



9.0 Ecology

9.1 Introduction

- 9.1.1 This Chapter has been produced by WYG. It presents the baseline ecological information of the study area and its environs and assesses the likely impacts of the Proposed Development upon ecology.

9.2 Assessment Methodology

Consultations

- 9.2.1 An EIA Scoping Opinion has been sought from Havant Borough Council. The responses to this are provided in Chapter 2, Table 2.1. Those specific to Ecology are provided by Natural England, Hampshire County Council (Ecologist) and Havant Borough Council (Planning Policy).
- 9.2.2 In addition, a series of meetings have been held between the Applicant, WYG, Havant Borough Council and Hampshire County Council (Ecology) to discuss proposed off-site mitigation measures for wintering birds.

Study Area

- 9.2.3 The Study Area is defined as the area within the redline application boundary of the Site plus a 2km search area around the Site to identify ecological receptors (predominantly designated sites of nature conservation value and habitats connected to the Site via green corridors) that may be subject to impacts as a result of the proposed development and based on the advice of the Chartered Institute for Ecology and Environmental Management (CIEEM) in its Guidelines for Preliminary Ecological Appraisal (2013) and Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal 2nd edition (2016).
- 9.2.4 The ecological surveys of the Site extended beyond the Site boundary to include waterbodies within 500m and immediately adjacent habitats (i.e. within 50m of the Site) where accessible in accordance with published guidelines for great crested newts and badgers respectively.

Assessment Process and Assessment Criteria

- 9.2.5 The impact assessment for ecology has been carried out in accordance with the CIEEM's Guidelines for Ecological Impact Assessment in the UK Ireland: Terrestrial, Freshwater and Coastal 2nd edition (2016), hereafter referred to as the CIEEM guidelines.
- 9.2.6 The starting point for any assessment of impacts is to determine which features should be subject to detailed assessment. These will be ecological receptors considered to be important and potentially affected by the project.
- 9.2.7 This approach is consistent with the EIA Regulations, which only require investigation of likely significant effects. A summary of the key points from the relevant guidance, as relevant to this assessment, is provided below.

Determining Importance

- 9.2.8 The CIEEM guidelines recommend that the value of ecological receptors or features is determined based on a geographic frame of reference that includes the following levels:
- International – Special Protection Areas (SPA), Special Areas of Conservation (SAC), Ramsar Sites, etc;

- National – Sites designated at UK level, e.g. Sites of Special Scientific Interest (SSSI);
- Regional – Habitats or populations of species of value at a regional (i.e. south England) level;
- County – Designated Sites, such as Wildlife Heritage Sites (WHS) and Sites of Importance to Nature Conservation (SINCs), or habitats / species populations of value at a county (i.e. West Berkshire) level;
- Local – Habitats or species populations of value in a local context.
- Negligible – Habitats or species populations that are not considered to be valuable within the context of this assessment.

Habitats

- 9.2.9 In accordance with the CIEEM guidelines, the importance of habitats is measured against published selection criteria where available. Reference is also made to the list of habitats of principal importance in England and Wales, Priority Habitats and local Biodiversity Action Plans (BAPs). In accordance with the guidance, where important habitats are in a sub-optimal condition, their potential value should be considered.

Species

- 9.2.10 In accordance with the CIEEM guidelines, when assigning a level of value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records. Rarity is an important consideration because of its relationship with threat and vulnerability although since some species are inherently rare, it is necessary to look at rarity in the context of status. A species that is rare and declining should be assigned a higher level of importance than one that is rare but known to be stable.
- 9.2.11 Reference is also made to the list of species of principal importance in England and Wales and local Biodiversity Action Plans (BAPs). Legally protected species are considered important where there is potential for a breach of relevant legislation.

Predicting and Characterising Ecological Impacts

- 9.2.12 In accordance with the CIEEM guidelines, when describing impacts, reference is made to the following, where applicable:
- Positive/Adverse – whether an impact improves or reduces the quality of the receptor.
 - Extent – the area over which an impact occurs.
 - Duration – the time for which an impact is expected to last.
 - Magnitude – the size or intensity of the impact.
 - Reversibility – a permanent impact is one that is irreversible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it; a temporary impact is one from which a spontaneous recovery is possible.
 - Timing and frequency – whether impacts occur during critical life-stages or seasons.



Direct and Indirect Ecological Impacts

- 9.2.13 Both direct and indirect impacts are considered within this assessment. A direct impact is directly attributable to a defined action such as the physical loss of a habitat or the immediate mortality of an individual of a particular species. Indirect impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or receptor. An example of an indirect effect would be the loss of an important prey species for a predator.

Application of Mitigation

Approaches for Determining Significant Impacts

- 9.2.14 In accordance with the CIEEM guidelines, a significant impact, in ecological terms, is defined as an impact which either supports or undermines the conservation objectives for important ecological features or for biodiversity in general.
- 9.2.15 In accordance with the CIEEM guidelines, the approach adopted here aims to determine if an impact is significant or not on the basis of a discussion of the factors which characterise it – i.e. the ecological significance of an impact is not dependent on the value of the feature in question. The value of any feature that will be significantly affected is used to determine the geographical scale at which the impact is significant. For example, an ecologically significant impact on a feature of value at county level is regarded as a significant impact at county level. This in turn is used to determine the implications in terms of legislation, policy and/or development control.
- 9.2.16 As noted above, impacts are only assessed in detail for receptors of sufficient value that impacts upon them may be significant (in terms of legislation or policy).
- 9.2.17 Significant impacts remaining after mitigation (the residual impacts), together with an assessment of the likelihood of success in the mitigation, are the factors to be considered against legislation, policy and development control in determining the planning application.

Limitations of the Assessment

- 9.2.18 There are no significant overall limitations that are considered to compromise the validity of this chapter, although details of any qualifications or limitations that are specifically relevant to a particular floral or faunal survey, are provided in the relevant appendices (9.1 – 9.4).

Information Used in this Assessment

- 9.2.19 The data used to inform this section are contained within the following reports, appended to this chapter:
- Appendix 9.1 – Ecological Appraisal;
 - Appendix 9.2 – Wintering Birds Report;
 - Appendix 9.3 – Bat Report; and,
 - Appendix 9.4 – Dormouse Report.

9.3 Key Legislation

International Legislation

- 9.3.1 The EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). The main aim of this Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species at a favourable conservation status, including the introduction of protection for those habitats and species of European importance.
- 9.3.2 The Convention on the Conservation of European Wildlife and Natural Habitats 1979 (the Bern Convention) which carries an obligation to protect and conserve over 500 wild plants species and more than 1000 wild animal species.
- 9.3.3 The EC Council Directive on the Conservation of Wild Birds (79/409/EEC amended to 2009/147/EC) which provides a framework for the conservation and management of, and human interactions with, wild birds in Europe.
- 9.3.4 The Convention on Wetlands of International Importance especially as Waterfowl Habitat 1972 (the Ramsar or Wetlands Convention) which has the status of a legal treaty for the designation and protection of wetland habitats. The Ramsar Convention allows the designation of wetlands of international importance as Ramsar Sites, the promotion of the wise-use of all wetlands in the territory of each country, and international cooperation with other countries to further the wise-use of wetlands and their resources.
- 9.3.5 The Convention on the Conservation of Migratory Species of Wild Animals 1979 (the Bonn Convention) which provides a global system offering protection for all threatened migratory species and their habitats.

National Legislation

- 9.3.6 The Wildlife and Countryside Act 1981 (as amended) (W&CA) is the primary legislation covering endangered or threatened species in England and sets out the framework for the designation of SSSIs and SPAs.
- 9.3.7 The Conservation of Habitats and Species Regulations 2017 action the UK's implementation of the Habitats Directive, including the protection of European Protected Species and the designation of SACs.
- 9.3.8 The Protection of Badgers Act 1992 brings together all the legislation that is specific to badgers, with the exception of their inclusion on Schedule 6 of the W&CA.
- 9.3.9 The Hedgerows Regulations 1997 aims to protect hedgerows of importance from destruction. The Regulations only apply to hedgerows growing on or adjacent to certain land use categories.
- 9.3.10 The Countryside and Rights of Way (CROW) Act 2000 affords a greater level of protection to SSSIs, provides better management arrangements for Areas of Outstanding Beauty and strengthens wildlife enforcement legislation. Section 74(2) of the Act requires the Secretary of State to list those habitats and species of principal importance for the conservation of biodiversity, in accordance with the United Nations Convention of Biological Diversity 1992.
- 9.3.11 The Natural Environment and Rural Communities (NERC) Act 2006 is designed to help achieve a rich and diverse natural environment and thriving rural communities through modernised and simplified arrangements for delivering Government Policy. Elements of the act most relevant to the proposed scheme include (i) extension of the CROW biodiversity duty to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity; and (ii) modification of the CROW Act 2000 so that species listed under Section 74 are now listed under Section 41 of the NERC Act 2006. Priority Habitats



and Priority Species for England and Wales (formerly listed in the superseded UK Biodiversity Action Plan) are detailed under Section 41.

Species-specific Legislation

Invertebrates

- 9.3.12 A number of invertebrate species are protected by European and UK legislation, such as those listed on Schedule 5 of the W&CA and in the Conservation of Species and Habitats Regulations 2017. As a result, some species are protected from some or all of the following (amongst others): (i) killing, injuring or taking; (ii) possession or control; (iii) damage to, destruction of or obstruction of access to any places used for shelter or protection; and (iv) disturbance while using such a structure. There are currently 411 invertebrate Priority Species in the UK.

Great Crested Newts

- 9.3.13 Great crested newt (GCN) is a European Protected Species and is protected under The Conservation of Habitats and Species Regulations 2017 and the W&CA. It is an offence to:
- Intentionally or recklessly kill, injure or take a great crested newt;
 - Possess or control any live or dead specimen or anything derived from a great crested newt;
 - Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
 - Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

Reptiles

- 9.3.14 The adder, grass snake, slow-worm and common lizard receive partial or full protection under the W&CA as amended which makes it an offence to:
- Intentionally or recklessly kill or injure these animals;
 - Sell, offer for sale, possess or transport for the purpose of sale or publish advertisement to buy or sell individual reptiles.

Birds

- 9.3.15 It is an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs under the W&CA. In addition, there are 194 species that are subject to special conservation measures concerning their habitat in order to ensure their survival and reproduction. This includes an offence to disturb any birds listed on Schedule 1 of the W&CA whilst nesting, or their dependant young.

Badgers

- 9.3.16 It is illegal for a person to kill, injure or take a badger under the Protection of Badgers Act 1992. It is also an offence to destroy, damage or obstruct an entrance to a badger's sett, or to disturb animals whilst within a sett.

- 9.3.17 A Natural England Mitigation licence will be required if development works affect badger setts. This can also include direct/indirect disturbance near to a sett.

Bats

- 9.3.18 All UK species of bat are European Protected Species which means they are protected under the Conservation of Habitats and Species Regulations 2017 - and it is an offence to deliberately, recklessly or intentionally kill, injure or take a bat; to deliberately, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat or deliberately disturb an animal while it is occupying a structure or place which it uses for that purpose.
- 9.3.19 A European protected species mitigation licence (EPSM licence) from Natural England is required for any development works that would affect bat roosts.

Dormice

- 9.3.20 The hazel dormouse is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 and is also protected under the W&CA. It is an offence to:
- Intentionally or deliberately kill, injure or capture a dormouse;
 - Damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse;
 - Deliberately disturb a dormouse while it is occupying a structure or place which it uses for that purpose.
- 9.3.21 A European protected species mitigation licence (EPSM licence) from Natural England is required for any development works that would affect dormouse or dormouse habitat (e.g. hedgerows, scrub or woodland) where the species is known to be present.

9.4 Planning Policy

National Policy

- 9.4.1 A revised NPPF was issued on February 2019 (Ministry of Housing Communities and Local Government, 2018/2019) and currently supplements government Circular 06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System (Office of the Deputy Prime Minister, 2005).
- 9.4.2 Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that:
- 'Planning policies and decisions should contribute to and enhance the natural environment 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.*
- 9.4.3 The conservation and enhancement of wildlife is also specifically reference re: development within the National Parks or the Broads. Paragraph 174 then goes on to confirm that:
- When determining planning applications, local planning authorities should apply the following principles:
- a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*
- 9.4.4 Regarding EcIAs and HRAs – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPAs and cSACs themselves. In addition, when an application is being determined, Paragraph 177 clarifies that:
- "The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site. The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site"*
- 9.4.5 Paragraph 180 is also relevant as;
- Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should...*
- c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

Local Policy

- 9.4.6 The site is located within The Campdown Strategic Area (2016), identified within the Havant Strategic Development Areas Financial Feasibility Study on behalf of Havant Borough Council. The study forms supporting evidence to the Havant Local Plan 2036.

- 9.4.7 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.

9.5 Baseline Conditions

Statutory Sites

- 9.5.1 A desk study formed part of the EA completed in March 2017 (Appendix 9.1). This included a search using the Department for Environment, Food and Rural Affairs (DEFRA) database known as the Multi-Agency Geographic Information for the Countryside (MAGIC). This was used to gather details on the statutory designated sites within 2km of the site. Records of non-statutory sites and protected and notable habitats and species were also obtained from Hampshire Biodiversity Information Centre (HBIC). HBIC is the Local Environmental Records Centre (LERC) for Hampshire.
- 9.5.2 The statutory sites within 2km of the site are given in Table 9.1. These are listed in order of whether they are internationally designated or nationally designated, then by increasing distance from the site.

Table 9.1 Statutory designated sites for nature conservation within 2km of the site

Name	Distance	Reason for designation
Chichester and Langstone Harbour Ramsar and Special Protection Area (SPA)	1.3km south	RAMSAR designated due to the large, sheltered estuarine basins comprising extensive sand and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The mud-flats are rich in invertebrates and support extensive beds of algae, especially <i>Enteromorpha</i> species, and eelgrasses <i>Zostera</i> spp. The basin contains a wide range of coastal habitats supporting important plant and animal communities. In addition, the Chichester and Langstone Harbour is designated as an SPA as it supports important overwintering populations of migratory waterfowl. It also supports important colonies of breeding terns. SPA qualifying species comprise black tailed godwit (<i>Limosa limosa islandica</i>), dark bellied brent goose (<i>Branta bernicla</i>), dunlin (<i>Calidris alpina alpina</i>), grey plover (<i>Pluvialis squatarola</i>), redshank (<i>Tringa tetanus</i>) and ringed plover (<i>Charadrius hiaticula</i>). In addition, the SPA is a wetland of international importance supporting over 90,000 over wintering



Name	Distance	Reason for designation
		waterfowl including curlew (<i>Numenius arquata</i>), oystercatcher (<i>Haematopus ostralegus</i>), lapwing (<i>Vanellus vanellus</i>) and whimbrel (<i>Numenius phaeopus</i>).
Solent Maritime SAC	1.3km south	Sea inlets, tidal rivers, estuaries, mud flats, sand flats, lagoons (including saltwork basins), salt marshes, salt pastures, salt steppes.
Solent & Isle of Wight Lagoons SAC	1.4km south	Primarily designated for its coastal lagoons. The lagoons show a range of salinities and substrates, ranging from soft mud to muddy sand with a high proportion of shingle, which support a diverse fauna including large populations of three notable species: the nationally rare foxtail stonewort (<i>Lamprothamnium papulosum</i>), the nationally scarce lagoon sand shrimp (<i>Gammarus insensibilis</i>), and the nationally scarce starlet sea anemone (<i>Nematostella vectensis</i>). The lagoons hold a well-developed low-medium salinity insect-dominated fauna. Species diversity in these lagoons is high and the fauna includes very high densities of <i>N. vectensis</i> .
Langstone Harbour SSSI	1.3km south	Intertidal habitat as well as areas above high water important as roosting sites for wintering birds. Considered to be suffering adverse impacts due to rising sea level which will be significantly reducing the extent of habitat exposed at low tide and hence reducing the value of the area for birds.
Chichester Harbour SSSI	1.3km south	Chichester Harbour is a large estuarine basin in which at low water extensive mud and sandflats are exposed, drained by channels which unite to make a common exit to the sea. The site is of particular significance for wintering wildfowl and waders and also breeding birds both within the Harbour and in the surrounding permanent pasture fields and woodlands. There is a wide range of habitats which have important plant communities.

Non-statutory designated Sites

9.5.3 The desk study completed in 2017 (Appendix 9.1) returned 43 non-statutory designated sites for nature conservation with 2km of the site. These were all Sites of Importance for Nature Conservation (SINCs).

Table 9.2 Non-Statutory Designated Sites

SINC Ref	SINC Name	Reason for designation
PO0004	Land to the South of Portsdown Hill Road	2A agriculturally unimproved grasslands. 2B semi-improved grasslands which retain a significant element of unimproved grassland.
HV001	London Road Fen	1C other semi-natural woodland if (ii) they comprise important community types of restricted distribution in the County, such as yew woods and alder swamp woods.

SINC Ref	SINC Name	Reason for designation
		5B Fens, flushes, seepages, springs, inundation grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (seasonal or permanent) conditions.
PO006	Meadow west of Farlington Avenue	2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
PO0026	Farlington Avenue	2B semi-improved grasslands which retain a significant element of unimproved grassland.
HV0002	Portsmouth Golf Course West	2B semi-improved grasslands which retain a significant element of unimproved grassland. 2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
HV0003	Fort Purbrook	2A agriculturally unimproved grasslands. 6A Sites which support one or more notable species – sainfoin (<i>Onobrychis viciifolia</i>) and autumn lady's-tresses (<i>Spiranthes spiralis</i>).
HV0004	Purbrook Park Wood	1A ancient semi-natural woodlands.
PO0009	Land to the north of Portsdown Hill Road	2B semi-improved grasslands which retain a significant element of unimproved grassland. 2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery. 6A Sites which support one or more notable species – small blue (<i>Cupido minimus</i>) and autumn lady's-tresses.
HV0005	Sandy Dell	1A ancient semi-natural woodlands.
PO0025	Field to West of Gillman Road	2B semi-improved grasslands which retain a significant element of unimproved grassland.
HV0006	Fort Purbrook Paddock 1 (Havant)	2B semi-improved grasslands which retain a significant element of unimproved grassland. 6A – Sites which support one or more notable species – small blue and autumn lady's-tresses.



SINC Ref	SINC Name	Reason for designation
PO010	Adjacent to Farlington Playing Fields	2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery. 4A Semi-natural coastal and estuarine habitats, including saltmarsh, intertidal mudflats, sand dunes, shingle, brackish ponds, grazing marsh and maritime grasslands. 6A Sites which support one or more notable species – divided sedge (<i>Carex divisa</i>) and spiny restharrow (<i>Ononis spinosa</i>).
HV0007	Fort Purbrook Paddock 2 (Havant)	2B semi-improved grasslands which retain a significant element of unimproved grassland. 6A Sites which support one or more notable species – autumn lady's-tresses.
HV0009	Stakes Coppice Remnant 1	1B other woodland where there is a significant element of ancient semi-natural woodland surviving. 7A Sites of nature conservation interest which occur in areas otherwise deficient in such interest, and/or are known to be of particularly high value to local communities.
PO0019	East and West of Gillman Road	2B semi-improved grasslands which retain a significant element of unimproved grassland. 6C Sites which support an outstanding assemblage of species – corn parsley (<i>Petroselinum segetum</i>) and flattened meadow-grass (<i>Poa compressa</i>).
HV0143	Fort Purbrook Paddock 3 (Havant)	2B semi-improved grasslands which retain a significant element of unimproved grassland.
HV0010	Newlease Copse, Havant	1A ancient semi-natural woodlands.
PO0027	Farlington Marshes	2B semi-improved grasslands which retain a significant element of unimproved grassland. 6A Sites which support one or more notable species. 6C Sites which support an outstanding assemblage of species – wild celery (<i>Apium graveolens</i>); divided sedge; sea barley (<i>Hordeum marinum</i>); golden-samphire (<i>Inula crithmoides</i>); narrow-leaved bird's-foot-trefoil (<i>Lotus tenuis</i>) and parsley water-dropwort (<i>Oenanthe lachenalii</i>).
HV0142	Fort Purbrook Paddock 4 (Havant)	2B semi-improved grasslands which retain a significant element of unimproved grassland.

SINC Ref	SINC Name	Reason for designation
HV0011	Portsmouth Golf Course East	2B semi-improved grasslands which retain a significant element of unimproved grassland. 2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
HV0014	Field East of Farlington Redoubt (North)	2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
HV0015	Stakes Coppice Remnant 2	1B other woodland where there is a significant element of ancient semi-natural woodland surviving.
HV0016	Gundymoor Wood (West)	1A ancient semi-natural woodlands.
HV0017	Portsmouth City Golf Course Copse	1B other woodland where there is a significant element of ancient semi-natural woodland surviving. 6A- fly orchid (<i>Ophrys insectifera</i>).
HV0019	Camp Down Grassland Remnants	2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
HV0020	Gundymoor Wood (Main)	1A ancient semi-natural woodlands.
HV0023	Stakes Coppice Remnant 5	1A ancient semi-natural woodlands. 1B other woodland where there is a significant element of ancient semi-natural woodland surviving.
HV0024	Forty Acres Farm B	6B Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle – dark-bellied brent goose (<i>Branta bernicla bernicla</i>).
HV0025	Johnston's Coppice	1A ancient semi-natural woodlands. 6A Sites which support one or more notable species – hazel dormouse (<i>Muscardinus avellanarius</i>).
HV0026	Stakes Coppice Remnant 6	1A ancient semi-natural woodlands.



SINC Ref	SINC Name	Reason for designation
HV0027	Fields off Havant Road	6A Sites which support one or more notable species – dwarf spurge (<i>Euphorbia exigua</i>). 6B Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle – dark-bellied brent goose.
HV0028	Farlington Marshes Grassland (North-East)	2A agriculturally unimproved grasslands. 4A Semi-natural coastal and estuarine habitats, including saltmarsh, intertidal mudflats, sand dunes, shingle, brackish ponds, grazing marsh and maritime grasslands.
HV0029	Littlepark Wood (West)	1A ancient semi-natural woodlands. 1C other semi-natural woodland if (ii) they comprise important community types of restricted distribution in the County, such as yew woods and alder swamp woods. 6A Sites which support one or more notable species – hazel dormouse.
HV0030	Meadow Adjacent to Johnston's Copse	1A ancient semi-natural woodlands. 2B semi-improved grasslands which retain a significant element of unimproved grassland. 5B Fens, flushes, seepages, springs, inundation grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (seasonal or permanent) conditions. 6A Sites which support one or more notable species – hazel dormouse.
HV0033	Neville's Park West Wood	1B other woodland where there is a significant element of ancient semi-natural woodland surviving.
HV0034	Littlepark Wood (East)	1A ancient semi-natural woodlands. 1C other semi-natural woodland if (ii) they comprise important community types of restricted distribution in the County, such as yew woods and alder swamp woods.
HV0035	Hulbert Road Meadow	2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery. 5B Fens, flushes, seepages, springs, inundation grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (seasonal or permanent) conditions.

SINC Ref	SINC Name	Reason for designation
HV0037	Neville's Park East Wood	1A ancient semi-natural woodlands.
HV0038	Neville's Park Areas 4-10	1B other woodland where there is a significant element of ancient semi-natural woodland surviving. 1C other semi-natural woodland if (ii) they comprise important community types of restricted distribution in the County, such as yew woods and alder swamp woods. 2A agriculturally unimproved grasslands. 2D grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery.
HV0039	Neville's Park Areas 2 & 3	2A agriculturally unimproved grasslands.
HV0042	Bushy Lease	1A ancient semi-natural woodlands.
HV0043	Manor Farm A	6B Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle – dark-bellied brent goose.
HV0044	Broadmarsh Playing Field	6B Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range. Such sites may be used seasonally or for only one part of a species life-cycle – dark-bellied brent goose.

Habitats

9.5.4 Habitats recorded during the 2017 extended Phase 1 habitat survey (Appendix 9.1) within the boundary of the Site were:

- neutral semi-improved grassland;
- scattered trees;
- dense scrub;
- hedgerows;
- bare ground; and
- semi-natural broadleaved woodland.



Neutral semi-improved grassland

- 9.5.5 The neutral semi-improved grassland which dominated the Site was semi-improved pasture and not typically species-rich and hence is not considered to qualify as an HPI (Appendix 9.1). It is therefore considered to be of **Negligible** importance for the purposes of this assessment.

Scattered trees

- 9.5.6 Scattered semi-mature oak trees in the centre of the Site had suitability to support protected or notable species such as nesting birds. However, none were assessed as being veteran trees and the habitat does not qualify as HPI. It is therefore considered to be of **Negligible** importance for the purposes of this assessment.

Dense scrub

- 9.5.7 This habitat had some suitability to support protected or notable species such as nesting birds, however it is not botanically diverse and comprises common and widespread species. It does not qualify as HPI and is considered to be of **Negligible** importance for the purposes of this assessment.

Hedgerows

- 9.5.8 Seven hedgerows made up the boundaries of the semi improved grassland. Details of these are provided in Appendix 9.1, Table 5. None were considered likely to fulfil the ecological criteria within the Hedgerow Regulations 1997. Although none were species-rich, all supported native species and are likely to qualify as HPI. Therefore, they are considered to be of **Local** importance for the purposes of this assessment.

Bare ground

- 9.5.9 This habitat did not have suitability to support protected or notable species, does not qualify as HPI and is considered to be of **Negligible** importance for the purposes of this assessment.

Semi-natural broadleaved woodland

- 9.5.10 A small area of semi-natural broadleaved woodland was located in the south east corner of the site. Although small it is likely to qualify as HPI and is considered to be of **Local** importance for the purposes of this assessment.

Vascular plants and non-native invasive species of plant

- 9.5.11 The 2017 extended Phase 1 habitat survey (Appendix 9.1) did not find any protected or notable species of plant, or non-native invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Species

Invertebrates

- 9.5.12 The data provided by HBIC included records of more than 90 species of invertebrate within 2km of the site (Appendix 9.1). This included notable species such as including stag beetle (*Lucanus cervus*), box bug (*Gonocerus acuteangulatus*) and dingy skipper (*Erynnis tages*).
- 9.5.13 The records indicate that there is the potential for species with elevated conservation status to be present in the area. However, the extended Phase 1 habitat survey did not find any substantial areas of habitat

suitable to support notable invertebrate species. Invertebrates are therefore considered to be of **Negligible** importance for the purposes of this assessment.

Great Crested Newts

- 9.5.14 HBIC returned no records of great crested newts within 2km of the site. No suitable breeding habitat was identified within 500m of the site in connected habitat and the Ecological Appraisal (Appendix 9.1) concluded the site had negligible suitability. Great crested newts are therefore considered to be of **Negligible** importance for the purposes of this assessment.

Reptiles

- 9.5.15 HBIC returned 25 records of reptiles within 2km of the site, comprising of slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). The majority of the site was assessed as being unsuitable for reptiles due to the high level of grazing, with suitable habitat limited to the vegetated Site boundaries. Due to the low area of suitable habitat, and low likelihood of reptile presence they are considered to be of **Negligible** importance for the purposes of this assessment.

Birds

- 9.5.16 HBIC provided 148 species of birds protected under Schedule 1 of the W&CA within 2 km. The site lies within 1.3 km of Chichester and Langstone Harbour SPA and comprises grazed semi-improved grassland which is open in nature. There is a public footpath running through the Site however the Site remains fairly undisturbed by people, therefore overall providing high suitability for wintering birds to forage.
- 9.5.17 The Site encompasses Fields H106, H113, H125 and H02A which have been monitored for the presence of brent geese as part of the Solent Waders and Brent Goose Strategy. H106 and H02A are designated as Primary Support Areas, H125 as a Secondary Support Area and H113 as a Low Use site. Data provided by the Hampshire Biodiversity Information Centre (HBIC) included peak counts of one wader and 70 dark-bellied brent geese (*Branta bernicula bernicula*) (at this point the whole site was listed as H02A). Surveys completed by WYG over the winter months (October – March 2015/16 and 2016/17) recorded peak counts of approximately 50 brent geese and 150 curlew (*Numenius arquata*) (Appendix 9.2). Due to the presence of birds which are qualifying species of Chichester and Langstone Harbours SPA, albeit in low numbers, the wintering bird assemblage is considered to be of **County** importance for the purposes of this assessment.
- 9.5.18 The scattered semi-mature trees, dense scrub and hedgerows within the site boundary offer a matrix of habitats that are likely to support a range of common and widespread breeding bird species. No trees on Site were identified as offering potential to support roosting or nesting barn owls during the extended Phase 1 habitat survey. In addition, there is limited foraging habitat within the boundaries of the site as much of the semi-improved grassland on site is grazed by horses. Due to the relatively small area of suitable nesting habitat, and lack of suitable habitat for Schedule 1 species, the breeding bird assemblage is considered to be of **Negligible** importance for the purposes of this assessment.

Badgers

- 9.5.19 HBIC returned three records of badger (*Meles meles*) within 2 km of the site. No badger setts or signs of badger activity, such as snuffle holes, latrines or hairs were identified on or within 50m of the proposed development site, where access allowed. Due to the absence of badger activity on site they are considered to be of **Negligible** importance for the purposes of this assessment.



Bats

- 9.5.20 HBIC returned 53 records of bats within 2km of the site, comprising unidentified bat species, soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*), unidentified pipistrelle species (*Pipistrellus* sp.), brown long-eared bat (*Plecotus auritus*), whiskered bat (*Myotis mystacinus*), Brandt's bat (*Myotis brandtii*), Natterer's bat (*Myotis nattereri*), serotine (*Eptesicus serotinus*), noctule (*Nyctalus noctula*) and rare vagrant species, the parti-coloured bat (*Vespertilio murnus*).
- 9.5.21 A cluster of trees within the south west of the site were assessed as having moderate bat roost suitability due to the presence of woodpecker holes. Two surveys were conducted on 24th August and 31st August 2017 (Appendix 9.3). No emerging or returning bats were recorded. Therefore the roosting bat assemblage is considered to be of **Negligible** importance for the purposes of this assessment.
- 9.5.22 The site was assessed as having low suitability for foraging and commuting bats. Three activity surveys were conducted on 26th October 2016, 10th April 2017 and 22nd June 2017. Automated detector surveys were conducted in September 2016, April 2017 and June 2017 (Appendix 9.3). Based on the criteria within 'Valuing Bats in Ecological Impact Assessment' (Wray et al., 2010) the Site is considered to be of **Local** importance for foraging and commuting bats.

Dormice

- 9.5.23 HBIC returned eight records of hazel dormice within 2km of the site. The nearest record is within Littlepark Wood, a SINC to the north which is connected to the site.
- 9.5.24 A hazel dormouse nest tube survey was conducted between July and October 2017. This recorded a dormouse and nest within the eastern boundary of the site (Appendix 9.4). The presence of hazel dormice is assumed in all connected habitat. Due to the presence of hazel dormice on site, and their presence within the SINC to the north of the site, they are considered to be of **Local** importance for the purposes of this assessment.

9.6 Mitigation within the Submitted Design

- 9.6.1 The impacts will be assessed against the proposals for the Site including the embedded mitigation measures described below. These measures have been 'designed-in' to the development proposals to reduce the ecological impacts of the scheme or are standard construction measures.
- 9.6.2 The SINC to the north of the Site will be protected through the implementation of a buffer of 15m minimum during construction.
- 9.6.3 Mature trees and boundary vegetation have been retained within the development proposals and will be protected during construction through the implementation of a buffer of 5m minimum during construction (or larger as informed by root protection zones). Boundary hedgerows (which total 2,400m) will also be reinforced with new native species planting to fill in existing gaps and increase species diversity and structure.
- 9.6.4 A sustainable drainage system will be incorporated to treat all surface water prior to discharge into an existing ditch which lies south of the Site. This will avoid any adverse effects on off-site watercourses or designated sites.
- 9.6.5 A sensitive operational lighting strategy will be incorporated to avoid disturbance of nocturnal species. This will avoid light spill of above 1 lux upon site boundaries.
- 9.6.6 A Construction Environmental Management Plan (CEMP) will be prepared covering the construction phase of the development which will include the following measures:

- Construction-phase surface water drainage strategy including methods of sediment and hydrocarbon filtration prior to discharge;
- Spill kits to be available and used immediately should a pollution incident occur;
- Adherence to best practice pollution prevention and control guidance;
- Fencing specification (Heras or similar) to protect retained ecological features during construction;
- Construction-phase lighting plan to prevent illumination of retained ecological features;
- Procedure for carrying out pre-commencement checks by an Ecological Clerk of Works (ECOW) prior to vegetation clearance; and
- Measures to protect wildlife moving across the Site (provision of escape routes from trenches, capping pipes, secure storage of chemicals and spoil, storage of materials on pallets etc.).

- 9.6.7 A total of 78 Bird or bat boxes will be installed on site with a mix which provides for a range of species, including swift boxes.
- 9.6.8 The proposals include the provision of a Wader and Brent Goose Refuge as detailed within Appendix 9.5. This will provide suitable high-tide foraging habitat for brent geese and curlew in perpetuity.
- 9.6.9 The development will include a payment per-dwelling in line with the Solent Recreation Mitigation Strategy charging schedule.
- 9.6.10 An Ecological Mitigation and Management Plan (EMMP) is provided as part of this application which sets out management measures for the site and its habitats in the future.

9.7 Likely Significant Environmental Effects of the Scheme

- 9.7.1 As stated above, impacts are only assessed in detail for features both of sufficient value that impacts upon them may be significant and also potentially vulnerable to significant impacts arising from the development. Consequently, impacts have only been assessed in detail for those receptors that are of at least local value or are subject to legal protection.
- 9.7.2 This detailed assessment will therefore concentrate on the likely impacts in respect to the following receptors only:
- Statutory designated sites (International importance)
 - Non-statutory designated sites (County importance)
 - Semi-natural broadleaved woodland (Local importance)
 - Hedgerows (Local importance)
 - Wintering birds (County importance)
 - Bats (Local value – foraging/commuting)
 - Hazel dormouse (Local value)



Construction Phase

Statutory designated sites

- 9.7.3 The closest statutory designated site comprises the following designations: Chichester and Langstone Harbours SPA, Chichester and Langstone Harbours Ramsar, Solent Maritime SAC, and Chichester Harbour SSSI. These are located 1.3km to the south of the site. Due to the overlapping area and reasons for designation these sites are assessed together in this Chapter. More information is provided in the accompanying Report to Inform Habitats Regulations Assessment Stage 1 and Stage 2, which will be submitted following a meeting with Natural England in November 2019.
- 9.7.4 The air quality impact of traffic (at a distance from the road centre) diminishes exponentially to zero at 200m (Highways Agency, 2007). During the construction phase of the development, the air quality assessment predicts the overall effects of the proposed development are negligible with respect to nitrogen dioxides, PM10 and NO2. Following the adoption of the recommended mitigation measures, the development is not considered to be contrary to any of the national, regional or local planning policies. As such, there is considered to be **no significant adverse effect** in respect of air quality.
- 9.7.5 During construction, it is likely that noise and vibration attributable to specific works will be of short-term duration. Through standard measures implemented in the CEMP, noise and vibration levels off site are considered unlikely to be significant given the distance from the construction zone within the site to the closest site and the current background noise levels resulting from the presence of the A27 between the site and the SPA/Ramsar. Therefore, there is considered to be **no significant adverse effect** in respect of noise and vibration.
- 9.7.6 The embedded mitigation includes the provision of a CEMP detailing construction-phase drainage and pollution prevention measures. With the application of this mitigation there is considered to be **no significant adverse effect** in respect of water pollution.
- 9.7.7 The development will result in the loss of supporting habitat for brent geese and curlew, qualifying features of Chichester and Langstone Harbours SPA and Ramsar. The embedded mitigation includes the provision of a Wader and Brent Goose Refuge which will provide suitable high-tide foraging habitat in perpetuity. With the application of this mitigation there is considered to be **no significant adverse effect** in respect of habitat loss.

Non-statutory designated sites

- 9.7.8 There is potential for adverse effects on sites within and adjacent to the site from noise and vibration during construction. This will be temporary and variable as the level of noise and associated impact will be dependent on the location of the construction activities on a daily basis and the equipment being used. Through standard measures implemented in the CEMP, it is considered that noise and vibration levels will be adequately controlled and minimised in proximity to sensitive features. Therefore, there is considered to be **no significant adverse effect** in respect of noise and vibration.

Semi-natural broadleaved woodland

- 9.7.9 The small area of semi-natural broadleaved woodland will be retained and protected through embedded mitigation, including the provision of a buffer and measures within the CEMP. Therefore, there is considered to be **no significant adverse effect** during construction.

Hedgerows

- 9.7.10 The development will result in the loss of 155m of defunct hedgerow in the south east of the site. The embedded mitigation includes compensation in the form of infill planting and reinforcement of approximately 2,400m of retained hedgerow around the site boundaries. With the application of this mitigation there is considered to be **no significant adverse effect** during construction.

Wintering birds

- 9.7.11 The value of the wintering bird assemblage on site is in due to the presence of qualifying species of Chichester and Langstone Harbours SPA and Ramsar. The potential impacts are discussed under *Statutory Designated Sites* above.

Bats

- 9.7.12 The proposed development will retain all optimal foraging and commuting habitat (the hedgerow to be lost is defunct and provides no connectivity). Although there is potential for construction activities to result in impacts to bats as they commute between roosting and foraging areas as a result of lighting, control measures are included within the CEMP. Therefore, there is likely to be **no significant adverse effect** to foraging and commuting bats.

Hazel dormouse

- 9.7.13 Although 155m of hedgerow will be lost, as discussed under *Hedgerows*, compensation is included as embedded mitigation. The hedgerow to be lost is defunct and provides no connectivity, therefore its loss will not result in any fragmentation. Boundary habitat, including that which connects to off-site dormouse habitat to the north will be retained and protected. Hedgerow removal will take place under the supervision of a licenced dormouse ecologist and within the terms of a European Protected Species Mitigation Licence issued by Natural England. Therefore, there is likely to be **no significant adverse effect** to hazel dormice.

Operational Phase

Statutory designated sites

- 9.7.14 The closest statutory designated site comprises the following designations: Chichester and Langstone Harbours SPA, Chichester and Langstone Harbours Ramsar, Solent Maritime SAC, and Chichester Harbour SSSI. These are located 1.3km to the south of the site. Due to the overlapping area and reasons for designation these sites are assessed together in this Chapter. More information is provided in the accompanying Report to Inform Habitats Regulations Assessment Stage 1 and Stage 2, which will be submitted following a meeting with Natural England in November 2019.
- 9.7.15 There is likely to be an increase in recreational pressure upon coastal designated sites as a result of the development. The embedded mitigation includes payment per-dwelling in line with the Solent Recreation Mitigation Strategy charging schedule. Therefore, there is considered to be **no significant adverse effect** in respect of recreation.
- 9.7.16 The embedded mitigation includes the provision of a Sustainable Drainage System designed to mimic the existing hydrology of the site as far as possible, and to maintain surface water runoff at existing greenfield rates. This system will also include treatment stages for pollutants such as hydrocarbons from internal roads. With the application of this mitigation there is considered to be **no significant adverse effect** in respect of water pollution.



Non-statutory designated sites

- 9.7.17 There is potential for an increase in noise during the occupation phase to have an adverse on non-statutory designated sites adjacent to the site, primarily through disturbance to fauna supported by these sites such as birds. It is anticipated that the increase in effects will be minimal and therefore is negligible and there will be **no significant adverse effect** in respect of noise during operation.
- 9.7.18 The air quality assessment includes an assessment of NO₂ and PM₁₀ concentration within non-statutory sites on site as a result of future traffic during the operational phase. This concludes that the increases in both NO₂ and PM₁₀ are predicted to be negligible and therefore there is anticipated to be **no significant adverse effect** in respect of air quality during operation.

Semi-natural broadleaved woodland

- 9.7.19 The small area of semi-natural broadleaved woodland will be maintained as part of site-wide landscape maintenance. There are predicted to be no impacts during operation and therefore **no significant adverse effect**.

Hedgerows

- 9.7.20 The EMMP (Appendix 9.6) includes proposed management measures for hedgerows. Pruning will take place biennially on a rotation (only one side cut each year) to make sure that fruit is produced each year. Colonisation of invasive exotics (e.g. butterfly bush) will be prevented by removing saplings. Herbaceous vegetation will be encouraged to grow up around the bases of shrubs and hedges. Plants which have failed to establish will be replaced during the dormant season (November to March) for the first five years post-construction. Therefore, there is considered to be **no significant adverse effect** during operation.

Wintering birds

- 9.7.21 Following the provision of the Wader and Brent Goose Refuge, there are predicted to be no impacts to wintering birds during operation and therefore **no significant adverse effect**.

Bats

- 9.7.22 The greatest potential effect upon bats during operation is artificial lighting, which can have a wide range of effects from negatively affecting prey populations to altering commuting routes resulting in increased energy expenditure. The development has a sensitive lighting strategy as embedded mitigation which will maintain an increase of no more than 1lux on bat foraging and commuting habitat (woodland edge and hedgerows). Following this it is considered that there will be **no significant adverse effect** on bats as a result of lighting.

Hazel dormouse

- 9.7.23 As discussed under *Hedgerows*, the EMMP includes proposed management practices during operation to avoid inappropriate management or lack of management.
- 9.7.24 As discussed under *Bats*, embedded mitigation includes a sensitive lighting strategy. This includes an increase of no more than 1lux on suitable habitat (woodland and hedgerows).
- 9.7.25 The development is likely to result in an increase in cats. Due to the low population density the dormouse population is unlikely to be resilient to high levels of predation, although it is also likely that this low density will reduce the likelihood of individual dormice being caught by cats (and there is no evidence that cats are a significant source of predation upon hazel dormice). Predation will be avoided by cats as far as possible with open spaces screened and buffered by roads, and dwellings fronting on to open space,

rather than back gardens (as shown on the masterplan). Homeowners will be provided with information to encourage further measures to reduce predation such as keeping cats inside at night. Following this it is considered that there will be **no significant adverse effect** on hazel dormice during operation.

9.8 Assessment Summary and Likely Significant Environmental Effects

- 9.8.1 In the absence of mitigation, the proposed development has the potential to cause significant adverse effects on important ecological receptors (habitats and species) identified on site. Impacts associated with the development include the loss of habitats and direct and indirect effects on the wildlife supported in these areas, including the temporary loss of foraging and commuting habitats.
- 9.8.2 However, the development seeks to retain and enhance existing habitats where possible with new habitats created to mitigate for unavoidable loss and enhance ecological value in the long-term.
- 9.8.3 Assuming that the embedded mitigation measures are implemented, it is considered that the proposed development will have **negligible** residual effects on the overall ecological value of the site.

List of appendices

Appendix 9.1 – Ecological Appraisal

Appendix 9.2 – Wintering Birds Report

Appendix 9.3 – Bat Report

Appendix 9.4 – Dormouse Report

Appendix 9.5 – Wintering Bird Mitigation Strategy

Appendix 9.6 – EMMP

Appendix 9.7 – Cumulative Effects

List of acronyms

DEFRA – Department for Environment, Food and Rural Affairs

EA – Ecological Appraisal

HBIC – Hampshire Biodiversity Information Centre

LERC – Local Environmental Records Centre

MAGIC – Multi-Agency Geographic Information for the Countryside

SINC – Sites of Importance for Nature Conservation