Ecological Assessment

Boston West Golf Course

April 2020

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1. INTRODUCTION

1.1. General Introduction

Wright Environment Limited (WEL) was commissioned by Boston West Golf Course to undertake an ecological assessment of the potential for ecological impact to The Wash designated site which may result from the proposed development of the westernmost part of the existing Boston West Golf Course in Hubbert's Bridge in Boston.

A hybrid planning application has been submitted for the proposed development (see section 1.3 for details) which comprises the siting of 300 caravans/lodges and associated facilities on the westernmost part of the golf course and a small, separate Hub building on the eastern side of the golf course.

In preparation for the submission of the hybrid planning application, an ecological assessment[1] was completed. Following submission of the hybrid application, Natural England provided the following consultee comment:

"*The application site is within the Impact Risk Zone of The Wash Site of Special Scientific Interest (SSSI).…….*

Impact Risk Zones are a GIS tool …….. to make a rapid initial assessment of the potential risks posed by development proposals to protected sites, including SSSIs. They define zones around each site which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. The site is water quality sensitive."

The outermost Impact Risk Zone for The Wash, requires consideration of drainage discharges, and crosses the eastern part of the hybrid Application Site where the small Hub building is to be located. The area of the main development, the "Proposed Development" where the caravans, new internal roads and associated water management infrastructure will be sited (see below) is outside of the Impact Risk Zones.

Natural England also provided the following comment:

"… *the application could have potential significant effects on The Wash Site of Special Scientific Interest (SSSI). Natural England requires further information in order to determine the significance of these impacts and the scope for mitigation.*

A full assessment of predicted direct and indirect effects on the SSSI notified features is required, to include:

- *An assessment of the likely impacts to drainage arrangements, both surface and foul sewage discharges.*

Without this information, Natural England may need to object to the proposal."

[1] "*Ecology and Protected Species Survey, Boston West Golf Course, Hubbert's Bridge, Lincolnshire*" IEL November 2019

The SSSI designation underpins a series of other designations, including the following Internationally recognized designations:

- The Wash Special Protection Area
- The Wash Ramsar Site
- The Wash and North Norfolk Special Area of Conservation

Natural England state "*the planning application should include sufficient information to demonstrate that any potential impacts to the SSSI have been adequately avoided or mitigated using appropriate measures and safeguards*". Therefore formal assessment of the impacts is required.

1.2. Site Location

The Application Site is located approximately 6km to the west of Boston in Lincolnshire and is immediately adjacent to the north side of South Forty Foot Drain at Hubbert's Bridge. The Application Site boundary encompasses the entire existing golf course covering an area of approximately 60 hectares (ha), however the vast majority of the proposed development is limited to the western part of this area only and occupies 26 ha.

1.3. The Proposed Development

Planning Context and Scheme Design

A hybrid planning application has been submitted for a change of use of part of the existing Boston West Golf Course, referred to as the "Application Site" within this report. The hybrid application includes the following distinct development proposals in two difference locations within the overall Application Site. These two elements are:

Full Planning Application - The "Proposed Development" This element comprises approximately 26 ha on the western part of the existing golf course to accommodate up to 300 caravans/lodges, associated car parking, a new internal road layout and drainage facilities. As the detail of development proposals for this element of the application site have been established in a full planning application, and the area involved is the largest of the two elements by a significant degree, this is referred to as the "Proposed Development" in this report.

Outline planning application - the "Hub" This element comprises 0.6 ha in which a new small building, referred to as the "Hub", will house leisure facilities[2]. The detail of this element of the proposal has not been determined at this stage, hence the outline application, and it forms a relatively small part of the overall application. Consequently this element of the hybrid application has been assessed independently of the "Proposed Development".

The Proposed Development and the Hub are illustrated in Figure 1, Appendix A.

[2] "The Hub", is proposed adjacent to an existing hotel on the golf course, to house a small swimming pool/spa and climbing wall. This will be located to the east of the main area of the Proposed Development.

Water Management

The Proposed Development

Surface water and foul water discharges will be managed via Sustainable Drainage Systems (SuDS) for surface water, and package treatment plants for foul water, with treated water being discharged, with the consent of the Black Sluice Internal Drainage Board (IDB) and Environment Agency to the adjacent Ten Foot Drain which flows along the western side of the golf course property. Ten Foot Drain flows north at this location, away from The Wash, before flowing west and then south to the Holland Fen pumping station, at a distance of approximately 3km from the Proposed Development, where it is then pumped into the South Forty Foot Drain.

It is understood that the specific detailed design for the package treatment plants will be completed should planning consent be granted, but the drainage strategy states that discharges would achieve the Environment Agency's requirement for the final effluent standard be to a minimum of the Royal Commission Standard of BOD_5 20mg/l, Suspended Solids 30mg/l, Ammonia 20mg/l N [3].

The Hub

Foul water from the adjacent Hub is to be discharged via the established drainage system used by the existing golf course hotel, which is treated by an existing package treatment plant[4]. This existing treatment facility is understood to achieve the discharge standards set out above before discharge to the nearby North Forty Foot Drain and ultimately to the South Forty Foot Drain via the Cooks Lock pumping station. This is a distance of approximately 7km from the point of discharge from the golf course.

Options for connection to the mains sewer were investigated, with enquiries made to the water company, but it is understood to have been economically prohibitive.

Additional Work

The development will also involve:

- Shallow excavation and earthworks necessary for building foundations and for drainage and road infrastructure.
- Construction of the site access and an internal road layout and incorporation of temporary drainage solutions or measures where required.
- Connection and or extension/alteration of utility services to the Application Site.
- Placement of hard and soft landscaping.
- Measures to manage surface water run off utilising SUDS features and outfall discharge to the adjacent Black Sluice IDB maintained drains from the on site attenuation features.
- Management of foul water through on site sewage treatment plants with Black Sluice IDB and Environment Agency consented discharge of water to adjacent watercourses.

[3] Information provided by RM Associates, the drainage consultants for this scheme.
[4] Information provided by RM Associates, the drainage consultants for this scheme.

1.4. Purpose of the Report

The purpose of this report is to consider and address the concerns raised by Natural England that the application could have potential significant effects on The Wash Site of Special Scientific Interest (SSSI) and underpinned designations. This report therefore aims to present further information and assessment in order to determine the significance of impacts of the "Proposed Development" and the "Hub" on The Wash Site of Special Scientific Interest (SSSI) and it's other designations so that the significance of any such effects, and the need for mitigation can be established.

This report does not therefore consider the potential for impacts on non statutory designations, or on non qualifying protected species, which we understand have been considered elsewhere[5].

1.5. Authors Experience

Mr Chris Wright BSc., MSc (Ecology) graduated as an ecologist in 1990 and has almost 30 years experience in environmental consultancy as a field surveyor, technical reviewer and team leader. Chris holds Natural England licenses for work with bats and great crested newts[6] and is a Chartered Institute of Ecology and Environmental Management (CIEEM) trained EcIA practitioner. He has led ecology surveys and EIA assessment teams for a number of commercial developments and first coordinated EIA projects almost 15 years ago. Since then Chris has been involved in numerous EIA and feasibility assessments including large scale commercial and leisure developments and energy schemes.

Chris has undertaken habitat surveys and protected species surveys for commercial, residential and infrastructure developments as well as for conservation monitoring purposes, and has surveyed built and natural features to identify habitat types and condition, and to determine the potential for Protected Species and Species of Principal Importance / UK BAP Species. Chris has surveyed urban fringe sites, assessed implications for European Designated Sites (SPA etc), Local Wildlife Sites, wildlife habitats and wildlife corridors and has scoped and completed numerous protected species surveys and provided mitigation advice.

In addition to professional ecology work, Chris has also undertaken voluntary conservation work to monitor a great crested newt population for *Chytrid*, reptile and amphibian surveys for Leeds City Council, reptile survey for the Nidderdale AONB, and otter surveys for the Yorkshire Wildlife Trust. Chris is also a member of both the West Yorkshire and North Yorkshire Bat Groups and the Yorkshire Wildlife Trust.

[5] "*Ecology and Protected Species Survey, Boston West Golf Course, Hubbert's Bridge, Lincolnshire*" IEL November 2019

[6] Class survey Licence WML A34 CL18 – Bat Survey Level 2: Registration 2017-27400-CLS-CLS and CL08 – Great Crested Newt Level 1: Registration 2016-19624-CLS-CLS.

2. METHODOLOGY

This report aims to provide an objective and transparent assessment of the ecological effects of the Proposed Development and the Hub planning applications on The Wash designated site, as requested by Natural England in their consultee comments (see section 1.1).

2.1. Zone of Influence

The zone of influence is the area over which the Proposed Development and the Hub may affect ecological features. The zone of influence will vary for different ecological features depending on their resilience or sensitivity to change (e.g. for habitats) and/or their mobility, and may extend beyond the site boundary.

It is considered that for the most part, the Proposed Development and the Hub will only affect those habitats and species which occur within or immediately adjacent to the Application Site, and these have been considered previously with the findings presented separately[7].

This report considers the wider area to ensure comprehensive assessment to provide the information requested by Natural England with regard to The Wash designated site.

The ecological zones of influence have been defined for this assessment as follows:

- International and National Statutory Designated Sites – 10km radius of the Application Site Boundary.
- All Site of Special Scientific Interest (SSSI) Impact Risk Zones within which the Proposed Development detailed planning application, and the Hub outline application, fall.

2.2. Identification of Ecological Features

The ecological features of relevance to this assessment are those connected with the following designations:

- The Wash SSSI
- The Wash Special Protection Area (SPA)
- The Wash Ramsar Site
- The Wash and North Norfolk Special Area of Conservation (SAC)

In order to assess the potential for impacts on the important ecological features, information on habitats and species has been collected from a variety of sources as described below.

[7] "*Ecology and Protected Species Survey, Boston West Golf Course, Hubbert's Bridge, Lincolnshire*" IEL November 2019

2.2.1. Desk Study

An ecological desk study was undertaken as part of this assessment to collect existing ecological information of relevance. Data was collected for the search buffer detailed above and considered sufficient to cover the potential zone of influence of the Proposed Development and the Hub.

The following information sources were used as part of the desk study:

- Multi Agency Geographic Information for the Countryside (MAGIC) website (www.magic.defra.gov.uk) was searched to identify the presence of statutory designated sites within 10km of the site.
- Publically available aerial photographs and OS based maps to identify habitat types and features in the wider landscape and assess the ecological connectivity of the Application Site and The Wash to these features.
- "*Ecology and Protected Species Survey, Boston West Golf Course, Hubbert's Bridge, Lincolnshire*" IEL, November 2019
- "*Biodiversity Action Plan*" Black Sluice Internal Drainage Board, May 2014
- "Lincolnshire Biodiversity Action Plan 2011 – 2020" Lincolnshire Biodiversity Partnership, 3rd Edition, October 2011
- "*South East Lincolnshire Local Plan 2011 – 2036*" South East Lincolnshire Joint Strategic Planning Committee Adopted March 2019
- Various files relating to The Wash SSSI including:
  - *SSSI Citation*
  - *SSSI Condition Summary*
  - SSSI "*Views About Management*" English Nature September 2005
  - SSSI "*Operations likely to damage the special interest*"
- Various files relating to The Wash Special Protection Area (SPA) including:
  - *The Wash (Norfolk & Lincolnshire) SPA Citation* Natural England July 2014
  - *European Site Conservation Objectives for The Wash Special Protection Area Site Code: UK9008021* Natural England February 2019
  - "*Low tide survey of The Wash Special protection Area. Final report of the winter 2002-2003 shorebird survey*" English Nature Research Report 589. 2004
  - Improvement Programme for England's Natura 2000 Sites (IPENS) "*Site Improvement Plan The Wash and North Norfolk Coast*" Natural England December 2014
  - "*The Wash Special Protection Area: Draft supplementary advice on conserving and restoring site features*" Natural England
  - "*The Wash SPA Factsheet*" Marine Management Organisation, December 2019
- Various files relating to The Wash Special Area of Conservation (SAC) including:

- *EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora. Citation for Special Area of Conservation (SAC). English Nature 2005*
- *European Site Conservation Objectives for The Wash and North Norfolk Coast Special Area of Conservation. Site Code: UK0017075* Natural England November 2018

2.3. Assessment and Evaluation

2.3.1. Assessment of Importance of Ecological Features

The importance of an ecological feature is related to statutory requirements and policy objectives for biodiversity. Sites, habitats and species identified by International, National and Local governments and specialist organisations as being of importance for biodiversity conservation are deemed to be of importance for this assessment if they occur on the Application Site or within the zone of influence and are qualifying species for The Wash designations.

Ecological features at the site and within the zone of influence will be assessed in the context of statutory requirements and policy objectives for biodiversity. Significance is typically determined based on their inclusion in lists of features of importance for biodiversity conservation in relation to International, National and Local legislation and/or policies, as follows:

Geographic Context	**Level of Protection / Conservation Significance**	**Examples**
International / European National Regional i.e. South East Lincolnshire Metropolitan, County or other Local Authority area i.e. Boston / Blacksluice IBD Site	Designated Sites	Statutory sites designated under International Conventions / European legislation e.g. Wetlands of International Importance (Ramsar), Special Area of Conservation
		Statutory sites designated under National legislation e.g. Site of Special Scientific Interest, National Nature Reserve
		Non Statutory sites e.g. Local Wildlife Site
	Legally Protected Species	Species of European (International) conservation importance, species that are considered to be priorities for conservation e.g. Annex IV of the EC Habitats Directive, Wildlife and Countryside Act 1981 (as amended).
	National Biodiversity Lists	Habitats / species of principal importance for conservation of biodiversity e.g. UK and Lincolnshire Biodiversity Action Plans
	Nationally rare or nationally scarce species / Species of Conservation Concern	RSPB/BTO Red List

2.3.2. Characterising Impacts and Effects

The significance of an impact is related to the importance of the ecological feature and to the effect of that impact on the feature, where:

An “Impact” is the action which results in change(s) to an ecological feature; and
An “Effect” is the outcome for an ecological feature from an impact.

When assessing ecological impacts and effects the following characteristics are typically used where relevant to the impact scenario:

Characteristics	Definition[8]
Positive or Negative	Should be determined according to whether the change is in accordance with nature conservation objectives and policy i.e. Positive – a change that improves the quality of the environment e.g. by increasing species diversity or extending / improving habitat. This may also include halting or slowing an existing decline in the quality of the environment. Negative – a change which reduces the quality of the environment e.g. destruction of habitat, removal of foraging habitat, habitat fragmentation, pollution.
Extent	Spatial or geographical area over which the impact / effect may occur.
Magnitude	The size, amount, intensity or volume, quantified where possible.
Duration	The duration of the effect on the ecological feature defined in terms of species lifecycles (e.g. migration, breeding etc.) or habitat development as well as in human terms. The duration of the effect may differ from the duration of the activity which caused it.
Frequency and Timing	The timing and frequency of the activity or impact and the resulting effect on the ecological feature. Species lifecycles (e.g. breeding seasons) and sensitivity to disturbance for example may be important considerations.
Reversibility	An irreversible effect is one from which recovery is not possible within a reasonable timescale or where there is no reasonable chance of action being taken to reverse it. A reversible effect is one from which spontaneous recovery is possible or which may be counteracted by mitigation.

2.3.3. Significance

The significance of an effect on an ecological feature is determined based on whether or not it is compliant with biodiversity conservation objectives for important ecological features or for biodiversity in general. It is therefore related to the characteristics of the effect as well as the importance of the ecological feature, and the resilience of the feature.

CIEEM state that a significant effect is an effect that is sufficiently important to require assessment and reporting so that the consequences of permitting a project are

[8] Adapted from CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.

understood and if the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring. CIEEM also state that a significant effect "*does not necessarily equate to an effect so severe that consent for the project should be refused planning permission*".

Significant effects should be qualified with reference to an appropriate geographic scale as the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important. For example a significant effect on a site designated under national legislation is likely to be of national significance whereas an effect on a species on a national list of Species of Principal Importance for biodiversity may not have a significant effect on its national population, even if that effect is significant at the local scale. However policies for no net loss of biodiversity are also of importance in determining significance.

Therefore the significance of an effect will be determined on the basis of an analysis of the factors that characterise the effect, irrespective of the value of the receptor.

If a significant effect is identified the importance of the ecological feature is then used to help determine the geographical scale at which the effect is significant.

Determination of significant effects should always be based on robust evidence but if sufficient information is not available further survey may be required. Where there is doubt CIEEM advocate use of the precautionary principle so that if a conclusion of no significant effect cannot be justified, a significant effect should be assumed.

2.4. Legislative and Policy Framework

The nature conservation legislation and policies of relevance to this assessment are summarized in this section in order of geographic significance.

The Conservation of Habitats and Species Regulations (2017)

The Conservation of Habitats and Species Regulations 2017 (as amended) transposed into legislation (for England and Wales) EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna ('the Habitats Directive'). The Habitats Directive requires Member States to introduce measures to maintain or restore European protected habitats and species listed in the Annexes at a *favourable conservation status*[9] and to contribute to a coherent European ecological network of protected sites by designating Special Areas of Conservation (SACs) for habitats (listed on Annex I) and species (listed on Annex II). The measures are also to be applied to Special Protection Areas (SPAs) which were classified under Article 4 of the Directive on the Conservation

[9] The conservation status of species is considered as 'favourable' when:

- "*population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats,*
- *the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future,*
- *there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis*." Favourable Conservation Status: UK Statutory Nature Conservation Bodies Common Statement FCS18 Inter Agency Statement

of Wild Birds 79/409/EEC and which together with SACs make up the Natura 2000 network.

The Annexes to the Directive list certain species and habitats to be protected across the European Union through this network of designated sites (referred to as the Natura 2000 Network).

The 2017 Regulations also give protection to a number of species, collectively referred to as European Protected Species (EPS) making it an offense to deliberately capture, kill or disturb. The Regulations make it an absolute offence to damage or destroy the resting or breeding site of an EPS.

The Wildlife and Countryside Act (1981) (as amended)

The Wildlife and Countryside Act (1981) (as amended) is the principal legislation for the protection of wildlife in the UK and provides protection for a number of species. The Act also provides for the statutory designation of Sites of Special Scientific Interest (SSSI), which are locations selected as examples of nationally or regionally important habitats, sites with notable species and/or sites of geological importance.

Countryside and Rights of Way (CRoW) Act (2000)

The Countryside and Rights of Way Act 2000 strengthens the provisions of the Wildlife and Countryside Act (1981) in respect of statutory sites, such as SSSIs, and protected species. The Act required lists of habitats and species of principal importance to be produced, and placed a statutory duty on local authorities and government departments to have regard to biodiversity and conservation in the exercise of their duties. The Countryside and Rights of Way Act (2000) strengthens wildlife enforcement legislation through the introduction of the offence of 'reckless disturbance'.

Natural Environment and Rural Communities (NERC) Act (2006)

Section 41 of the NERC Act 2006 introduced a list of Species of Principal Importance for which specific actions were considered necessary. The NERC Act extended the duty on public bodies to consider biodiversity within their activities and to develop lists of habitats and species within the UK Biodiversity Action Plan (UK BAP) and Local Biodiversity Action Plans (LBAPs).

Although the UK Biodiversity Action Plan has been superseded by the UK Post-2010 Biodiversity Framework (see below), which is now focussed at the country level (England, Northern Ireland, Scotland, Wales), the lists of priority species and habitats agreed under UK BAP still form the basis of biodiversity work at both the country and county level and remain relevant.

National Planning Policy Framework (NPPF) (2019)

The National Planning Policy Framework sets out the Government's planning policies for England and states how these should be applied. It replaces the first NPPF published in 2012 and must be taken into account when preparing local development plans, providing

a framework within which locally-prepared plans for housing and other development can be produced.

The NPPF must be taken into account in preparing the development plan and planning law requires that planning applications be determined in accordance with the development plan. The NPPF is therefore a material consideration for Local Planning Authorities (LPAs) when determining planning applications.

Chapter 15 "*Conserving and enhancing the natural environment*" of the NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment. Of relevance to biodiversity, this should be achieved by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Paragraph 174 requires the protection and enhancement of biodiversity through plans which:

- Safeguard local wildlife rich habitats and ecological networks including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.
- Promote the conservation, restoration and enhancement of priority habitats and ecological networks.
- Promote the protection and recovery of priority species.
- Identify and pursue opportunities for securing measurable net gains for biodiversity.

Paragraph 175 also requires Local Planning Authorities, when determining planning applications, to apply the following principles:

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

The NPPF also requires protection be given to candidate SPA, SAC and Ramsar sites.

The Natural Choice

The UK Government white paper '*The Natural Choice: securing the value of nature*' (June 2011) establishes a series of commitments relating to the protection and improvement of the natural environment, the development of a green economy, and strengthening the connection between people and nature. Of relevance to the Proposed Development are the commitments to the establishment of coherent ecological networks and the re-connection of people to nature and the countryside.

Government Circular 06/2005: Biodiversity And Geological Conservation

This Circular provides administrative guidance on the application of the law as it relates to planning and nature conservation applied in England. It complements how national planning policy is presented in Planning Policy Statement 9, Biodiversity and Geological Conservation (PPS9) and the accompanying Good Practice Guide.

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats '*are capable of being a material consideration...in the making of planning decisions*'.

Biodiversity Action Plans

The UK Biodiversity Action Plan (UK BAP), published in 1994 in response to Article 6 of the Convention on Biological Diversity (CBD)[10], described the biological resources of the UK and national strategies for the conservation of these resources. Action plans for the most threatened species and habitats were prepared.

The UK BAP sets the overall structure for Local BAPs. The Lincolnshire Biodiversity Action Plan incorporates a number of Habitat Action Plans (HAPs) and Species Actions Plans (SAPs) as follows:

Habitats		
Coastal and marine	Farmland and grassland	
Heathland and peatland	Rivers and wetland	
Trees and woodland	Urban	

Species		
Bats	Commercial fish (marine)	Farmland birds
Freshwater fish	Greater water-parsnip	Natterjack toad
Newts	Seals	Urban birds
Water vole	White-clawed crayfish	Invasive non-native species

The Black Sluice Internal Drainage Board Biodiversity Action Plan (May 2014) is of relevance as the IDB control drainage in the vicinity of the Application Site. Habitats and species within the drainage district considered by the IDB to be of importance and which may benefit from water level management or other IDB activities are:

Habitats		
Reedbeds (and bittern)	Wet woodland	Drains
Ponds	Hedgerows, hedgerow trees	

Species		
Bats	Newts	Freshwater fish (inc. Eels)
Otter	Water Vole	Grass Snake
Farmland birds	Barn owl	Greater Water Parsnip
Bombus ruderatus	Non Native Invasive Species	

The UK Biodiversity Action Plan has been superseded by the "UK Post-2010 Biodiversity Framework"[11], which is now focussed at the country level (England, Northern Ireland, Scotland, Wales). The lists of priority species and habitats agreed under UK BAP still form the basis of biodiversity work at both the country and county level and remain relevant to this assessment.

[10] The UK became a signatory of this Convention at the 1992 United Nations Rio de Janeiro Conference on Environment and Development.

[11] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). 2012. UK Post-2010 Biodiversity Framework. July 2012

Core Strategy Development Plan Document

The current Local Plan for South East Lincolnshire was adopted in March 2019 and sets out the policy for biodiversity protection within the context of development in the district.

The Local Plan guides development of the district and use of land in South East Lincolnshire between 1 April 2011 and 31 March 203.6, and will help to shape how the area will change over this period.

The Local Plan provides a series of economic, social and environmental policies and is used in determining planning applications. These policies are intended to provide some certainty to the circumstances in which development proposals will be supported and is a primary consideration during determination of planning applications by the council. The Local Plan embraces national and regional policies such as the NPPF.

Section 7.2 "*The Natural Environment*" includes provisions to preserve and enhance biodiversity, including Environmental Policy 28 which states that:

"*1. Internationally-designated sites, on land or at sea:*

a. development proposals that would cause harm to these assets will not be permitted, except in exceptional circumstances, where imperative reasons of overriding public interest exist, and the loss will be compensated by the creation of sites of equal or greater nature conservation value;

b. all major housing proposals within 10km of The Wash and the North Norfolk Coast European Marine Site, including the Sustainable Urban Extensions in Boston (site Sou006 & Wes002), Spalding (site Pin024/Pin045) and Holbeach West (site Hob048), will be the subject of a project-level Habitats Regulations Assessment (HRA) to assess the impact of recreational pressure on The Wash and North Norfolk Coast European Marine Site."

The Local Plan itself has been subject to Habitats Regulations Assessment (HRA) and as a result has discounted all impacts except for a risk to the Wash SPA and Gibraltar Point SPA from recreational disturbance from new residential development, with dog walking and bird watching being the main activities. Although the Local Plan considers the likely increases to be low in comparison to recreational pressure exerted on other European sites in other districts, it does require site specific assessment as detailed above. The Local Plan also states that:

"*Major developments …. within 10km of The Wash …… should ensure that adequate measures are in place to ensure its protection. Although such development is expected to be very low, there is a risk that a large development in close proximity to a sensitive part of the site could increase recreation pressure*".

This is of direct relevance to the Proposed Development and the Hub sites as they are further than 10km from The Wash and only small developments respectively.

With regard to the nationally and locally designed sites for nature conservation, Environmental Policy 28 states the following:

"*2. Nationally or locally-designated sites and protected or priority habitats and species:*

a. development proposals that would directly or indirectly adversely affect these assets will not be permitted unless:

i. there are no alternative sites that would cause less or no harm; and

ii. the benefits of the development at the proposed site, clearly outweigh the adverse impacts on the features of the site and the wider network of natural habitats; and

iii. suitable prevention, mitigation and compensation measures are provided."

3. BASELINE CONDITIONS

3.1. Application Site Description and Context

The Proposed Development and Hub sites are located at Hubbert's Bridge approximately 6km west of Boston, on the northern side of the A1121 road, a railway line and the South Forty Foot Drain. The Proposed Development and Hub sites cover an area of approximately 27 ha of the existing golf course which encompassed about 60 ha in total.

The area surrounding the Proposed Development and the Hub is dominated by land under arable agriculture.

3.2. Ecological Baseline

This section presents the key findings of the desk based study.

3.2.1. Statutory Designated Sites

There are no internationally or nationally designated sites within the Proposed Development or the Hub sites.

There are no internationally or nationally designated sites within 10km of the Proposed Development.

The Wash designated site is located approximately 9.8km south east of the Hub, a single small building proposed on a 0.6ha plot on the golf course.

The Wash is a site of multiple designations for nature conservation purposes:

- The Wash Site of Special Scientific Interest
- The Wash Special Protection Area
- The Wash and North Norfolk Special Area of Conservation
- The Wash Ramsar Site

The closest boundary to the Proposed Development and the Hub was a narrow strip extending upstream along the Haven River for approximately 1.5km from the main body of The Wash. The closest point of this narrow strip to the Proposed Development and the Hub was 10.1km and 9.8km to the south east respectively, whereas the closest point of the main part of The Wash was 10.8km and 10.5km to the south east respectively.

Impact Risk Zones extend from The Wash designations, with the Proposed Development being approximately 100m outside of the outermost zone. The "Hub", a single new building, is proposed adjacent to an existing hotel on the golf course, and is approximately 90m within the outermost Impact Risk Zone boundary at it's closest point.

Outside of the Impact Risk Zone there is no requirement for the Local Planning Authority (LPA) to consult with Natural England as the type of planning application and associated activities are not considered to be of concern. However, the Impact Risk Zone within

which the Hub is located requires the LPA to consult with Natural England for the following reason:

"*Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)*."

The Wash Site of Special Scientific Interest (SSSI)

The Wash SSSI comprises extensive intertidal mudflats and saltmarshes[12] and is one of Britain's most important wader and wildfowl winter feeding areas. Numbers of migrant birds, of international significance, are dependant on the invertebrate food, and the mature saltmarsh is used for breeding. The saltmarsh and shingle communities are of botanical interest, and The Wash is an important breeding ground for common seals (*Phoca vitulina*).

As stated above, Impact Risk Zones extend from The Wash, with the Proposed Development being approximately 100m outside of the outermost zone and the "Hub" approximately 90m within the outermost Impact Risk Zone boundary at it's closest point.

The Wash Special Protection Area (SPA)

The Wash qualifies under Article 4(1) of Directive 2009/147/EC of the European Parliament and of the Council (2009) on the conservation of wild birds because in winter it supports:

- 30 breeding pairs of little terns *Sterna albifrons* (2% of the British population)
- 220 pairs of common terns *Sterna hirundo* (2% of the British population)
- 130 Bewick's swans *Cygnus cygnus* (3% of the British population)

The Wash also qualifies under Article 4(2) as an internationally important wetland[13] by supporting an average of 163,000 waders and 51,000 wildfowl in winter and because it supports the following internationally important numbers of individual species:

- 17,000 dark-bellied brent geese *Branta bernicla bernicla* (12% of the European wintering population)
- 7,300 pinkfooted geese *Anser brachyrhynchus* (7% of the European wintering population)
- 16,000 shelducks *Tadorna tadorna* (12% of the European wintering population)
- 1,700 pintails *Anas acuta* (2% of the European wintering population)
- 24,000 oystercatchers *Haematopus ostralegus* (3% of the European wintering population)
- 5,500 grey plovers *Pluvialis squatarola* (7% of the European wintering population)
- 500 sanderlings *Calidris alba* (3% of the European wintering population)
- 7,500 knots *Calidris canutus* (21% of the European wintering population)
- 29,000 dunlins *Calidris alpina* (1% of the European wintering population)
- 8,200 bar-tailed godwits *Limosa lapponica* (1% of the European wintering population)

[12] The Wash Site of Special Scientific Interest. Reasons for Notification
[13] EC Directive 79/409 on the conservation of wild birds: Special Protection Area The Wash (Norfolk & Lincolnshire)

- 3,700 curlews *Numenius arquata* (1% of the European wintering population)
- 4,331 redshanks *Tringa totanus* (5% of the European wintering population)
- 980 turnstones *Arenaria interpres* (2% of the European wintering population)

The site also qualifies because of its national importance to other migratory birds and the wintering birds include:

- 3,900 wigeon *Anas penelope* (2% of the British wintering population)
- 220 goldeneye *Bucephala clangula* (1% of the British wintering population)
- 130 gadwall *Anas strepera* (3% of the British wintering population)
- 830 common scoters *Melanitta nigra* (2% of the British wintering population)
- 260 black-tailed godwits *Limosa limosa* (6% of the British wintering population)
- probably several gull species (*Larus*)
- important populations of wintering passerines

The salt-marshes also support over 4,000 pairs of black-headed gulls (*Larus ridibundus*) (2% of the British wintering population), shelducks and numerous wader species. Breeding redshanks occur at exceptionally high densities and are likely to be of national importance.

The Wash and North Norfolk Special Area of Conservation (SAC)

The Wash is the largest embayment in the UK and is connected via sediment transfer systems to the wider north Norfolk coast, which together form one of the most important marine areas in the UK and the European North Sea coast[14]. Intertidal zone communities are characterised by large numbers of polychaetes, bivalve and crustaceans, and subtidal communities which include dense brittlestar (*Ophiothrix fragilis*) beds and areas of an abundant reef-building worm *Sabellaria spinulosa*. The Wash supports a variety of fish, otter *Lutra lutra* and common seal.

Benthic communities on sandflats in the deeper, central part of the Wash are diverse and subtidal sandbanks provide important nursery grounds for commercial fish species, including plaice *Pleuronectes platessa*, cod *Gadus morhua* and sole *Solea solea*.

The relatively common tube-dwelling polychaete worm *Sabellaria spinulosa* forms areas of reef in the tide-swept approaches to The Wash, some of which extend for hundreds of metres. These reefs are diverse and productive habitats which support additional species that would not otherwise be found.

The site contains the largest single area of saltmarsh in the UK and is one of the few areas in the UK where saltmarshes are generally accreting[15]. Saltmarsh swards dominated by sea-lavenders *Limonium spp*. are well-represented.

[14] EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora Citation for Special Area of Conservation (SAC). Compilation date: May 2005 Version: 1

[15] EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora Citation for Special Area of Conservation (SAC). Compilation date: May 2005 Version: 1

3.2.2. Habitats on the Golf Course

The habitats on the Application Site have been assessed by others and considered to be typical of golf courses. The previous work has classified the habitats present as follows:

- Improved grassland (perennial rye-grass, white clover, daisy and dandelion etc.).
- Areas of “rough” (semi-improved neutral grassland).
- Six ponds of varying size and successional stages.
- Broadleaved woodland copses/tree belts with occasional coniferous specimens.
- Sand bunkers colonised by perennial ryegrass, dandelion, willowherb species etc.

3.2.3. Protected / Notable Species on the Golf Course

Although limited surveys have been undertaken at the golf course, the following species were recorded during recent field visits in 2019:

Buzzard (*Buteo buteo*)
Starling (*Sternus vulgaris*)
Blackbird (*Turdus merula*)
Robin (*Erithacus rubecula*)
Carrion crow (*Corvus corone*)
Jay (*Garrulus glandarius*)
Brown hare (*Lepus europaeus*)
Fox (*Vulpes vulpes*)
Kestrel (*Falco tinnunculus*)
Redwing (*Turdus iliacus*)
Green woodpecker (*Picus viridis*)
Great tit (*Parus major*)
Magpie (*Pica pica*)
Woodpigeon (*Columba palumbus*)
Grey squirrel (*Sciurus carolinensis*)

In addition Barn owl (*Tyto alba*) has been recorded breeding on the site.

3.2.4. Protected / Notable Species within 2km of the Golf Course

It is understood that the local records centre also have records of the following qualifying species for The Wash Special Protection Area which were recorded within 2km of the golf course:

Bewick's swan
Curlew
Goldeneye
Pinkfooted geese
Redshank

The record centre also had records for the following other species:

Hedgehog (*Erinaceus europaeus*)
Daubenton’s bat (*Myotis daubentonii*)
Noctule (*Nyctalus noctula*)
Badger (*Meles meles*)
Common pipistrelle (*Pipistrellus pipistrellus*)
Additional Myotis species (*Myotis spp*.)
Nathusius’s pipistrelle (*Pipistrellus nathusii*)

4. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

4.1. Legal and Policy Framework

4.1.1. Legal Framework

The Habitats Regulations require Local Planning Authorities, as competent authorities, to have regard to the EC Habitats Directive and Wild Birds Directive and consider the impacts of projects likely to affect European designated sites such as SACs and SPAs, for example through the granting of planning consents or permissions. Such sites are also referred to as Habitats Sites in the National Planning Policy Framework.

Subject to certain exceptions, such competent authorities may restrict or revoke planning permission where the integrity of a European designated site would be adversely affected.

4.1.2. Local Policy: South East Lincolnshire Local Plan 2011-2036

The Local Plan covers areas in which nationally and internationally designated sites are found in the coastal waters of The Wash. The Local Plan states that they must be protected from development in all but the most exceptional of circumstances.

The Local Plan requires all major housing proposals within 10km of The Wash and the North Norfolk Coast European Marine Site, to be subject to Habitats Regulations Assessment (HRA) to assess the impact of recreational pressure on The Wash and North Norfolk Coast European Marine Site. The Proposed Development is further than 10km from The Wash, and the Hub, which is about 9.8km is a very small development comprising a single building. Therefore the requirement to formally consider recreational, or other potential effects on The Wash is not considered applicable to the hybrid application which is the subject of this report.

4.2. Potential Impacts to The Wash Designated Site

Natural England has provided the following response to the LPA following their consultation on the hybrid planning application:

"***Further Information Required To Determine Impacts On Designated Sites***

As submitted, the application could have potential significant effects on The Wash Site of Special Scientific Interest (SSSI). Natural England requires further information in order to determine the significance of these impacts and the scope for mitigation.

A full assessment of predicted direct and indirect effects on the SSSI notified features is required, to include:

- *An assessment of the likely impacts to drainage arrangements, both surface and foul sewage discharges.*

Without this information, Natural England may need to object to the proposal.

Designated Site

The application site is within the Impact Risk Zone of The Wash…… Impact Risk Zones are …. developed by Natural England to make a rapid initial assessment of the potential risks posed by development proposals to protected sites….. They define zones around each site which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. The site is water quality sensitive.

The planning application should include sufficient information to demonstrate that any potential impacts …. have been adequately avoided or mitigated using appropriate measures and safeguards."

Natural England requested further information for the following topics:

- Foul Sewage
- Surface Water
- Birds
- Biodiversity
- Green Infrastructure

This report considers the first three aspects only as it is understood that assessment of biodiversity and protected species on the Application Site or on land not connected with The Wash designation, as well as the green infrastructure topic, has been considered elsewhere.

4.2.1. Foul Sewage

The release of foul sewage to off site water bodies which flow into The Wash could have significant impact to the nutrient status of the habitats present and the qualifying species which occur there. Therefore the management of wastewater is crucial to the removal of the potential for this negative effect.

Developments within 10km of The Wash designated site and which discharge water are considered to have the potential to impact it. This section therefore considers:

1. The distance from The Wash (with reference to Impact Risk Zones).
2. The nature of water discharges.
3. Mitigation.

<u>Proposed Development</u>

The Proposed Development is just over 10km from The Wash at it's closest point and falls outside of the Impact Risk Zones for the designated site. As detailed below, the point

of water discharge from the Proposed Development will be approximately 16km from closest part of The Wash.

Therefore given the location outside the Impact Risk Zones the local planning authority do not need to consult with Natural England on discharges of water. Nevertheless, the potential impact of waste water on The Wash has been considered in order to provide a comprehensive assessment.

Foul water from the Proposed Development will be managed to minimise the possibility of indirect effects to The Wash or it's qualifying habitats and species. Foul water will be collected via dedicated on-site pipelines and diverted to package treatment plants for treatment prior to discharge from the site to the adjacent Ten Foot Drain under consent from the Black Sluice IDB and the Environment Agency. Each package treatment plant will service 30 caravans, with a total of 30 package treatment plants installed.

It is understood that the package treatment plants will be of a Kingspan Klargester type design which conform with the EN12566 standard. The treatment plants should therefore achieve the following concentrations prior to discharge from the site (with comparison with typical discharge consent limits)[16]:

Parameter	Anticipated Discharge Concentration	Anticipated Consent Limit
BOD_5	6mg/l	10-20mg/l
Suspended Solids	15mg/l	20-30mg/l
Ammoniacal Nitrogen	3mg/l	5-10mg/l
Total Nitrogen	17.9mg/l	
Phosphate	1mg/l	<2mg/l

It is therefore anticipated that the discharges to the Ten Foot Drain will have been treated and be significantly within typical discharge consent limits, providing that each unit is appropriately serviced and regularly maintained. The Ten Foot Drain flows north from it's location adjacent to the Proposed Development before being diverted west and then south to the Holland Fen pumping station, at a distance of approximately 3km, where it is pumped into the South Forty Foot Drain. There would be significant dilution and degradation of any residual organic load within discharges from the Proposed Development prior to inflow to the South Forty Foot Drain.

It is therefore considered that the foul water management and treatment system proposed for the Proposed Development will result in negligible impact to the adjacent Ten Foot Drain and South Forty Foot Drain, and that being approximately 16km downstream of the point of discharge from the Proposed Development The Wash designated site as a whole and its individual qualifying habitats and species, is highly unlikely to be effected by the Proposed Development.

[16]Information provided by Kingspan Klargester

This would concur with the extent of the Impact Risk Zones for The Wash designated site which do not extend as far as the Proposed Development.

The Hub

The overarching hybrid planning application includes an outline application for a relatively small, single building, referred to as the "Hub", which is separate to the Proposed Development for which a full planning application has been submitted.

The Hub building falls within the outermost Impact Risk Zone within which a risk is deemed to be associated with discharges "*of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)"*.

Foul water from the Hub will be discharged via an already established drainage system, used by the existing golf course hotel, which treats wastewater using a package treatment plant. The additional foul water load resulting from the Hub, and the treatment design required will be detailed following the current outline planning application, and expected to be enforced, as a planning condition.

The existing treatment facility for the hotel is understood to achieve consented discharge standards for discharge to the nearby North Forty Foot Drain. Water within this drain flows east then south to join the South Forty Foot Drain at the Cooks Lock pumping station, a distance of approximately 7km from the point of discharge from golf course. The Wash designated site is about 6km from this point of discharge.

While the potential for indirect negative impact on The Wash is thought to exist if wastewater were not treated prior to discharge, there would be significant dilution and degradation prior to inflow to the South Forty Foot Drain at Cooks Lock, with further reduction of load once it enters the larger Haven river before travelling downstream to The Wash. Nevertheless the development proposal will mitigate this possible impact on The Wash by treating wastewater on site in the existing package treatment plant prior to discharge. The current planning application proposal is only in outline, but details of the treatment process design will be provided for the review and approval by the local planning office and any discharge from the site would be with the written consent and approval of the Black Sluice IDB and the Environment Agency.

Considering the anticipated parameter concentrations at the point of discharge from the Hub following on site treatment, and the relatively small volume of water concerned, it is considered that the foul water management and treatment system proposed for the Hub will mitigate the potential, negligible indirect impact on The Wash. It is considered that the treatment system will result in negligible impact to the North Forty Foot Drain or the South Forty Foot Drain and that The Wash designated site and it's qualifying habitats and species, being approximately 6km downstream of the point of discharge into South Forty Foot Drain, and about 13km from the point of discharge from the Hub, is highly unlikely to be effected by the proposed Hub development.

4.2.2. Surface Water

The drainage strategy for the site is to manage storm water within the site boundaries using a dedicated SuDS network of swales and attenuation ponds, in line with the accepted drainage hierarchy. The swales will run adjacent to roads, be 300mm deep and have filter drains to provide initial treatment. Perforated under-drain pipework will drain this water, and water from roof and parking areas, to a series of attenuation basins within the Proposed Development site. There will be a cascading system between each attenuation ponds using swales or connecting pipes, to convey the runoff between the catchments, to an existing on site pond in the south western corner of the Proposed Development.

The drainage strategy states that the runoff will undergo treatment in line with the SuDS Manual[17], to provide pollution reduction within the site and essentially confirming that the drainage system will be designed and constructed in such as way as to ensure that any surface water discharged does not adversely impact the quality of receiving water bodies, both during construction and when operational, and that following best practice and EA guidelines it will incorporate a water treatment stage for roof water runoff and two water treatment stages for vehicular surfaces, subject to the requirements of approving/adopting authorities. It is therefore presumed that the surface water management and treatment design for both the Proposed Development and the Hub will be subject to planning conditions and regulator approval.

It is also understood that the surface water drainage system will be subject to a service and maintenance regime to ensure it's continued function in line with the design specification, and it is presumed this will be required by planning condition.

Consequently, it is considered highly unlikely that The Wash designated site or it's qualifying habitats and species, will be negatively effected by the surface water drainage provisions proposed for the site.

4.2.3. Birds

The Wash is designated in part for its bird assemblages and contains habitats which support a large number of qualifying bird species. These species, listed in section 3.2.1 above, are wetland waterfowl / wader species and primarily utilise open water, the intertidal zones and nearby associated habitats.

Of these species, a small number have been recorded within 2km of the golf course. This section considers the ecology of these species, and whether the habitats within the Application Site could serve as "*Functional Land*" i.e. land outside of The Wash designated site that may be ecologically important to populations of the qualifying species and functionally linked to habitats within The Wash designated site.

[17] DEFRA Draft National Standards and Specified Criteria for Sustainable Drainage DEFRA (2014)

Bewick's Swan

Habitat Requirements

The Bewick's swan is a winter visitor to The Wash and according to Natural England data on the SPA, generally occur on shallow freshwater lakes, marshes and slow moving waters adjacent to grassland liable to flood (Rees et al., 1997, Rees, 1990). The birds feed on aquatic plants, grass and nearby agricultural fields (Royal Society for the Protection of Birds 2013) (Rees et al., 1997)[18], and often on sheep-grazed grasslands and on root crops and sugar beet on arable land[19].

The preferred roosting sites are typically low lying and within reach of water bodies. Natural England report the following habitats to be potential supporting habitats[20]:

- Freshwater and coastal grazing marsh
- Water column

Likelihood of Proposed Development and the Hub Affecting Functional Land

The Application Site does not contain habitats which would serve as *Functional Land* for this species but it is surrounded by multiple arable fields, with arable crops being grown in fields between the site and The Wash. Such fields could represent Functional Land, and records of Berwick Swan within 2km of the Application Site are likely to be associated with foraging by the species on such arable fields rather than on the golf course itself.

Land within the Application Site is not considered to be "*functionally linked*" to The Wash designated site and it is concluded that the Proposed Development and the Hub will not "*affect foraging habitat for this qualifying species*".

Pinkfooted Geese

Habitat Requirements

The Pinkfooted goose is a winter visitor arriving mainly from breeding grounds in Greenland/Iceland. Natural England information for the SPA[21] states that the preferred roosting sites within The Wash are the sea and intertidal flats around Snettisham, with small roosts around Holbeach and Wainfleet (Ward and Gates, 2009). The main habitat is the extensive mudflats, shingle ridges and saltmarsh of The Wash but with additional

[18]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

[19] *Robinson, JA, K Colhoun, JG McElwaine & EC Rees. 2004. Bewick's Swan Cygnus columbianus bewickii (Northwest Europe population) in Britain and Ireland 1960/61 – 1999/2000. Waterbird Review Series, The Wildfowl & Wetlands Trust/Joint Nature Conservation Committee, Slimbridge*.

[20]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

[21]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

food sources on adjacent agricultural land between Tattersett, Flitcham and Heacham i.e. typically to the south and east of The Wash. This species forages on root crops, winter cereals, oilseed rape and grassland, with post-harvest sugar beet tops apparently favoured in East Anglia (Ward and Gates, 2009).

The Wildfowl and Wetland Trust website[22] also shows reliance by this species on agricultural fields, with autumn feeding on post-harvest root crops, such as potatoes and waste sugar beet, and mid winter and spring feeding on growing cereals and grass leys (where they compete with livestock).

Natural England report the following habitats to be potential supporting habitats[23]:

- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Freshwater and coastal grazing marsh
- Intertidal mixed sediments
- Intertidal mud
- Intertidal sand and muddy sand
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
- Salicornia and other annuals colonising mud and sand
- Water column

Likelihood of Proposed Development and the Hub Affecting Functional Land

The Application Site does not contain habitats which would serve as *Functional Land* for this species, but it is surrounded by multiple arable fields, with arable crops being grown in fields between the site and The Wash. Such fields could represent Functional Land, and records of Pinkfooted goose within 2km of the Application Site are likely to be associated with foraging by the species on such arable fields rather than on the golf course.

Land within the Application Site is not considered to be "*functionally linked*" to The Wash designated site and it is concluded that the Proposed Development and the Hub will not "*affect foraging habitat for this qualifying species*".

Curlew

Habitat Requirements

Curlew are present on The Wash throughout most of the year but are commonest in the winter months, with birds arriving from northern Britain and Scandinavia[24].

[22]https://monitoring.wwt.org.uk/our-work/goose-swan-monitoring-programme/species-accounts/pink-footed-goose/)
[23]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA
[24] Wash Wader Ringing Group website https://wwrg.org.uk/species/curlew

Natural England information for the SPA[25] states that Curlew forage across intertidal mudflats, wet grassland and arable fields and, to a lesser extent, open rocky coasts, with The Wash providing a prey resource which includes polychaete worms (*Nereis* spp. and *Lanice* spp.) lugworms (*Arenicola marina*) (Jessop et al., 2010), with clams and cockles in the intertidal zone, and with littoral crabs in the early winter (Ward and Gates, 2009). Survey has shown curlews foraging on *Lanice* beds on the east Wash, and that foraging for crabs possibly increases in the autumn, but with few curlew occurring on the west Wash[26].

The preferred roosting sites are reported by Natural England[27] to include saltmarsh and arable fields adjacent to the SPA at high tide, and with large roost aggregations across all areas of The Wash SPA at low tide, and on all levels of the shore, except Long Sand (Ward and Gates, 2009). Winter survey data (2002/03) found the greatest numbers of curlew on Friskney Flats and Stubborn Sand (Ward and Gates, 2009) but with the northern part of The Wash on the Lincolnshire side being of increasing importance (Ross-Smith et al., 2011). The low tide distribution over the inner bank areas is reported to have remained consistent between surveys (Ward and Gates, 2009).

Natural England report the following habitats to be potential supporting habitats[28]:

- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Coastal lagoons
- Freshwater and coastal grazing marsh
- Intertidal biogenic reef: mussel beds
- Intertidal coarse sediment
- Intertidal mixed sediments
- Intertidal mud
- Intertidal rock
- Intertidal sand and muddy sand
- Salicornia and other annuals colonising mud and sand

[25]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA)

[26] J. D. Goss-Custard & R. E. Jones (1976) The Diets of Redshank and Curlew, Bird Study, 23:3, 233-243, DOI: 10.1080/00063657609476507

[27]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

[28]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

Likelihood of Proposed Development and the Hub Affecting Functional Land

The Application Site does not contain habitats which would serve as *Functional Land* for this species and the surrounding arable fields, including fields between the site and The Wash are considered sub-optimal at best. While such fields may, on occasion form Functional Land for the species, the records of curlew within 2km of the Application Site are likely to be associated with passage by the species in the wider area rather than the presence on the golf course.

Land within the Application Site is not considered to be "*functionally linked*" to The Wash designated site and it is concluded that the Proposed Development and the Hub will not "*affect foraging habitat for this qualifying species*".

Redshank

Habitat Requirements

The Redshank is a resident species on the Wash, and in Northfolk and South East Lincolnshire. They breed in habitats such as saltmarshes, flood meadows and around lakes, and during winter inhabit estuaries and coastal lagoons[29].

The Wash is also inhabited by Redshank that breed in Iceland (*T. robusta*) as well as birds which breed in Britain and Scandinavia (*T. totanus*) with numbers appearing to peak during August and October. Common throughout The Wash but occurring less commonly in sandy areas, they feed on worms, small clams and snails. They also feed in flooded grasslands, on earthworms and insect larvae (especially cranefly leatherjackets)[30].

Foraging studies on The Wash have found that on the east Wash, Redshank foraged at the water's edge and in pools on dense beds of the tube worm *Lanice conchilega* where they appeared to feed on shrimps (*Crangon* spp.) and/or small fish rather than the worms. Up-shore, Redshank fed in marsh habitat at the top of the beach, particularly from May to July, as well as on the open shore[31].

Redshank breed on lowland wet grassland and upland rough pasture habitats in Britain (Hale 1988), but nationally and internationally important parts of the population nest on saltmarsh, with over 45% of the breeding pairs found on the coast (Brindley et al. 1998)[32]. An RSPB survey of an area of 1,237 ha found that breeding Redshank were at their highest densities on well-grazed areas of upper saltmarsh dominated by sea-couch grass[33].

[29] https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/redshank/

[30] https://wwrg.org.uk/species/redshank

[31] J. D. Goss-Custard & R. E. Jones (1976) The Diets of Redshank and Curlew, Bird Study, 23:3, 233-243, DOI: 10.1080/00063657609476507

[32] Cited in "*Continued declines of Redshank Tringa totanus breeding on saltmarsh in Great Britain: is there a solution to this conservation problem?"* Lucy R. Malpas , Jennifer Smart , Allan Drewitt , Elwyn Sharps & Angus Garbutt (2013) Bird Study, 60:3, 370-383, DOI:10.1080/00063657.2013.781112

[33] http://www.birdsofbritain.co.uk/bird-guide/redshank.asp

Roosting takes place on areas of bare ground or short vegetation with unrestricted views, at the saltwater edge or saltmarsh pools (Ward and Gates, 2009) and within The Wash, core areas are on Friskney and Wrangle Flats (north west part of The Wash) with previously large numbers at Stubborn Sands. Winter surveys in 2002/03 showed a shift towards Bulldog Sands (southern part of The Wash), and significant concentrations have been found on the sandy west sides of intertidal creek mouths (Ward and Gates, 2009)[34].

Natural England report the following habitats to be potential supporting habitats[35]:

- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Coastal lagoons
- Freshwater and coastal grazing marsh
- Intertidal biogenic reef: mussel beds
- Intertidal coarse sediment
- Intertidal mixed sediments
- Intertidal mud
- Intertidal rock
- Intertidal sand and muddy sand
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
- Salicornia and other annuals colonising mud and sand

Likelihood of Proposed Development and the Hub Affecting Functional Land

The Application Site does not contain habitats which would serve as *Functional Land* for this species. It is possible that records of this species within 2km of the site were birds using sub-optimal habitat between the site and The Wash.

Land within the Application Site is not considered to be "*functionally linked*" to The Wash designated site and it is concluded that the Proposed Development and the Hub will not "*affect foraging habitat for this qualifying species*".

Goldeneye

Habitat Requirements

Natural England report[36] that the Goldeneye is a winter migrant arriving from breeding grounds in north-western and central Europe in late August to December (Royal Society

[34]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

[35]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

[36]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

for the Protection of Birds 2014) to overwinter on The Wash before returning north in the spring (Taylor and Marchant 2011). Goldeneye numbers peak between January and February (British Trust for Ornithology 2013) with most individuals occurring on the coastal stretch between Snettisham on The Wash and Blakeney in north Norfolk. The majority of these birds are reported to be females or first-winterers, with adult drakes staying further north (Taylor and Marchant, 2011).

Goldeneye roost on open water and feed on aquatic and benthic invertebrates with the shallow tidal waters of The Wash SPA and the freshwater gravel pits at Snettisham providing good feeding grounds (BirdLife International, 2014). Food sources include cockles, mud snails, mussels, worms, crabs and small fish.

Natural England report the following habitats to be potential supporting habitats[37]:

- Circalittoral rock
- Coastal lagoons
- Intertidal biogenic reef: mussel beds
- Intertidal coarse sediment
- Intertidal mixed sediments
- Intertidal mud
- Intertidal rock
- Intertidal sand and muddy sand
- Intertidal stony reef
- Subtidal biogenic reefs: mussel beds
- Subtidal biogenic reefs: *Sabellaria* spp.
- Subtidal coarse sediment
- Subtidal mixed sediments
- Subtidal mud
- Subtidal sand
- Subtidal stony reef
- Water column

Likelihood of Proposed Development and the Hub Affecting Functional Land

The Application Site does not contain habitats which would serve as *Functional Land* for this species, and records of Goldeneye within 2km of the site are thought likely to be rare and occasional birds on migration rather than birds on the golf course or spending any time on surrounding arable land.

[37]https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9008021&SiteName=the%20wash&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&HasCA=1&NumMarineSeasonality=21&SiteNameDisplay=The%20Wash%20SPA

Land within the Application Site is not considered to be "*functionally linked*" to The Wash designated site and it is concluded that the Proposed Development and the Hub will not "*affect foraging habitat for this qualifying species*".

4.2.4. Recreational Pressure on The Wash Designated Site

The South East Lincolnshire Local Plan for 2011-2036 considers there to be a risk of recreational disturbance to The Wash SPA and Gibraltar Point SPA (which form part of the overarching Wash and North Norfolk Coast European Marine Site) from new residential development. While the Local Plan considers this risk to be related to large residential developments within 10km of The Wash, which does not match the development type or risk profile of the Proposed Development or the Hub, this risk has nevertheless been considered in order to provide a comprehensive appraisal.

Some human activities can result in disturbance of qualifying bird species at levels which substantially affect their behaviour, and in the extreme can affect the long-term viability of the population. This can occur as a result of changes to feeding or roosting behaviour, abandonment of nest sites, or increases in energy expenditure for example due to increased flight and desertion of supporting habitat (both within or outside the designated site boundary).

Disturbance by humans can be caused by increases in noise, light and vibration, by the mere presence of people and their associated animals, by out of control pets especially cats and dogs and by the placement of buildings or other structures (which may impede visibility etc.).

The SPA factsheet[38] acknowledges the risk of human disturbance to The Wash designation and qualifying species, stating that recreation on beaches, and access in general to the intertidal zone was the main cause of disturbance to wader populations. The factsheet reports that there are only three access points for members of the public between Boston and Gibraltar Point which is presumed to limit the levels of disturbance (although other, unpermitted access is acknowledged to occur).

The Proposed Development and the Hub is anticipated to increase visitor numbers to South East Lincolnshire and therefore introduces the theoretical risk of a contribution to pre-existing levels of disturbance of qualifying species. However, a number of factors are of significance and ultimately considered to result in nil or negligible disturbance at worst.

1. The Application Site is geographically and topographically remote and separate from The Wash designated site and is considered highly unlikely to impact the designated site through visual or noise disturbance, airborne emissions, vehicular or pedestrian access, or waterborne discharges etc.

2. The occupation of the Proposed Development and Hub by visitors is anticipated to be highly seasonal, with visitor numbers being greatest during summer months when

[38] "*The Wash SPA Factsheet*" Marine Management Organisation, December 2019

many qualifying species are either absent from The Wash or present in lower numbers.

3. The Proposed Development and Hub aims to retain visitors on-site, and will provide recreational facilities such as a nine hole golf course, fishing ponds, spa and swimming pool etc. for its occupants within its own boundaries. This will, coincidentally, keep visitors away from The Wash designated site. Mitigation by design significantly reduces the risk of disturbance to The Wash designated site or disturbance of qualifying species.

4. The Proposed Development will have a relatively short term and small scale construction phase which will result in a temporary increase in traffic and machinery use due to construction work related activity on site but with no increase in residency as workers are expected to come from the locality. Consequently no recreational pressure, which could result in detrimental affects on the SPA would occur during the construction phase.

5. MITIGATION AND ENHANCEMENT

No significant effects on The Wash designated site or its qualifying species and habitats have been predicted, and no specific mitigation measures are considered necessary which would not otherwise have been incorporated into the scheme.

The Proposed Development does create the opportunity to enhance the ecology of the Application Site itself and therefore achieve an overall net increase in biodiversity value. As outlined in section 4.2 above, this report does not include provisions for biodiversity enhancement as it is understood that these opportunities have been addressed in other reports.

6. CONCLUSIONS

A hybrid planning application has been submitted for the proposed development of the westernmost part of the existing Boston West Golf Course in Hubbert's Bridge. The application included an ecology report[39] completed for the Application Site which documented the findings of ecology surveys at the site and an assessment of ecological significance in the context of the proposed development of the property for holiday accommodation.

Part of the Application Site falls within the outermost Impact Risk Zone for The Wash SSSI, and the local planning authority consulted Natural England as required. Natural England responded with a request for information on the potential for impact to The Wash designated site. In their response, Natural England made reference to Impact Risk Zones around The Wash designated site which reflect the sensitivities of the features for which The Wash was designated, and which indicate the types of development proposal with the potential for negative effects.

Specifically, Natural England requested further information for the following topics:

- Foul Sewage
- Surface Water
- Birds

This report presents an assessment of the potential for impact to The Wash designated site.

The hybrid planning application included:

- The Proposed Development - A full planning application for the development of approximately 26 ha on the western part of the existing golf course to accommodate up to 300 caravans/lodges, associated car parking, a new internal road layout and drainage facilities.

  The closest part of the Proposed Development is over 10km from The Wash designated site.

- The Hub - An outline planning application for approximately 0.6 ha in which a new small building, referred to as the "Hub", will house leisure facilities to complement the existing hotel.

  The closest part of the proposed Hub development is approximately 9.8km from The Wash designated site.

Consideration of the Impact Risk Zones results in the screening out of the Proposed Development because the entire area covered by the full application falls outside of the Impact Risk Zones as a consequence of its distance from The Wash. Therefore no significant effect on the Wash or it's qualifying features are considered likely.

[39] Ecology and Protected Species Survey, Boston West Golf Course, Hubbert's Bridge, Lincolnshire" IEL, November 2019

Nevertheless, this report has considered the drainage strategy presented for the Proposed Development, and assessed the habitat requirements of the qualifying species, and also concludes that the Proposed Development is unlikely to affect The Wash. This is because of the water management design which will collate and treat water prior to discharge from the site, the distance discharged water will travel before entering The Wash, the absence of functional land within the site which could be utilised by qualifying species, and the low likelihood of recreational pressure generated by the Proposed Development on The Wash.

While the proposed Hub development does fall within the outer Impact Risk Zone, and does trigger formal consideration of possible impacts to The Wash, the development is of an extremely small scale (well below that referred to within the Local Plan) and is anticipated to generate only minimal additional waste water, which will be treated prior to discharge by an existing treatment facility. Furthermore the distance to be travelled by discharged water to the closest part of The Wash designated site is about 13km, significantly more than the outermost Impact Risk Zone boundary of 10km.

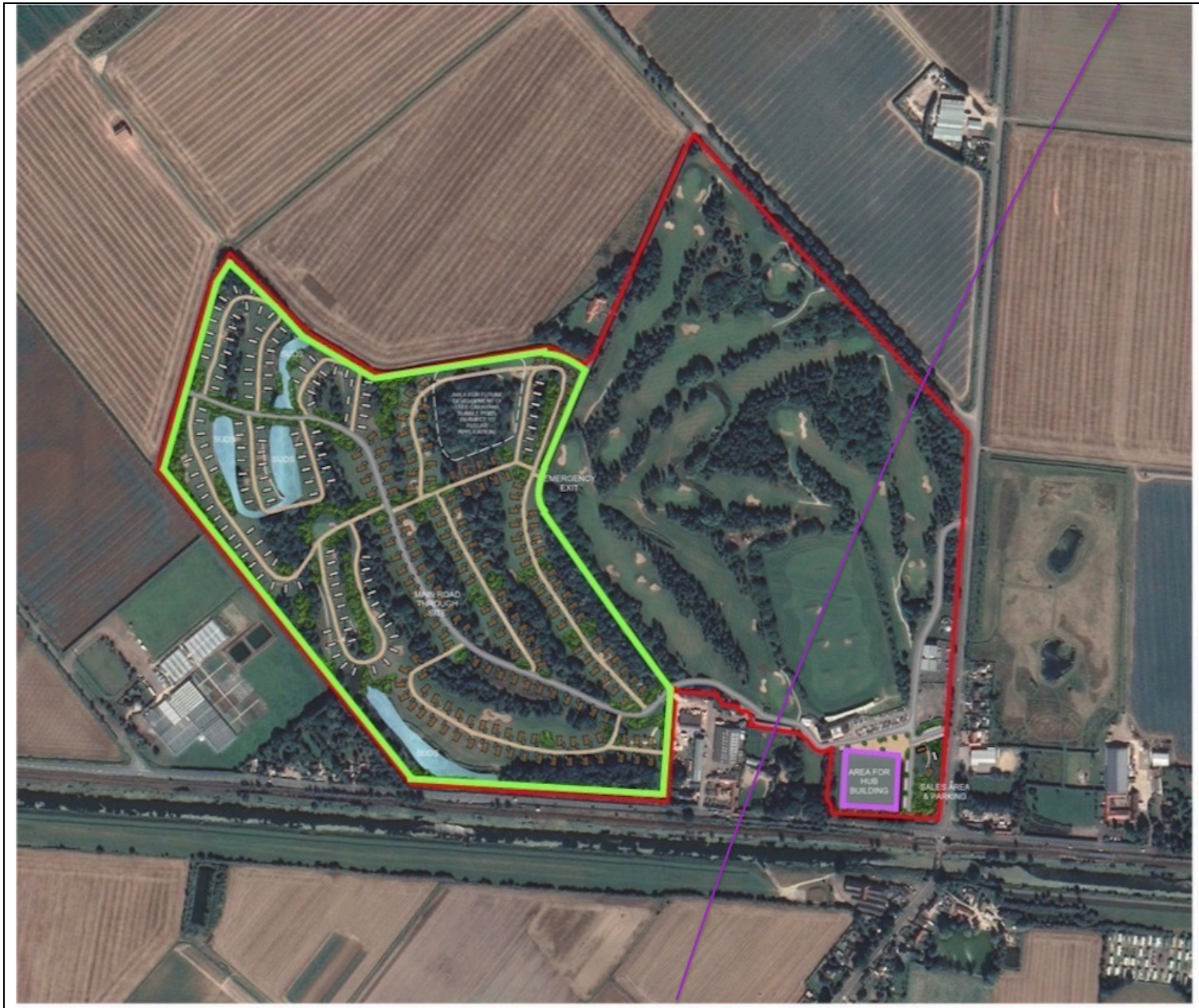
The Hub also serves to retain visitors on the developed site by providing recreational facilities within the Application Site boundary, thus significantly reducing the potential for such pressure to occur on The Wash or it's qualifying features through mitigation by design.

Should this development be consented it is fully expected that all discharges of water from the Application Site will be subject to review and approval by the Blacksluice IDB and the Environment Agency to ensure pollution of the surface water features adjacent to the site is not permitted. It is also expected that the drainage network and water treatment systems will be subject to regular servicing and maintenance to ensure optimal performance and that planning conditions will be used to enforce these points.

The assessment concludes that the Proposed Development and the development of Hub facility are not expected to negatively effect The Wash designated site or it's qualifying habitats and species.

APPENDIX A

Figures



KEY

- Application Site Boundary
- Single unit with parking [129] **12.5m x 3.7m**
- Lodge with parking [171] **12.5m x 6m**
- Access roads
- Indicative areas of SUDS
- Indicative areas of planting
- Area of Proposed Development
- The Hub
- Outermost Impact Risk Zone

N

Figure 1: Boundaries of Proposed Development, the Hub and Wider Application Site

Date	April 2020
Scale	As shown
Job No.	201909
Client	Boston West Golf Course