including elder, sycamore and hazel. Scattered bramble is also present.	Site
Supported species-poor hedgerow	At the eastern boundary of the Site, a short (≥ 20 m) section of supported species-poor hedgerow is present, with a mix of occasional sycamore, hazel, hawthorn and rose.	Site Habitat of Principal Importance
Walls and fencing	Low concrete walling provides a short section of boundary at the western edge. Wooden fencing is present along the southern boundary.	Negligible



Vegetated garden looking west.



Vegetated half bank, southern boundary.

3.3. Desktop survey

Statutory Nature Conservation Sites (SNCS)

Two SNCS are present within 2 km of the surveyed Site: Lynher Estuary Site of Special Scientific Interest (SSSI) and Plymouth Sound and Estuaries Special Area of Conservation (SAC) are both situated 100m to the north at their nearest point

The Site is within the Zone of Influence for the Plymouth Sound and Estuaries SAC.

Non-statutory Nature Conservation Sites (NNCS)

Two NNCS are present within 1 km of the centre of the surveyed Site: Lower Lynher Estuary County Wildlife Site (CWS) is immediately adjacent to the eastern boundary of the Site. This CWS also includes Polbathic/Tredis Woods Ancient Woodland Inventory Site (AWIS), which also extends beyond the CWS outline to the south-west of the Site.

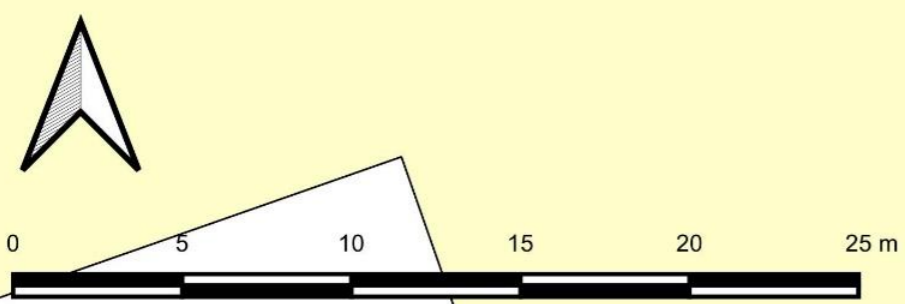
SSSI Impact Risk Zones

The Site is not within an area identified as a SSSI Impact Risk Zone for this size of development.

Montbretia and potential
invasive non-native
rhododendron present in
introduced shrub habitat.

Legend

-  Target note
-  Half-bank with species-poor hedgerow
-  Fence
-  Wall
-  Vegetated half bank
-  Survey area (Approximate)
-  Amenity grassland
-  Introduced shrubs



Title: Map 1. Phase 1 Habitat Survey

Project: Land adj. to Ty Hanner, Polbathic, Cornwall

Checked by: CDH Version: 01
Date: 05/07/2022

3.4. Potential for species of nature conservation importance

Habitats have been assessed from the results of the field survey for their potential to support the following protected species. Where there is no potential for a species or species group to be present within the site, or where habitats with the potential to support this species or species group will not be impacted by the proposals, they may be scoped out at this stage.

Table 2: potential for protected species.

Species	Assessment	Likely value
Amphibians	Habitats within the Site do not provide potential for breeding amphibians, with no suitable ponds on Site, or within 500m. Amphibians do not need to be considered further.	Negligible
Badgers	There is negligible potential for Badger to be associated with habitats within and bounding the Site.	Negligible
Bats	No habitats suitable for roosting were found associated with the Site. The majority managed amenity grassland and introduced shrubs on Site provide negligible potential for foraging and commuting bats, with the boundary habitat to the south providing low potential. Taking the adjacent unlit semi-natural habitat, with woodland habitat to the east and south, and with linkage out to the River Lynher 100m to the south into account, the Site is identified as providing low potential for foraging and commuting bats.	Negligible Low
Birds	There is limited potential for common nesting birds within shrubs, scrub and hedgerow habitats around the Site boundaries.	Possible
Common Dormouse	There is negligible potential for Dormice to be associated with habitats within and bounding the Site.	Negligible
Hedgehog	There is limited potential for Hedgehog to be associated with habitats within and bounding the Site.	Limited
Reptiles	The majority grassland and managed garden habitats having negligible potential for foraging and hibernating reptiles. However, the vegetated bank to the south has potential for foraging and hibernating reptiles.	Possible
Otter	No suitable water bodies associated with the Site.	Negligible
Water Vole	No suitable water bodies associated with the Site.	Negligible
Notable invertebrates	Habitats at this Site are likely to support common and widespread invertebrates, although priority invertebrate habitats such as flushes, suitable brown-field land and soft rock cliffs are absent from the Site.	Negligible
Notable plants	Habitats within the Site provide little potential for notable or rare plants and they do not need to be considered further.	Negligible
Invasive non-native plants	Montbretia, a plant listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as invasive non-native with respect to England and Wales, was noted at the time of survey. A rhododendron (possibly <i>ponticum</i>) was also present.	Present

4. Evaluation of ecological features and potential impacts

Ecological features that have the potential to be present have been assessed in light of current nature conservation policy, planning policy and wildlife legislation by an experienced ecologist (see Appendix 1). Where necessary, the ecological value of an ecological feature is given along with the potential effect of the proposed development.

If it is considered that the proposed development is likely to have no effect on features that have been identified as present, or potentially present, they may be scoped out at this stage.

4.1. Habitats of nature conservation importance

Protected habitats

Habitats are protected under international and national legislation including The Conservation of Habitats and Species Regulations 2017, and Wildlife and Countryside Act 1981 (as amended). These have been formulated into policy measures, with many examples protected under formal site designations such as SSSIs and SACs.

No habitats of European Community Importance as defined within The Conservation of Habitats and Species Regulations 2017 were present within this site. Protected habitats of this type are not a consideration for this project.

Notable habitats

Sixty five habitats are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these habitats to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. These habitats are the subject of National and Local Biodiversity Action Plans.

Hedgerows are given particular protection under the Protection of Hedgerows Act 1997.

Hedgerow

The supported species-poor hedgerow at the southern boundary is a Habitat of Principal Importance (JNCC & Defra, 2012). Plans indicate the loss of approximately ~8m of hedgerow and mitigation may be required.

4.2. Species of nature conservation importance

Overview

Many native wild plants and animals are protected by law with the two main legal instruments being the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017. The latter consolidates amendments to the Conservation (Natural Habitats, &c) Regulations 1994 which transposed into UK Law the EU Habitats Directive.

One thousand, one hundred and fifty species of fungi, plant or animal are listed as being of principal importance, in the Secretary of State's opinion, for the purposes of conserving biodiversity. Under section 41 (England) of the NERC Act (2006) there is a need for these species to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity. These species are the subject of National and Local Biodiversity Action Plans.

Bats

Bat species and their breeding or resting places (roosts) are protected under the Wildlife and Countryside Act 1981 (as amended), and The Conservation of Habitats and Species Regulations 2017. They are identified as European Protected Species. Under these laws it is an offence to:

- capture, kill, disturb or injure bats (on purpose or by not taking enough care);
- damage or destroy a breeding or resting place (even accidentally);
- obstruct access to their resting or sheltering places (on purpose or by not taking enough care); or
- possess, sell, control or transport live or dead bats, or parts of them.

Seven species of bat are listed as species "of principal importance for the purpose of conserving biodiversity".

The Site is small, with the majority amenity grassland and introduced shrub planting providing negligible potential, and the southern boundary habitat providing low potential for foraging and commuting bats. Adjacent woodland habitat provides good potential for foraging and commuting bats, including light-averse bats, and taking this into account, the Site as a whole has low potential for foraging and commuting bats. Mitigation may be required to allow light-averse bats to continue to forage and commute along the southern bank boundary in particular, and within the adjacent woodland habitat to the east.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) from being killed, injured or captured whilst their nests and eggs are protected from being damaged, destroyed or taken. Birds which are listed under Schedule 1 of the Act are given additional protection against disturbance.

Fifty-nine species of bird are listed as species "of principal importance for the purpose of conserving biodiversity".

There is potential for common birds to nest within Site habitats. Any activities which impact these habitats have potential to adversely impact nesting birds. Any site clearance is likely to require mitigation for nesting birds.

Any activities that expose invertebrates, such as earth worms and grubs, will provide an additional food resource for local birds and will have a positive temporary effect, particularly when adults are feeding nested chicks.

Hedgehog

Hedgehog are partially protected under the Wildlife & Countryside Act and may not be trapped without a licence from Natural England. Hedgehog are listed as a species "of principal importance for the purpose of conserving biodiversity".

There is potential that Hedgehog are active within Site habitats. Mitigation may be required.

Reptiles

All native reptiles are protected to some degree under the Wildlife and Countryside Act 1981 (as amended) whilst our two rarest species, the Sand Lizard and Smooth Snake, are given full protection under the Act and also identified as European Protected Species.

The four common species (Slow Worm, Adder, Grass Snake and Common (Viviparous) Lizard) are protected from deliberate killing, injury and trade.

The two rare species, Sand Lizard and Smooth Snake, are given more protection that includes protection from capture and deliberate or reckless killing, injury or disturbance. Their breeding or resting places are also protected from obstruction or damage, even if it were accidental.

All six native reptiles are listed as species "of principal importance for the purpose of conserving biodiversity".

The southern bank habitat within the Site has potential to support foraging, commuting and hibernating common reptiles. The footprint of the proposed development is unlikely to impact foraging reptiles, were they to be present, although construction activities within the Site could result in the killing or injury of individuals which may be deemed an offence under the Wildlife and Countryside Act 1981 (as amended). Mitigation is recommended.

4.3. Invasive Non-native Species

Schedule 9 plant species

Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), relates to the introduction of plant and animal species that are not native to the UK. It is an offence to 'cause to grow in the wild' and spread any plant that is listed under this Schedule. This includes the Montbretia, and potentially invasive rhododendron species growing within the Site. Control of these plants is recommended.

4.4. Statutory Nature Conservation Sites

Natural England has assessed the potential for various development types to impact nearby statutory nature conservation sites when they created SSSI Impact Risk Zones. The proposed development type is not of a type that Natural England judges to be a risk to statutory nature conservation sites. No mitigation is required and there is no requirement to consult Natural England on the potential impact on these sites.

The Site is within the Zone of Influence for the Plymouth and Estuaries SAC: mitigation may be required.

4.5. Non-Statutory Nature Conservation Sites

Two NNCS are adjacent to the east of the Site: Lower Lynher Estuary CWS and Polbathic/Tredis Woods AWIS.

Although the proposed development will not lead to any loss of habitat within the NNCS, there is potential for adverse impacts from construction activities to habitats and species that are features for selection of these NNCS. The pathway of effect may include: adverse impacts on nearby environmentally sensitive areas; potential negative impacts on local flora and fauna; disturbance via dust, light, vibration, noise and other related activities; pollution risks, including the risk of environmental contamination, or harm by incorrect storing, handling, using and disposing of hazardous substances; potential environmental impact of vehicles and plant equipment. Mitigation is recommended.

5. Recommendations for mitigation and further surveys

Mitigation

Where there is potential that the proposed development will have a significant¹ effect on a valued ecological feature of nature conservation interest, recommendations for mitigation are made based on the mitigation hierarchy suggested in Paragraph 118 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance;

- Avoidance – significant harm to wildlife species and habitats should be avoided through design.
- Mitigation – where significant harm cannot be wholly or partially avoided, it should be minimised by design, or by the use of effective mitigation measures that can be secured by, for example, conditions or planning obligations.
- Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, this should be properly compensated for by measures to provide for an equivalent value of biodiversity.

Where the detail of a proposal is unknown, such as in outline planning applications, general mitigation will be suggested. This should be re-addressed once final plans are known.

Further survey work

Where further survey work is not recommended, this is because it is the professional judgement of the ecologist that adequate information is already available and further surveys would not make any material difference to the assessment provided.

Where the information within this report is insufficient to allow a full description of the nature conservation features of the site along with a robust assessment of the potential effects on these features, further survey work will be recommended.

5.1 Habitats of nature conservation importance

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to habitats:

Hedgerow

Plans indicate the loss of ~8m of species-poor hedgerow. Mitigation should include the rebuilding/replanting of at least an equal extent of native hedgerow habitat, including a species mix appropriate to the local area, such as Hazel 30%, Hawthorn 20%, Blackthorn 20%, Oak 20% and Elder 10%. It is recommended that any hedgebank material be retained for rebuilding to retain the seedbank.

All retained hedgebank with hedgerow habitat bounding the Site that has potential to be impacted during the construction phase should be protected from accidental damage by

¹ For the purposes of this report, a practical approach has been taken to define the term 'significant'. If an effect is sufficiently important to be given weight in the planning process or to warrant the imposition of a planning condition, it is likely to be 'significant' in the context of the level under consideration (BSI, 2013).

suitable fencing providing a 2 metre protection zone along any hedgerow near (ie is within 5 metres of any construction area) to the development footprint. This protection zone should be maintained for the duration of the works, and include:

- A temporary fence situated along the outer edge of the protection zones, to protect the zones and the adjacent habitat, during the entire construction phase;
- No storage of machinery, chemicals or other materials, within the protection zones;
- No ground disturbance or burning within the protection zones;
- No vehicles tracking across, and no vehicles parking in, these zones;
- Construction practices ensuring that no dust deposition, disturbance, noise, or pollution risks impact adjacent hedgerow habitats. This includes mitigation for light-averse wildlife species;
- Construction staff briefed during induction as to the purpose of these protection zones.

5.2. Protected species and species of nature conservation importance

To ensure compliance with nature conservation legislation and planning policy, the following recommendations are made with regards to species:

Bats

Due to limited scale of the proposals at this site, bat activity transects are not considered proportionate to the very low level of risk of impact to foraging and commuting bats posed by this development.

Precautionary mitigation in relation to external lighting should be adopted to retain the functionality of the woodland habitat beyond the boundaries of the Site. This should include:

- Security lighting activated by movement sensor with a time limit switch;
- Lighting designed to minimise light spill beyond the required target;
- Lighting directed into the site, away from woodland habitat to the south and east;
- Use of narrow spectrum lights with no UV content;
- Use of low level bollard lighting along the margins of roads and parking/turning areas;
- Use of low pressure sodium or warm white LED lights.

There is also potential that night-time works during construction could impact light-averse bat species, and the following will be adopted:

- No external night time works will occur during the construction phase;

This mitigation is considered to be sufficient to meet the requirement of demonstrating minimal new external lighting, and avoidance of light spill onto habitats used by bats and other wildlife and also addressing impacts relating to direct loss of foraging habitat.

Birds

Shrub, scrub and hedgerow habitat may support occasional widespread and common nesting bird species. Any activities affecting these habitats should be completed during the

period September to February inclusive, outside the accepted bird nesting season. If this is not practicable, within 5 days prior to the start of works these habitats should be thoroughly inspected by a suitably qualified person prior to disturbance or removal. If nesting birds are found, all activities likely to damage the immediate area should be delayed until chicks have fledged.

Hedgehog

There is potential for Hedgehogs to be active within the Site and there is potential for hedgehog to be trapped during the construction phase. To prevent this, the following is recommended:

- Any site security fencing along the boundaries should leave a suitable gap between the fence and any other boundary such as scrub/woodland edge, bank or wall etc. to allow continued movement through the Site;
- Any trenches left open at night should have some means of escape for hedgehogs, such as the placement of a scaffolding board at one end;
- Any site security fences should have a gap at each corner sufficient to allow hedgehogs to exit the Site should they gain entry.

It is recommended that any new internal boundaries are designed to allow Hedgehogs free movement within the finished development. It is recommended that a hole for small mammals (including Hedgehogs) be put in place in any new garden boundaries of 13x13cm to allow movement through the landscape.

Reptiles

The majority of habitats to be lost to the development comprise close-managed amenity grassland and introduced shrubs. Further survey work is not considered appropriate or proportionate, due to the limited footprint of the proposed development footprint in relation to potential habitat, and the potential to retain these animals within suitable habitats within the wider Site area. This is preferable to translocation as it reduces stress, prevents the spread of disease and supports natural population dynamics (Nash et al., 2020).

There is high potential for Reasonable Avoidance Measures (RAMs) to successfully ensure that no reptiles are killed or injured during development. By following simple mitigation, any adverse impact can be avoided.

RAMs should be undertaken during Site clearance and construction, following a method statement for habitat clearance:

Construction in period late March to October

If construction is to occur during the reptile active season (late March to October), areas to be affected by construction activities should be de-vegetated prior to any site activities under the supervision of a suitably qualified ecologist. Any grassland or scrub will initially be trimmed to a height of no more than 20 cm, having first used an ecologist to walk and beat the habitat. This will encourage reptiles to disperse naturally into the neighbouring uncut vegetation. After at least 24 hours, a second cut will be made as close to ground/bank level as possible. This should ensure that any reptiles, if present, are displaced from the construction site onto adjacent intact habitats around the edges of the larger site, in

particular within areas of the vegetated bank being retained to the west, and towards retained habitat outside the development footprint to the east.

Following vegetation and refugia clearance, prior to and during construction works:

- All arising and/or demolition waste from vegetation, refugia and building clearance must either be removed from the area, or placed in a skip so that it does not create further suitable habitats and shelter for reptiles;
- Any storage of building and/or hazardous materials will be stored in a way that does not provide a new refuge habitat for reptiles: that is, not on the ground, e.g. in a skip or alternative;
- During construction, any trenches, holes, pits or other excavations which reptiles or amphibians could fall in to must be covered overnight, or have sloped banks or ramps suitable for their escape;
- If any reptile species is detected on site, it must be carefully picked up, placed in a clean bucket and moved to an area of suitable habitat (for reptiles, adjacent unshaded grassland edge habitat to the north or north-west, away from any development footprint).

Construction in period November to early March

The southern bank has potential for hibernating reptiles: it is recommended that work on any bank habitat should occur within the period late March to October with RAMS as described above. If this is unavoidable during the hibernation period, it should be completed under the direct guidance of a suitably qualified ecologist.

5.3. Invasive Non-native Species

Montbretia, and a potentially invasive rhododendron species, are present within the Site. control is recommended to prevent spread, with the plants either retained on Site, or achieved using a suitable herbicide applied in line with the manufacturer's recommendations. All arisings, including associated soil and corm material will be disposed of in licenced landfill, or retained onsite.

5.4. Statutory Nature Conservation Sites

The Site within the Zone of Influence for the Plymouth and Tamar Estuaries SAC. Developers may be required to provide a shadow screening assessment to the planning authority to aid in its Habitat Regulations Screening assessment of the likely impact on this SAC/SPA².

Depending on the outcome of this screening assessment, it is likely that the developer will need to provide a financial contribution towards securing mitigation measures to address the recreational impacts of the proposed development upon these SNCS, in accordance with Policy 22 of the Cornwall Local Plan.

² <https://www.cornwall.gov.uk/media/jfkizz4l/form-3-part-2-european-sites-spd-marine-and-estuarine.pdf>

Requirements for mitigation are detailed on the Cornwall Council website, with a supplementary planning document and template for Plymouth Sound Estuaries SAC Tamar Estuaries SPA available from:

<https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/european-sites-mitigation-spd/>

Under this policy the required mitigation is set at £371 per dwelling.

5.5. Non-statutory Conservation Sites

Lower Lynher Estuary CWS and Polbathic/Tredis Woods AWIS are adjacent to the east of the Site. It is recommended that a Construction Environmental Management Plan (CEMP) should be produced prior to, and adopted during, the construction phase of the development. This should be carried out following the BSI Standards Publication: Biodiversity- code of practice for planning and development BS 42020:2013.

Mitigation for the potential adverse effects from construction practices should include (particularly taking into account the downhill position of the CWS in relation to the Site):

- ensuring no contamination of soil or water by hazardous substances;
- ensuring no sediment is deposited outside the Site, including the reduction of dust deposition, in particular in relation to the use of site vehicles and any adjacent habitat to the east;
- no works undertaken outside of the approved footprint;
- ensure work occurs only during daylight hours;
- undertake appropriate storage and transport of any hazardous materials, including vehicle fuel, or any waste materials;
- ensure no spills, or leaks of fluids, fuels or oils from vehicles or plant;
- ensure vehicles and plant are parked an appropriate distance from sensitive environmental areas when not in use.

Adoption of this CEMP, in conjunction with the precautionary mitigation for light-averse bats (Section 5.2. Bats) will ensure that this development is unlikely to impact the interest features for which these NNCS have been selected.

5.6. Summary of net gains and losses

Table 3 provides a summary of net gains and losses to biodiversity resulting from the proposed development with mitigation, but without biodiversity enhancement.

Table 3. Summary of net gains and losses to biodiversity

Nature conservation feature	Potential impact	Proposed mitigation	Outcome/Comments
Hedgerow	Loss of habitat.	Any loss in extent of native hedgerow habitat should be mitigated for by the replanting of at least an equal extent of native hedgerow habitat, including a	Impact minimised.

	Impact during the construction phase.	species mix appropriate to the local area. Any loss of species-rich hedgerow would be a material consideration in any planning application. Protection zone with suitable fencing.	Impact avoided.
Bats (light averse)	Degraded commuting and foraging habitat due to light spill	Precautionary mitigation in relation to light-averse bats recommended.	Impact minimised.
Nesting Birds	Direct harm or injury during site clearance. Increased food items during construction.	Any activities affecting nesting habitats should be completed during the period September to February inclusive, outside the accepted bird nesting season.	Direct harm and injury avoided Temporary positive gain
Hedgehog	Loss of habitat; being trapped within construction site.	Mitigation during construction phase. Any internal boundaries designed to allow Hedgehogs free movement.	Impact avoided.
Reptiles	Loss of habitat, direct harm or injury	If construction is to occur during the active reptile season (late March to October), areas to be affected by construction activities should be de-vegetated prior to any site activities under the supervision of a suitably qualified ecologist. If any section of the southern bank that has potential for hibernating reptiles is to be removed or impacted during the hibernation season, this should be done under the supervision of a suitably qualified ecologist.	Direct harm and injury avoided.
INNS (Montbretia/ potential rhododendron ponticum)	Possible spread across Site and wider area. Potential for an offence.	Control of these species either by retaining within Site, or ideally removal and appropriate disposal of material and associated soil.	Impact avoided.
Zone of Influence for Plymouth and Tamar Estuaries SAC/SPA	Increased recreational pressure.	Financial contribution informed by assessment of impact (HRA)	Impact mitigated.
Lower Lynher Estuary CWS and Polbathic/Tredis Woods AWIS	Potential impact during construction.	Introduction and adoption of a CEMP during construction	Impact minimised.

6. Further survey work

Information within this report is sufficient to allow a robust assessment of the potential effects on ecological features associated, or potentially associated, with this site.

No additional surveys to inform planning are required.

7. Biodiversity enhancement

Creating new habitats, enhancing existing habitats or providing new features, can all contribute towards biodiversity enhancement, and helping to rebuild habitat networks in the wider area improves ecological resilience and adaptation to climate change.

There is good potential to maximise the value of the completed development for wildlife through careful plantings and good design, with, for example, opportunities to: increase biodiversity through the planting of native species-rich hedgerows and extending woodland areas; setting aside areas for wildlife; and using soft landscape design that endeavours to create new habitats suitable for native species. Enhancements are additional to any measures necessary to deal with potential impacts on site, as they are an opportunity to provide new benefits for biodiversity as a consequence of the proposals being implemented.

Cornwall Council now expect all new residential developments to provide either a bat or bird box/tube within the structure of the building at a rate of one box/tube per unit, where appropriate³. Inclusion of bee bricks are also recommended.

Potential foraging habitats are present to the south and east of the Site for birds and bats typical of more urban areas. New nesting and roosting opportunities could be provided for birds and bats within the Site, through provision of nesting/roosting boxes:

7.1. Birds

An exterior mounted double chamber Sparrow box (eg Vivarapro Build-in nest box Figure 1) could be fitted to the northern-most aspect of the new build. House sparrows (*Passer domesticus*) are sociable opportunists that survive in most UK habitats, from towns and cities to farmland and countryside. Substantial declines in both urban and rural populations (estimated 71% decrease between 1977 and 2008) have led to concerns for this species.

This House Sparrow Nest Box is manufactured from WoodStone - a mix of concrete and FSC wood fibres. This material is strong and highly insulating which helps to provide a thermally stable environment within the box. It also protects against damage from predators such as cats, woodpeckers and squirrels. It is available with one or two breeding chambers, which can be particularly suitable for house sparrows as they prefer to nest in colonies.

³ <https://www.cornwall.gov.uk/media/v1roqk0x/planning-for-biodiversity-and-net-gain-spd-v11.pdf>



Figure 1. Vivarapro build-in box.

7.2. Bats

An interior mounted bat roost (eg Vivara bat tube) could be fitted to the southern-most aspect of the new build. Designed to be built into the masonry of external walls or beneath a rendered surface, the Vivara Pro Woodstone Bat Tube provides an unintrusive, tailored habitat for a variety of bat species. It is designed to provide the maximum internal space across two cavities, allowing space for larger groups. The cavities can be reached via the crawl-in entry slot in the front facing. It is manufactured from hard-wearing WoodStone and plywood with removable side panels so that several boxes can be placed side by side. Position the box at least 2m above ground level away from artificial light sources. WoodStone is a mixture of sawdust from FSC wood sources and concrete, and it is designed to last for years. It is breathable so there will be no problems with condensation and Woodstone maintains a consistent temperature inside, providing excellent insulation for roosting bats.

This tube requires no maintenance as droppings fall out of the entrance ramp [text from nhbs.com].



Figure 2. Vivara bat tube.

7.3. Invertebrates

Three invertebrate bricks (Figure 3) will be fitted 1 to 2 metres above ground level on the southern side of the new build. These attract solitary bees, wasps and other invertebrates.



Figure 3. A bee brick

References

BSI, 2013. *British Standard 42020: 2013. Biodiversity – Code of practice for planning and development*. British Standards Institution, London.

CIEEM, 2018. *Guidelines for Ecological Impact Assessment: Terrestrial, Freshwater, Coastal and Marine. Technical Guidance Series*. Chartered Institute of Ecology and Environmental Management, 43 Southgate Street, Winchester, Hampshire.

CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal (GPEA). Technical Guidance Series*. Chartered Institute of Ecology and Environmental Management, 43 Southgate Street, Winchester, Hampshire.

Institute of Environmental Assessment (IEA), 1995. *Guidelines for Baseline Ecological Assessment*, Institute of Environmental Assessment. E&FN Spon, aJn Imprint of Chapman and Hall. London.

Joint Nature Conservation Committee, 2010. *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*. Reprinted by JNCC, Peterborough

JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. *UK Post-2010 Biodiversity Framework*. July 2012.

Nash, D.J., Humphries, N. & Griffiths, R.A. (2020) Effectiveness of translocation in mitigating reptile-development conflict in the UK. *Conservation Evidence*, 17, 7-11.

Stace, C., 1997. *New Flora of the British Isles*. 2nd edition. Cambridge University Press, Cambridge.

Appendix 1:

Legislation and Policy used to assess habitats and species

Environment Act 2021

This Act sets out clear statutory targets for the recovery of the natural world in the four priority areas of air quality, biodiversity, water and waste, and includes a new target to reverse the decline in species abundance by the end of 2030. It sets in law new tools that natural England and others can use to help meet these targets.

European Habitats and Species Directive (CEC, 1992)

The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance.

European Red Data lists (IUCN, 2000)

International Union for Conservation of Nature (IUCN and the European Commission have been working together on an initiative to assess around 6,000 European species according to IUCN regional Red Listing Guidelines. Through this process they have produced a European Red List identifying those species which are threatened with extinction at the European level so that appropriate conservation action can be taken to improve their status.

European Council Birds Directive (CEC, 1979)

The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. An important part of this Directive is the identification and classification of Special Protected Areas (SPAs) to protected vulnerable bird species listed in Annex 1 of the Directive and regularly occurring migrating species.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

This Act is the primary legislation that protects animals, plants and certain habitats in the UK.

The Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 consolidate and update the Conservation of Habitats and Species Regulations 2010, and transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and elements of Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) in England, Wales, and to limited extent, Scotland and Northern Ireland.

The objectives of the Habitats Directive is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Directive lays down rules for the protection, management and exploitation of such habitats and species.

The Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species. These sites form a network termed Natura 2000 and include Special Areas of Conservation and Special Protection Areas.

[Protection of Badgers Act 1992](#)

The Protection of Badgers Act 1992 consolidated and improved previous legislation. Under the Act it is an offence to kill, injure or take a Badger, or to damage or interfere with a sett used by a Badger unless a licence is obtained from a statutory authority.

[The Hedgerow Regulations 1997](#)

The Hedgerows Regulations 1997 protect certain hedgerows from being removed (uprooted or destroyed) if they meet certain criteria.

[The Countryside and Rights of Way \(CROW\) Act 2000](#)

This Act increases measures for the management and protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation.

[Circular 06/2005 Biodiversity and geological conservation – statutory obligations and their impact within the planning system](#)

This circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. It complements the national planning policy in the National Planning Policy Framework and the Planning Practice Guidance.

[Natural Environment and Rural Communities Act 2006](#)

The Act made amendments to the both the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way (CROW) Act 2000. For example, it extended the CROW biodiversity duty to public bodies and statutory undertakers.

[UK Post-2010 Biodiversity Framework, 2012](#)

The 'UK Post-2010 Biodiversity Framework', published in July 2012, succeeds the UK BAP and 'Conserving Biodiversity – the UK Approach', and is the result of a change in strategic thinking.

[National Planning Policy Framework, 2012](#)

The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied. It contains a number of policies relating to ecology including "minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

[The natural choice: securing the value of nature \(2011\) \(Natural Environment White Paper\)](#)

This White Paper outlines the Government's vision for the future of landscape and ecosystem services.

[Biodiversity 2020](#)

This is a national strategy for England's wildlife and ecosystem services based on the White Paper.