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Preliminary Ecological Appraisal
Land adjacent to Newlyn, Landulph
May 2021

A report by

Colin Hicks BSc (Hons), MCIEEM

Report details

Site address: Church Lane, Landulph PL12 6NS
Grid reference: SX 430 623
Survey date: 11th May 2021
Report date: 15th June 2021
Report author: Colin Hicks BSc (Hons), MCIEEM

Report reference: WOR-2188

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	5
1.1 Proposed development	5
1.2. Survey aims	5
1.3. Site location	5
2. Survey methodology	6
2.1. Desktop survey	6
2.2. Field survey	6
2.3. Method for valuation of habitats	7
2.4. Survey constraints	7
2.5. Study area	7
3. Results	8
3.1. Site description	8
3.2. Phase 1 habitats	8
3.3. Desktop survey	9
Map 1. Phase 1 habitats	10
3.4. Potential for species of nature conservation importance	11
4. Evaluation of ecological features and potential impacts	12
4.1. Habitats of nature conservation importance	12
4.2. Species of nature conservation importance	12
4.3. Statutory Nature Conservation Sites (NNCS)	14
5. Recommendations for mitigation and further surveys	16
5.1 Habitats of nature conservation importance	16
5.2. Protected species and species of nature conservation importance	16
5.3. Summary of net gains and losses	17
6. Further survey work	18
7. Biodiversity enhancement	19
7.1. Hedgerows	19
7.2. Nesting birds	19
7.3. Roosting bats	20
7.4. Solitary bees and wasps	20
References	21
Appendix 1:	22
Appendix 2	24

Non-technical summary

Western Ecology has been commissioned to complete a Preliminary Ecological Appraisal of an area of land adjacent to Newlyn and Landulph in East Cornwall. A single dwelling is proposed. The Site comprises an area of managed grassland with patchy scrub, introduced shrubs and small buildings.

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 this site and low quality of habitats, bat activity transects are not considered proportionate to the negligible risk of impact to foraging and commuting bats posed by this development. However, it is good practice to minimise light-spill and mitigation is therefore recommended.

Nesting birds

Introduced shrubs and buildings may support widespread and common bird species during the breeding season. 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, 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.

Further surveys

Information within this report is sufficient to allow a robust assessment of the potential effects on the majority of ecological features associated, or potentially associated, with this site. However, it is recommended that the following species/group specific surveys are completed to ensure compliance with wildlife legislation and relevant planning policy:

Nesting birds

If site construction is likely to impact potential bird nesting habitats in the period March to August, these habitats should be thoroughly inspected, prior to the start of work, for nesting birds by a suitably qualified person. If nesting birds are found, all activities likely to damage or disturb the nesting area should be delayed until chicks have fledged.

Biodiversity enhancements

Simple biodiversity enhancements are suggested within Section 7 of the report.

1. Introduction

Western Ecology has been commissioned to complete a Preliminary Ecological Appraisal of an area of land adjacent to Newlyn and Landulph in East Cornwall.

1.1 Proposed development

A single dwelling 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 site is adjacent to a group of dwellings towards the western of the village of Cargreen, approximately 3km to the north east of Saltash in East Cornwall.

2. Survey methodology

2.1. Desktop survey

Due to the limited extent of the site and the predominance of managed agricultural habitats, a full biological records search is not considered proportionate for this development.

Consultees for the data search included:

- Natural England - GIS dataset of SSSI Impact Risk Zones, statutory nature conservation sites, Priority Habitats and locations of granted EPSL.

Species data was examined for protected and notable species records. An assessment was then made, based on known habitat preferences, as to whether these species might be present within the site and how they might be affected by the proposal.

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.

2.2. Field survey

A Preliminary Ecological Appraisal of the site was completed by Colin Hicks BSc (Hons) MCIEEM on 11th May 2021 between 08:00 and 9:00 with dry conditions, moderate south-westerly wind, 15°C and 80% cloud cover.

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. Habitats encountered are described within the Results section, with a map included within the report. Plant species were identified according to Stace (1997).

All areas of the building were carefully examined internally and externally for signs of use by bats, with the aid of torches, by a suitable qualified and licenced ecologist. This included a search for bat droppings, feeding remains, urine stains and polished/scratched woodwork. A search was also made for individual bats, as well as potential access points and cavities capable of providing a roosting space for bats.

This survey method complies with guidelines produced by the Bat Conservation Trust (Collins, 2016).

2.3. Method for valuation of habitats

The ecological value of habitats present is provided in line with Guidelines for Ecological Impact Assessment (CIEEM, 2016), 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. Although some plant species would have not been visible during the survey period, within such a small, 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 valid for one year, after which time it will need updating. This report is valid until 11th May 2022.

2.5. Study area

The study area for the desktop survey is within 1km. 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 an area of managed grassland with patchy scrub, introduced shrubs and small buildings.

3.2. Phase 1 habitats

Habitats have been classified using the Phase 1 Habitat Survey methodology, and are described below and detailed in Map 1. Habitats which are important in terms of legislation or policy are identified. Plant species that characterise each of these habitats are identified, although this is for descriptive purposes, and comprehensive inventory is not provided.

Photos are contained within Appendix 2.

Table 1: Descriptions of habitats contained within the Site.

Habitat type	Description	Biodiversity value	Extent (approximate)
Amenity grassland	Much of the site comprises grassland that has been managed for its amenity value with cock's-foot, Yorkshire fog, sweet vernal-grass, meadow-grass and scattered herbs including hogweed, dandelion, common mouse-ear, broad-leaved dock and cut-leaved crane's-bill. This grassland is patchy with some bare soil in the north of the.	Site	840m ²
Scrub	Small areas of low bramble scrub were present around the base of buildings	Site	40m ²
Introduced shrubs	Occasional non-native shrubs including small conifers have been planted in the site	Negligible	20m ²
Buildings	Small buildings are present comprising: a Nissen-type hut with block end-walls and corrugated fibre-cement body, well lit to the interior and used for incidental storage; A block wall shed with a pitched, corrugated metal roof; Small stone shed with slate roof, collapsing and ivy covered with adjoining pre-fabricated concrete shed. None of these buildings have potential for roosting bats due their materials and type of construction, and lack of evidence, although nesting birds may be present.	Site	180m ²
Vegetated wall/bank	The Site is bounded to its south by a species poor half-bank/wall dominated by ivy with occasional small oak, common nettle, red campion, grasses and bramble in its west, and with occasional ivy and red campion adjacent to a parking place in its east.	Site value This feature would not qualify as a Habitat of Principal Importance (JNCC & Defra, 2012)	40m

3.3. Desktop survey

Statutory Nature Conservation Sites (SNCS)




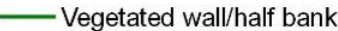
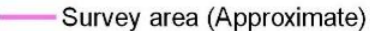
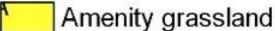

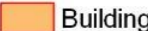
Areas of the Tamar Estuary 430 metres to the east are part of Tamar – Tavy Estuary SSSI. This is an underpinning SSSI of Tamar Estuaries Complex SPA and Plymouth Sound and Estuaries SAC.

SSSI Impact Risk Zones

Due to its proximity to the Tamar – Tavy Estuary SSSI, the Site is within an area identified as a SSSI Impact Risk Zone for the following type of development:

All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.

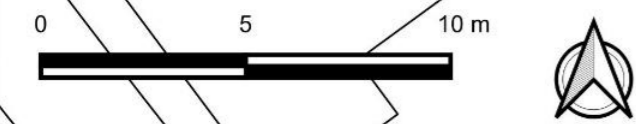
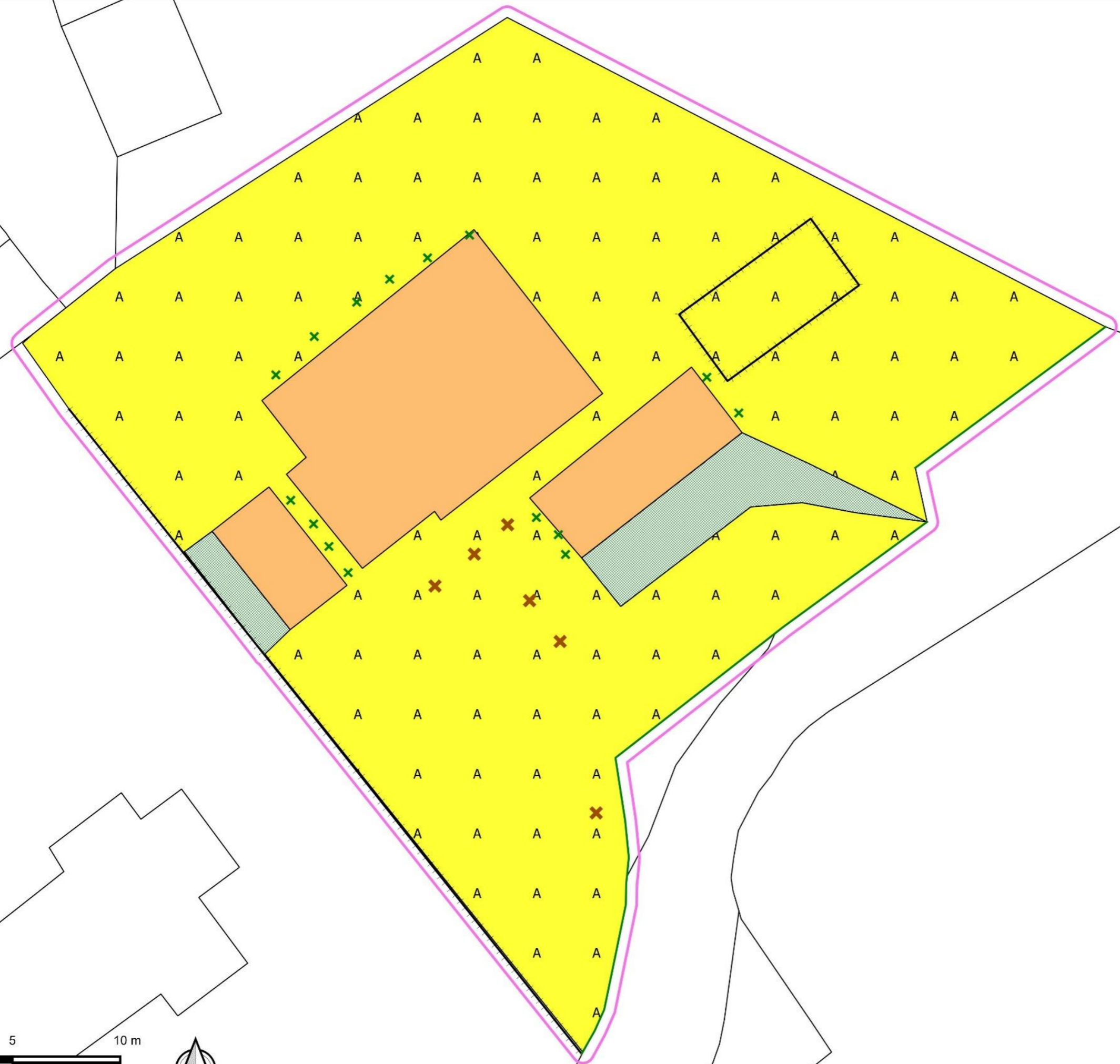
Legend

-  Scattered scrub
-  Introduced shrubs
-  Fence
-  Vegetated wall/half bank
-  Survey area (Approximate)
-  Amenity grassland
-  Scrub
-  Building

Title: Map 1. Phase 1 habitats

Project: Land adjacent to Newlyn,
Landulph

Checked by: CDH Version: 01
Date: 15/06/2021



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: habitat assessments of potential for protected and notable species.

Species	Assessment	Potential for presence
Amphibians	There are no aquatic habitats within the Site and breeding amphibians are highly unlikely to be present.	Negligible
Badgers	There are no signs of Badger activity associated with the site and its boundaries. Badgers do not need to be considered further.	Negligible
Bats	Buildings within the site lacked significant features that could be used by roosting bats, whilst no signs of roosting bats were found. The grassland and low banks associated with the Site are likely to provide poor foraging opportunities due to their management and lack of tall native shrubs.	Negligible Likely – but low value
Birds	The buildings and occasional introduced shrubs provide suitable nesting habitat and may be used by a variety of common bird species.	Likely
Common Dormice	The hedgerows associated with the site lack sufficient structure and diversity of fruiting shrubs to provide optimal Dormouse habitat and they do not need to be considered further.	Negligible
Hedgehog	Grassland habitats provide foraging opportunities, while there is also additional suitable habitat in the local area. It is possible that Hedgehogs are active across the site.	Likely
Reptiles	The grassland sward associated with the Site is managed and is largely unsuitable for reptiles. Reptiles do not need to be considered further.	Negligible
Otter	There is no suitable riparian habitat associated with the Site and Otters do not need to be considered further.	Negligible
Water Vole	There is no suitable riparian habitat associated with the Site and Water Voles do not need to be considered further.	Negligible
Notable invertebrates	Habitats at this site are likely to support common and widespread invertebrates with very little potential for notable species.	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	No 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 present within the site.	Absent

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.

Notable habitats are not a consideration for this project.

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”.

Buildings within the site lacked significant features that could be used by roosting bats, whilst no signs of roosting bats were found. Roosting bats do not need to be considered further.

Grassland habitats within the site are unlikely to support flying insects in sufficient numbers for regularly foraging bats, whilst native shrub hedgerows are lacking. The site is part of a group of dwellings surrounded by low hedgebanks and is unlikely to be important for foraging and commuting bats, including light-averse species.

However, it is good practice to minimise light-spill and mitigation is therefore recommended.

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”.

Introduced shrubs and buildings provide potential nesting habitat. Any activities which impact these habitats have potential to adversely impact nesting birds and may require mitigation.

Hedgehog

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

It is likely that Hedgehogs forage within grassland habitats associated with the Site. Although proposals are likely to involve the loss of some extent of poor grassland habitats, the

majority of habitat in the general area will still remain viable to hedgehogs and no mitigation is recommended.

4.3. Statutory Nature Conservation Sites (NNCS)

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 of a type that Natural England judges to be a risk to statutory nature conservation sites. This relates to Tamar and Tavy Estuaries SSSI that underpins Plymouth Sound and Estuaries SAC and Tamar Estuaries Complex SPA.

Tamar and Tavy Estuaries SSSI

The river corridor zone approximately 430 metres to the east of the Site is part of the Tamar and Tavy Estuaries SSSI. This SSSI was designated for its wintering birds, marine sediment invertebrate communities, and rocky shore, subtidal and saltmarsh habitats.

This site is within a SSSI's Impact Risk Zone for all developments associated with this SSSI.

This indicates that the local planning authority should consult Natural England with regards to this development and its potential to affect this SSSI under Schedule 5 (v) of the Town and Country Planning (Development Management Procedure) (England) Order 2010 and section 28, paragraph 1 of the Wildlife and Countryside Act 1981 (as amended).

It is unlikely that wintering birds from the estuary use this site due to its proximity to adjacent housing, disturbance by local pets and the enclosed nature of the site, which does not allow ground roosting birds a clear view of the area for aerial predators.

It is very unlikely that a small residential development at this site would impact the habitats for which this SSSI has been selected, or that the increased use of the estuary due to the small increase in population would adversely impact wintering birds.

Plymouth Sound and Estuaries SAC

The river corridor approximately 430 metres to the east of the Site is part of the Plymouth Sound and Estuaries SAC.

The primary reason for its designation is the presence of the following Annex I habitats:

- Sandbanks which are slightly covered by seawater all the time;
- Estuaries;
- Large shallow inlets and bays;
- Reefs and Atlantic salt meadows (*Glauco-Puccinellietalia maritima*).

Mudflats and sand flats not covered by seawater at low tide is an Annex I habitat present as a qualifying feature, but not as a primary reason for selection of this site. Shore Dock *Rumex rupestris* is an Annex II species present as a primary reason for selection of this site. Allis Shad *Alosa alosa* is an Annex II species present as a qualifying feature, but not a primary reason for selection of this site.

It is extremely unlikely that a residential development at this site would impact the habitats for which this SAC has been selected. It would have negligible effect on Shore Dock, which is typically isolated to freshwater seeps along cliffs close to the strand line, and Allis Shad which may migrate past this area on the way to their freshwater spawning grounds.

The Site is within the Plymouth Sound and Estuaries SAC Strategic Access Management and Mitigation Measures (SAMMS) zone. However, due to the scale of the proposed development, mitigation is unlikely to be required.

Tamar Estuaries Complex SPA

The river corridor approximately 430 metres to the east of the Site is part of the Tamar Estuaries Complex SAC.

This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

On passage;

Little Egret *Egretta garzetta*, 72 individuals representing at least 9.0% of the population in Great Britain (Count as at 1993)

Over winter;

Avocet *Recurvirostra avosetta*, 201 individuals representing at least 15.8% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)

Little Egret *Egretta garzetta*, 42 individuals representing at least 8.4% of the wintering population in Great Britain (Count as at 1993)

It is unlikely that wintering birds from the estuary use this site due to its proximity to adjacent housing, disturbance by local pets and the enclosed nature of the site, which does not allow ground roosting birds a clear view of the area for aerial predators.

It is very unlikely that a small residential development at this site would impact the habitats for which this SPA has been selected, or that the increased use of the estuary due to the small increase in population would adversely impact wintering birds.

No mitigation is required and there is no requirement to consult Natural England on the potential impact on these sites.

The potential for adverse effects on statutory nature conservation sites does not need to be considered further.

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

No recommendations are made with regards to habitats to ensure compliance with nature conservation legislation and planning policy.

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 this site and low quality of habitats, bat activity transects are not considered proportionate to the negligible risk of impact to foraging and commuting bats posed by this development.

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).

However, precautionary mitigation in relation to external lighting should be adopted to 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 hedgerows and tree canopies;
- 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:

This mitigation is considered to be sufficient to meet the requirement of demonstrating minimal new external lighting, and avoidance of light spill onto habitats that may be used by bats and other wildlife.

Birds

Buildings and introduced shrubs 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, 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.

5.3. 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
Bats and other nocturnal species	Degraded habitat due to light spill	Precautionary mitigation in relation to light-spill.	Impact minimised
Birds	Direct harm or injury during site clearance.	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

6. Further survey work

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

However, it is recommended that the following species/group specific surveys are completed to ensure compliance with wildlife legislation and relevant planning policy:

Nesting birds

If site construction is likely to impact potential bird nesting habitats in the period March to August, buildings and introduced shrubs should be thoroughly inspected, prior to the start of work, for nesting birds by a suitably qualified person. If nesting birds are found, all activities likely to damage or disturb the nesting area should be delayed until chicks have fledged.

No other survey work is recommended for this site.

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.

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.

7.1. Hedgerows

There is an opportunity to create new features that will enhance the site for wildlife by;

- Creating new hedgerow boundaries. Planting should involve native shrub species.
- Trim the hedgerows in January or February to avoid the destruction of birds' nests (present from March to August) and to allow any berry crops that are present to be used by wintering birds (September to December).
- Trim on a two- or three-year rotation, rather than annually, to ensure that thick nesting cover is available, and to boost any berry crop that generally develops on second-year growth.
- Retain old, dying and dead trees where these are not a hazard, as they support important insect communities.

7.2. Nesting birds

New nesting opportunities should be provided for birds on the Site, through the provision of bird nesting boxes: this could include a Sparrow Terrace (Schwegler 1SP Figure 1) fitted to the eastern or northern aspect of any new buildings. This terrace has been designed to help redress the balance of falling House Sparrow numbers. The current UK population of 6 million pairs is half what it was in 1980 and this is thought to be due to habitat destruction and lack of suitable nesting spaces. Sparrows are social birds and like to nest in company. Each terrace provides ideal nesting opportunities for three families. Made of wood-concrete mix, this terrace is durable, breathable and will last many decades.



Figure 1. Schwegler 1SP Sparrow Terrace

Also, if overhanging eaves are present, House Martin nesting boxes (such as the 9A Schwegler House Martin Nest) could also be provided in a cool location.



Figure 2. Schwegler 9A House Martin Nest

7.3. Roosting bats

New roosting opportunities should be created within any new building for crevice-roosting bats by adding two 1FR Schwegler bat tube or Green and Blue bat bricks. These should be fitted under the guidance of a suitably qualified ecologist.

These are designed to be installed on the external walls of buildings, either flush or beneath a rendered surface. This makes it ideal for situations where the box needs to be discrete, as only the entrance hole will be visible.

7.4. Solitary bees and wasps

Three Bee bricks should be fitted 1 to 2 metres above ground level on any southern elevations. These attract solitary bees and wasps.



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, 2016. *Guidelines for Ecological Impact Assessment: Terrestrial, Freshwater and Coastal. 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.

Collins, J. (ed.), 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Survey Trust, London. ISBN-13 978-1-872745-96-1

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.

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

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 Governments 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.

Appendix 2



Image 1. Amenity grassland provides the majority habitat



Image 2. Nissen Hut.



Image 3. Vegetated wall/half bank



Image 4. Prefabricated concrete shed