



Ecological Impact Assessment

Cockle Point, Hayling Island

On behalf of: Mr Johnson

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Contents

	Page No.
SUMMARY	03
1.0 Introduction	04
2.0 Legislation and Planning Policy	07
3.0 Methodology	11
4.0 Results	17
5.0 Assessment of Effects	29
6.0 Ecological Enhancements	35
7.0 Conclusions	36
8.0 References	37

FIGURES

Figure No. 1 – Site Habitat Plan

TABLES

Table No. 01 – Summary of Recommendations

Table No. 02 – Table No. 02 – Bat Roost Suitability Guidelines (BCT, 2016)

Table No. 03 – Statutory Designated Sites

Table No. 04 – Non-Statutory Protected Areas

Table No. 05 – Summary of HSI Results

Table No. 06 – Preliminary Bat Roost Assessment Results - Trees

Table No. 07 – Preliminary Bat Roost Assessment Results - Buildings

Table No. 08 – Species Lists for Habitat Parcels

APPENDICES

Appendix A – Site Photographs

SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Mr Johnson to undertake an Ecological Impact Assessment at the property and grounds of Cockle Point, Hayling Island (*Grid Reference: SZ 73945 99126 – hereafter referred to as 'the site'*). An initial preliminary ecological appraisal (*PEA*) was undertaken on 24th November 2022, to appraise the existing ecological resource within the land and the surrounding area, to highlight any potential ecological constraints and opportunities to inform scheme design, and to identify the need for further assessment prior to application. An Ecological Impact Assessment has subsequently been completed using this information.

The site comprises c. 1ha in south-east Hayling Island and, at the time of survey, was formed of modified grassland lawn, deciduous woodland, surface water pond, several shed outbuildings and the existing dwelling. The flora present on site was indicative of modified grassland lawn with several non-native introduced shrubs; the once often mown sward had several examples of successional acidic/neutral species. A monolith grey poplar tree was present within a section of scrub along the north and eastern boundary of site. The habitats on site offered the potential to support protected / notable species including reptiles, within the more rank and tussocky modified grassland sward adjacent to shed outbuilding B3 and immediately north of the site pond, invertebrates. Foraging and commuting bats, dispersing mammals such as badgers and hedgehogs and birds using the site to migrate and forage were also likely to be present.

The woodland area to the west of site is the most significant potential ecological resource, with trees hosting low potential to support roosting bats and a stand of butcher's broom *Ruscus aculeatus*, which is an indicator for ancient woodland. The proposed construction boundary does not fall within this woodland area, however.

No further surveys are required for the proposals, and basic protection measures would prevent impacts upon habitats and species. Enhancements should be incorporated into the proposals to ensure they result in Biodiversity Net Gain and accord with relevant planning policy and legislation.

Table No. 01 - Summary of Recommendations

Potential Ecological Constraint	Presence	Recommended mitigation	Further assessment requirement	Time Constraint	Opportunities for enhancement
Disturbance and pollution of SPA / RAMSAR / SAC designated site.	Low Potential	Incorporate avoidance measures into the construction phase of development to ensure no disturbance of sites or habitats	n/a	Prior to works	TBC following development competition
Reptile potential within an area of modified grassland	Low Potential	Carefully remove all potential refugia from the area of modified grassland with elevated reptile potential and keep the grass mown	n/a	Prior to demolition of B3	TBC following development competition
Bat roosting in trees within the construction boundary	Low Potential	Complete any tree surgery works within the construction boundary with an ecologist present	n/a	Prior to extension of main dwelling B1	TBC following development completion

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Mr Johnson to undertake an Ecological Impact Assessment of the property Cockle Point, Hayling Island (*Grid Reference: SZ 73945 99126– hereafter referred to as ‘the site’*).
- 1.2 An initial preliminary ecological appraisal (*PEA*) was undertaken on 22nd November 2022, by Senior Ecologist George Sayer *MCIEEM* and Assistant Ecologist Benjamin Sear *QCIEEM* of Lizard Landscape Design and Ecology. To appraise the existing ecological resource within the land and the surrounding area, to highlight any potential ecological constraints and opportunities to inform scheme design, and to identify the need for further assessment prior to application. An Ecological Impact Assessment has subsequently been completed using this information. This report has been reviewed by Senior Ecologist George Sayer *MCIEEM*.

- 1.3 The *PEA* comprised a baseline survey conforming broadly to the *UKHabs Classification System* (Butcher *et al.*, 2020) to identify the existing habitats. All habitats present on site were mapped using standard *UKHabs* patches (see *Figure No. 01 – Site Habitat Plan*). In addition, a protected species assessment was undertaken to identify the potential for European and nationally protected species to exist within and adjacent to the site. An Assessment of any impacts upon sites, habitats and species was subsequently undertaken.

Site Information

- 1.4 The survey area covers c. 1 Hectares (ha) and consisted of modified grassland lawn, dense scrub, mixed broadleaved woodland, surface water pond, several shed outbuildings and the existing dwelling. To the north of the site there can be found priority habitats coastal marsh and mudflat habitat associated with wading birds and waterfowl, forming part of internationally designated sites Chichester and Langstone Harbours SPA and RAMSAR as well as Solent Maritime SAC. The site also lies adjacent to Mengham Saltern SINC, which holds material concern within the planning process.

Surrounding Landscape

- 1.5 The site is located at south-east Hayling Island and in a predominantly residential area. The Chichester Harbour coastal landscape incorporates the site and the wider marine landscape.

Development Proposals

- 1.6 It is understood that the development proposals include the extension of the current dwelling, demolition and reconstruction of several outbuildings including a new garage, garden store, greenhouse and summer house. Planting of a bespoke wildflower meadow mix is planned for the sward of modified grassland that currently resides north of the onsite pond.

Scope of the Assessment

1.7 In accordance with current guidance (CIEEM, 2017), the aim of the preliminary ecological appraisal survey has been to:

- *Describe baseline conditions at the site;*
- *Determine the importance of features which may be impacted by the scheme;*
- *Identify impacts of the proposed development and set out appropriate avoidance, mitigation and compensation measures;*
- *To identify any residual impacts;*
- *To provide details of enhancements to be incorporated into the scheme;*
- *Provide sufficient information to determine whether the project accords with relevant nature conservation policies and legislation, and where appropriate, to allow conditions or obligations to be proposed by the relevant authority.*

2.0 LEGISLATION AND PLANNING POLICY

Legislation

2.1 Legislation relating to wildlife and biodiversity of particular relevance to this PEA includes:

- *The Conservation of Habitats and Species Regulations 2017;*
- *The Wildlife and Countryside Act 1981 (as amended);*
- *The Natural Environment and Rural Communities (NERC) Act 2006;*
and
- *The Environment Act 2021.*

2.2 This above legislation has been addressed, as appropriate, in the production of this report.

National Planning Policy

2.3 The *National Planning Policy Framework* (Ministry of Housing, Communities & Local Government, 2021) sets out the government planning policies for England and how they should be applied. *Chapter 15: Conserving and Enhancing the Natural Environment* states that development should:

“Contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures”

2.4 And

“Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity”

2.5 Furthermore,

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

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”

2.6 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy

- 2.7.1 Havant Borough Council's local plan (Havant Borough Council, 2011) contains planning policy that sets out the strategy for development within Havant. Chapter 7: Caring for our Borough, Policy CS11 states that development will be supported where it:
- 2.7.2 *"Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.*
- 2.7.3 *Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map):*
- *Special Protection Areas (SPA), Special Areas of Conservation (SAC) and*
 - *Ramsar [International].*
 - *(ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves.*
 - *(iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves*
 - *(LNR), other Ancient Woodland not identified in (ii) above [Local].*
- 2.7.4 *Protects and where appropriate enhances the borough's statutory and non-statutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.*
- 2.7.5 *Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.*
- 2.7.6 *Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.*

- 2.7.7 *Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.*
- 2.7.8 *Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.*
- 2.7.9 *Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.”*

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-Agency Geographical Information Centre (*MAGIC*) was consulted for information regarding statutory designated sites within a potential zone of influence of the proposed development site.
- 3.1.2 An extensive record search was not completed for the proposed development site owing to its low impact nature and development plans not planning on destruction of any existing habitats that could support protected species.
- 3.1.3 The Habitat Suitability Index (HSI) for Great Crested Newt (GCN) was developed by Oldham et al. (2000). HSI scoring systems were originally developed by the US Fish and Wildlife Service as a means of evaluating habitat quality and quantity. An HSI is a numerical index, between 0 and 1. Values close to 0 indicate unsuitable habitat, 1 represents optimal habitat. The HSI for the great crested newt incorporates ten suitability indices, all of which are factors known to affect this species.

3.2 Field Survey

- 3.2.1 The field survey was undertaken on 22nd November 2022 by Senior Ecologist George Sayer *MCIEEM* and Assistant Ecologist Benjamin Sear *QCIEEM*. Weather conditions were fresh (c.13°C), with a moderate westerly wind (Beaufort Scale 3) with 70% cloud cover and no precipitation.

- 3.2.2 The field survey comprised a walkover inspection of the land and covered all accessible parts of the site, including boundary features. Habitats were recorded according to the *UKHabs* Classification System as described within the *UK Habitats Manual* (Butcher *et al.*, 2020). This has resulted in a *Site Habitat Plan – Figure No. 01*, and Species List for Habitat Parcels (*Table No. 06*), which is a list of plant species encountered, together with an estimate of abundance made according to the DAFOR scale. In addition, Target notes were used to provide supplementary information on features which were notable and / or too small to map (see *Figure No. 01 – Site Habitats Plan*). The results are summarised and accompanied in large part by photographic evidence contained in *Appendix A – Site Photographs*.
- 3.2.3 Habitats within the site were classified and the presence, or potential presence, of certain protected and/or notable species of flora and fauna were identified. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Relevant best practice methodologies adhered to are referred to throughout the text herein as appropriate. The survey methodology was extended to provide more detail in relation to the sites potential to support rare or protected fauna, as described by the *Chartered Institute of Ecology and Environmental Management’s Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017b). The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers’ Manual* (Gent and Gibson, 2003) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collin (ed.), 2016).

3.3 Preliminary Bat Roost Assessment

3.3.1 A Preliminary Bat Roost Assessment was undertaken on 24th November 2022 by George Sayer (2018-34434-CLS-CLS) who undertook a ground level assessment of the existing trees within and adjacent to the site. The bat surveyor assessed the trees visually and searched for direct evidence of bats evidence, such as;

- *Grease Marks;*
- *Urine Stains;*
- *Bat Droppings;*
- *Feeding Remains;*
- *Dead or Live Bats.*

3.3.2 Trees were visually identified from the ground, using binoculars where necessary, for any features that could be used by bats such as:

- *Woodpecker Holes;*
- *Knot Holes;*
- *Tear-outs;*
- *Flush Cuts;*
- *Double Leaders.*

3.3.3 Once features had been assessed the trees were then categorised in accordance with *Table 4.1 of the Bat Conservation Trust's Good Survey Guidelines (2016) (shown below):*

Table No. 02 – Bat Roost Suitability Guidelines (BCT, 2016)

Category	Buildings	Trees
`Negligible`	No suitable features identified.	No suitable features identified.
`Low`	A structure which could be used opportunistically, however, are not likely to be used on a regular basis / by a large number of bats.	Tree of sufficient size / age to support bat roost features; but with none identified from the ground.
`Moderate`	A building with features which, could be used regularly by a small number of bats.	Tree with features which, may support a bat roost of low conservation status.
`High`	A building with features suitable for use by a large number of bats on a regular basis.	A tree with several potential bat roost sites that are suitable for use by a large number of bats.

3.4 Badger Survey

3.4.1 The initial field survey was undertaken on 24th November 2022 in conjunction with the PEA. The survey area covered the red line boundary of the site, and all land within a 30m radius (where access was available).

3.4.2 The survey area was systematically searched for any evidence of badger such as:

- Setts.
- Latrines.
- Snuffle Holes.
- 'Push-unders' through boundary fencing.
- Hair caught on fencing or sett entrances.
- Prints left in mud or sand.
- Mammal tracks.

3.4.3 Any evidence was then mapped to allow the status and distribution of badger activity to be assessed.

3.5 Ecological Impact Assessment

3.5.1 The methodology for Ecological Impact Assessment (EclA) follows best practice guidelines set by the Chartered Institute of Ecology & Environmental Management (CIEEM): 'Guidelines for Ecological Impact Assessment' (CIEEM, 2018). This includes identifying the baseline conditions on the site and subsequently rating the potential effects of the development based on the sensitivity and value of the resource affected, combined with the magnitude, duration and scale of the impact (or change). This is initially assessed without mitigation measures, and then assessed again after allowing for the proposed mitigation measures; this provides the residual effects. The assessment is divided into construction effects and longer-term operational effects.

3.5.2 The CIEEM guidelines (2018) state that ecological features should be considered within a 'defined geographical context'. The geographical frame of reference used to determine ecological importance in this assessment is detailed below:

- *International and European;*
- *National;*
- *Regional;*
- *County;*
- *District;*
- *Local;*
- *Site Level;*
- *Negligible.*

3.5.3 Based upon CIEEM guidance, value was determined with reference to the following factors:

- *Its inclusion as a Designated Site or other protected area;*
- *The presence of habitat types of conservation significance, e.g. Habitats of Principal Importance (NERC 2006);*
- *The presence (or potential presence) of species of conservation significance e.g. Species of Principal Importance (NERC 2006);*
- *The presence of other protected species e.g. those protected under The Wildlife and Countryside Act 1981;*
- *The sites social and economic value.*

3.5.4 The ecological impacts resulting from the proposals were then described according to a defined set of characteristics as defined within '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2018). When describing impacts the assessment refers to characteristics such as the extent; magnitude; duration; frequency; and, reversibility of the impact in order to provide justification for any conclusions about the nature and likelihood of the impact described.

- 3.5.5 Where initial impacts have been identified as significant, avoidance, mitigation and compensation measures have been proposed to avoid, prevent or offset such effects. This assessment then considers residual impacts (*once all mitigation has been taken into account*), with any significant effects highlighted. A significant effect is defined as “*an effect which either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general*”. Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

3.6 Survey Constraints / Considerations

- 3.6.1 Due to the field survey consisting of only one site visit, an ecological survey represents a ‘snapshot’ in time of the ecological condition of the site and certain species, particularly flowering plants, may not have been visible or may have been otherwise inconspicuous at the time of the survey and hence overlooked. Especially considering that the initial survey was undertaken in November, outside of the main growing season. However, an ecological assessment is not a detailed floral inventory, and the potential oversight of some species is not a constraint for the broad assessment of habitats and their potential to support protected species.
- 3.6.2 The availability of records of protected and notable species will vary in any given location and may depend upon the presence of local experts (particularly in the case of invertebrates and lower plants), as well as the number of visits to an area by those inclined to submit biological records. Furthermore, available records often include historical records which need to be considered in light of more up to date information and records also often lack detail, in terms of location, date, taxonomic detail and the observations recorded. It is also not possible to assess the significance of records which have not been provided and this is limitation which is acknowledged.

4.0 RESULTS

4.1 Desk Study

- 4.1.1 The following designated sites are not necessarily representative of the existing site's ecology but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Designated Sites

- 4.1.2 The following potential zones of influence have been used when identifying designated sites in the local area: Local Nature Reserves (LNRs), National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs) within a 2.0km radius of the site, and internationally designated sites including Special Protection Areas (SPAs) and Ramsar's (Wetlands of International Importance) within a 10km radius of the site as well as Special Areas of Conservation (SACs) within a 12km radius of the site. Statutory designated sites within a potential zone of influence of the site include:

Table No. 03 – Statutory Designated Sites

Site	Description	Location
International Statutory Designated Sites within a Potential Zone of Influence		
Chichester Harbour AONB	Chichester harbour is one the few remaining undeveloped coastal areas in Southern England. Bright wide expanses and intricate creeks are a major wildlife haven. Backed by the South Downs, Chichester Harbour comprises a series of tidal inlets, with a narrow mouth to the sea. Wind-sculptured oaks and hawthorns line the shore. The saltmarsh and mudflats are a haven for around 55,000 birds who reside in or visit the harbour throughout the year. These include large flocks of Brent Geese, Dunlin and Little Egrets.	10m north
Chichester and Langstone Harbours (Ramsar)	Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes extensive intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes. The mudflats support beds of <i>Zostera</i> and <i>Enteromorpha</i> , whilst the lower saltmarsh is dominated by <i>Spartina anglica</i> , with a more varied community at higher levels. Peak counts of wintering water birds regularly exceed 20,000 individuals, including internationally important numbers* of <i>Branta bernicla bernicla</i> .	c. 10m north
Solent Maritime (SAC)	A coastal site comprised of Annex I habitats including a major estuarine system on the south coast of England with four coastal plain estuaries and unique hydrographic schemes. Solent Maritime is the only site for smooth cord-grass <i>Spartina alterniflora</i> in the UK and is one of only two sites where significant amounts of small cord-grass <i>S. maritima</i> are found. It is also one of the few remaining sites for Townsend's cord-grass <i>S. x townsendii</i> and holds extensive areas of common cord-grass <i>Spartina anglica</i> . The Solent contains the second-largest aggregation of Atlantic salt meadows in south and south-west England.	c. 10m north
Chichester and Langstone Harbours (SPA)	This site supports breeding little tern (<i>Sterna albifrons</i>) and sandwich tern (<i>Sterna sandvicensis</i>); on passage little egret (<i>Egretta garzetta</i>);	c. 10m north

	overwintering bar-tailed godwit (<i>Limosa lapponica</i>) and little egret (<i>Egretta garzetta</i>). The site also supports the migratory species of ringed plover (<i>Charadrius hiaticula</i>), black-tailed godwit (<i>Limosa limosa islandica</i>), dark-bellied brent goose (<i>Branta bernicla bernicla</i>), dunlin (<i>Calidris alpina alpina</i>), grey plover (<i>Pluvialis squatarola</i>), redshank (<i>Tringa tetanus</i>) and ringed plover (<i>Charadrius hiaticula</i>). The area also regularly supports an assemblage of at least 20,000 waterfowl.	
Nationally Designated Sites within a Potential Zone of Influence		
Chichester Harbour SSSI	The site is of particular significance for wintering wildfowl and waders and also breeding birds both within the Harbour and in the surrounding permanent pasture fields and woodlands. There is a wide range of habitats which have important plant communities.	c. 10m north
Sandy Point LNR.	A sensitive area of rare maritime heathland, sand dunes and grassland grazed in summer by cattle. Some plants found here occur nowhere else in Hampshire and much of the ground is covered in fragile lichens. Consists of scrub and grassland many birds make their nests in gorse and thorn scrub. Whitethroats, Dartford Warblers breeds on site, Sandy Point is the one of the few sites in Hampshire where long tailed warbler successfully breeds.	c. 0.9km south-east

- 4.1.3 Hayling Island is a part of a Hampshire Biodiversity Opportunity Area, with the Hayling Island aspect of Langstone Harbour SSSI forming coastal shingle and grassland habitats noted for endangered chiding pink *Aquilegia saximontana* and an outstanding assemblage of nationally scarce plants.

Non-Statutory Protected Areas

- 4.1.4 *Sites of Importance for Nature Conservation (SINCs)* or *Local Wildlife Sites (LWS)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the *National Planning Policy* (Ministry of Housing, Communities & Local Government, 2021) and as such are material considerations when assessing planning applications. The following SINC's were identified to be within 2km of the site boundary.

Table No. 04 – Non-Statutory Protected Areas

Site	Location
Mengham Salterns SINC	10m North-west
Havant Selsmore Boating Lake SINC	0.3km South-west
Havant Fishery Creek Campsite SINC	0.5km South-west
Havant Boatyard Patch SINC	0.7km East

Pond Study

- 4.1.5 Based on OS mapping and satellite imagery, 5 ponds exist within a 500m radius from the site boundary, two of which are separated from the site by residential use land, making GCN movements very unlikely. However, two ponds near to the site have more suitable habitat surroundings to allow for GCN movements between them and the pond on site. The final pond exists within the site boundary itself.

Priority Habitats Study

- 4.1.6 The following records for UKBAP priority habitats (NERC, 2006) exist within a 2.0km search area: *Deciduous Woodland, Lowland Meadows, Open Water, Lowland Heathland, Coastal Saltmarsh, Coastal Sand Dunes, Saline Lagoons, Mudflats, Coastal and Floodplain Grazing Marsh, Coastal Vegetated Shingle and Lowland Dry Acid Grassland*. Several priority habitats were identified within the immediate vicinity of the site, including *Coastal Saltmarsh* and *Mudflats*, which lie adjacent to the eastern boundary of the site.

4.2 Existing Habitat Assessment**Desk Study****Site Assessment**

- 4.2.1 Existing habitats identified within and adjacent to the site include:
- *Modified grassland g4 (incl. Scattered trees 11);*
 - *Pond r1a;*
 - *Bramble Scrub hd3;*
 - Lowland mixed deciduous woodland **w1g6;**
 - Developed land; sealed surface **u1b** and;
 - Buildings **u1b5**

g4 – Modified grassland (incl. 11 - scattered trees)

- 4.2.2 Much of the Site was comprised of modified grassland (see *Photograph 6. xx* in *Appendix A – Site Photographs*), as it was once a regularly mown lawn stretching from the eastern face of the property around to the pond and adjacent to the woodland area. The modified grassland hosts aspects which could indicate an acidic nature and is becoming increasingly rank and tussocky in the area immediately north of the pond, increasing its ecological value, especially for reptile potential (see *Photographs No.4. in Appendix A – Site Photographs*). Species which dominated the sward include cocks foot *Dactylis glomerata*, annual meadow grass *Poa annua* and white clover *Trifolium repens*.

11 - Scattered trees

- 4.2.3 Within the area of modified grassland, lies several isolated trees including grey poplar *Populus × canescens*, crab apple *Malus sylvestris* and English oak *Quercus robur* (see *Photograph No.1. in Appendix A – Site Photographs*). They were of normal vitality and the oaks displayed minor deadwood, a normal occurrence for such a species.

r1a - Pond

- 4.2.4 The freshwater pond found on site (see *Photograph No. 5 in Appendix A – Site Photographs*) is known to stay wet all year due to being fed by rainwater from the house yet fluctuates throughout the seasons so is likely tied to the local water table. The pond was not stocked with fish. It did not appear brackish upon inspection; however, the water was too dark to fully understand the wildlife that inhabited it. Reeds *Phragmites australis* fringed the banks. The topology of the pond is of a natural shape, sloping gradually down from the modified grassland northern edge to a deeper, increasingly vegetated end. The ponds surface area is c. 70m² and hosted several small rock piles, and is currently holding at least a 50cm depth of water.

hd3 - Bramble Scrub

- 4.2.5 To the north and east boundary of the site lay a stretch of bramble and gorse scrub (see *Photograph No. 6. in Appendix A – Site Photographs*) which consisted of four stamen tamarisk *Tamarix tetrandra*, blackthorn *Prunus spinosa*, bramble *Rubus fruticosus* and common gorse *Ulex europaeus*. This habitat is common and widespread throughout the surrounds and was assessed as being unlikely to be valuable at greater than the **site** level.

w1g6 – Lowland mixed deciduous woodland

- 4.2.6 The stretch of woodland found on the western boundary of the site (see *Photographs No.3* in *Appendix A – Site Photographs*) is likely to host elevated ecological value in comparison to the rest of the Site, there were numerous trees with decaying wood that have the potential to support roosting bats, as well as other mammals. The area had features which could indicate it to be *lowland mixed deciduous woodland*, a priority habitat. The woodland was mostly comprised of oak *Quercus robur*, with occasional elm *Ulmus procera*, silver birch *Betula pendula*, sycamore *Acer pseudoplatanus*, a single yew *Taxus baccata* stand as well as a single butchers broom *Ruscus aculeatus* stand, which is an indicator for ancient woodland.

4.3 Protected Species Assessment

Amphibians

Desk Study

- 4.3.1 According to a search made through MAGIC, the GCN survey license returns dataset indicates that 3no. GCN were indicated to be present c. 4km north in 2014. Very few GCN are known to be in Hayling Island due to its historic separation from the mainland. It is generally accepted that GCN will not stray further than 250m from their aquatic habitat (ponds) unless connected to other ponds by high quality terrestrial habitat.

Site Assessment

- 4.3.2 The pond on site is not stocked with fish and has a reduced likelihood of supporting amphibians due a lack of records throughout Hayling Island, despite this it has been rated as 'Average' on the HSI scale, in general this means that Pond P1 has a greater likelihood of supporting GCN in comparison to 'Poor', however this is not a substitute for a GCN survey. The site supports **negligible/low** potential to support GCN.

Table No. 05 – Summary of HSI Results

HSI Criteria	Pond P1
Location	1
Pond Area	0.1
Permanence	0.9
Water Quality	0.67
Shade	1
Waterfowl	0.67
Fish	1
Pond Count	0.9
Terrestrial Habitat	0.67
Macrophytes	0.5
HSI Score	0.64
Result	Average

Reptiles*Desk Study*

- 4.3.3 No.1 reptile species has been located within a 2km search area of the site boundary, 13 records of common lizard *Zootoca vivipara* c. 1km from the site boundary.

Site Assessment

- 4.3.4 Reptiles require a mosaic of habitats to persist in a landscape, including vegetative cover for refuge opportunities, open areas for basing and a diverse flora to support viable invertebrate prey throughout the year. The habitat present offered refuge area in the form of bramble scrub and foraging space in the form of more rank modified grassland with ruderal aspects. Refugia locations adjacent to the workshop outbuilding B3 hold elevated reptile potential, and the area supports more rank, tussocky grassland allowing for increased foraging potential. The site supports **low** potential for reptiles to occur but the actual construction area offers **negligible** potential.

Bats*Desk Study*

- 4.3.5 Within 2km of the site boundary, 12 records of common pipistrelle *Pipistrellus pipistrellus*, have been noted. This included records for roost sites, observations of bats in the field and acoustic analysis.

Site Assessment

- 4.3.6 The broadleaved woodland found on site holds elevated potential to support bats, with occasional trees noted as hosting low bat potential. The proposed construction area, consisting of the existing building holds negligible bat roost potential, owing to the flat nature of the roofing tiles and well-sealed flashing/soffits surrounding the chimney and roof edge.
- 4.3.7 The following trees support features that have potential to host roosting or hibernating bats:

Table No. 06 – Preliminary Bat Roost Assessment Results - Trees

Tree Ref	Description	Category
T01	Young / semi mature oak within the area of broadleaved woodland with significant fire damage, leading to rounding growth creating potential bat roost features in the deadwood.	Low
T02	Mature oak found adjacent to the existing main building, minor and moderate deadwood which indicates the tree could support roosting bats.	Low

Table No. 07 – Preliminary Bat Roost Assessment Results - Buildings

Building Ref	External assessment	Internal assessment	Overall result
B1	Medium sized two storey building with two loft cavities. The roof tiles are flush to the roofing felt and host no discernible gaps in which a roosting bat could exploit. The chimney-built structure and external flashing were also well formed with no gaps that could support bat residence. No obvious gaps were located in between soffits or concave edge tiles.	The ground floor is raised 2m above sea level and currently not lived in permanently. The loft cavities were inspected for evidence of bats and none was found. Many mouse droppings were seen but none were found to be bat.	Negligible
B2	Small outbuilding garden	The building had not	Negligible

	shed for tool storage, 2 windows with cracks overlooking the property's drive. Roof was intact with no obvious holes that could allow bat entry.	been in constant use for years, appeared very damp and drafty with obvious signs of mould and decay at the time of inspection. No void existed inside the roof for bats to roost in. No evidence of bats was identified.	
B3	Small storage low outbuilding of concrete/stone brick construction, waterlogged at the time of inspection. Exterior was clad with ivy and the roof was composed of corrugated asbestos/iron.	Two distinct sections of the building comprised its total structure, one of which was waterlogged while the other had a collapsed retaining wall on its western side. The roof had gaps along where it met the wall and no signs of bats were identified internally.	Negligible
B4	Small summer house / wood storage outbuilding of wooden construction and two glass swinging doors overlooking the garden pond. The roof was comprised of felt and sloped downwards from its peak at the entrance.	The building was filled with wood at the time of inspection, was drafty and had no obvious gaps in its roof in which a bat could exploit. There were no signs of bats internally.	Negligible

Foraging and Commuting Suitability

- 4.3.8 The deciduous woodland, scrub, scattered trees and areas of successional grassland habitat provide a diversity of opportunities for invertebrates and are therefore likely to support viable invertebrate forage for bats through the active bat period. However, the site lies within a residential area would be unlikely to support much other than the common more light tolerant species, such as pipistrelles and noctules. In the context of the wider area the habitats found on site are of **local importance** to commuting / foraging bats with the construction area of **low site** value.

Dormouse

Desk Study

- 4.3.9 There were no records of dormouse *Muscardinus avellanarius* from within 2km of the site boundary.

Site Assessment

- 4.3.10 The proposed construction zone is formed of modified grassland and hard standing developed land and as such offers no suitable habitat for dormice. Although bramble scrub to the north and east of site do provide some suitable cover for foraging and hibernation, these areas are not functionally connected to areas of wider suitability for dormouse. The site was assessed as offering **negligible** potential to support dormice.

Badger

Desk Study

- 4.3.11 Badger *Meles meles* records are confidential and were therefore not included within the search.

Site Assessment

- 4.3.12 The bramble scrub and woodland found on site are more likely to support badger, yet the construction area is unlikely to do so owing to it comprising developed land and modified grassland lawn which is not suitable for sett creation or for foraging, and no signs of badger were noted while on site survey. Badger have a **low** potential of occurring on site.

Water Vole

Desk Study

- 4.3.13 No records of European water vole *Arvicola amphibius* were noted within a 2km search radius of the site boundary.

Site Assessment

- 4.3.14 The site is situated in a coastal environment with multiple coastal and marine related priority habitats, which are not suitable for European water vole. The surface water pond on site is also unlikely to support the mammal, as they prefer wet ditches which often fringe site boundaries. Although the eastern boundary of the site hosted a ditch, at the time of survey it was completely overgrown with scrub and devoid of suitable foraging vegetation. Water vole potential for the site is therefore **negligible**.

Other Mammals

Desk Study

- 4.3.15 Four other protected / notable mammal species records exist within 2km of the site boundary, including 31 records for hedgehog *Erinaceus europaeus*, 1 record for brown hare *Lepus europaeus*, 1 record for red fox *vulpes vulpes* and 1 record for roe deer *Capreolus capreolus*.

Site Assessment

- 4.3.16 Given the suburban nature of the site and levels of disturbance associated with the anthropic setting, brown hares have **low** potential to be present. Hedgehogs are widespread and often exist within neglected areas and gardens in suburban settings and were considered to have **moderate** potential to utilise the habitats on site occasionally, although no evidence of hedgehogs was identified during the walkover survey. No evidence of fox was identified either, although these species have the potential to move in and have **moderate** potential to occur in the future.

Birds

Desk Study

- 4.3.17 The easterly adjacent internationally designated sites Chichester and Langstone Harbour Ramsar / SPA / Solent Maritime SAC are known to support internationally important waterfowl and wading bird assemblages and therefore numerous schedule 1 migrant birds are very likely to pass through the site.

Site Assessment

- 4.3.18 The site has traditional nesting habitat for passerine birds, i.e., scrub and broadleaved woodland. At the time of survey the grassland sward was varied, supporting opportunities for ground nesting birds such as skylark, which have a clear preference for vegetation between 20-60cm. However, the potential presence of urban predators, such as cats, foxes and corvids as well as the enclosure created by woodland and scrub are likely to limit the potential of ground nesting birds occurring. The nearby SPA, SAC and Ramsar site are known for supporting diverse bird assemblages, the site may be used for foraging or perching by birds within the area of broadleaved woodland and scrub that fringe the site boundaries. Although the designated sites are too close to the existing residence to be of suitability beyond occasional foraging and perching. The Site therefore hosts **low/moderate** potential to support breeding/foraging birds.

Invertebrates

Desk Study

- 4.3.19 There were 22 records for 7 species of protected / notable invertebrates from within the search area, including records for UKBAP Priority species grey dagger *Acronicta psi*, knot grass *Acronicta rumicis*, green brindled crescent *Allophytes oxyacanthae* and figure of eight *Diloba caeruleocephala*.

Site Assessment

- 4.3.20 The dense scrub and broadleaved woodland on site host elevated potential to support a diverse assemblage of invertebrates. The site hosted standing deadwood habitat, found in the broadleaved woodland area. However, the construction boundary does not include these habitat classifications and therefore, does not hold significant value for invertebrates.

Others

- 4.3.21 No suitable habitat for any other protected species was recorded on site.

5.0 ASSESSMENT OF EFFECTS

- 5.0.1 The following section evaluates the value of the habitats within and adjacent to the site, assessed where further survey is required and details any avoidance and mitigation measures. Wherever possible potential adverse impacts should be avoided by avoidance / mitigation embedded in scheme design, as this gives increased certainty over successful delivery and ensures adhesion to the 'Mitigation Hierarchy' (BSI, 2013) (CIEEM, 2018).

5.1 Designated Sites

Potential Impacts

- 5.1.1 Four internationally designated statutory sites were identified within a potential zone of influence of the proposed development site, which were Chichester Harbour SSSI, Solent Maritime SAC as well as Chichester and Langstone Harbours SPA / Ramsar. Local planning policy states that:

“All development in Havant Borough is expected to protect, conserve and enhance the Borough’s Local Ecological Network. Planning permission will only be granted where:

- *The development of one dwelling or more or a new commercial building results in biodiversity net gain;*
- *The development avoids the fragmentation of the Local Ecological Network including across administrative boundaries;*
- *The applicant has identified and assessed the level of ecological value of the site through adequate and proportionate information and any matters arising have been addressed through an avoidance or mitigation plan;*
- *Any necessary mitigation plan includes provision for ongoing management and maintenance.”* (Havant Borough Council, 2022).

- 5.1.2 Since the proposed development is a householder application and does not plan to increase the number of residential units within the site boundary, Natural England will not be required to be consulted.

- 5.1.3 Intertidal habitat immediately adjacent to the north-east of the site and Mengham Salterns SINC to the north-west are comprised of priority habitat mudflats and coastal saltmarsh. Coastal floodplain grazing marsh can also be found 20m north-west of the site boundary. Planning policy of the Havant Local Plan (Havant Borough Council, 2022) states that:

“In addition to the above, priority habitats in the Borough are afforded protection by specific nature conservation designations. Development proposals which could affect a designated site will need to consider the impact and respond appropriately.”

- 5.1.4 Given the nature of proposals, significant impacts upon habitats within the adjacent designates sites would be *de minimis* and further assessment under the Habitats Regulations would not be necessary.

Avoidance and Mitigation

- 5.1.5 Potential minor impacts to designated sites and priority habitat could occur during the construction phase. Therefore, including the incorporation of precautionary working practices into the construction plan is necessary.
- 5.1.6 A sensitive lighting scheme should be implemented during the construction phase as well as the occupation phase. There should be no construction phase lighting and all occupation phase lighting is to be sensitive and designed in accordance with best Practice: BCT/ILP Guidance Note 08 (2018). For example, not facing potential bat foraging and commuting areas of broadleaved woodland and dense scrub.
- 5.1.7 Noise and dust during the construction phase should be kept to a minimum and works should follow best practice to avoid these. Works should not take place when risks of increased impact are likely, ie. In high winds. Minor noise disturbance of birds might occur but would be below the threshold of significance, being only a temporary disturbance to a small local area.
- 5.1.8 Chemical pollution - all chemicals, paints, fuels etc, should be stored appropriately in bunded containers with spill kits ready, at least 10m from the woodland, pond and ditch on site.

Residual Impacts

- 5.1.9 Residual impacts would be negligible.

5.2 Habitats

Potential Impacts

- 5.2.1 Tree preservation orders exist for 11no. trees that reside surrounding the existing building. Approximately 5no. of these trees can be found within the construction boundary. Havant Borough Council states that:

“Unauthorised work to a protected tree is a criminal offence. If you deliberately destroy a protected tree, or damage it in a manner likely to destroy it, including root damage, you could be liable to an unlimited fine. You could also be fined if you cause or permit such work. The council can prosecute when work is carried out on a preserved tree without their consent or without the required notice for a tree in a conservation area or when exemptions are misused. “

(Havant Borough Council, 2022).

- 5.2.2 Therefore, the council should be notified prior to any works upon trees with preservation orders that occur within the construction boundary.
- 5.2.3 In the absence of mitigation, proposals might impact upon habitats on and off site, an impact potentially at the local level. Given the nature of proposals, significant impacts upon habitats within the adjacent designates sites would be *de minimis*.

Avoidance and Mitigation

- 5.2.4 Accidental damage to habitats of elevated ecological potential on site are to be avoided, for example, creating a root protection area around scattered oak trees adjacent to the current dwelling. Protection of trees and woodland is carried out by following British Standard 5837:2012 best practise. The pollution prevention methods mentioned in the designated sites section would also adequately protect habitats from pollution.
- 5.2.5 The main construction area habitats include hard standing, existing buildings and modified grassland which represent **negligible/low** ecological value.

5.3 Amphibians

Potential Impacts

- 5.3.1 The protected species assessment identified that the site supports low potential to support GCN and although the HSI assessment of Pond 1 suggests the water body is of average suitability, overall, it is likely that GCN are absent. This can be explained by very few local GCN records in the surrounding area, furthermore, the proposed development does not impact upon any suitable habitat for GCN. No impacts are predicted.

5.3 Reptiles

Potential Impacts

- 5.3.1 Sections of the site support suitable reptile habitat (see *Photographs 4* in *Appendix A – Site Photographs*). As reptiles are protected from reckless killing and injury (Wildlife and Countryside Act, 1981). In the absence of mitigation, improper removal of building materials and logs might harm individual reptiles, a minor impact at the site level.
- 5.3.2 The construction phase should implement an avoidance strategy in the patch of land adjacent to the western outdoor shed structure due to be demolished. All log piles and building materials offering reptile refugia should be removed carefully by hand and allow safe dispersal of any reptiles that may reside there, and the grassland regularly mown.

Residual Impacts

- 5.3.3 The residual impacts would be negligible.

5.4 Bats

Potential Impacts

- 5.4.1 In the absence of mitigation there is a low risk of harm to bats roosting in trees and disturbance to foraging and commuting bats. The risk is sufficiently low to not require any further survey.

Avoidance and Mitigation – Roosting Bats

- 5.4.2 As a precaution, the 2no. oak trees found adjacent to the existing building, which require tree surgery works as part of the proposed development have potential bat roost features and should be removed with an ecologist overseeing the works. At this stage, it is understood that proposals aim to retain the oaks, save for the removal of limbs that extend towards the existing building.

Avoidance and Mitigation – Foraging/Commuting Bats

- 5.4.3 The site is unlikely to support a notable assemblage of foraging / commuting bats due to a lack of bat records in the nearby area and therefore, bat activity surveys are unlikely to be required. However, proposals should be mindful of the potential for bats to occur in the area by ensuring the habitats deciduous woodland and scrub are protected from inappropriate nocturnal lighting, and by limiting the need for nocturnal lighting in the first instance. Where nocturnal lighting is required, this should conform to best practice standard in regard to bats (BCT & ILP, 2018) by incorporating PIR lights, lights with hoods / cowls and lights with low frequency wavelengths. This level of detail should inform the scheme design but would be unlikely to be required until the reserved matters / planning condition stage.

Residual Impacts

- 5.4.4 In implementing the above measures, the proposed development shall have a **low** impact on foraging / commuting bats and a **negligible** impact upon roosting bats.

5.5 Badgers*Potential Impacts*

- 5.5.1 The protected species assessment identified that the site supported **negligible/low** potential for badger and no evidence of badgers was identified on site or in the immediate surrounding area. No impact or mitigation is required.

5.6 Water Vole

Potential Impacts

- 5.6.1 There would be no impacts upon water voles.

5.7 Other Mammals

Potential Impacts

- 5.7.1 The protected species assessment identified that the site supported moderate potential for hedgehog and fox, but development proposals do not affect suitable habitat, and the surrounding area is residential, limiting movement for such mammals, impacts are therefore **negligible**.

5.8 Wild Birds

Potential Impacts

- 5.8.1 The protected species assessment identified the site as offering habitats of moderate value to wild birds; however, the proposed construction boundary does not include these habitat and would not result in any significant disturbance of surrounding harbour habitats; impacts are therefore predicted to be **negligible**.

5.9 Invertebrates

Potential Impacts

- 5.9.1 The site was assessed as offering moderate potential to support a notable assemblage of species. However, the development proposals do not affect habitat that can support diverse invertebrate assemblages, impacts upon invertebrates is therefore **negligible**.

6.0 ECOLOGICAL ENHANCEMENTS

6.1 There is a requirement laid out in national planning policy (Ministry of Housing, Communities & Local Government, 2021) that development should result in net gains for biodiversity, and the Havant Council Planning Policy mirrors this requirement in which states that development should. Achieving >0% in a BNG assessment would be sufficient to demonstrate net gains are achieved. However, at least 10% shall be aimed for. Opportunities for other ecological enhancements which shall be incorporated into the scheme design are laid out below:

- The use of log and compost piles in habitat creation areas to provide refugia for reptiles and amphibians, with creation of a small bare earth 'bee bank' to provide habitat for mining bees;
- Installation of integrated bird and bat boxes into new the proposed structure, and 'bug hotels', bird and bat boxes to mature trees;
- Incorporation of a 'Hedgehog Home' within the scheme design;
- The use of a bespoke lawn mix in areas which require more regular mowing rather than a standard amenity mix;
- The use of a bespoke wildflower meadow mix in areas that are to be mown less regularly.

7.0 CONCLUSIONS

- 7.1 The site is formed of made-up ground, modified grassland, dense scrub, lowland mixed deciduous woodland and existing buildings. The construction area is made up of developed land, existing buildings and other modified grassland.
- 7.2 The SPA / RAMSAR / SAC internationally designated sites adjacent to the north-east of site are the most significant potential ecological receptor associated with proposals, as the area supports at least two priority habitats. Furthermore, this area is likely to support notable / protected birds. Basic avoidance measures are recommended to avoid harm to the protected sites, including Mengham Saltern SINC which borders the northern site boundary. Given the nature of proposals such impacts would be *de minimis* and would not require Assessment under the Habitats Regulations.
- 7.3 The potential for the proposed construction area to support bats has been considered unlikely due to the lack of adequate space under roof tiles, very few bat records in the area, and all flashing and soffits being well sealed. The proposed development is expected to have a **negligible** impact upon bats, as well as other protected species once basic mitigation measures are implemented. No further surveys are recommended.
- 7.4 Proposed ecological enhancements shall result in enhancement of habitats on site and Biodiversity Net Gain in accordance with local and national planning policy.

8.0 REFERENCES

BCT & ILP. (2018). Guidance Note 08/18. Bats and artificial lighting in the UK. Bats and the Built Environment series

BSI. (2012). BS 5837:2012 Trees in relation to design, demolition and construction: Recommendations. London: BSI - British Standards Institution

BSI. (2013). BS 42020:2013 Biodiversity – Code of practice for planning and development. London: BSI - British Standards Institution

BSI. (2022). BS 42021:2022 Integral nest boxes – selection and installation for new developments – specification. London: British Standards Institution

Buglife. (2019). Good planning practice for invertebrates: surveys. Advice note. Bug House, Ham Lane, Orton Waterville, Peterborough, PE2 5UU. Available online: [5](#) [last assessed 24.11.22]

Buxton., A.S. & Griffiths., R.A. (2022). A revised system for interpreting great crested newt habitat suitability indices. Herpetological Journal. Volume 32 (July 2022), 114-119. Available online: <https://doi.org/10.33256/32.3.114119>

CIEEM. (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM. (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management. Winchester, UK

Collins J (ed): Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed.) The Bat Conservation Trust (2016);

Harris, S., Cresswell, P. and Jefferies, D. (1989). Surveying Badgers. An occasional publication of the mammal society – No. 9. Baltic Exchange Buildings, 21 Bury St, London, EC3 5AU

Havant Borough Council (2022) Havant Local Plan, Havant Borough Council. Available online: <https://www.havant.gov.uk/local-plan> (Accessed: November

28, 2022).

Havant Borough Council (2022) Tree Preservation Orders, Havant Borough Council. Available at: <https://www.havant.gov.uk/planning-and-environment/trees/protected-trees> (Accessed: December 1, 2022).

Ministry of Housing, Communities & Local Government. (2021). National Planning Policy Framework. Fry Building, 2 Marsham Street, London. This publication is available [online] at www.gov.uk/government/publications

Multi-Agency Geographic Information for the Countryside (MAGIC). (2013). Interactive Map. [online]. Available at <http://www.magic.gov.uk/Magicmap.aspx>

Rose, F., (2006). The Wild Flower Key. How to Identify wild flowers, trees and shrubs in Britain and Ireland. Revised and updated by Clare O'Reilly. ISBN: 978-0-7232-5175-0

Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747. Available online at <https://britishbirds.co.uk/content/status-our-bird-populations>.

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010).

Table No. 08 – Species List for Habitat Parcels**Modified grassland**

Common Name	Scientific Name	DAFOR
Cocks-foot	<i>Dactylis glomerata</i>	LA
Bristly ox-tongue	<i>Helminthotheca echioides</i>	O
Sow-thistle	<i>Sonchus arvensis</i>	O
Common nettle	<i>Urtica dioica</i>	O
White clover	<i>Trifolium repens</i>	F
Green sulcus bamboo	<i>Phyllostachys aureosulcata</i>	R
Laurel sp.	<i>Prunus laurocerasus</i>	O
Perennial ryegrass	<i>Lolium perenne</i>	F
Springy turf moss	<i>Rhytidiadelphus squarrosus</i>	F
Broad-leaved dock	<i>Rumex obtusifolius</i>	O
Common gorse	<i>Ulex europaeus</i>	F
Chickweed	<i>Stellaria media</i>	F
Snowdrop	<i>Galanthus nivalis</i>	O
Ribwort plantain	<i>Plantago lanceolata</i>	F
Annual meadow grass	<i>Poa annua</i>	F
Red fescue	<i>Festuca rubra</i>	F
Catsear	<i>Hypochaeris radicata</i>	O
Yarrow	<i>Achillea millefolium</i>	O
Creeping Buttercup	<i>Ranunculus repens</i>	O
Dove's foot crane's-bill	<i>Geranium molle</i>	O
Common vetch	<i>Vicia sativa</i>	F
Wooly buttercup	<i>Ranunculus lanuginosus</i>	O
Gypsywort	<i>Lycopus europaeus</i>	O
Common fleabane	<i>Pulicaria dysenterica</i>	O
Sun spurge	<i>Euphorbia helioscopia</i>	O
Cleaver's bedstraw	<i>Galium aparine</i>	R
Selfheal	<i>Prunella vulgaris</i>	O
Daisy	<i>Bellis perennis</i>	F
Common dog-violet	<i>Viola riviniana</i>	O
Sorrel	<i>Rumex acetosa</i>	O
Common comfrey	<i>Symphytum officinale</i>	O
Teasel	<i>Dipsacus fullonum</i>	O
Burdock	<i>Arctium minus</i>	F
Spear thistle	<i>Cirsium vulgare</i>	O
Hogweed	<i>Heracleum sphondylium</i>	O
Lesser periwinkle	<i>Vinca minor</i>	O
Privet	<i>Ligustrum ovalifolium</i>	O

Bramble / Mixed Scrub

Common Name	Scientific Name	DAFOR
Cocks-foot	<i>Dactylis glomerata</i>	LF
Bramble	<i>Rubus fruticosus</i>	D
Gorse	<i>Ulex europaeus</i>	D
Tormentill	<i>Potentilla erecta</i>	O
Hawksbeard	<i>Crepis capillaris</i>	O
Bristly oxtongue	<i>Helminthotheca echioides</i>	F
Common comfrey	<i>Symphytum officinale</i>	O
Teasel	<i>Dipsacus fullonum</i>	O
Burdock	<i>Arctium minus</i>	F
Spear thistle	<i>Cirsium vulgare</i>	O
Hogweed	<i>Heracleum sphondylium</i>	F
Lesser periwinkle	<i>Vinca minor</i>	O
Oval-leaved privet	<i>Ligustrum ovalifolium</i>	O
Four-stamen Tamarisk	<i>Tamarix tentandra</i>	R
Orange day lily	<i>Heemerocallis fulva</i>	R
Common daisy	<i>Bellis perennis</i>	F
Sun spurge	<i>Euphorbia helioscopia</i>	O
Creeping cinquefoil	<i>Potentilla reptans</i>	F
Rhododendrum	<i>Rhododendron ponticum</i>	R
Broad-leaved dock	<i>Rumex obtusifolius</i>	O
Common ivy	<i>Hedera helix</i>	F

Scattered Trees

Common Name	Scientific Name	DAFOR
Grey poplar	<i>Populus canescens</i>	F
Common oak	<i>Quercus robur</i>	O
Crab apple	<i>Malus sylvestris</i>	LR
Sycamore	<i>Acer pseudoplatanus</i>	O

Deciduous Woodland

Common Name	Scientific Name	DAFOR
Common oak	<i>Quercus robur</i>	D
Blackthorn	<i>Prunus spinosa</i>	O
Elm	<i>Ulmus glabra</i>	O
Silver birch	<i>Betula pendula</i>	O
Sycamore	<i>Acer pseudoplatanus</i>	O
Holm Oak	<i>Quercus ilex</i>	LR
Spruce	<i>Picea abies</i>	LR
Stinking iris	<i>Iris foetidissima</i>	O
Butchers's-broom	<i>Ruscus aculeatus</i>	LR
Yew	<i>Taxus baccata</i>	LR

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Appendix A – Site Photographs

Photograph No. 1 - View of scattered oak trees within the modified grassland adjacent to the existing property structure with potential bat features.



Photograph No. 2 - View of the existing property structure's eastern aspect.



Photograph No. 3 – View of the area of broadleaved woodland facing north west displaying trees with burn damage that now host low bat roost potential.



Photograph No. 4 - View of ephemeral/ruderal patch within the modified grassland sward hosting elevated reptile potential on the northern aspect of the workshop outbuilding B3.



Photograph No. 5 - View of the on-site pond rated as average HSI, situated north of the dwelling B1 within the modified grassland area



Photograph No. 6 – View of the modified grassland (centre) and dense / gorse scrub (right) that fringe the east and northern boundary of the site.



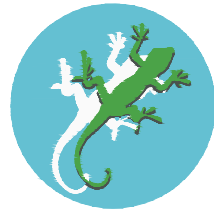


Legend

-  Site Boundary.
-  g4 - Modified Grassland
-  h3 - Dense Scrub
-  u1b - Developed land. Sealed surface
-  u1b5 - Buildings
-  r1a - Pond
-  w1g6 - Line of Trees
-  w1h - Other Woodland Mixed
-  11 - Scattered trees

PLANNING ISSUE

Rev	Description	Date	Initials
00	Planning Issue	15.12.22	BS



LIZARD

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Client
S. Johnson
Project Title and Location
Cockle Point
Hayling Island, Hampshire

Drawing Title
Site Habitat Plan

Scale 1:500@A3	Drawn BS	Approved GS	Date 15.12.2022
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Drawing No LLD2806-ECO-FIG-001-00	Revision 00
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Site Habitat Plan
Cockle Point, Hayling Island