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Preliminary Ecological Appraisal
Wynding House,
Bamburgh
Northumberland.

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1 EXECUTIVE SUMMARY

Ecosurv Ltd have been instructed to undertake a Preliminary Ecological Appraisal (PEA) of the proposed development site at Wynding House,, Bamburgh. The survey area comprised of an area of Tarmacadam hard standing together with an ornamental garden set predominantly to lawn with shrub beds to the outer edges. The site boundaries comprise of the dwelling and sandstone walls, semi-mature fruit trees together with a semi mature but heavily pruned laburnum tree is also present within the site.

We understand that this tree suffered extensive damage during Storm Arwen in November 2021 and as a result required pruning.

The proposals are to remove the area of hard standing immediately in front of the dwelling and create a new parking area to the south western end of the property with the garden space leading north towards the dwelling.

The existing gateway will be closed and a new entrance provided to the south western corner of the property.

The proposals will involve clearance of the vegetation and some trees within the site. Potentially this work will involve the removal of the existing fruit trees and the laburnum to accommodate new vehicular access to the site. The purpose of this report is to provide general advice on ecological constraints and appropriate mitigation measures with the proposed development at this site.

A Preliminary Ecological Appraisal (PEA), comprised of a desktop study and site visit were completed in August 2022 and followed the CIEEM GPEA document (CIEEM, 2017) which includes: a standard Phase 1 habitat survey (JNCC, 2010); an assessment of the presence, or likely presence, of notable species; and an assessment of the value of habitats present on site. The site visit was carried out on 26th August 2022 by Stuart M Johnson BSc, MSc, MCIEEM.

The desktop study collated publicly available information on the biodiversity of the site and surrounding area, including the presence of any statutory and non-statutory sites. Biological records for a 2km radius surrounding the site were also obtained from the Environmental Records Information Centre (ERIC), Newcastle.

The site was considered to have low ecological value overall. The current lawn and planted shrubs to the borders is of relatively low ecological value, although they do provide extremely limited value for common nesting bird species. The refugia present within these areas offer some value for sheltering small mammals i.e., hedgehogs *Erinaceus europaeus*.

Consideration should be given to protection of the trees to be retained both during and post completion. The design of the development requires some trees to be removed, potential for landscaping and use of machinery within close proximity to the Root Protection Areas (RPAs) and tree canopies therefore tree protection by arboricultural methodology, barriers and ground protection should be implemented throughout the works.

A low-level lighting scheme should be implemented both during and after construction to avoid indirect disturbance to foraging and commuting bats, birds and mammals that may be using boundary vegetation for connectivity to the wider environment.

Additional measures to compensate the loss of bird nesting habitat and to ensure a net gain in the biodiversity value of the site post development, as required by the revised NPPF have also been included within the compensation and enhancement sections of this report.

2 INTRODUCTION

Ecosurv Ltd were instructed by Howarth Litchfield to undertake a Preliminary Ecological Appraisal (PEA) of the proposed development site at Wynding House, Bamburgh. The survey work and preparation of this report has been undertaken by Stuart M Johnson BSc, MSc, MCIEEM. The report has been written in accordance with the CIEEM Guidelines on Ecological report writing (CIEEM, 2017) and BS 42020:2013 (BSI, 2013).

The purpose of this report is to provide general advice on ecological constraints and recommendations for further surveys associated with the proposed development at this site.

To inform this report on potential ecological impacts regarding the proposed development at this site a PEA, comprising a desktop study and a site visit were completed in August 2022 and followed the CIEEM GPEA document (CIEEM, 2017) which includes: a standard Phase 1 habitat survey (JNCC, 2010); an assessment of the presence, or likely presence, of notable species; and an assessment of the value of habitats present on site.

The site is centred on Grid Reference NU 18038 35064 and can be accessed by The Wynding (Figure 1).

The proposal is to create a new parking area to the southern section of the current garden. The parking area at present to the north together with a section of the existing garden is to be transformed into an ornamental garden space, with a central path from the parking area to the entrance of the dwelling.

- ❖ This will require the existing entrance to the west to be sealed off with stone to match the current wall and a new entrance created to the south western section of the existing wall. To identify potential ecological constraints to the proposed development;
- ❖ To identify the further ecological surveys needed to (inform an ecological impact assessment to be identified and appropriately designed) provide sufficiently robust data to the appropriate planning authority;
- ❖ To allow likely mitigation or compensation measures to be developed;
- ❖ To form a basis for agreeing the scope of the ecological impact assessment to be identified and appropriately designed;
- ❖ Complete a desk study of study area to gather information related to legally protected/ecologically important sites, habitats and/or species;
- ❖ Map all general habitats within the field survey area and identify any habitats that are ecologically important and/or have legal protection;
- ❖ Identify dominant species of vascular plants present within each mapped habitat type;
- ❖ Highlight any parts of the field survey area that support invasive plant species;
- ❖ Assess the potential of each identified habitat to support, and where possible also undertake initial preliminary field surveys for, any ecologically important and/or legally protected fauna species.

This information has then been used to identify potential ecological constraints to development and formulate reasonable ecological recommendations and define the future ecological scope of works.

2.1 Location



Figure 1. Site location plan. Red line shows the area proposed for development.

3 LEGISLATION

3.1 Summary of legislation

This section summarises the legislation which is relevant, in ecological terms, to this assessment, i.e. legislation relevant to species present or potentially present within the survey area is included here along with legislation relevant to protected sites in the vicinity.

- ❖ Wildlife and Countryside Act 1981 (as amended);
- ❖ Countryside and Rights of Way (CROW) Act 2000;
- ❖ The Protection of Badgers Act (1992);
- ❖ Wild Mammals (Protection) Act 1996;
- ❖ The Conservation of Habitats and Species Regulations 2017 (as amended);
- ❖ Environment Act 1995;
- ❖ Natural Environment and Rural Communities (NERC) Act 2006.

The most significant legislation governing the protection of British wildlife is the Wildlife and Countryside Act 1981, the Countryside Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. The Wildlife and Countryside Act, as amended mainly by the Countryside Rights of Way Act, protects animal species listed in Schedule 5 and plant species in Schedule 8 of the Act from being killed, injured, and used for trade. The provisions of this act further protect certain species, such as great crested newts and bats from being disturbed or taken from the wild, as well as protecting elements of their habitats. The Act also specifies that offences occur regardless of whether they were committed intentionally or recklessly. The parts of this legislation that apply to most reptile species are in regard to killing, injury and trade only and do not protect their habitat, nor are they protected from disturbance or from being taken from their habitat.

The Conservation of Habitats and Species Regulations is the English enactment of European legislation and provides similar but subtly different protection for species listed on Schedules 2 and 4 of those regulations. The provisions of this act complement those of the Wildlife and Countryside Act. Species to which these provisions apply are the European Protected Species. Activities that might cause offences to be committed can be legitimised by obtaining a licence from the relevant statutory body.

The following EC Directives and international conventions are applied by some of the above UK Acts and Regulations:

- ❖ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora (as amended);
- ❖ Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (as amended);
- ❖ Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) (1979) (as amended);
- ❖ Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention) (1979) (as amended);
- ❖ Agreement on the Conservation of Bats in Europe (1999) (as amended).

3.2 National Planning Policy

The National Planning Policy Framework (NPPF) published in 2012 and revised in July 2021 states that policy should promote the preservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species populations linked to national and local targets.

The planning system should contribute to and enhance the natural environment by;

- ❖ Protecting and enhancing valued landscapes, geological conservation interests and soils;
- ❖ Recognise the wider benefits of ecosystem services;
- ❖ Minimising impacts on and providing net gains for biodiversity, contributing to the Government's commitment to halt the overall decline in biodiversity, included by establishing coherent ecological networks that are more resilient to current and future pressures.

The NPPF also states that planning for biodiversity should be done at a landscape scale across local authority boundaries, identifying components of the local ecological network including nationally and locally important sites for biodiversity and wildlife corridors and stepping stones that connect them.

Of particular significance with the revised NPPF is the amendment to para 175(d) of the NPPF 2019 (now para 180(d) of the NPPF 2021 – see below) – it now requires opportunities to incorporate biodiversity improvements in and around development, rather than simply making it optional. This demonstrates further steps taken by the government towards achieving the 25 Year Environment Plan (2018).

175. When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁵⁸ and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Further details on the legislation protecting species of British wildlife and habitats relevant to this assessment can be found in section 9.1 of this report.

4 METHODS

4.1 Overview

The PEA involved a desktop study and a site visit. The desktop study collected publicly available information regarding the biodiversity of the area, including the habitat structure of the site and wider landscape, as well as the presence of any statutory or non-statutory designated sites, using the Multi-Agency Geographic Information for the Countryside (MAGIC) resource. Biological records within 2km of the site were also requested from the Environmental Records Information Centre (ERIC), Newcastle, which included records of protected and notable species and any nearby non-statutory designated sites not available through MAGIC.

The objective of the survey was to ascertain if any protected species may be using the site, document the habitats present and identify any potential ecological constraints likely to be encountered with the proposed development. The survey would be completed under suitable weather conditions and by an experienced ecologist. The results of the desktop study and site survey would then be assessed to determine potential ecological impacts posed by the work, the requirement for additional survey work, and recommend how ecological impacts should be mitigated and compensated for.

The survey work and the preparation of this report has been conducted by Stuart M Johnson BSc, MSc, MCIEEM who is experienced in protected species survey work. All survey and assessment work has been completed in line with official guidelines produced by Natural England and the Chartered Institute for Ecology and Environmental Management, and British Standard document BS 42020: 2013 'Biodiversity – Code of practice for planning and development.'

4.2 Limitations

4.2.1 Desk study limitations

Species specific groups, were not contacted for their detailed records within the survey area. The combination of data obtained was felt to be sufficient to achieve the objectives of the report.

4.2.2 Field Survey Limitations

Due to the time of year in which the survey was carried out some floral species are likely to have been missed, as most floral species are more readily identifiable during spring or summer. Additional species would undoubtedly be recorded at different times of the year due to the variety of flowering strategies.

4.3 Survey Area

The application site is located at Grid Reference NU 18038 35064 and can be accessed via The Wynding. The assessment focused on the application site, as well as all habitats in the immediate surrounding area (where access was available).

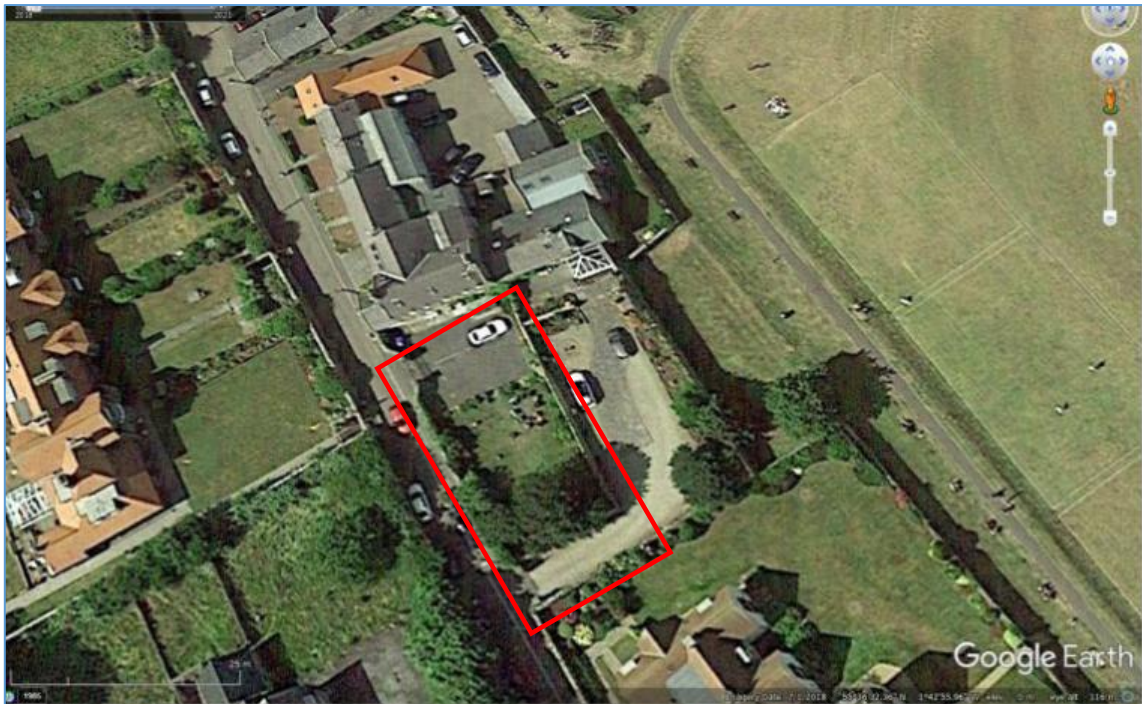


Figure 2. Satellite Image of the surveyed area. Application site boundary is shown by the red line.

(Image taken from Google Earth Pro: ©2022 Map Data Google 2020)

4.4 PEA Field survey

The field survey followed the CIEEM GPEA document (CIEEM, 2013) and BS 42020:2013 document (BSI, 2013). The PEA was carried out by Stuart Johnson on the 26th August 2022. The survey area included the site and extended into areas which were deemed to be a potential receptor of ecological impact due to the proposed development.

Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2010) with target notes made to describe features of interest.

In addition to mapping habitat types and dominant flora, the potential for the survey area to support any legally protected faunal species and/or faunal species of nature conservation importance, e.g., BAP priority species, was assessed. Detailed surveys were not undertaken; rather the potential for the survey area to support each species/species group was assessed.

Features that would likely support protected species, holes in trees, drainage ditches, ponds, embankments etc. were all examined for the possible presence of species known to utilise these features, in accordance with the methodologies outlined in section 4.5. In addition, field signs or sightings of such species were recorded as seen.

Key features identified during the survey are summarised in the form of Target Notes. Nomenclature for plant species names is taken from Stace (1991) and the Botanical Society of the British Isles (BSBI) plant checklist (2007).

4.5 Protected Species

Based on the habitats present, the site was assessed with particular regard to determine the presence or otherwise of badgers (*Meles meles*), bats, great crested newts (GCN) (*Triturus cristatus*), nesting birds, and reptiles. An overview of the survey methods used is outlined below.

Badgers: An assessment of the site and surrounding habitats (where access was available), with particular focus on any areas of dense vegetation, was carried out in order to identify any evidence of badgers, including:

- ❖ the presence of any setts
- ❖ well-used runs/tracks
- ❖ supplementary evidence, such as hairs or prints
- ❖ badgers themselves

Bats: An assessment of the trees on site or along the site boundary was undertaken to identify any potential roost features (PRFs) for bats, and/or observe evidence of roosting bats, in accordance with the current Bat Conservation Trust (BCT) survey guidelines (Collins, 2016) and Bat Mitigation Guidelines (Mitchell-Jones, 2014). The assessment comprised of an external inspection of the trees, concentrating on features that may provide roosting opportunities or afford access into roosting features internally, such as, woodpecker holes, rotten limbs, cracks and crevices.

The trees were then categorised based on their suitability and potential for roosting bats, which was evaluated in accordance with the BCT guidelines detailed in Table 1 and criteria outlined in the Bat Mitigation Guidelines, which are presented below.

The likelihood of bat roosts being present will be higher where structures:

- ❖ are of a pre-20th Century construction;
- ❖ are in a lowland rural setting;
- ❖ have woodland, mature trees, species-rich grassland and/or water nearby;
- ❖ have large dimension roof timbers with cracks, joints and holes;
- ❖ have numerous crevices in stonework and structures;
- ❖ have an uneven roof covering with gaps, though not too draughty;
- ❖ have hanging tiles or roof cladding, especially on south-facing walls;
- ❖ have a roof warmed by the sun;
- ❖ are disused or little used; largely undisturbed; or
- ❖ provide appropriate hibernation conditions, such as abandoned mines, tunnels, kilns, or fortifications;
- ❖ recent or historical records of bats on the site, or bat roosts in the general area.

The likelihood of bat roosts being present will be lower where structures:

- ❖ are in an urban setting with little green space;
- ❖ are subject to heavy disturbance;
- ❖ have a small, cluttered roof void (particularly for brown long-eared);
- ❖ are of a modern construction with few gaps or crevices that bats can fly or crawl through (though pipistrelle bats may still be present);

- ❖ are comprised of prefabricated steel or sheet materials;
- ❖ are active industrial premises; Please note that the above list provides generic screening criteria only and there are exceptions to consider. For example, pipistrelle breeding roost sites are often found in modern housing estates and therefore the absence of bats from such locations should not always be assumed.

Table 1. Guidelines for assessing bat roosting potential of structures and trees.

Suitability	Habitat description	Further action required?
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further bat risk assessment effort or bat activity surveys are required.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).	Structures: One bat activity survey is required to determine whether the structure is being utilised by roosting bats; this may be a dusk or dawn survey. This survey must occur between May and August. The discovery of a roosting bat during this single bat activity survey will require further survey effort.
	A tree of sufficient size and age to contain PRFs, but with none seen from the ground or features seen with only very limited roosting potential.	Trees: No further bat risk assessment effort or bat activity surveys are required.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection conditions and surrounding habitat, but unlikely to support a roost of high conservation status.	Two bat activity surveys are required to determine whether the structure or tree is being utilised by roosting bats; this should be comprised of one dusk and one dawn survey. One survey must occur between May and August.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three bat activity surveys are required to determine whether the structure or tree is being utilised by roosting bats; this should be comprised of one dusk and one dawn survey, with an additional survey (either dusk or dawn). Two surveys must occur between May and August.

Evidence of roosting bats can include: bat droppings; staining around access points; small scratches around an entrance hole; audible squeaking at dusk or in warm weather; smoothening of surfaces around cavity or an entrance hole; distinctive smell of bats.

The bat risk assessment was completed using ladders, binoculars and a powerful torch. An endoscope was also available to check any small gaps/cracks for evidence of bats.

Great Crested Newts: The habitats on site were assessed in regard to their suitability to support GCN. Potential refugia (such as logs, stones, discarded building materials etc.) present were also checked for the presence of GCN.

Any ponds on-site or within 500m of the site boundaries (where access was available) were assessed for their habitat suitability for GCN, utilising the modified Great Crested Newt Habitat Suitability Index (ARG UK 2010; Oldham et al. 2000). The Habitat Suitability Index (HSI) is used to evaluate the suitability of ponds to support GCN. It is a numerical index between 0 and 1, where 0 indicates completely unsuitable habitat and 1 represents optimal habitat. The HSI score is then utilised to define the suitability of the pond on a categorical scale. This system provides an indication as to the suitability of ponds to support GCN but is not precise enough to conclude that a pond with a high score will definitely support GCN, whilst those with a low score will definitely not.

An HSI assessment was completed for the ditch and area of standing water to the western perimeter of the site, and one pond which is located approximately 80m to the south east. The results of the HSI assessment are discussed within Section 5.3 of this report, with the calculation of the HSI score for the pond provided within the Appendices.

Nesting Birds: Whilst the survey was completed outside of the bird nesting season, the habitats on site were also assessed in regards to their suitability for nesting birds, including the identification of any existing disused nests.

Reptiles: The site was also assessed in regards to its suitability to support reptiles, which is largely based on an assessment of the habitats present on site and whether they afford sufficient opportunities to support basking, foraging and sheltering. Any refugia present was also checked for the presence of reptiles or evidence of reptiles, such as sloughs (shed skins).

Other Wildlife: In accordance with good practice, the site was checked for the presence of any other protected/notable species, with particular regard to any other species highlighted in the desktop study.

Invasive Species: The site was also surveyed for the presence of any invasive, non-native flora or fauna.

4.6 Assessment methodology Biodiversity value

The CIEEM Guidelines

These guidelines provide a framework criterion for determining the value and importance of each potential ecological receptor found within the survey area.

Various characteristics can be used to identify important biodiversity features (sites, habitats, and species) that are likely to represent potentially significant constraints to the development project. These include a feature's:

- ❖ Rarity at various geographical scales;
- ❖ Threat status and vulnerability at various geographical scales;
- ❖ Diversity and/or its synergistic associations;
- ❖ Population size, and;
- ❖ Location in relation to its' known geographical distribution and range at various geographical scales.

The characteristics listed above help define a features' conservation status which can then be used to help determine its biodiversity value. CIEEM (2006) provides further information on how the relative value and

importance of a receptor can be determined and states that its biodiversity value should be measured against published selection criteria where available.

It is also useful to distinguish between the biodiversity value of a receptor and its legal status. Features of high biodiversity value may not necessarily attract legal protection and vice versa. For example, a viable area of ancient woodland is likely to be considered of high biodiversity value even if it does not receive any formal statutory designations.

In the evaluation of biodiversity value, reference is also made to HA, UK and Local BAPs, inclusion on national or county Red Data Books, and to conservation status (such as nationally notable/scarce, etc.). However, the inclusion within a BAP reflects the fact that the population of the species/habitat concerned is in a sub-optimal state (and hence that conservation action is required) and does not necessarily imply any specific level of value. Despite this, priority BAP species/habitats may represent a significant ecological constraint if their presence triggers planning guidance implications (as outlined above).

In accordance with CIEEM (2006), each biodiversity feature should be assessed as valuable, or potentially valuable, based on the following geographic frame of reference (some examples of ecological receptors that may be potentially valuable at each geographical scale are provided below):

- ❖ International e.g. biodiversity feature that warrant designation of an area as a SPA, SAC, or Ramsar site;
- ❖ National (i.e. UK), e.g. biodiversity feature that warrants designation of an area as a SSSI;
- ❖ Regional, e.g. biodiversity features valuable at a regional level e.g. Northumberland;
- ❖ County, e.g. biodiversity features valuable at a county (i.e. Northumberland) level;
- ❖ District, e.g. biodiversity features of value at the district (i.e. Alnwick) level;
- ❖ Local, e.g. biodiversity features of value in a local (i.e. parish or within ~5km of the scheme extent) context;
- ❖ Biodiversity features of value within the immediate survey area of the scheme only;
- ❖ Local, e.g. species populations of value in a local (i.e. within ~5km of the scheme extent) context;
- ❖ Species of value within the immediate survey area of the scheme only.

5 RESULTS

5.1 Desktop Study

5.1.1 Statutory Protected Sites

There are a number of statutory sites within 2km of the proposed development. A summary of the sites is provided in table 2 below, with their location presented on the map in figure 3.

Table 2. Summary of Surrounding Statutory Protected Sites

Name	Features	Distance	Impact
Designation			
Northumberland Marine	Marine Conservation Zone	1km E	Negligible
Bamburgh Coast and Hills	RAMSAR SSSI & AONB	0.5km E	Negligible
Northumberland Shore	SAC SSSI & AONB	0.5km E	Negligible
Lindisfarne	Ramsar AONB SSSI & SPA	2km NW	Negligible
Northumbria Coast	RAMSAR SPA & AONB	0.5km E	Negligible
Bamburgh Dunes	SAC & AONB	0.5km E	Negligible
North Northumberland Dunes	SAC & AONB	0.5km E	Negligible

Due to the location and limited footprint of the proposed development, it is considered unlikely that these sites will be impacted as a result of the proposed development.

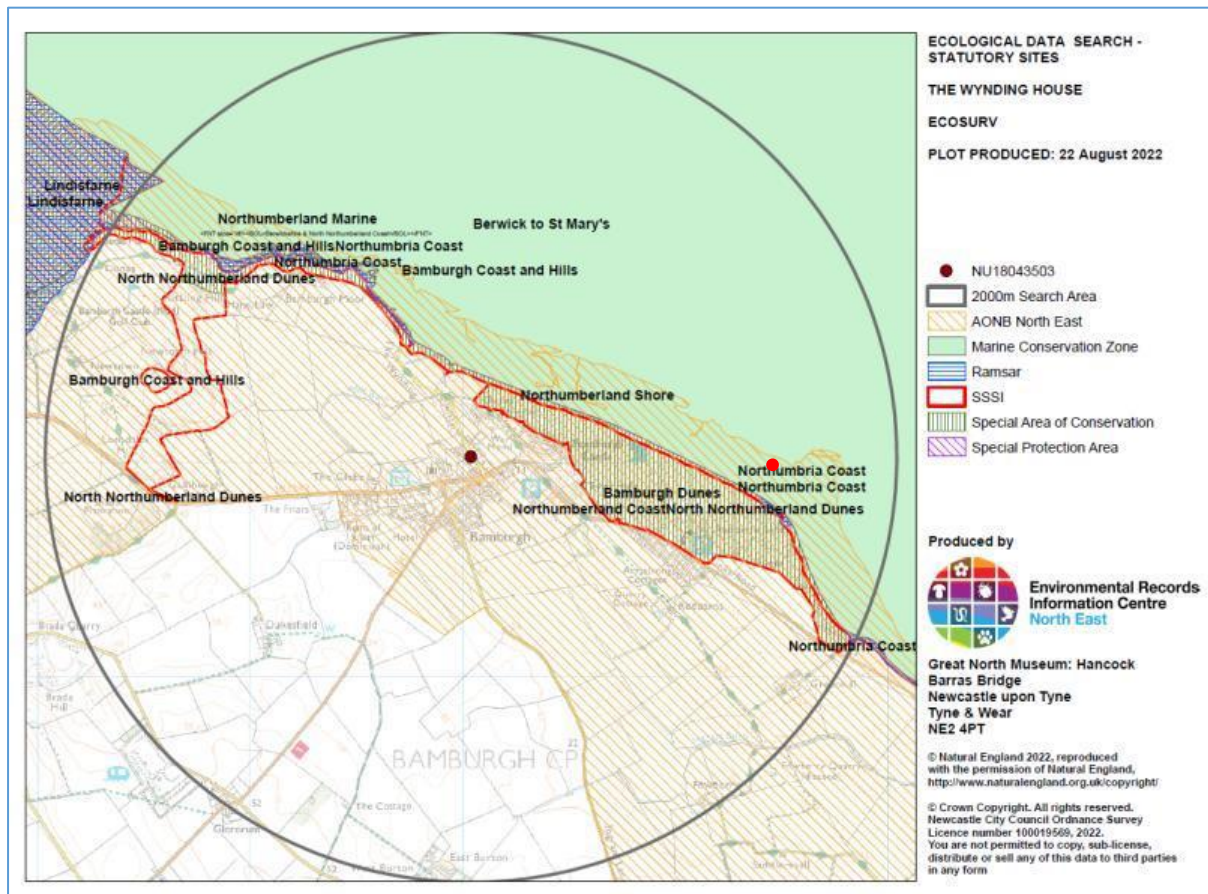


Figure 3. Location of site in relation to surrounding statutory protected sites

5.1.2 Non-statutory sites

There are no none statutory sites recorded within the data provided.

5.1.3 Priority Habitats

There are a number of designated priority habitats within the 2km search radius of the proposed development site as noted in the following table

Due to the proximity to the site indirect impacts are considered to be improbable.

Table 3. Summary of Priority Habitats

Name	Location & Features	Impact
Deciduous Woodland	Small number of scattered polygons throughout the search area.	Negligible
Coastal Sand Dunes	Located to the east of the site at a distance of approximately 500m.	None
Good Quality Semi-Improved Grassland	Located to the east of the site at a distance of approximately 300m.	None
Lowland Dry Acid Grassland	Located to the east of the site at a distance of approximately 500m.	None

Lowland Fens	None identifiable from provided map	None
Marine Cliff and Slope	Approximately 1km to the north east	None
Mudflats	Approximately 1.5km to the north east	None
No Main Habitat	Approximately 600m to the east.	None

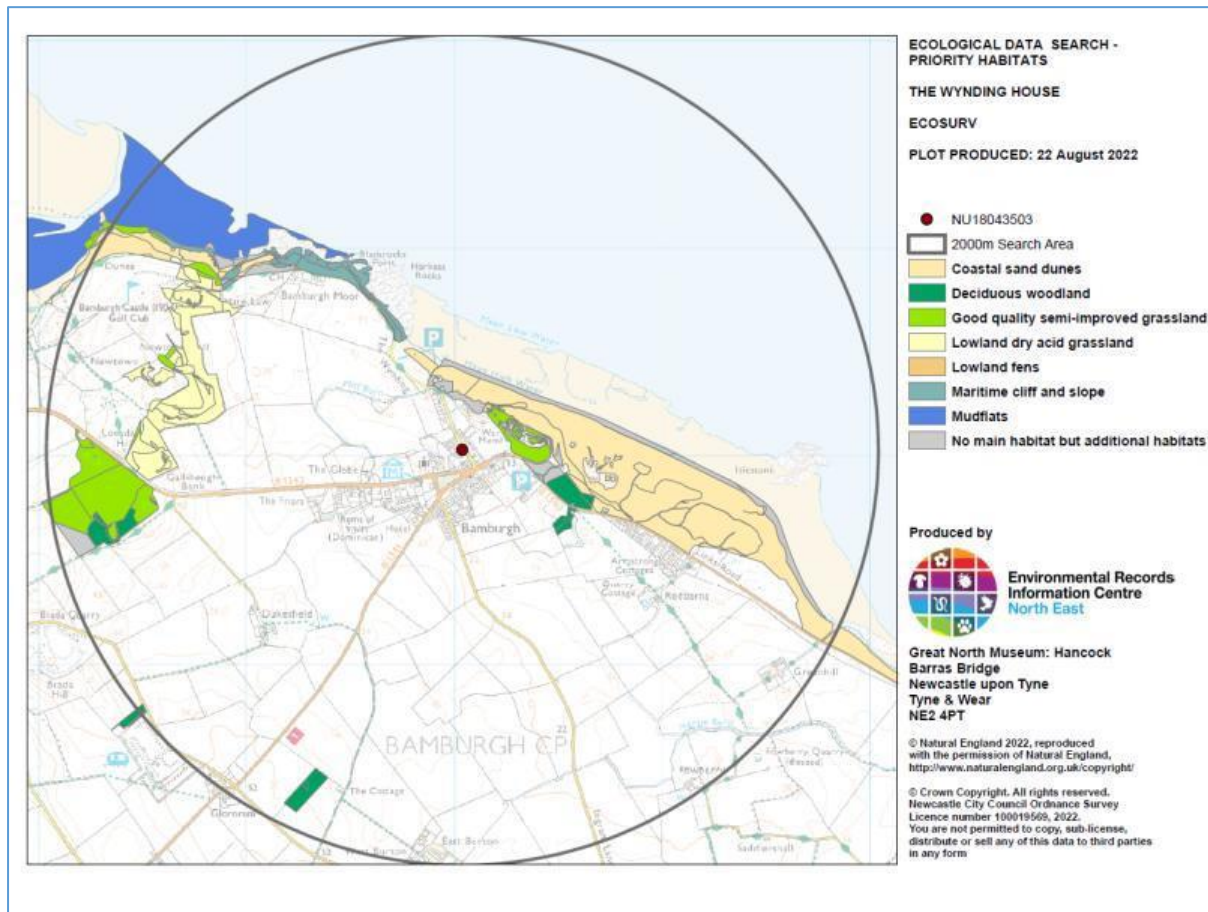


Figure 4. Map of Priority Habitat within 2km of the Proposed Development

© North and East Yorkshire Ecological Data Centre

5.1.4 Biological Records

Biological records were obtained from the Environmental Records Information Centre for a 2km radius surrounding the application site. A total of 1078 records were obtained, which can be separated into the following groups: 2 amphibian records (common toad, common frog, smooth newt, palmate newt, great crested newt); 434 bird records (96 species); 4 conifer record (1 species); 420 flowering plant records (40 species); 85 insect records (18 species); 2 reptile records (1 Species); 63 terrestrial mammal records (7 species).

5.2 Site Assessment

5.2.1 On-site Habitats and Ecological Features

The site comprises an area of tarmacadam hard standing located to the front of the dwelling to the north of the development area. To the south is an area set to lawn with shrubs to the borders with occasional fruit trees adjacent

to the western wall. A single laburnum tree which has been extensively pruned is located adjacent to the southern wall.

Within the shrub beds are found occasional bramble *Rubus fruticosus*, spear thistle Rosebay willowherb Common nettle *Urtica dioica*, dandelion *Taraxacum officinale*, and 3 separate Cotoneaster plants two to the eastern boundary and on to the dividing bed between the lawn and the area of hard standing.

The proposals will involve some clearance of the vegetation to the site borders the loss of the existing lawn and some trees within the site.

Trees

A heavily pruned laburnum is located to the south eastern border of the lawn, both apple *Malus sp.* and plum *Prunus sp.* trees are found to the western border.

Shrubs

Ornamental shrub beds are located to the eastern, western and southern edges of the lawn. A raised bed is found between the lawn and area of hard standing also planted with shrubs.

Poor quality grassland

To the southern part of the site there is an area of land set to lawn within which are a number of common herb species.

Hard Standing

An area of hard standing for parked vehicles is located between the dwelling and lawn, comprising of tarmacadam.

5.2.2 Off-site Habitat and Ecological Features

The site is located within Bamburgh towards the northern end of the village. Further dwellings are located to the north, south and west there is a large area of grassland to the east used for cricket and other sporting activities. Beyond this is the castle and the Northumberland coast.

5.3 Protected Species

Bats: An assessment of the trees on site was undertaken to identify any potential roost features (PRFs) for bats. The assessment comprised of an external inspection of the trees and structures, concentrating on features that may provide roosting opportunities or afford access into roosting features internally, such as, woodpecker holes, rotten limbs, cracks and crevices.

In accordance with the 'Guidelines for assessing bat roosting potential of structures and trees' we consider the trees to have a negligible bat roost potential as they are of insufficient size and age to contain Potential Roost Features (PRFs), with no visible features seen from the ground.

The site and surrounding habitat offer moderate foraging habitat for bats and there is good connectivity to the wider area. Other basic mitigation measures should also be implemented to avoid indirectly disturbing foraging and commuting bats that may be utilising the site boundaries both during and after construction.

The dwelling is unaffected by the proposed development.

Great Crested Newts: There are no records for GCN within the 2km search area.

Nesting Birds: The shrubs and trees found to the site borders provide extremely limited nesting opportunities for common bird species. No evidence of nests was observed within the site during our survey.

Reptiles: The habitats on site are of limited suitability for reptiles. Reptile species recorded as present in the local area are sand lizard habitat within the site is considered somewhat unsuitable for this species.

5.3.1 Other notable species:

The habitats on site offer suitability for European Hedgehogs which could be impacted during the site clearance works. Appropriate mitigation and site enhancement measures should be implemented during and after construction to avoid significantly impacting this BAP species.

5.4 Invasive Species

3 Cotoneaster plants were noted to be growing within the site boundaries – this plant is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) – the proposed development will require these to be removed and disposed of in an appropriate manner.

6 CONCLUSIONS & RECOMMENDATIONS

The site was considered to have low ecological value overall. The shrub beds and trees provide extremely limited habitat for nesting birds.

Following the site assessment and upon review of the findings, the following is recommended:

6.1 Further Surveys

Table 4. Recommended further Surveys

Habitats/Species	Action required
Birds	If vegetation must be removed within the breeding bird season, a competent ecologist should undertake a breeding bird risk assessment to check for any active birds' nests. If an active nest is discovered, a 5m buffer zone must be implemented in which no vegetation removal may occur until the end of the breeding bird season or the nest can be confirmed as no longer active.

6.2 Mitigation

- ❖ Works should be timed to occur outside the bird breeding season (March – August inclusive) to avoid impacting any actively breeding birds. Alternatively, if vegetation must be removed within the breeding bird season, a competent ecologist should undertake a breeding bird risk assessment to check for any active birds' nests. If an active nest is discovered, a 5m buffer zone must be implemented in which no vegetation removal may occur until the end of the breeding bird season or the nest can be confirmed as no longer active.
- ❖ To reduce the impact to other wildlife that may use the site, it is recommended that any trenches or voids are dug and filled within the same working day. Should this not be possible, an adequate means of escape should be provided and/ or the trench should be securely covered overnight.
- ❖ Any trees to be retained should be protected using *Heras* or equivalent fencing around their Root Protection Areas, in accordance with British Standard documentations BS 5837:2012 – '*Trees in relation to design, demolition and construction. Recommendations.*'
- ❖ A low-level lighting scheme should be implemented both during and after construction to avoid indirect disturbance to foraging and commuting bats, birds and mammals that may be using boundary vegetation and green corridors for connectivity to nearby woodland and other habitats. The strategy should include the following elements:
 - Sensitive positioning of lighting to avoid unnecessary spill beyond the site and to the dwelling;
 - Type of lighting: studies have shown that light sources emitting higher amounts of UV light have a greater impact to wildlife. Use of narrow-spectrum bulbs that avoid white and blue wavelengths are likely to reduce the number of species impacted by the lighting;
 - Reduce the height of lighting columns to avoid unnecessary light spill.

- ❖ Where trees are to be removed, care should be taken to ensure during work does not cause damage to the retained trees and disturbance to the RPAs is avoided. A soft-fell methodology and ground protection measures should be implemented to protect trees to be retained.
- ❖ An appropriate landscaping scheme should be implemented to mitigate impacts arising from the development to local wildlife. Suitable landscaping includes improvement of tree lines, inclusion of semi-improved grassland, shrub planting, creation of refugia/hibernaculum and hedgerow planting. Such a landscaping scheme would be used to maintain suitable habitat for birds, bats, small mammals and invertebrates throughout and post development.
- ❖ To increase connectivity within the completed development, mammal movement (specifically hedgehog) should be considered during development design. Small gaps in boundary fences (~13cm x 13cm) should be included to allow the movement of wildlife through the built environment. Some example designs can be seen in Appendix 9.5.



6.3 Compensation

- ❖ Compensatory planting of shrubs and small trees should be adopted within the final landscaping scheme. The improvement of any retained grassland areas, through wildflower seeding and appropriate management, should also be considered.
- ❖ As some suitable though limited bird nesting habitat will be lost through the clearance of vegetation on site, it is recommended that bird nesting features are installed on any retained trees or integrated within the final design. Enhancement




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8 SITE IMAGES

No.	Description	Image
1.	Heavily pruned laburnum to rear left of centre lawn to the foreground.	
2.	Dwelling to the rear with shrub bed between lawn and hard standing. Cotoneaster to centre.	

<p>3.</p>	<p>Seating area adjacent to hard standing.</p>	
<p>5.</p>	<p>Cotoneaster to raised bed.</p>	
<p>6.</p>	<p>Cotoneaster to shrub bed.</p>	

<p>7.</p>	<p>Cotoneaster to shrub bed</p>	
<p>8.</p>	<p>Trees to border</p>	
<p>9.</p>	<p>Eastern shrub bed</p>	

9 APPENDIX

9.1 Additional Information for the Legislation of Protected Habitats and Species

Species Legislation

European protected species (EPS)

These animals are fully protected through inclusion within Schedule II of The Conservation of Habitats and Species Regulations 2010(as amended).

This legislation makes it an offence to deliberately capture, kill or disturb an EPS. For the purposes of this legislation disturbance has been defined by the European Commission (EC) and Natural England as that likely to significantly affect: i) the ability of a significant group of an EPS to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species (EC, 2007, Natural England, 2007). Further detail on what constitutes significant disturbance and significant groups in relation to most EPS can be obtained from these guidance documents.

It is also an offence under the Habitats Regulations 1994 (as amended) to damage or destroy and/or obstruct access to a breeding site or resting place of these species; please note the former is a strict liability offence. This legislation applies to all life stages of an EPS, including eggs. Former defences relating to actions being the incidental result of a lawful operation or taking place within a dwelling house no longer apply to offences under the Habitats Regulation 1994 for EPS.

EPS potentially present in the survey area:

- ❖ All bats within England and Wales.

Bats

The primary legislative protection for bats is under the Habitats Regulations 1994 through designation as an EPS (see above). However, bats are also partially protected in England and Wales through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally or recklessly disturb a bat whilst it is using a place of rest or shelter. This applies to individuals, but is subject to a number of defences including if the disturbance was the 'incidental result of a lawful operation that could not reasonably have been avoided'. The legislation applies to all life stages.

Other Relevant Species

Breeding birds

All wild birds in England and Wales are protected under Section 1 of the Wildlife and Countryside Act, 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher *Alcedo atthis*, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest, or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird. Further enhanced statutory protection is provided for bird species included on Annexe 1 of the Wild Birds Directive.

Other wildlife protection/control

The main legislation dealing with species protection/control at the national level is the Wildlife and Countryside Act 1981 (as amended). Plants listed under Schedule 8 and animals under Schedule 5 of the Act receive varying levels of protection. There are also measures to control the spread of non-native species contained in Schedule 9. Other relevant legislation may include the Protection of Badgers Act 1992 and the Wild Mammals (protection) Act 1996. Details of the protection/control afforded to the following species/groups considered of relevance to the survey area are given below.

Invasive plant species

Cotoneaster plants are listed in Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to plant these species or otherwise cause them to grow in the wild. Any material containing cotoneaster is a 'controlled waste' under the Environment Protection Act 1990 and must be disposed of properly at landfill.

Rare and/or protected plants

Some plants are listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally pick, uproot, destroy or trade in these plants. Other plants appear on national red data lists, or are considered nationally, regionally or locally scarce, though these classifications do not confer any legal protection.

Other invertebrates

In England and Wales the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010 (as amended) offer legal protection to certain invertebrate species. Under the aforementioned legislation, 17 invertebrate species in Britain have European protection and 45 species in England and Wales are fully protected at a national level.

Other Mammals

All non-domesticated mammal species including common species, such as rabbit *Oryctolagus cuniculus* and deer, receive protection under the Wild Mammals (Protection) Act 1996. This act protects wild mammals from certain cruel acts and makes it an offence to intentionally inflict unnecessary suffering on wild mammals.

Habitat Legislation Statutory Protected Sites & Features

Ramsar sites

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. Originally intended to protect sites of importance, especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. They generally receive legal protection under the Wildlife and Countryside Act 1981 (as amended) as most UK Ramsar sites are also designated as SSSIs (see below). The majority are also SPAs (see below). Planning Policy Statement (PPS) 9 (see Section 2.3) also recommends that all Ramsar sites receive similar protection from development as Natura 2000 sites.

Special Areas of Conservation (SAC)

SACs receive full protection under the EC Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora). SACs are areas that have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II of the Directive. SACs, together with Special Protection Areas (SPAs), form the Natura 2000 network. Natura 2000 sites are protected under The Conservation of Habitats and Species Regulations 2010(as amended) and any development likely to have significant impacts upon such a site will have to be assessed for its implications on the site's conservation status, an obligation under the aforementioned Regulations.

Special Protection Areas (SPAs)

SPAs receive full protection under the EC Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds). SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. SPAs, together with SACs, form the Natura 2000 network. Natura 2000 sites are protected under The Conservation of Habitats and Species Regulations 2010(as amended) and any development likely to have significant impacts upon such a site will have to be assessed for its implications on the site's conservation status, an obligation under the aforementioned Regulations.

Sites of Special Scientific Interest (SSSIs)

SSSIs provide full statutory protection for the best examples of the UK's flora, fauna, geological, or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs are now notified under the Wildlife and Countryside Act 1981 (as amended). Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000. They are designated in England by Natural England who have powers to prevent damaging operations within and around the site. There is an obligation upon landowners and relevant authorities to notify Natural England if any activity they undertake may impact upon the conservation status of a SSSI.

National Nature Reserves (NNRs)

NNRs are fully protected from damaging operations within and around them under the National Parks and Access to the Countryside Act 1949 (as amended) and the Wildlife and Countryside Act 1981 (as amended). NNRs contain examples of nationally important natural and semi-natural terrestrial and coastal ecosystems in Great Britain.

Local Nature Reserves (LNRs)

LNRs are designated under the National Parks and Access to the Countryside Act 1949 (as amended) as areas of geological or wildlife interest of special local interest. They are normally owned and managed by local authorities, though increasingly local wildlife trusts are taking over this role. They can be protected from damaging operations within or around them through local bylaws or the policies of the local development framework.

Local Wildlife Sites (LWS) / Sites of Importance for Nature Conservation (SINC's)

SINCs/LWSs are identified by local planning authorities (in this case Durham County Council) on account of their value for wildlife. These receive a measure of protection through local planning policies.

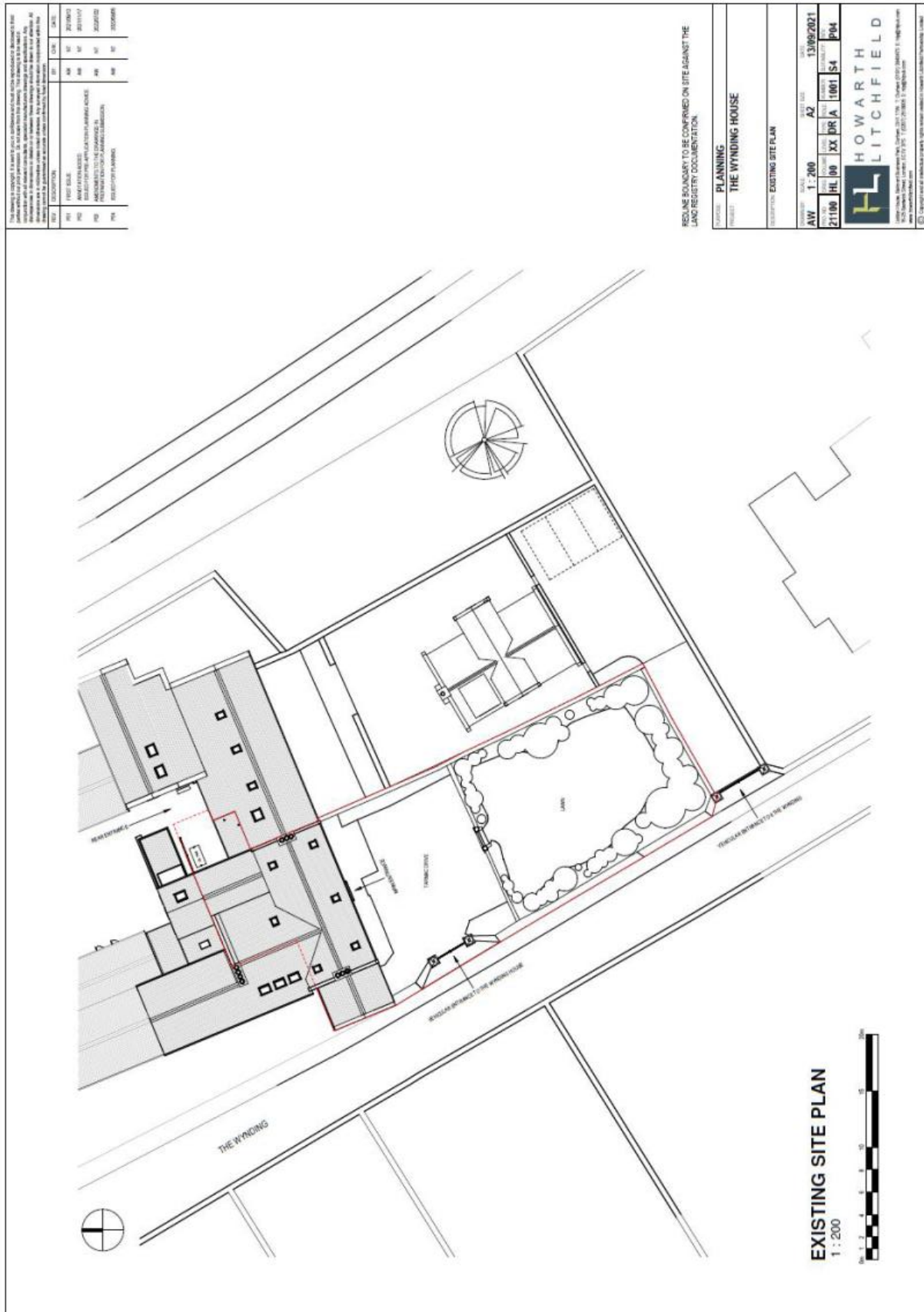
Important hedgerows

The Hedgerows Regulations 1997 seek to protect 'important' hedgerows in the countryside by controlling their removal through a system of notification to the relevant local planning authority.

Tree Preservation Orders (TPOs)

TPOs give some measure of protection to individual trees, groups or trees or even entire woodlands that are considered by the Local Planning Authority (LPA) to be of value. They are protected under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999. Trees subject to a TPO are protected from deliberate damage, and an application to the LPA would be necessary to remove any such tree.

9.2 Current Site Plan



9.3 Proposed Development Plan

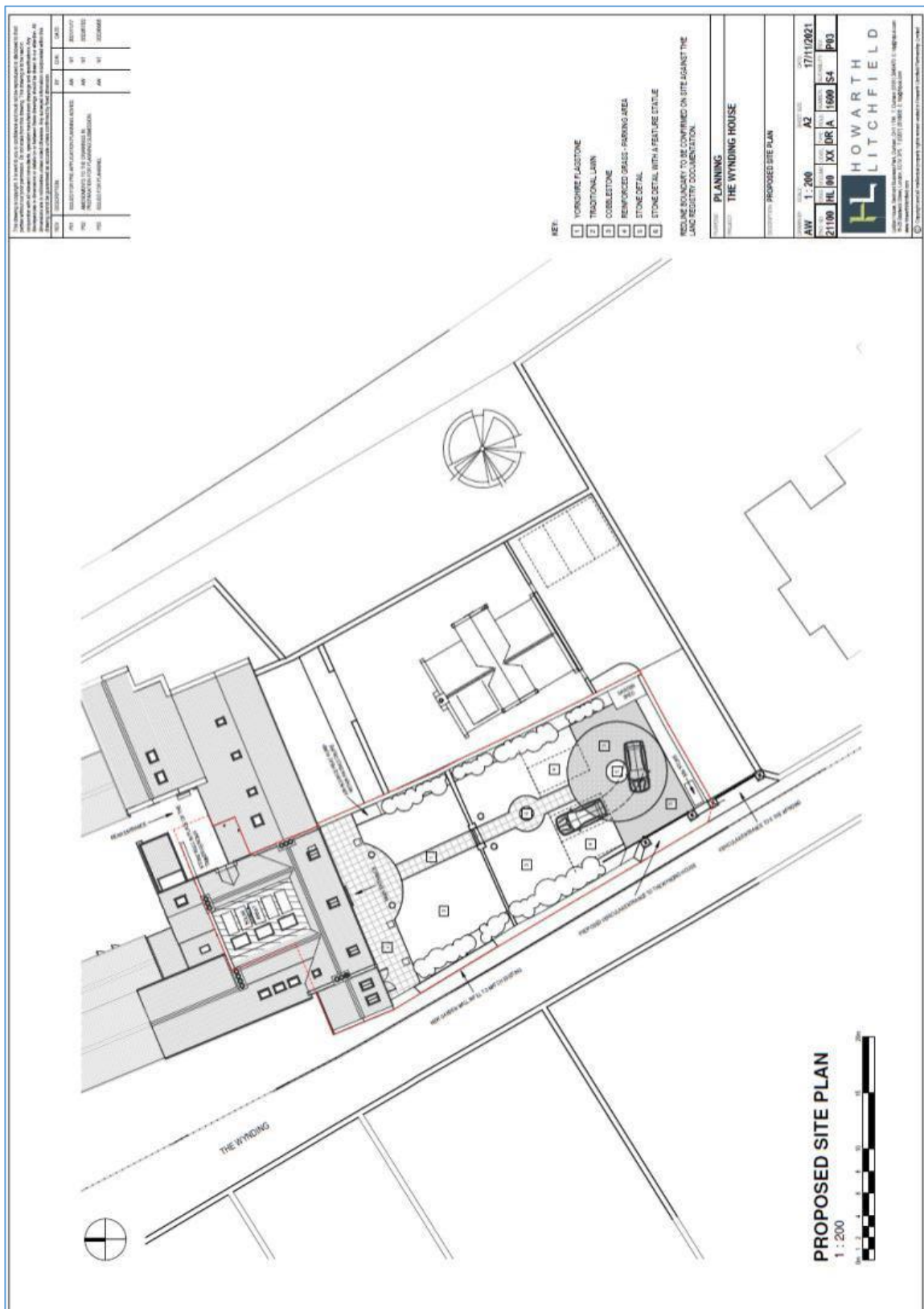


Figure 4. Proposed Site Plan

9.4 Phase One Habitat Map

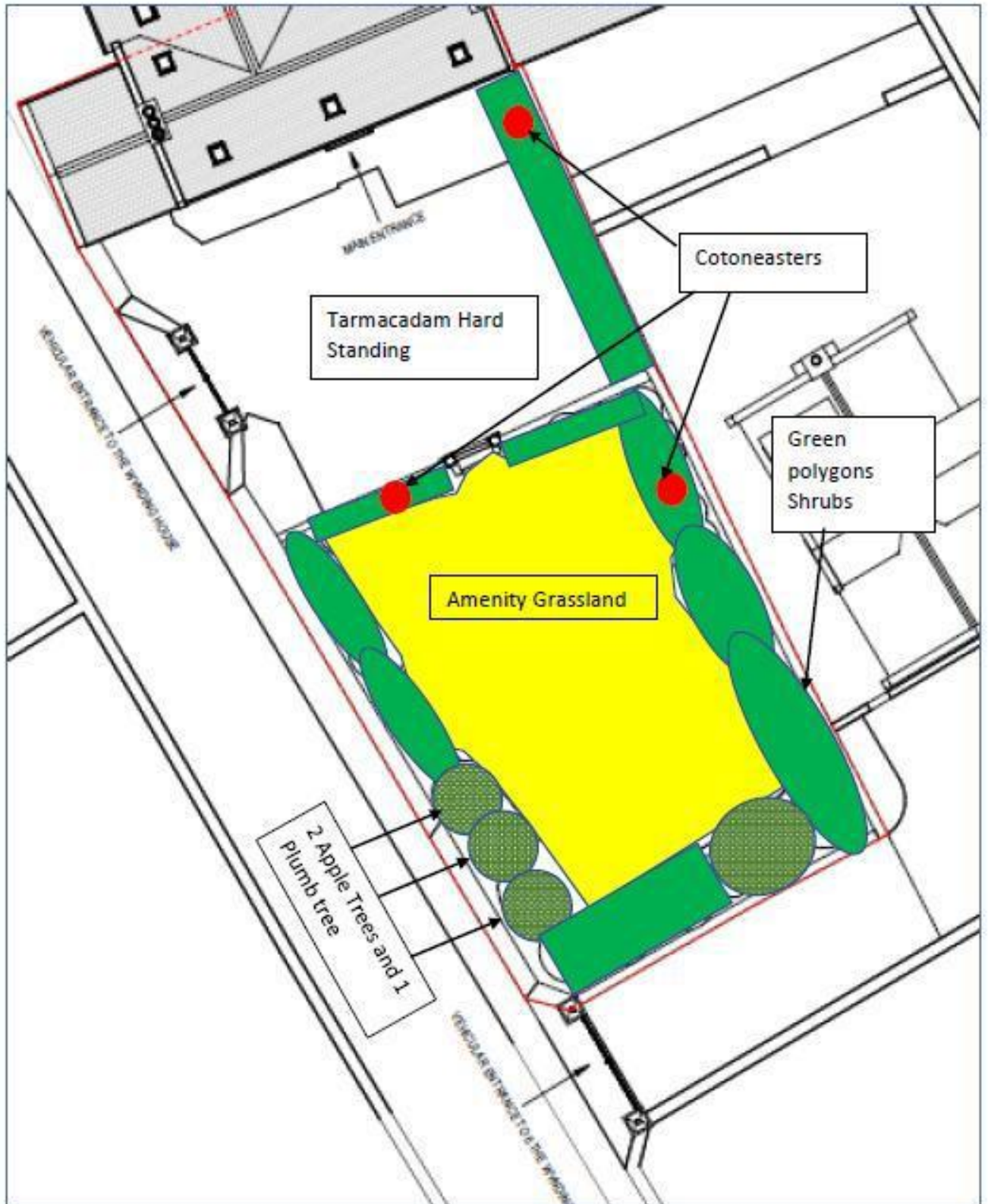


Figure 5. Phase One Habitat Map