



Sinah Lane, Hayling Island

Information to Inform a Habitats Regulations Assessment

Barratt Homes

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Contents

Glossary.....	1
1.0 Introduction	2
1.1 Background	2
1.2 Site Location.....	2
1.3 Development Proposals	2
1.4 Requirements for Assessment.....	2
1.5 Purpose and Structure of the Report	3
2.0 Description of the Proposed Development.....	5
2.1 Development Proposals	5
2.2 The Proposed Development Site	5
2.3 Incorporated Mitigation	5
3.0 Assessment Methodology	7
3.1 Assessment Guidance.....	7
3.2 Consultation	7
3.3 Scope of the Assessment.....	7
3.4 Information Used in this Assessment.....	7
4.0 Relevant Planning Policy & Legislation	8
4.1 National Planning Policy Framework	8
4.2 Biodiversity 2020: A strategy for England's wildlife & ecosystem services	8
4.3 Summary of Relevant Information from the Local Plan	8
4.4 Relevance of Local Plan to Proposed Development.....	9
5.0 Identification of European Sites and Characterisation	10
5.1 Screening	10
6.0 Identification of Likely Impacts	16
6.1 Public access/disturbance	16
6.2 Coastal squeeze	16
6.3 Fisheries.....	16
6.4 Water pollution	16
6.5 Change in species distributions	16
6.6 Climate change	17
6.7 Change to site conditions	17
6.8 Invasive species.....	17
6.9 Direct land take	17
6.10 Biological resource use	17
6.11 Change in land management	17
6.12 Inappropriate pest control	17
6.13 Air pollution.....	17
6.14 Hydrological changes	17
6.15 Direct impact from 3rd party.....	18
6.16 Extraction.....	18
6.17 Other	18
7.0 Assessment of Likely Significant Effects	20



7.1	Public access/disturbance	20
7.2	Water pollution	20
7.3	Change in species distributions	23
7.4	Air pollution	23
7.5	Other	24
8.0	Consideration of In-Combination Effects	26
9.0	Conclusions.....	27
10.0	References.....	28



Glossary

AA	Appropriate Assessment
ACIEEM	Associate Member of Chartered Institute of Ecology & Environmental Management
ALP	Asset Life Cycle Process
ALSE	Assessment of Likely Significant Effects
CEnv	Chartered Environmentalist
cSAC	Candidate Special Area of Conservation
CIEEM	Chartered Institute of Ecology & Environmental Management
Habitats Regulations	Conservation of Habitats and Species Regulations 2017
HCC	Hampshire County Council
HRA	Habitats Regulations Assessment
JNCC	Join Nature Conservancy Council
LPA	Local Planning Authority
MAGIC	Multi Agency Geographic Information for the Countryside
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
Natura 2000 site	A European site designated for its nature conservation value
NE	Natural England
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
pSPA	Potential Special Protection Area
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SIP	Site Improvement Plan
SPA	Special Protection Area
SSSI	Site(s) of Special Scientific Interest
WWTW	Wastewater Treatment Works

1.0 Introduction

1.1 Background

WYG was commissioned by Barratt Homes in June 2018, to prepare a report to inform a Habitats Regulations Assessment for the proposed development for Sinah Lane, Hayling Island (hereafter referred to as 'the site'). This report provides information to inform a Habitats Regulations Assessment under Regulation 63 of the Habitats Regulations 2017 by Havant Borough Council as decision maker and therefore competent authority under the Habitats Regulations for the purposes of this assessment. The report has been written by WYG Associate Ecologist David West CEnv MCIEEM.

This issue has been prepared for the resubmission of the scheme alongside all other ecological reports previously completed at the above site. The development proposals for the site remain unchanged (aside from minor non-material changes where ecology is concerned) and no change in conditions on site have been identified (following the completion of ecological surveys in 2018). It was therefore considered that there was no need to complete updated field surveys to support the resubmission.

1.2 Site Location

The site is located within the south west of Hayling Island, centred on OS Grid Reference SZ 70816 99897. Two residential streets separate the site from the coastline to the west. To the south further residential dwellings, whilst arable fields sit to the north and east.

1.3 Development Proposals

The erection of 195 dwellings, associated open space, pumping station, sub-station with vehicular access via Sinah Lane and change of use of land from agricultural to a Wader and Brent Geese refuge.

1.4 Requirements for Assessment

European Directive (92/43/EEC), termed 'the Habitats Directive' was introduced to protect and enhance species and habitats of nature conservation importance at the European level. As outlined in Article 6 (3) and 6 (4) of this directive, an 'Appropriate Assessment' must be carried out on any plans or projects where it is considered that they are likely to have significant effects on Natura 2000 sites, either alone or in-combination with other plans or projects. These European and International sites include both designated or candidate Special Areas of Conservation (SACs/cSACs) and designated or potential Special Protection Areas (SPAs/pSPAs). In order to assess the requirement for Appropriate Assessment (AA), a screening exercise is carried out (Assessment of Likely Significant Effect (ALSE)). AA is carried out where the screening exercise has assessed that there will be a likely significant effect(s) on qualifying features (species and/or habitats) of the designated site(s).

AA then assesses whether or not these effects will result in an adverse effect on the designated site's integrity.

The following key legislation forms the basis for Appropriate Assessment:

EU 'Habitats Directive' 1992

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment [...] the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site [...]."

Article 6 (3)

Habitats Regulations 2017

"A competent authority, before deciding to [...] give any consent [...] for a plan or project which a) is likely to have a significant effect on a European site [...] (either alone or in combination with other plans or projects), and b) is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications for the site in view of that site's conservation objectives."

Regulation 63 (1)

The Habitats Directive applies the precautionary principle to protected areas: plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of European sites. The first stage of HRA is screening, whose purpose is to establish whether the plan or project will have Likely Significant Effects on any European site; for this purpose and as a result of case law 'likely' means 'possible'. If the Competent Authority determines that there are no Likely Significant Effects (including 'in combination' effects from other plans or projects), then no further assessment is necessary, and the plan or project can, subject to other issues, be taken forward. If, on the other hand, the Competent Authority determines that there are Likely Significant Effects, or there is reasonable doubt, then the HRA must continue to the more detailed second stage called Appropriate Assessment.

The HRA process is iterative, and the Competent Authority may consider additional incorporated mitigation following screening, consideration of which is part of the Appropriate Assessment. Compensatory measures imply that adverse effects cannot be avoided or mitigated and must not be considered during the initial stages of the Appropriate Assessment. If the Appropriate Assessment cannot conclude without reasonable scientific doubt that there will be 'no adverse effects on the integrity' of European sites, then the HRA proceeds to a third stage seeking alternative solutions with no or reduced adverse effects. If no suitable alternatives can be found, potentially damaging plans or projects can be permitted only if there are 'Imperative Reasons of Overriding Public Interest' (IROPI) as to why they should go ahead, and in such cases compensatory measures are obligatory to ensure overall integrity of the network of European sites is maintained.

1.5 Purpose and Structure of the Report

The remainder of this report is structured as follows:

- **Section 2:** outlines the development proposals;
- **Section 3:** states the methods used in the assessment;



- **Section 4:** summarises relevant policy and legislation, and it's relevance to the site;
- **Section 5:** identifies the relevant sites and their characterisation;
- **Section 6:** identifies likely significant effects (aligned to Stage 1 Screening);
- **Section 7:** assesses likely effects taking into account embedded mitigation (aligned to Stage 2 AA);
- **Section 8:** consideration of in-combination effects;
- **Section 9:** assessment conclusions.

2.0 Description of the Proposed Development

2.1 Development Proposals

The erection of 195 dwellings, associated open space, pumping station, sub-station with vehicular access via Sinah Lane and change of use of land from agricultural to a Wader and Brent Geese refuge.

2.2 The Proposed Development Site

As stated within Section 1.2, the Ecological Appraisal completed by WYGs (2018a) found that the site comprises of a large arable field, which extends to the north. The field is partially lined with trees and hedgerows. The site is located in a built-up area located approximately 130m east of Chichester and Langstone Harbours SPA.

2.3 Incorporated Mitigation

A Wintering Bird Mitigation Strategy (WYG 2018b) has been produced which details the creation and management of a Wader and Brent Goose Refuge to the north of the site. This strategy has been developed in consultation with the RSPB. The strategy also includes measures to avoid disturbance of SPA qualifying species during the construction and occupation phases. The area will include wader scrapes and be managed as permanent grassland. To ensure these habitats are protected post construction, access to the area of open space will be restricted to the public. A fenced path will be included along the edge of the development to allow views across the open space and use of an existing desire line along the coast. It is proposed that the management of this land is carried out by the RSPB along with a suitable commuted sum to be managed.

The proposals include a Sustainable Drainage System to manage surface water drainage and provide suitable treatment.

A detailed lighting layout for the site has not been developed as this is a detailed matter (and the application is for outline permission), however a strategy has been adopted to minimise the effects of artificial lighting with the objective of achieving no increase in illumination of the open space described above.

A per-unit financial contribution will be made in accordance with the Solent Disturbance and Mitigation Project in order to mitigate for direct and in-combination recreational impacts upon the Solent SPAs. This will be combined with information to be provided to new residents in the form of homeowner information packs and interpretation boards to educate regarding the value of the NNR and ways to minimise their impact.

A Construction Environmental Management Plan will be adopted following standard industry best practice which will be followed during site clearance and construction reduce the potential of any adverse impacts on the wider area. This will include noise controls to prevent noise above 80dB during the winter (October – March) and visual screening to the north of the site.

Following the recent Court of Justice of the European Union ruling on Case C323/17 (People Over Wind, Peter Sweetman v Coillte Teoranta) this incorporated mitigation has been not been taken into account at Stage 1 of this assessment. It has been taken into



account when assessing whether any likely significant effects will impact upon the conservation objectives of a European Site.

3.0 Assessment Methodology

3.1 Assessment Guidance

The methodology for this assessment broadly follows that for an HRA screening assessment, and has been developed with reference to the following guidance:

- The Conservation of Habitats and Species Regulations 2017;
- EU Directive 92/43/EC on the Conservation of Natural Habitats and Wild Fauna and Flora;
- DEFRA (2006) The Conservation (Natural Habitats, &c.) (Amendment) (England and Wales) Regulations 2006 Consultation Document;
- DCLG (2006) Planning for the Protection of European Sites: Appropriate Assessment (Consultation Document);
- EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC; and
- DTA Publications (2013). The Habitats Regulations Assessment Handbook (online).

3.2 Consultation

Correspondence has taken place with the Local Planning Authority Ecologist (Tristan Norton) who recommended that this assessment was completed and submitted as part of the planning application.

3.3 Scope of the Assessment

In this assessment WYG have considered:

- European sites that could potentially be affected;
- The characteristics of these European sites;
- Their conservation objectives; and
- Other relevant plans and projects.

3.4 Information Used in this Assessment

The following sources have been consulted during the preparation of this report for information relating to European designated sites:

- Conservation objectives and favourable condition tables provided by Natural England;
- Natural England's Site Improvement Plans for Chichester and Langstone Harbours SPA;
- <http://jncc.defra.gov.uk>;
- www.magic.gov.uk;



4.0 Relevant Planning Policy & Legislation

4.1 National Planning Policy Framework

The NPPF was adopted in March 2012. Section 11 of the NPPF, *Conserving and Enhancing the Natural Environment* replaces *Planning Policy Statement 9 (PPS9): Biodiversity and Geological Conservation*. However, government Circular 06/2005, *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*, which relates to PPS9 remains valid and is referenced within Paragraph 113 of the NPPF.

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. The NPPF also states that '*planning policies should promote the protection of priority species populations linked to national and local targets*'.

Furthermore, central and local government policy now points towards ecological enhancement on development sites. The NPPF considers enhancement in the statement '*The planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes....and minimising impacts on biodiversity and providing net gains in biodiversity*'.

4.2 Biodiversity 2020: A strategy for England's wildlife & ecosystem services

Biodiversity 2020 replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species, and is meant to embrace the wider countryside as a whole.

4.3 Summary of Relevant Information from the Local Plan

The Havant Borough Local Plan (Core Strategy) includes Policy CS11 Protecting and Enhancing the Special Environment and Heritage of Havant Borough

Planning permission will be granted for development that:

- Has particular regard to the following hierarchy of nature conservation designations within the borough (i) Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves. (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR) and other Ancient Woodland.
- 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.
- 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.



4.4 Relevance of Local Plan to Proposed Development

This assessment seeks to demonstrate that the proposed development is in accordance with Policy CS11.



5.0 Identification of European Sites and Characterisation

Projects may have spatial implications which can have further reaching effects than those predicted to fall within the development footprint. Specifically, it is recognised that distance between a proposed development and a designated site in itself is not a definitive determinant as to the likelihood or severity of an impact occurring. Site variables such as prevailing wind conditions, surface and groundwater flow direction will all have an influence on the relative distance at which an impact can occur.

Additionally, the mobile nature of qualifying interest bird species must also be considered, since an adverse effect on the qualifying species of a site, even if they are not present within the site for which they are a qualifying feature, may still result in a significant adverse impact upon a site.

5.1 Screening

The following sites are the only ones located within 7km of the site. Therefore the assessment has been made against the following designations:

- Chichester and Langstone Harbours SPA; and
- Chichester and Langstone Harbours Ramsar.

These sites are discussed in greater detail below.



Table 1: Qualifying Features of Internationally Designated Sites

Designated Site	Feature	Conservation Objectives	Site Condition
Solent and Southampton Water SPA	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: During the breeding season; - Little Tern <i>Sterna albifrons</i>, 100 pairs representing at least 4.2% of the breeding population in Great Britain (5 year peak mean, 1992-1996) - Sandwich Tern <i>Sterna sandvicensis</i>, 158 pairs representing at least 1.1% of the breeding population in Great Britain (1998) On passage; - Little Egret <i>Egretta garzetta</i>, 137 individuals representing up to 17.1% of the population in Great Britain (Count as at 1998) Over winter: - Bar-tailed Godwit <i>Limosa lapponica</i>, 1,692 individuals representing up to 3.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6) - Little Egret <i>Egretta garzetta</i>, 100 individuals representing up to 20.0% of the wintering population in Great Britain (Count as at 1998) This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: On passage: - Ringed Plover <i>Charadrius hiaticula</i>, 2,471 individuals representing up to 4.9% of the	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring; - The extent and distribution of the habitats of the qualifying features - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features, and, - The distribution of the qualifying features within the site.	Threats to the Solent and Southampton Water listed in the Site Improvement Plan (Natural England, 2014), include: Public access / disturbance; - Coastal squeeze; - Fisheries; Water pollution; Change in species distributions; - Climate change; - Change to site conditions; - Invasive species; - Direct land take; - Biological resource use; - Change in land management; - Inappropriate pest control; - Air pollution; Hydrological changes; Direct impact from 3rd party; - Extraction; and Other. Those of potential relevance to the current application are in bold. The majority of the SSSI units that make up Chichester and Langstone Harbours are currently considered to be in 'unfavourable, recovering' status, with five units 'unfavourable no change



Designated Site	Feature	Conservation Objectives	Site Condition
	Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6) Over winter; • Black-tailed Godwit <i>Limosa limosa islandica</i>, 1,003 individuals representing up to 1.4% of the wintering Iceland - breeding population (5 year peak mean 1991/2 - 1995/6) • Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, 17,119 individuals representing up to 5.7% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6) • Dunlin <i>Calidris alpina alpina</i>, 44,294 individuals representing up to 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6) • Grey Plover <i>Pluvialis squatarola</i>, 3,825 individuals representing up to 2.5% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6) • Redshank <i>Tringa totanus</i>, 1,788 individuals representing up to 1.2% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6) • Ringed Plover <i>Charadrius hiaticula</i>, 846 individuals representing up to 1.7% of the wintering Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6) The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl		(http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx). The units closest to the proposed development are in 'favourable' or 'unfavourable, recovering' status. Those with 'unfavourable recovering' status are such due primarily to coastal squeeze.



Designated Site	Feature	Conservation Objectives	Site Condition
	Over winter, the area regularly supports 93,142 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Wigeon <i>Anas penelope</i>, Bar-tailed Godwit <i>Limosa lapponica</i>, Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>, Ringed Plover <i>Charadrius hiaticula</i>, Grey Plover <i>Pluvialis squatarola</i>, Dunlin <i>Calidris alpina alpina</i>, Black-tailed Godwit <i>Limosa limosa islandica</i>, Redshank <i>Tringa totanus</i>, Little Grebe <i>Tachybaptus ruficollis</i>, Little Egret <i>Egretta garzetta</i>, Shelduck <i>Tadorna tadorna</i>, Curlew <i>Numenius arquata</i>, Teal <i>Anas crecca</i>, Pintail <i>Anas acuta</i>, Shoveler <i>Anas clypeata</i>, Red-breasted Merganser <i>Mergus serrator</i>, Oystercatcher <i>Haematopus ostralegus</i>, Lapwing <i>Vanellus vanellus</i>, Knot <i>Calidris canutus</i>, Sanderling <i>Calidris alba</i>, Cormorant <i>Phalacrocorax carbo</i>, Whimbrel <i>Numenius phaeopus</i>. JNCC Website (http://jncc.defra.gov.uk/default.aspx?page=2034)		
Solent and Southampton Water Ramsar Sites	Ramsar 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. Ramsar criterion 5 - assemblages of international importance. Species with peak counts in winter: 76480 waterfowl (5 year peak mean 1998/99-2002/2003)	<i>As the provisions on the Habitats Regulations relating to Habitat Regulations Assessments (HRAs) extend to Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests</i>	As above



Designated Site	Feature	Conservation Objectives	Site Condition
	Ramsar 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>, Europe/Northwest Africa 853 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3) • Black-tailed godwit, <i>Limosa limosa islandica</i>, Iceland/W Europe 906 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3) • Common redshank, <i>Tringa totanus totanus</i>, 2577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3) Species with peak counts in winter: • Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, 12987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3) • Common shelduck, <i>Tadorna tadorna</i>, NW Europe 1468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3) • Grey plover, <i>Pluvialis squatarola</i>, E Atlantic/W Africa -wintering 3043 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9-2002/3)	(https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx).	

Sinah Lane, Hayling Island: Information to Inform a Habitats Regulations Assessment



Designated Site	Feature	Conservation Objectives	Site Condition
	Dunlin, <i>Calidris alpina alpina</i>, W Siberia/W Europe 33436 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9-2002/3) (http://jncc.defra.gov.uk/pdf/RIS/UK11013.pdf)		

6.0 Identification of Likely Impacts

As the qualifying features and potential impacts to of the Chichester and Langstone Harbours SPA and Ramsar are largely similar, potential impacts on these sites are discussed together.

6.1 Public access/disturbance

The qualifying features of the SPA and Ramsar designations are bird species, which may be subject to disturbance, for example from dog walking and outdoor sports.

The development will result in a net increase in residential development within 5.6km of the SPA, therefore in the absence of mitigation a **significant effect is likely**.

6.2 Coastal squeeze

This threat relates to sea level rise and construction of coastal defences. It is not considered relevant for this application.

6.3 Fisheries

This threat relates to commercial marine and estuarine fishing. It is not considered relevant for this application.

6.4 Water pollution

This threat covers a wide range of sources but includes flood and storm discharges and diffuse pollution from road and agricultural runoff.

In June 2018, an Integrated Water Management Study for South Hampshire was published by the Partnership for Urban South Hampshire (PUSH) has identified that there is uncertainty in some locations as to whether there will be sufficient capacity to accommodate new housing growth, and the potential for adverse effects upon coastal SPAs (including Solent and Southampton Water SPA) as a result of nitrogen discharge. Wastewater from the development will be treated at Budds Farm which discharges to sea and may contribute to background nitrogen levels within the SPA.

The development will result in an alteration of the existing hydrology of the site, an increase in hard surfacing and vehicle movements, and an increase in nitrogen discharge from Budds Farm WWTW and therefore in the absence of mitigation a **significant effect is likely**.

6.5 Change in species distributions

This risk relates to national and international trends in distributions. It also considers local changes but focuses more on species with high alerts that do not reflect national trends (such as shelduck, ringed plover, sanderling and dunlin). These species have not been recorded on or adjacent to the site, however brent geese have been recorded in high numbers to the north of the site.

The development will result in an increase in noise and activity during the construction and occupation phases of the development which could result in disturbance of geese during the winter. Therefore in the absence of mitigation a **significant effect is likely**.

6.6 Climate change

This risk relates to potential impacts of increased sea levels due to climate change. It is not considered relevant for this application.

6.7 Change to site conditions

This risk relates to the loss of salt-marsh within the Solent. It is not considered relevant for this application.

6.8 Invasive species

This risk relates primarily to sources such as ballast water and aquaculture. It is not considered relevant for this application.

6.9 Direct land take

This risk relates primarily to private sea defences. It is not considered relevant for this application.

6.10 Biological resource use

This threat relates to gull egg collecting and wildfowling. It is not considered relevant for this application.

6.11 Change in land management

This threat relates primarily to the operation and management of tidal sluices and ditches within the SPA. It is not considered relevant for this application.

6.12 Inappropriate pest control

This threat relates primarily to predation by foxes and buzzards within the SPA. It is not considered relevant for this application.

6.13 Air pollution

There is potential for air quality effects upon the SPA as a result of the proposed development during construction. This is primarily likely to be as a result of dust emissions.

Therefore in the absence of mitigation a **significant effect is likely**.

6.14 Hydrological changes

This risk relates to water abstraction for Titchfield Haven. It is not considered relevant for this application.

6.15 Direct impact from 3rd party

This risk relates to a number of impacts such as off-roading, military aircraft above the SPA and house boats. These are not considered to be relevant for this application. Part C of this threat relates to issued licences for the shooting of brent geese, one of which is held by the current tenant farmer of the site. As a result of the development there will be no further farming of the site or shooting. This is a **beneficial effect** of the proposed development.

6.16 Extraction

This risk relates to shingle extraction. It is not considered relevant for this application.

6.17 Other

This risk relates to potential boundary changes to cover Annex 1 and 2 features and/or supporting habitats not included within the SPA boundary.

The site has been monitored as part of the Solent Waders and Brent Goose Strategy and is identified as Field H34C for the purposes of the study. Records from 2010 carried out for the survey indicate that up to 66 brent geese were recorded to be present in the field. Under the latest data set from the Solent Wader and Brent Goose Strategy, the whole of Field H34C is listed as a Secondary Support Site.

Tyler Grange have undertaken a series of winter bird surveys during 2011/12, 2012/13, 2015/2016 and 2016/2017 at the site. These surveys revealed that up to 500 brent geese were utilising the site. During the winters of 2012/2013 and 2016/2017 no brent geese were recorded. Tyler Grange stated that the lack of birds observed during 2016/21017 was because the field was ploughed over the winter period and no foraging opportunities were available (Tyler Grange 2017).

For the purposes of the Tyler Grange surveys the field (H34C) was split into three portions, the northern portion (A), the narrower middle segment (B) and the and the southern half of the field (C). Areas B and C are within the Site. Area A constitutes the proposed mitigation area (WYG, 2018b) and Areas A and B the development site.

It is clear from the surveys undertaken by Tyler Grange that each portion has very different usage by brent geese over the winter period.

- Area A: This area was utilised from January to March during 2012 and 2016 with most birds concentrated on the west of the area closer to the foreshore and away from potential disturbance arising from recreational use of the Hayling Billy Trail along the eastern boundary of the field.
- Area B: Tyler Grange only recorded brent geese in this area once when approximately half of a flock of 400 birds ventured onto the field on the 12 January 2016.
- Area C: No birds have been recorded on this area during any of the surveys undertaken by Tyler Grange.

WYG have carried out winter bird surveys on the field during the winter of 2017/2018. These showed that up to 450 brent geese were utilising Area A of the field from November through to February. On



one occasion a group of approximately 100 brent geese were recorded within Area B on the 5th of January 2018, these had separated from a larger group of 450 birds that were present in area A. No brent geese were recorded in Area C at any point.

In addition to brent geese Area A is known to provide a habitat to wintering waders on occasion. Tyler Grange have recorded 139 golden plover and one lapwing on one occasion whilst WYG have recorded 9 ringed plover apparently foraging on the Area A on the 19th February 2018.

Although no use has been recorded within the main portion of the development site, occasional use (two occasions) has been recorded on the central portion of the site. The development also seeks to convert the northern area, where the majority of bird activity is focussed, into a wader and brent goose refuge. Therefore in the absence of mitigation or detailed management proposals, a **significant effect is likely**.

7.0 Assessment of Likely Significant Effects

In Section 6 it has been concluded that in the absence of mitigation, significant effects upon Chichester and Langstone Harbours SPA and Ramsar are likely. In this section these effects will be evaluated taking into account embedded mitigation to determine if there will be an impact upon the conservation objectives of the SPA.

7.1 Public access/disturbance

A significant effect is likely due to an increase in residential units potentially resulting in increased recreational disturbance within the SPA, for example from dog walking and outdoor sports.

As discussed under 2.3, a per-unit financial contribution will be made in accordance with the Solent Disturbance and Mitigation Project in order to mitigate for recreational impacts upon the Solent SPAs. This is in accordance with policy and is intended to mitigate direct and indirect effects of recreation.

There is existing informal access from North Shore Road which extends along the foreshore and north until it meets the Hayling Billy Trail via a gap in the hedgerow. In order to avoid future disturbance from the use of this path, it is proposed that a fence is installed between the path and the rest of H34C. This will comprise timber post and wire stock fencing to prevent access by dogs off leads. The fence will allow a 3m wide path which will allow walkers to avoid areas of mud and the like, and therefore avoid the need to enter the mitigation area.

Further screening planting will be created along the northern boundary of the Site to screen it from the mitigation area. This will be supplemented by the situation of the attenuation basin which will provide further separation between the residential development and created foraging habitat, as well as deterring access by residents and providing additional wetland habitat creation. The lighting layout for the development site will avoid any increase in artificial light spill into the mitigation area.

Interpretation boards will be installed to educate new and existing residents about the conservation status of the SPA and wintering birds and the proposed use of the mitigation area. These will also explain the impacts of disturbance (particularly dogs) and recommend suitable walking routes to avoid disturbing wintering birds. These will be located at the existing access point to be fenced (as above), the access from the Site to the Hayling Billy Trail; and south of the SuDS (proposed wildlife area and walking route).

With the above embedded mitigation included it is considered that there will be **no significant effect** on the conservation objectives of the SPA as a result of public access or recreation.

7.2 Water pollution

7.2.1 Surface water drainage

As discussed under 2.3, the proposals for the site include a SuDS strategy to manage surface water treatment and discharge.

For any development particularly green field sites, there is a requirement that surface water drainage from the developed site is designed to accommodate a Sustainable Drainage System approach (SuDS). The design for Sinah Lane includes swales to treat surface water and control flow rates

before attenuating in an open basin to the north of the development area. The attenuation pond will also provide an element of water treatment with the use of reed beds and other SuDS methods to assist in mitigating pollutants and sediments. Following treatment, water will discharge to an existing surface water drain along the eastern boundary of the site.

In summary it is proposed to ensure that the developed site does not create a flooding risk downstream and also provide suitable and recognised SuDS techniques, set out in The SuDS Manual (CIRA report C753), to prevent pollutants and excess sediment from migrating downstream from the development site.

During the construction phase a CEMP will include measures to control surface water drainage in accordance with industry best practice to include suitable treatment and sediment control.

With the above embedded mitigation included it is considered that there will be **no significant effect** on the conservation objectives of the SPA as a result of water pollution.

7.2.2 Foul Drainage

Natural England have recommended that a Nitrogen Budget for new development is calculated for new development to either demonstrate that there is no potential for likely significant effects, or inform suitable mitigation. The following calculation is made using Natural England's June 2019 methodology.

Table 1 Calculating Total Nitrogen (TN) Load From Development Wastewater

Step	Measurement	Value	Unit	Explanation
Step 1	Additional Population	468.000	Persons	Uses an average household size of 2.4 x 195 dwellings
Step 2	Wastewater volume generated by development	51480.000	l/day	345 persons x 110 litres/day
Step 3	Receiving WWTW environmental permit limit for TN	9.700	mg/l TN	Budds Farm
Step 4	TN discharged after WWTW treatment	449420.400	mg/TN/day	90% of the consent limit = 8.73 mg/l TN. 37950 x 8.73
Step 5	Convert mg/TN to kg/TN per day	0.449	kg/TN/day	Divide by 1,000,000
	Convert kg/TN per day to kg/TN per year	164.038	kg/TN/yr	X 365 days
TN Load - wastewater		164.038 kg/TN/yr		

Table 2 Calculating TN Load From Current Land use

Step	Measurement	Value	Unit	Explanation
Step 1	Total area of existing agricultural land	12.64	ha	Area of land lost to development (cereal crops)
Step 2	Identify farm type and confirm nitrate loss.	31.20	kg/ha/yr	Cereal crops
Step 3	Multiply area by nitrate loss	394.37	kg/yr	12.64 ha x 31.20 kg/TN/yr
TN Load – current land uses	394.37 kg/TN/yr			

Table 3 Calculating TN Load From Future Land Uses

Step	Measurement	Value	Unit	Explanation
Step 1	New urban area	5.310	ha	Area of development that will change from agricultural land to urban land use
Step 2	Total Nitrogen Load from future urban area	75.933	kg/TN/yr	5.31ha x 14.3kg/TN/yr
Step 3	New open space	7.330	ha	Area of development that will change from agricultural land to open space
Step 4	Total Nitrogen Load from future open space	36.650	kg/TN/yr	7.33ha x 5.0kg/TN/yr
Step 5	Combine Total Nitrogen load from future land uses	112.583	kg/TN/yr	75.933kg/TN/yr + 36.650kg/TN/yr
TN Load – future land uses	112.583 kg/TN/yr			

Table 4 Calculating Net Change in TN From The Development

Step	Measurement	Value	Unit	Explanation
Step 1	Identify Total Nitrogen load from wastewater (stage 1)	164.038	kg/TN/yr	See Table 2
Step 2	Calculate Total Nitrogen from land use - subtract Total Nitrogen load	281.785	kg/ha/yr	394.37 kg/TN/yr - 112.583 kg/TN/yr

	from future land uses (stage 3) from existing land uses (stage 2)			
Step 3	Determine Nitrogen Budget – the difference between the Total Nitrogen load for the proposed development and the existing uses	-117.747	kg/TN/yr	281.109 kg/TN/yr (Step 1) - 305.180 kg/TN/yr (Step 2)
Step 4	Calculate and include 20% buffer	-94.197	Kg/TN/yr	-117.747 (Step 3) - (-117.747/5)
TN Load – current land uses	-94.197 kg/TN/yr			

This demonstrates that there will be a net reduction in Total Nitrogen post-development. Therefore there is no potential for an adverse effect on the integrity of the SPA from wastewater discharge, alone or in combination.

7.3 Change in species distributions

Measures to avoid disturbance of SPA qualifying species during occupation are discussed under 7.1.

It is recommended that the CEMP for the site include measures to prevent disturbance during construction. This should include restricting works to the summer months (April – September) wherever possible. Any works during the winter months (October – March) should include control measures to prevent noise above 69dB within the mitigation area. Suitable measures may include the use of acoustic enclosures or acoustic fencing along the northern boundary of the site. A barrier will also be installed along the northern boundary to avoid visual disturbance during the winter.

With the above embedded mitigation included it is considered that there will be **no significant effect** on the conservation objectives of the SPA as a result of local changes in species distributions.

7.4 Air pollution

It is recommended that the CEMP for the site include measures to control dust during construction. These should include (but not be limited to):

- Fully enclose operations with a high likelihood of dust creation;
- Cover stockpiles to prevent wind whipping;
- Use dust suppression techniques with cutting or grinding equipment;
- Maintain an adequate supply of water to suppress dust;
- Re-vegetate earthworks as soon as possible;

- Keep fencing, barriers and scaffolding clean using wet methods; and
- Carry out regular inspections to monitor compliance.

With the above embedded mitigation included it is considered that there will be **no significant effect** on the conservation objectives of the SPA as a result of air pollution.

7.5 Other

In order to maintain and improve the quality of foraging habitat within the mitigation area it is proposed that the land is reverted to grassland which will be suitable for waders and brent geese every year. The objective is to create wet grassland with a mix of perennial rye grass and white clover which provides a nutrient-rich food source for foraging geese. It is anticipated that management of the grassland will be through cutting although grazing could be used as an alternative should a suitable local herd be identified.

Previous measures to prevent brent geese from damaging the crop, including the use of bird scarers (audible or visual) and shooting under licence will cease.

To improve the habitat suitability for other wading birds (either qualifying species for the SPA or part of the qualifying assemblage) it is proposed that six wader scrapes are created within the mitigation area. These will be of irregular shape with an average area of 50m². To create a range of conditions and support different species the scrapes will be of variable depth with shallow margins and a deeper centre of 0.5m depth. Water supply for the scrapes will come from rainfall and surface water runoff. The primary objective is to hold perched water during the winter, but it is anticipated that deeper areas will also hold water for part of the summer and provide an enhancement for breeding birds. The deeper central section of the scrape will occupy approximately 50% of the total area to maximise the likelihood of water retention. Scrapes will be created using an excavator with arisings piled adjacent to the margins to improve water retention and provide bare ground areas suitable for invertebrates.

The scrapes will be located to the north of the mitigation area, to minimise potential disturbance from the residential development to the south and maximise the likelihood of use by birds.

It is proposed that access to the mitigation area is provided via a new farm gate at the north end of North Shore Road, where a historic farm access was present. This will be clearly identified as being for management purposes only with no unauthorised access. A further access gate will be provided at the northern extent of the residential development which will be similarly marked.

The creation of the scrapes and new farm gate should be undertaken before the management of the land is transferred to suitable conservation body. This offers a guarantee that works are undertaken.

Management of the main mitigation area will predominately involve management of the grassland. For the first ten years this will include additional grass seeding where necessary which should take place between August and September. It is anticipated that the primary form of management will be cutting. The key objective is to provide forage for brent geese and other waders during the winter, therefore the following timings are recommended:

- First cut – late August (following majority of breeding bird activity)
- Second cut – late September (to achieve winter sward height of 50-60mm)



Alternatively, low-intensity grazing could be utilised as an alternative to cutting. This will be dependent on the identification of a suitable grazing partner. Therefore, the above cutting regime is proposed as the default management, however the managing body (RSPB) will be free to use alternative measures (such as grazing) provided they meet the objectives of the mitigation area.

Other management activities to be completed will include:

- Hedgerows – to be cut in early October (to avoid nesting birds) on three-year rotation (each year to be one side or the top)
- Fences and footpaths – management anticipated to be minimal however fence integrity should be monitored annually and repaired as necessary.
- Interpretation boards – no management anticipated however boards should be replaced if necessary
- Scrapes – management to prevent dense vegetation from establishing in margins to comprise of strimming to ground level every two years in late September – early October.

Monitoring will be required to make sure that the management activities are proceeding and to identify any necessary changes to management to continue achieving the management objective (maintain the mitigation area as a 'core' site for brent geese). It is anticipated that three years of winter bird monitoring will take place followed by annual site visits to monitor management actions.

The development will result in a loss of 5.85ha of H34C to accommodate the proposed development, although no use has been recorded of the majority of this area by Tyler Grange or WYG (with geese recorded at the northern extent on only two occasions). It will also result in the change of use of 6.79ha from agriculture to a wader and brent goose refuge. This refuge will provide suitable habitat annually (rather than every other year as currently provided by the winter wheat crop). It will also improve the quality of this area by reducing disturbance from farm operations (bird scaring and shooting) and preventing disturbance through fencing.

With the above embedded mitigation included it is considered that there will be **no significant effect** on the conservation objectives of the SPA as a result of the development of supporting habitat outside the SPA.



8.0 Consideration of In-Combination Effects

The main potential for in-combination effects is through recreational disturbance from this and other residential developments. However, the payment of fees as part of the Solent Disturbance and Mitigation Project will mitigate for both alone and in-combination effects. Any other residential developments will likewise pay this sum.

Part of the winter bird mitigation strategy for the nearby residential development at The Oysters was to prevent access to H34C from the Hayling Billy Trail, works which have been completed. Although the proposals seek to develop part of H34C it proposes to retain the larger part as a wader and brent goose refuge. Therefore the measures undertaken in relation to The Oysters will still have a benefit by preventing access from the Billy Trail to the new refuge. This development includes additional measures to prevent access or disturbance from the development and from North Shore Road.

As such it is concluded that although there is a likely significant in-combination effect as a result of recreational disturbance, when taking into account embedded mitigation there will be **no significant effect** on the conservation objectives of the SPA.



9.0 Conclusions

Using a precautionary approach, this assessment has concluded that there are **likely significant effects** on qualifying interest features of the Chichester and Langstone Harbours SPA / Ramsar Site resulting from the proposals.

However, when evaluating these likely effects, and taking into account embedded mitigation, it has been concluded that there **will not be significant effects** upon the conservation objectives of the SPA.

As such, although the 'Competent Authority' is considered likely to require that the second stage of the Habitats Regulations Assessment, an 'Appropriate Assessment', be completed, it is unlikely that a test of Imperative Reasons of Overriding Public Interest will be required.

10.0 References

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