

ECOLOGICAL IMPACT ASSESSMENT

August 2022

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**2-6 SEAGULL LANE, EMSWORTH,
HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by PWP Architects to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of 2-6 Seagull Lane, Emsworth. The site is located in the town of Emsworth, Hampshire and comprises industrial buildings with associated hardstanding. The proposals entail the demolition and conversion of the on-site industrial buildings to facilitate three industrial units.

The main findings of the Ecological Impact Assessment are:

- The site has been assessed as suitable for foraging and commuting bats, , breeding birds and European hedgehog.
- The introduction of new lighting has the potential to disrupt bat foraging and commuting pathways, and the demolition and construction works have the potential to kill and/or injure breeding birds, and trap hedgehog individuals within open excavations.
- Mitigation measures proposed include a sensitive lighting design, sensitively timed works in relation to breeding birds, and consideration to prevent individual European hedgehog from becoming trapped in open excavations.
- The site will be enhanced for bats and birds through the installation of additional bat roosting and bird nesting features, and the planting of native species will additionally benefit pollinating invertebrates.
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy.
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by PWP Architects to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of 2-6 Seagull Lane, Emsworth, Hampshire PO10 7QH (hereafter referred to as the site).

A planning application was submitted to Havant Borough Council under reference number APP/22/00155 on 15th February 2022 for the demolition of 2 and 2a Seagull Lane, and warehouses 1, 2 and 4, and external amendments to 6 Seagull Lane to facilitate the construction of three light industrial units. A comment was received from the county ecologist on 20th May 2022 which highlighted that the application is not supported by any ecological information. This Ecological Impact Assessment report has therefore been produced to accompany the planning application and provide the ecological status of the site.

1.2 The Site

The site is located in the town of Emsworth, Hampshire, centred on National Grid Reference (NGR) SU 7495 0618 (**Map 1**).

The site is approximately 0.3 hectares in size and comprises five industrial units with associated hardstanding. Seagull Lane bounds the site to the north. The wider landscape is dominated by residential areas to the north, south and west, and Brook Meadow nature reserve to the east. The River Ems flows approximately 50 metres to the east.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between June and July 2022. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The redevelopment proposals entail the demolition of Buildings 2 and 2a, and warehouses 1, 2 and 4, in addition to external amendments to 6 Seagull Lane to facilitate the construction of three light industrial units split into eight units. The associated hardstanding is to be redeveloped to provide car parking, and landscaping is additionally proposed for the site.

The Ecological Impact Assessment is based on the proposals plan produced by PWP Architects 'Proposed Site Plan', dated November 2021 (Drawing No. 1010, Revision A) (**Appendix 1**).

A planning application was submitted to Havant Borough Council on 15th February 2022 with construction proposed to commence soon after permission has been granted.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Havant Borough Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in July 2021. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF *"Plans and decisions should apply a presumption in favour of sustainable development"*. However, Paragraph 182 goes on to state that *"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."*

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 174 states that the planning system should contribute to and enhance the natural 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..."*.

A number of principles are set out in Paragraph 180, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats^[1], including ancient woodland^[2]. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

^[1] The NPPF defines irreplaceable habitats as *"Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*

^[2] Natural England defines ancient woodland as *"An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."*

180 also states *“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.”*. Paragraph 181 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”*. Paragraph 99 states *“it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted”*.

2.3 Local Policy

Local planning policy within Havant Borough is provided by the Havant Borough Core Strategy 2011, adopted March 2011. Two policies refer in part to ecology and biodiversity:

- **Policy CS11: Protecting and Enhancing the Special Environment and Heritage of Havant Borough**

This policy refers to protecting and enhancing designated sites and features of ecological interest including wildlife habitats and corridors; and

- **Policy DM9: Development in the Coastal Zone**

This policy states that permissions will only be granted in this zone where it can be demonstrated that there will be no harmful effects on designated sites.

Production of an updated Havant Borough Local Plan 2036 has been underway since 2016 and has been sent for examination to the Secretary of State for Housing Communities and Local Government on 12 February 2021. Five policies within the Havant Borough Local Plan 2036 refer specifically to ecology and biodiversity:

- **Policy E14: The Local Ecological Network**

This policy states that developments must result in biodiversity net gain and avoid fragmentation of the Local Ecological Network;

- **Policy E15: Protected Species**

This policy refers to avoiding impacts on protected species and their habitats, with special reference made to Bechstein's bat;

- **Policy E16: Solent Special Protection Areas (SPA)**

This policy refers to protecting SPAs within the Solent and states mitigation measures are required if significant effects on the SPAs are anticipated;

- **Policy E17: Solent Waders and Brent Goose Feeding and Roosting Sites**

This policy refers to protecting sites associated with the Solent Waders and Brent Goose Strategy (SWBGS); and

- **Policy E18: Trees, Hedgerows and Woodland**

This policy refers to protecting important trees, hedgerows and woodland and the successful implementation of landscape and tree planting schemes.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected³. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

A full biological record centre desktop study was not undertaken as part of this assessment. This was not considered necessary given the limited scale of impacts and the nature of on-site and surrounding habitats.

3.4.1 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2022) was reviewed on 27th July 2022 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See

³ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

Appendix 2 for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European Protected Species to be present in the local area.

3.4.2 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The Solent Wader and Brent Goose Strategy (SWBGS) website (Solent Wader and Brent Goose Strategy, 2022) was consulted to identify the location of nearby SWBGS sites within the Zone of Influence. The non-statutory designated sites are utilised by waders and/or brent geese associated with the Solent SPAs, and therefore provide functionally linked habitat to the SPAs for internationally important assemblages.

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Jo Richmond, Senior Ecologist (Natural England Level 2 Bat Class Licence 2020-50828-CLS-CLS) of ECOSA on 15th June 2022. The

weather conditions were dry with no cloud cover, an ambient temperature of 27°C and no wind.

During the survey, the surveyor was equipped with a ladder, 10x40 binoculars, a high powered torch and a digital camera.

3.5.3 *Field Survey Limitations*

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

During the field survey on 15th June 2022, no internal access was possible into the void within Building 2a given that it was too high to access using a ladder. Additionally, there was no internal access possible into Building 6 given the lack of information of the status of asbestos within the internal roof void.

3.6 Bat Survey

3.6.1 *Survey Methods*

Bat Emergence Survey

The bat emergence survey was undertaken in line with current best practice guidelines (Collins, 2016). In accordance with the guidelines for a building assessed as having low suitability to support roosting bats, a single dusk emergence survey was undertaken in order to ascertain the presence/likely absence of roosting bats from within the building. Where the presence of roosting bats is confirmed the data also allows for an assessment of the status of the roost present. The status of roosts (where appropriate) has been based on standard terminology as detailed in **Appendix 5**.

The surveys were carried out by two experienced ECOSA surveyors positioned at previously identified vantage points, with one location within Building 2a looking directly into the open roof void which could not be accessed during the field survey (Paragraph 3.5.3), and the other surveyor located outside of the building to determine if any bats emerged. These vantage point locations allowed a sufficient coverage of the Potential Roosting Features identified on the building impacted by the proposals.

During the surveys surveyors recorded the time, species, location and direction of flight for each bat encountered, with particular attention paid to establishing bat access/egress locations to any roosts within the buildings.

3.6.2 Survey Details

Bat Emergence Survey

The bat emergence survey was undertaken on 21st July 2022. **Table 1** provides details of the emergence survey.

Table 1: Bat emergence survey details

Survey Date	Survey Type	Survey Timings	Weather Conditions	Sunset Time
21 st July 2022	Emergence	Start: 20:50 End: 23:05	General conditions: Dry Start temp: 21 End temp: 20 Cloud Cover: 100% Wind Speed: WF0 – WF1	21:05

During the bat emergence survey the surveyors were equipped with Batlogger M bat detectors. Recordings made with the detectors were later analysed using BatExplorer v2.1.10.1 to confirm the identity of any species encountered.

The bat emergence/re-entry surveys were coordinated by Olivia Walton, Ecologist of ECOSA, and assisted by suitably qualified and experienced ECOSA surveyors Joseph Hunt and Amy Evans

3.6.3 Survey Limitations

Some bat species, e.g. long-eared bats *Plecotus* species⁴, generally emerge from their roosts in total darkness and do not produce strong echolocations, and therefore these bats can be difficult to observe and record during bat surveys, leading to under-recording.

The use of bat detectors is likely to result in the under-recording of a percentage of bats present, such as those flying at height (Collins & Jones, 2009), which would be out of the recording range for the detectors.

3.7 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as

⁴ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-Statutory Designated Sites

4.2.1 Baseline Ecological Conditions

Details of designated sites are provided in the paragraphs below.

Statutory Designated Sites

There are five statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. These are:

- Chichester and Langstone Harbours (Ramsar site) – located approximately 610 metres south and designated under Ramsar Criterion 1, 5 and 6 supporting notable intertidal habitats, and bird species assemblages of international importance;
- Chichester and Langstone Harbours (SPA) – located approximately 610 metres south and designated for supporting notable breeding and over-wintering bird assemblages, and supporting in excess of 20,000 individual waterfowl over winter;
- Solent Maritime (SAC) – located approximately 610 metres south and designated for its notable habitats including estuaries and Atlantic salt meadows;
- Chichester Harbour (SSSI) – located approximately 610 metres south and designated for supporting notable habitats and bird assemblages; and
- Brook Meadow (Emsworth) (LNR) – located approximately ten metres north-east and designated for supporting the Habitats of Principal Importance Coastal and Floodplain Grazing Marsh, and Deciduous Woodland, in addition to water vole *Arvicola amphibius* within the on-site streams.

Further details of the statutory designations listed above are provided in **Appendix 6**.

Non-Statutory Designated Sites

There are two non-statutory designated sites within one kilometre of the site boundary identified as being of importance to waders and brent goose in the Solent Wader and Brent Goose Strategy (SWBGS) (Solent Wader and Brent Goose Strategy, 2022). Sites are classified according to a scoring system based on various parameters, including importance relative to the British populations of wader species and brent geese, proximity to SPAs, and proximity to known SPA species populations and/or assemblages.

SWBGS classified sites situated within one kilometre of the site boundary include:

- C45 (Secondary Support Area) – located approximately 770 metres east; and
- C42 (Secondary Support Area) – located approximately 820 metres south.

4.2.2 Evaluation

Five statutory designated sites of nature conservation are situated within one kilometre of the site. Chichester and Langstone Harbours Ramsar site and SPA, and Solent Maritime SAC are of international importance, Chichester Harbour SSSI of national importance, and Brook Meadow (Emsworth) LNR of county importance. The two non-statutory SWBGS sites are of international importance given that the species utilising the Ramsar and SPA sites are the reason for the designation.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database did not reveal the presence of any Habitats of Principal Importance on, or adjacent to, the site. The closest notable habitats are Habitats of Principal Importance: Coastal and Floodplain Grazing Marsh, and Deciduous Woodland, associated with Brook Meadow LNR to the north-east of the site.

Field Survey Results

Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Scattered Scrub

Limited areas of scattered scrub were identified around the on-site building perimeters, with bramble *Rubus fruticosus* aggregate and buddleia *Buddleja davidii* recorded (**Figure 1**).



Figure 1: Growth around the building perimeters

Ephemeral/Short Perennial

Ephemeral vegetation is present in between cracks across the on-site hardstanding (**Figure 2**). Species recorded as present include ragwort *Jacobaea vulgaris*, ribwort plantain *Plantago lanceolata*, and rosebay willowherb *Chamaenerion angustifolium*.



Figure 2: Vegetation present within the cracks

Other Habitats

The site is dominated by buildings and hardstanding. It is enclosed by brick walls along the southern, eastern and western boundaries, and Heras fencing along the northern boundary.

4.3.2 Evaluation

The site is dominated by buildings and hardstanding, with limited vegetation present within cracks and around building perimeters. Given the limited extent of vegetation present within the site, the habitats on-site are considered to be of negligible value, given that the surrounding habitat contains more ecologically valuable habitats, such as the Habitats of Principal Importance within Brook Meadow to the east.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database revealed the presence of a single recently granted EPSM licence with respect to bats within the two kilometre desktop study radius. This is 2019-44235-EPS-MIT, located approximately 290 metres south-west and granted in 2020 for the destruction of a resting place for soprano pipistrelle *Pipistrellus pygmaeus*.

Field Survey Results

Building Assessment

Five separate buildings are present within the site. Only one building – Building 2a – was assessed as being of low suitability for potential roosting bats due to the presence of an internal roof void lined with bitumen felt and a missing loft hatch. The remaining buildings were assessed to be of negligible suitability as they lacked suitable Potential Roosting Features and suitable roof voids. The results of the building assessment are provided in **Table 2**.

Foraging and Commuting Habitat

The site offers limited foraging opportunities for bats given the limited availability of vegetation within the site. It is therefore likely that bats pass through the site to reach more suitable habitat to the east, in particular the extensive open grassland and the River Ems. The railway line located approximately 100 metres to the north may provide a suitable wildlife corridor and commuting habitat into the wider landscape. Overall the site is assessed to be of low suitability for foraging and commuting bats.

Table 2: Building Assessment – Summary of Features with Bat Roost Potential and Evidence of Bat Roost Activity

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 2	 Figure 3: Northern elevation of Building 2  Figure 4: Open plan interior of Building 2	Building 2 is a single-storey brick construction building with a corrugated asbestos pitched roof (Figure 3) previously used for storage. Internally, the building lacks a void and is open plan inside (Figure 4). The asbestos roof is visible and lacks any insulation.	The building is considered unsuitable for roosting bats given the lack of internal void, lack of insulation, and lack of external crevices as a result of the roofing material used.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 2a	 Figure 5: Eastern elevation of Building 2a  Figure 6: Internal view of Building 2a  Figure 7: Open loft hatch within Building 2a	Building 2a comprises a single-storey breeze block lean-to building with half-hipped corrugated asbestos roof and clay ridge tiles (Figure 5). The building is currently unused. There is a single void present internally (Figure 6), with the open loft hatch located towards the south of the building (Figure 7). No internal access was possible into the void however it was noted to be lined with bitumen felt.	The building contains an internal void lined with bitumen felt, which provides bats with some of the thermal stability needed whilst roosting, however given that the loft hatch is left constantly open due to being missing, this would not be suitable for a higher conservation status roost (such as a maternity roost) as the temperatures would not be consistent. Given the habitat surrounding the site, it is more likely that individuals would utilise the woodland within Brook Meadow, and considered likely that if bats are present within Building 2a it would be used by individuals roosting opportunistically.. The open access of the building due to missing windows and the open loft hatch provides bats with a suitable flight path into the internal void.	No evidence of roosting bats was recorded during the survey.	Low suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 6	 Figure 8: Building 6	Building 6 is a two-storey brick construction building with a pitched clay tile roof (Figure 8) previously used as a site office. No internal access was possible during the field survey on Health and Safety grounds (see Paragraph 3.5.3).	No external features were recorded that are suitable for roosting bats, and this would additionally prevent them from entering into the roof void. As a result the building is considered unsuitable.	No evidence of roosting bats was recorded during the survey.	Negligible suitability
Warehouses 1, 2 and 3	 Figure 9: Warehouse 1  Figure 10: Interior of Warehouse 1	The warehouse buildings are used for industrial purposes. They are located along the southern site boundary and comprise three interconnected buildings. Warehouse 1 is a single-storey, corrugated metal unit with a flat corrugated roof (Figure 9). No internal void is present and the building is not lined internally (Figure 10). Workshop 2 is of the same construction as Workshop 1 however has a corrugated metal pitched roof (Figure 11). The interior of the building is the same, with no internal void or insulation present. Workshop 3 comprises a single-storey brick construction building with a flat corrugated asbestos roof (Figure 12). Internally, the building is interconnected with Workshop 1	The buildings are considered unsuitable for roosting bats. They lack internal voids and the buildings are not lined which would not provide roosting bats with the thermal stability they require. Additionally, no external features suitable for roosting bats were recorded.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
	 Figure 11: Warehouse 2	via a doorway (Figure 13) however there is no roof void present.			
	 Figure 12: Warehouse 3				
	 Figure 13: Interior of Warehouse 3				

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Warehouse 4	 Figure 14: Warehouse 4	Warehouse 4 comprises a large, single-storey brick building with pitched corrugated asbestos roof (Figure 14) used for industrial purposes. No internal roof void was present and was noted to be open-planned as per Building 2 (Figure 4).The asbestos roof is visible and lacks any insulation.	The building is considered unsuitable for roosting bats given the lack of internal void, lack of insulation, and lack of external crevices as a result of the roofing material used.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Bat Emergence/Re-entry Survey Results

No bats were recorded emerging from Building 2a. The surveys recorded at least three species of bat foraging and commuting including soprano pipistrelle, common pipistrelle *Pipistrellus pipistrellus* and serotine *Eptesicus serotinus*. Activity was largely attributed to individuals commuting through the site over the existing buildings, with a low number of foraging individuals recorded within the open areas of hardstanding near the scattered scrub.

It was additionally noted by the surveyor sitting outside of Building 2a that there was activity concentrated around the off-site abandoned building directly south of the site. During data analysis it was noted that a call characteristic of a juvenile soprano pipistrelle echolocating from a roost was recorded, and it is therefore likely a bat roost is present within the wider surrounds of the site, and may be associated with this abandoned building..

Table 3 provides details of the species, numbers and locations of bats recorded roosting and foraging/commuting during the emergence/re-entry surveys. The location of Building 2a with respect to the other on-site buildings not subject to bat surveys is shown in **Map 2**.

Table 3: Bat Emergence/Re-entry Survey Results

Visit 1 - Survey Details	
Survey Date:	21 st July 2022
Structures Surveyed:	Building 2a
Survey Type:	Dusk Emergence Survey
Time of Sunset:	21:05
Roosting Activity	
No bats were recorded roosting within Building 2a.	
General Bat Activity	
Low levels of activity were recorded throughout the survey, with bats more frequently seen commuting through the site, rather than foraging within the site. Equal numbers of common pipistrelle and soprano pipistrelle were recorded, with a single registration attributed to serotine towards the end of the survey.	

4.4.2 Evaluation

Foraging and Commuting Bats

Bat surveys recorded at least three species of bat foraging and commuting at the site. Common pipistrelle and soprano pipistrelle are common and widespread throughout Hampshire (The Mammal Society, 2015) whilst serotine, although not recorded as frequently as common pipistrelle and soprano pipistrelle, is widespread across

Hampshire (Hampshire Bat Group, n.d.). The activity levels of these species are typical of a site of this size and habitat type and these species are likely to be present at higher densities within the wider landscape in suitable habitat such as within Brook Meadow to the east. Overall, the site is assessed to be of site level importance for foraging and commuting bats.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Field Survey Results

No signs of otter *Lutra lutra* were recorded during the field survey, and no aquatic habitat is present within the site. The closest suitable habitat for otter is the watercourse of the River Ems, located approximately 50 metres east, which provides the species with suitable interconnected channels for commuting throughout the wider landscape, and suitable foraging opportunities. Given that the site is enclosed by a brick wall to the east, and no suitable habitat is present within the site, it is unlikely that otter use the on-site habitats. As a result, the on-site habitats are considered unsuitable for otter and the species is not considered further within this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Field Survey Results

No evidence of resident badger *Meles meles* was recorded during the field survey. No suitable habitat for sett building is located within the site, and it additionally lacks suitable vegetation for foraging. Given that the site is enclosed by brick walls on the southern, eastern and western boundaries, individuals are unlikely to use it for commuting. Overall, the site is considered unsuitable for badger and the species is not considered further within this report.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database did not reveal the presence of any recently granted EPSM licences with respect to hazel dormouse *Muscardinus avellanarius* within the two kilometre desktop search radius. The lack of records however do not confirm the absence of the species in the local area.

Field Survey Results

No suitable habitat for hazel dormouse is present within the site. The scattered vegetation present does not provide the species or the habitat structure required, nor suitable food species for foraging. Hazel dormouse may be present within the woodland to the east, and along the railway embankments to the north within the wider landscape, however there is no habitat connectivity between these suitable areas and the site. Given that the habitat on-site is unsuitable for hazel dormouse, the species is not considered further in this report.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Desktop Study Results

Brook Meadow (Emsworth) LNR, located to the east of the site, includes part of the River Ems in which water vole *Arvicola amphibius* have been surveyed and confirmed as present (Brook Meadow Conservation Group, 2022), and is a reason for the site's designation as a Local Nature Reserve (see Paragraph 4.2 for further details).

Field Survey Results

No signs of water vole were recorded during the field survey, and no aquatic habitat is present within the site. The closest suitable habitat for water vole is the River Ems, located approximately 50 metres east, which provides the species with suitable banksides for burrowing, and vegetation for foraging. Given that the site is enclosed by a brick wall to the east, and no suitable habitat is available within the site, it is unlikely water vole will use the on-site habitats, despite being present in the wider area. As a result, the site is considered unsuitable for water vole and the species is not considered further within this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Chichester and Langstone Harbours Ramsar and SPA sites are designated for supporting bird assemblages of international importance, with the SPA noted to support in excess of 20,000 individual waterfowl overwinter. Further details of the designations are found within **Appendix 6**.

Details of the Solent Wader and Brent Goose Strategy sites within one kilometre of the site are presented in Paragraph 4.2.1. The site itself is not a SWBGS site.

Field Survey Results

No individuals birds, or signs of nesting, were recorded during the field survey. Scattered scrub around building perimeters however provides suboptimal nesting opportunities for the species group. No signs of nesting were recorded within the on-site buildings however the missing windows and doors of Building 2a may allow individuals to enter and nest internally, and the flat roofs on Warehouses 1 and 3 may provide suitable habitat for nest building.

No suitable habitat for ground nesting birds is present within the site. Given that the site is dominated by buildings and hardstanding, it is unsuitable to support overwintering and wader birds associated with the nearby Chichester and Langstone Harbours Ramsar/SPA sites, and Solent Wader and Brent Goose Strategy sites within the Zone of Influence, which require open grassland and wetland habitats.

4.9.2 Evaluation

Breeding Birds

The site provides suboptimal nesting habitat for breeding birds, and is unlikely to support important populations, species or assemblages who are overwintering within the designated sites. As a result, the site is considered to be of site value for breeding birds only.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Field Survey Results

There is limited vegetation present within the site recorded within cracks in the hardstanding, and surrounding the building perimeters. Given this coverage is limited in its extent, it does not provide suitable foraging or sheltering habitat for reptile individuals. The habitat on-site is therefore unsuitable for reptiles, and the species group is not considered further in this report.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database did not reveal the presence of any recently granted EPSM licences with respect to great crested newt *Triturus cristatus* within the two kilometre desktop study search radius. The lack of records however does not confirm the absence of the species in the local area.

An assessment of aerial photography and 1:25,000 OS mapping revealed the presence of a single waterbody approximately 400 metres south-east, sections of drainage ditches and other waterways associated with the River Ems are located within a 500 metre radius of the site.

Field Survey Results

No aquatic habitat is present within the site. The River Ems is the closest waterbody to the site however given that it contains flowing water it is unsuitable for egg laying and as a result, great crested newt in their aquatic phase are absent. Additionally, the ephemeral vegetation is limited in extent and does not provide suitable habitat for foraging or sheltering terrestrial individuals. The habitat on site is unsuitable for great crested newt and therefore the species is not considered further in this report.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Field Survey Results

The ephemeral and scrub vegetation present within the site is limited in its extent, and is likely to support very small numbers of common and widespread invertebrate species only. The habitats within Brook Meadow LNR to the east are more suitable for a wide range of invertebrates, including aquatic and saproxylic species. Given the limited suitable on-site habitat, the site is considered unsuitable for notable or rare invertebrate assemblages, and as a result the species group is not considered further in this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Field Survey Results

Grassland and woodland habitat within Brook Meadow to the east of the site contains habitat suitable for foraging and commuting European hedgehog *Erinaceus europaeus*, however the site itself lacks suitable foraging habitat. It is therefore possible that individuals may pass through the site on occasion to reach further suitable habitat within the wider landscape, such as to nearby residential gardens north and west of the site.

4.13.2 Evaluation

The site does not contain suitable habitat for foraging European hedgehog, however there is the potential for the species to pass through the site on occasion. As a result, the site is considered to be of site value for European hedgehog only.

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy⁵ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The redevelopment proposals entail the demolition of Buildings 2 and 2a, and warehouses 1, 2 and 4, in addition to external amendments to 6 Seagull Lane to facilitate the construction of three light industrial units split into eight units. The associated hardstanding is to be redeveloped to provide car parking, and landscaping is additionally proposed for the site. Access will be retained to the north off Seagull Lane. It is anticipated that lighting associated with the new industrial units will form part of the scheme. Given the location of the River Ems approximately 50 metres east, it is understood that standard measures for pollution prevention and dust suppression will be implemented during the demolition and construction phases.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

There are five statutory designated sites, and two non-statutory designated sites of nature conservation located within the Zone of Influence around the site. Given the distance between these designated sites and the redevelopment works, no potential impacts on designated sites are anticipated as a result of the current proposals.

⁵ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

5.3.2 Mitigation Measures

Given that no potential impacts are anticipated, no mitigation measures are required in relation to designated sites..

5.3.3 Significance of Residual Effects

No residual effects are anticipated in relation to designated sites.

5.3.4 Compensation

No compensation measures are required in relation to designated sites.

5.3.5 Enhancement

No enhancement measures are proposed in relation to designated sites.

5.3.6 Monitoring

No monitoring is required.

5.4 Habitats

5.4.1 Potential Impacts and Effects

Buildings and hardstanding dominate the site, with very limited vegetation present. Given that the on-site habitats are assessed to be of negligible value, no potential impacts in relation to habitats are anticipated as a result of the current proposals.

5.4.2 Mitigation Measures

Given that no potential impacts are anticipated, no mitigation measures are required in relation to habitats.

5.4.3 Significance of Residual Effects

Following the loss of the on-site habitats, there will be a significant residual loss of habitat as a result of the current proposals.

5.4.4 Compensation

Given that the on-site habitats to be lost are assessed to be of negligible value, no compensatory measures are required.

5.4.5 Enhancement

To provide enhancement for the site, it is recommended that native species planting, rather than non-natives or cultivars, is incorporated into the landscaping design. This will be of benefit for protected species utilising the site, and provide a net gain in biodiversity. Native, woody species recommended will include field maple *Acer campestre*, dog rose *Rosa canina*, hazel *Corylus avellana*, silver birch *Betula pendula*, wayfaring tree *Viburnum lantana*, pedunculate oak *Quercus robur* and hawthorn *Crataegus monogyna*.

Any introduced shrub planting will incorporate plant species listed within the Royal Horticultural Society 'Plants for Pollinators' list and include species such as lavender *Lavandula* species and honeysuckle *Lonicera* species (RHS, 2019).

5.4.6 Monitoring

No monitoring is required in relation to habitats.

5.5 Bats

5.5.1 Potential Impacts and Effects

The single dusk emergence survey did not identify the presence of roosting bats within Building 2a, and given the negligible suitability of the other on-site buildings, no potential impacts are anticipated in relation to roosting bats within the site.

The introduction of new lighting has the potential to disrupt bat foraging and commuting flight paths, and individuals utilising the habitats within the site.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 Mitigation Measures

Where new lighting is to be introduced, this will comprise directional lighting in order to minimise light spill throughout the site. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife⁶. New lighting should be task related, and associated with entry/exit points of the new commercial units. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (Institution of Lighting Professionals, Bat Conservation Trust, 2018).

5.5.3 Significance of Residual Effects

If the mitigation measures outlined above are followed, it is anticipated that there will be no significant residual effects in relation to bats.

5.5.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are required in relation to bats.

⁶ *Wildlife and Artificial Lighting Seminar*, 21st – 22nd March 2014, Arup London, Bat Conservation Trust.

5.5.5 Enhancement

As a form of enhancement for bats, three Vivara Pro WoodStone bat boxes, or similar, will be installed on the exterior of the new industrial units to be constructed to provide additional roosting opportunities for the species group. The boxes will ideally be positioned toward Brook Meadow to the east for accessibility for the species group into the wider landscape.

5.5.6 Monitoring

No monitoring is required with respect to bats.

5.6 Birds

5.6.1 Potential Impacts and Effects

Any vegetation removal or building demolition works within the site has the potential to injure and/or kill breeding birds, their nests and chicks, if present during the clearance works.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

Any vegetation removal, and building demolition works, will be undertaken outside of the breeding bird season, which extends from March to August (inclusive). If this is not possible, a suitably qualified ecologist will inspect the structures to be removed immediately prior to works commencing. If any evidence of nesting is discovered, a suitable buffer (minimum five metres) will be enforced and delays to the work schedule may incur until nesting has ended and chicks have fledged.

5.6.3 Significance of Residual Effects

Measures to avoid disturbance or harm to nesting birds during construction will mitigate for these potential effects. There will be a net loss of suitable habitat for breeding birds which is significant at the site level

5.6.4 Compensation

The planting of native woody species within the site (Paragraph 5.4.5) will provide diverse woody structures and additional suitable nesting habitat for the species group within the site.

5.6.5 Enhancement

Enhancement opportunities for breeding birds will include the installation of two integrated WoodStone House Sparrow Terraces, and two Ibstock Swift Bricks (or

similar) within the newly constructed units to provide additional nesting opportunities for nationally declining bird species including swifts *Apus apus*.

5.6.6 Monitoring

No monitoring in relation to breeding birds is required.

5.7 Other Relevant Species

5.7.1 Potential Impacts and Effects

It has been identified that European hedgehog may utilise the site on occasion to commute between suitable habitat within the wider landscape. If the species is present during the demolition and construction works, there is the potential for individuals to become trapped within excavations if left open overnight.

European hedgehog is protected under Schedule 6 of the Wildlife and Countryside Act 1981 against killing or capturing them using certain methods Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

In order to prevent individuals from becoming trapped in excavations overnight, all open excavations will be covered when construction works have finished for the day, and a timber ramp inserted to allow any trapped individuals to escape on their own accord.

5.7.3 Significance of Residual Effects

If the mitigation measures outlined above are followed, it is anticipated that there will be no significant residual effects in relation to European hedgehog.

5.7.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are required in relation to European hedgehog.

5.7.5 Enhancement

No enhancement in relation to European hedgehog is recommended.

5.7.6 Monitoring

No monitoring is required.

5.8 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

6.0 CONCLUSIONS

6.1 Conclusion

The site was assessed to contain a single building (Building 2a) of low suitability for roosting bats. A single dusk emergence survey undertaken in July 2022 did not record any evidence of roosting bats within the building, and as a result roosting bats are considered absent from the site. The site has been assessed as suitable for foraging and commuting bats, , breeding birds and European hedgehog. The introduction of new lighting has the potential to disrupt bat foraging and commuting pathways, and the demolition and construction works have the potential to kill and/or injure breeding birds, and trap hedgehog individuals within open excavations..Mitigation measures proposed include a sensitive lighting design, sensitively timed works in relation to breeding birds, and consideration to prevent individual European hedgehog from becoming trapped in open excavations. The site will be enhanced for bats and birds through the installation of additional bat roosting and bird nesting features, and the planting of native species to benefit pollinating invertebrates. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policy CP21 of the Joint Core Strategy and the NPPF (see Section 2.0).

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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Map 1 Site Location Plan

2 - 6 SEAGULL LANE, EMSWORTH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

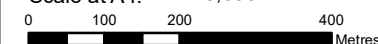
Client:	PWP Architects
Date:	August 2022
Status:	Final

KEY

 Site Boundary



Scale at A4: 1:10,000



Prepared by: OW	Date: 090622
Last amended by: N/A	Date: N/A

ECOSA

Ecological Survey & Assessment

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Map 2 Bat Survey

2 - 6 SEAGULL LANE, EMSWORTH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Bat Survey

Client: PWP Architects

Date: August 2022

Status: Final

KEY

- Site Boundary
- Building Surveyed
- Building Not Surveyed
- Location of Surveyors (x 2)

N.B A single dusk emergence survey was undertaken of Building 2a on 21st July 2022, in which no bats were recorded emerging from the building.

Scale at A4: 1:450

0 4.5 9 18 Metres



Prepared by: OW

Date: 020822

Last amended by: N/A

Date: N/A

ECOSA

Ecological Survey & Assessment

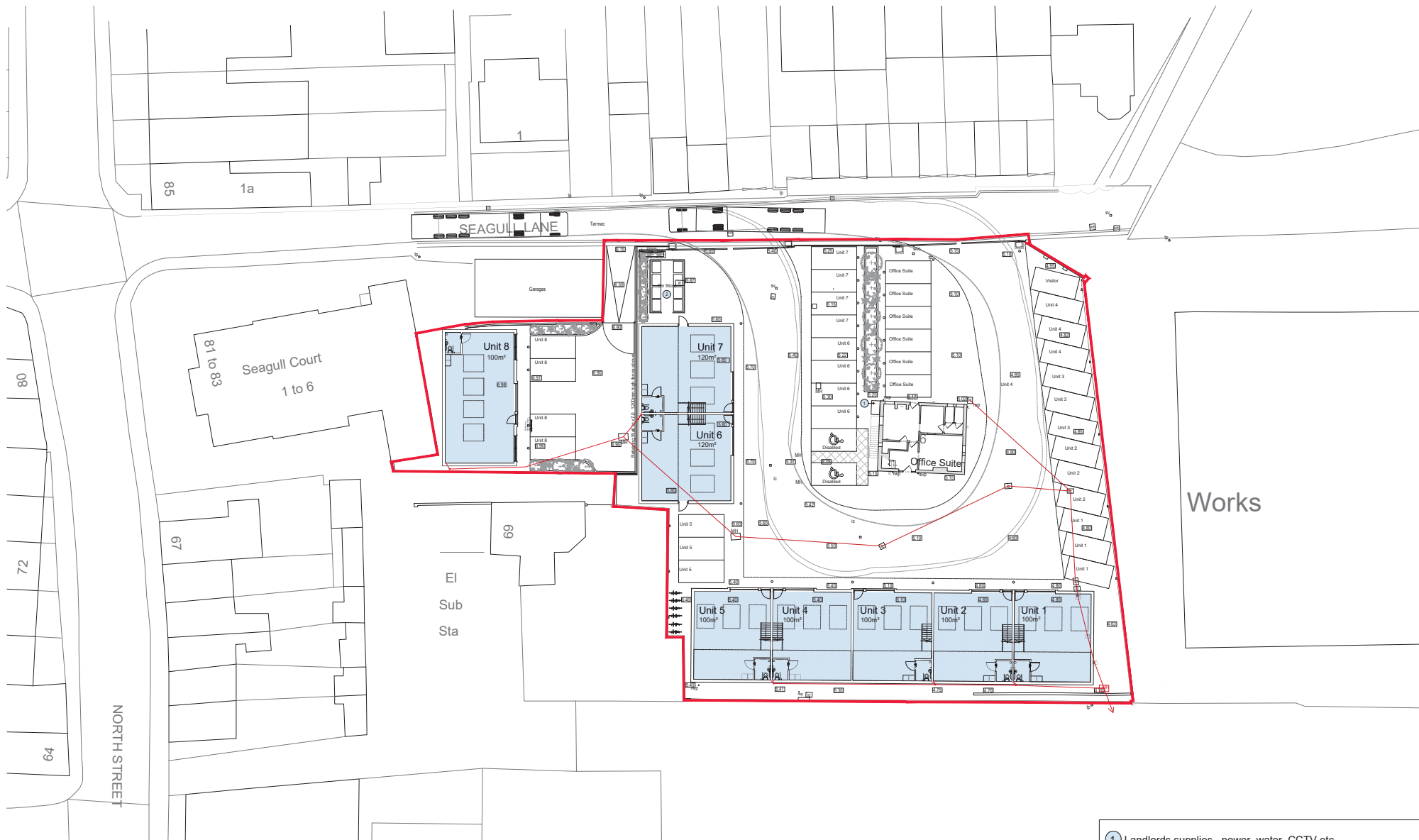
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Appendix 1 Proposed Site Layout



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- 1 Landlords supplies, power, water, CCTV etc.
- 2 Central shared bin collection point - 6 no. Euro Bin - 3 general waste 3 recycling

notes:

revisions: A | 10.02.2022 | PT | Issued for Planning

revisions:



NOTE: The contractor is responsible for checking all site dimensions and levels. These should be checked prior to the ordering of any components and before the commencement of the works. All discrepancies should be brought to the attention of the Contract Administrator.

M&M Hall Family Pension Trust
Seagull Lane
Emsworth, Hampshire, PO10 7QH
drawing information title : **Proposed Site Plan**



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status :	Information	job :	5807	dwg :	1010	rev :	A
date :	November 21						
scale :	1:200 @ A1						
drawn :	PT						
checked :	IV						

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Solent Wader and Brent Goose Strategy Sites

The Solent Wader and Brent Goose Strategy has identified sites across the Solent which are utilised waders and/or Brent geese associated with the Solent SPAs and, therefore, provide functionally linked habitat to the SPAs. The sites are categorised as follows using a metric which is set out in the strategy (Whitfield, 2019):

- SPA Sites - sites which are within the SPA and have bird records and form part of the ecological network;
- Core Areas – are defined as sites which have:
 - a network value – this relates a site's importance to a network score for birds moving to and from the intertidal areas to inland sites, and between inland sites;
 - and/or the max score of seven in three metrics (GB Importance, SPA Importance and SPA Assemblage);
 - and/or a max count of bird use of 1000 or more.
- Primary Support Areas - are defined as sites that score 3-6 in the three metrics (GB Importance, SPA Importance and SPA Assemblage)
- Secondary Support Areas are defined as:
 - sites that score 1-2 (GB Importance, SPA Importance and SPA Assemblage);
 - and/or have max counts of 100 plus birds for any species.
- Low Use Sites - are defined as sites that have records of birds but in low numbers (score 0 in the metric).
- Candidate Sites - sites that have records of high numbers of birds (max count equal to or greater than 100) and/or a total score equal to or greater than one but have less than three records in total.

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings. A detailed external and internal inspection of accessible structures was undertaken to compile information on potential and actual bat entry/exit points; potential and actual bat roosting locations; any evidence of bats found.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed

bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.2), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species⁷, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

⁷ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 4**⁸.

Table 4: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
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.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure of 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.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does 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). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

⁸ Table adapted from (Collins, 2016)

Appendix 6 Statutory Designated Sites within the Desktop Study Area

Details of statutory designated sites within the desktop study area, as listed in Paragraph 4.2.1, are provided in **Table 5**.

Table 5: Statutory Designated Sites Located Within the Desktop Study Area

Site Name	Chichester and Langstone Harbours
Site Designation	Ramsar
Approximate Relative Location	610 metres south
Reasons for Designation:	
The site is designated under Ramsar Criterion 1, 5 and 6. Criterion 1 – Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes. Criterion 5 – Assemblages of international importance: 76480 waterfowl, count in winter (5 year peak mean 1998/99 – 2002/2003) Criterion 6 – species/populations occurring at levels of international importance. Qualifying species/populations (as identified at designation) Species with peak counts in spring/autumn: - Ringed plover <i>Charadrius hiaticula</i>; - Black-tailed godwit <i>Limosa limosa islandica</i>; and - Common redshank <i>Tringa totanus totanus</i>. Species with peak counts in winter: - Dark-bellied brent goose <i>Branta bernicla bernicla</i>; - Common shelduck <i>Tadorna tadorna</i>; - Grey plover <i>Pluvialis squatarola</i>; - Dunlin <i>Calidris alpina alpina</i>. Species/populations identified subsequent to designation for possible future consideration under criterion 6: - Little tern <i>Sterna albifrons albifrons</i>.	

Site Name	Chichester and Langstone Harbours
Site Designation	SPA
Approximate Relative Location	610 metres south
Reasons for Designation:	
The site qualifies for supporting the following Annex I species: Breeding Little Tern <i>Sterna albifrons</i>, 100 pairs representing up to 4.2% of the breeding population in Great Britain; and	

- Sandwich Tern *Sterna sandvicensis*, 158 pairs representing up to 1.1% of the breeding population in Great Britain.

On passage

- Little Egret *Egretta garzetta*, 137 individuals representing up to 17.1% of the population in Great Britain.

Over winter

- Bar-tailed Godwit *Limosa lapponica*, 1,692 individuals representing up to 3.2% of the wintering population in Great Britain; and
- Little Egret *Egretta garzetta*, 100 individuals representing up to 20.0% of the wintering population in Great Britain.

This site also qualifies by supporting populations of European importance of the following migratory species:

On passage

- Ringed Plover *Charadrius hiaticula*, 2,471 individuals representing up to 4.9% of the Europe/Northern Africa - wintering population.

Over winter

- Black-tailed Godwit *Limosa limosa islandica*, 1,003 individuals representing up to 1.4% of the wintering Iceland - breeding population;
- Dark-bellied Brent Goose *Branta bernicla bernicla*, 17,119 individuals representing up to 5.7% of the wintering Western Siberia/Western Europe population;
- Dunlin *Calidris alpina alpina*, 44,294 individuals representing up to 3.2% of the wintering Northern Siberia/Europe/Western Africa population;
- Grey Plover *Pluvialis squatarola*, 3,825 individuals representing up to 2.5% of the wintering Eastern Atlantic - wintering population;
- Redshank *Tringa totanus*, 1,788 individuals representing up to 1.2% of the wintering Eastern Atlantic - wintering population; and
- Ringed Plover *Charadrius hiaticula*, 846 individuals representing up to 1.7% of the wintering Europe/Northern Africa - wintering population.

The site qualifies by regularly supporting in excess of 20,000 individual waterfowl over winter.

Site Name	Solent Maritime
Site Designation	SAC
Approximate Relative Location	610 metres south
Reasons for Designation:	
Annex I habitats that are a primary reason for selection of this site: ▪ Estuaries; ▪ Spartina swards (<i>Spartinion maritimae</i>); and ▪ Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>). Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: ▪ Sandbanks which are slightly covered by sea water all the time; ▪ Mudflats and sandflats not covered by seawater at low tide; ▪ Coastal lagoons; ▪ Annual vegetation of drift lines; ▪ Perennial vegetation of stony banks; ▪ Salicornia and other annuals colonizing mud and sand; and ▪ Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes).	

Annex II species present as a qualifying feature, but not a primary reason for site selection:

- Desmoulin's whorl snail *Vertigo moulinsiana*.

Site Name	Chichester Harbour
Site Designation	SSSI
Approximate Relative Location	610 metres south
Reasons for Designation:	
Chichester Harbour is a large estuarine basin in which at low water extensive mud and sandflats are exposed, drained by channels which unite to make a common exit to the sea. 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. The intertidal area is fragmented in the upper reaches of the harbour by intruding tongues of land giving a very long and varied coastline. The harbour exhibits a wide range of intertidal and associated terrestrial habitats and with the neighbouring Langstone and Portsmouth Harbours is unusual in providing a large volume of sheltered saline water fed by a few streams of only low volume. The extensive intertidal mudflats are the feeding grounds, at the relevant times of year for internationally important numbers of ringed plover <i>Charadrius hiaticula</i>, grey plover <i>Pluvialis squatarola</i>, redshank <i>Tringa totanus</i>, black-tailed godwit <i>Limosa limosa</i>, dunlin <i>Calidris alpina</i>, sanderling <i>Calidris alba</i>, curlew <i>Numenius arquata</i> and greenshank <i>Tringa nebularia</i> (the latter two in autumn particularly). Bar-tailed godwit numbers are of European importance. Amongst the wildfowl, shelduck <i>Tadorna tadorna</i>, teal <i>Anas crecca</i> and dark-bellied brent goose <i>Branta bernicla</i> numbers are of international importance with 5% of the world population of the latter. The unimproved permanent pasture behind the sea wall provides alternative feeding sites for the geese and major high tide wader roosts. Some of this pasture is floristically rich being a red fescue <i>Festuca rubra</i> sward with scarce species such as green-winged orchid <i>Orchis morio</i> and adder's tongue fern <i>Ophioglossum vulgatum</i>.	

Site Name	Brook Meadow (Emsworth)
Site Designation	LNR
Approximate Relative Location	10 metres north-east
Reasons for Designation:	
The LNR comprises five acres of grassland, surrounded by woodlands and flanked by two streams. It supports the Habitats of Principal Importance Coastal and Floodplain Grazing Marsh and Deciduous Woodland, and provides habitat for many bird and invertebrate species, in addition to supporting wildflowers. Water vole <i>Arvicola amphibius</i> are present within the streams.	