

Portland
energy recovery
facility

Environmental statement

10 Natural heritage

Introduction

- 10.1 Lindsay Carrington Ecological Services Ltd was appointed to undertake the assessment of effects on on-site natural heritage. The assessment was informed by surveys undertaken by CGO Ecology Ltd. The findings of the survey reports are summarised in this chapter and the full reports are provided in technical appendix K. Terence O'Rourke Ltd was appointed to undertake the assessment of effects on off-site natural heritage. The references and data sources used in the assessments are set out in table 10.1.

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Office of the Deputy Prime Minister, 2005, Circular 06/05 Biodiversity and Geological Conservation: Statutory Obligations and Their Impact Within the Planning System
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Table 10.1: References and data sources

Legislation and policy

International legislation

- 10.2 In 1992, the European Union adopted Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the Habitats Directive. The UK government's statutory regulations to implement the requirements of the directive are the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations').
- 10.3 The Habitats Directive and the European Union's Birds Directive (2009/147/EEC) require member states to create a network of key sites for the conservation of certain habitats, plant species, bird species and other fauna. The sites comprise special protection areas (SPA) for birds and special areas of conservation (SAC) for plants, vegetation types and fauna other than birds.

- 10.4 The Convention on Wetlands of International Importance especially as Waterfowl Habitat (the 'Ramsar Convention') was adopted in Ramsar, Iran, in 1971 and came into force in 1975. It provides the only international mechanism for protecting sites of global importance and covers all aspects of wetland conservation, including the designation of wetlands of international importance as Ramsar sites.
- 10.5 The Bern Convention 1982 aims to ensure the conservation and protection of wild plant and animal species and their natural habitats (listed in appendices I and II of the Convention), to increase cooperation between contracting parties, and to regulate the exploitation of those species (including migratory species) listed in appendix III. The UK government ratified the Bern Convention in 1982. The obligations of the Convention are transposed into national law by means of the Wildlife and Countryside Act 1981 (as amended).

National legislation

- 10.6 The Habitats Regulations make it an offence to deliberately capture, kill or injure individuals of a number of species (as listed in schedule 2), including all species of bats, dormice and great crested newts, or to damage or destroy their breeding site or place of shelter. It is also illegal to deliberately disturb these species in such a way as to be likely to significantly affect their ability to survive, breed, rear or nurture their young or the local distribution or abundance of the species.
- 10.7 The Wildlife and Countryside Act 1981 (as amended) sets out the legal protection afforded to wild animals and plants in Great Britain. It also requires the government to select sites of special scientific interest (SSSI) and protect them against potentially damaging operations. Most bird species are protected at all times from intentional killing and against intentional damage or destruction to their nest or eggs. All native reptile species are protected against intentional killing. Selected rare, vulnerable or declining animals listed on schedule 1 (birds) and schedule 5 (other animals) are additionally protected against disturbance at the nest (birds) or places used for shelter and protection (other animals). The Countryside and Rights of Way Act 2000 strengthens protection for SSSIs and provides a further basis for the conservation of biological diversity.
- 10.8 The Natural Environment and Rural Communities Act 2006 sets out the duties of bodies whose work influences the natural environment, requiring public bodies and other statutory undertakers to have regard to the purpose of conservation of biological diversity in the exercise of their functions. The act also includes provisions covering nature conservation, wildlife and SSSIs. Section 41 contains a list of 943 species and 56 habitats of principal importance occurring in England. These habitats and species were identified as requiring action in the UK Biodiversity Action Plan and continue to be conservation priorities.
- 10.9 The Marine and Coastal Access Act 2009 seeks to improve the protection offered to marine ecosystems and prevent declines in marine biodiversity. The creation of marine conservation zones (MCZ) is a key element of the act to protect a range of nationally important marine wildlife, habitats, geological and geomorphological features within UK inshore and offshore waters. These sites protect not just rare habitats and species, but the full range of marine life. There are currently 89 MCZs designated in England.

National policy

- 10.10 The National Planning Policy Framework (NPPF; 2019) sets out the government's planning policy for England. Paragraph 170 requires that the planning system should contribute to and enhance the natural and local environment by:

“minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”

- 10.11 Paragraph 175 sets out a series of principles that local planning authorities should use when determining planning applications to conserve and enhance biodiversity.

Local policy

- 10.12 Policy 18 of the adopted Bournemouth, Christchurch, Poole and Dorset Waste Plan (2019) states that proposals for waste management facilities must not adversely affect the integrity of European, Ramsar or other internationally designated sites. Proposals for waste management facilities will only be permitted where adverse impacts on biodiversity will either be avoided, adequately mitigated or compensation will result in the maintenance or enhancement of biodiversity. Proposals must also address the need to maintain and / or enhance features of local and regional importance, including sites of nature conservation interest (SNCI).
- 10.13 Policy ENV2 of the adopted West Dorset, Weymouth & Portland Local Plan 2015 states that internationally designated wildlife sites will be safeguarded from development that could adversely affect them and development that is likely to have an adverse effect on nationally designated wildlife sites will not be permitted. It also requires mitigation of significant harm to nature conservation interests in other locations, including locally identified wildlife sites and waterbodies. Policy Port/EN0 of the Portland Neighbourhood Plan Referendum Version (2020) sets out the same protections for internationally designated wildlife sites as the local plan.

Guidance

- 10.14 A range of guidance documents have been taken into account in the assessment (see table 9.1). In particular, government Circular 06/05 *Biodiversity and Geological Conservation: Statutory Obligations and Their Impact Within the Planning System* (Office of the Deputy Prime Minister, 2005) has been taken into account with respect to the guidance it provides on statutory designated sites and legally protected species.

Methodology

Baseline

- 10.15 A combination of a desk study and a suite of ecological field surveys have been used to provide the baseline information on which this assessment has been based. The desk study entailed a collation of records obtained from internet

sources, including Multi-Agency Geographical Information for the Countryside (MAGIC), along with records from the Dorset Environmental Records Centre (DERC). DERC provided records of protected and notable species and statutory and non-statutory wildlife sites within a 2 km radius of the proposed development, whilst MAGIC was used to identify all internationally statutory protected sites and granted protected species licenses within 10 km.

- 10.16 The proposed development site was surveyed using the standard phase 1 habitat survey methodology (JNCC, 2016), whereby habitats are mapped using colour codes (see technical appendix K for further details). The preliminary ecological appraisal (PEA) walkover for the proposed ERF location was conducted on 2 April 2019. The desk study was conducted throughout April 2019. The PEA walkovers for the access route and cable routes were conducted on 20 November 2019 and 8 April 2020 respectively.
- 10.17 The PEA involved directly searching for legally protected and invasive species of plant and categorising any habitats of ecological value that were encountered. A general description of the vegetation was also noted, listing species encountered and scoring their abundance using the DAFOR scale:
- D-Dominant
 - A-Abundant
 - F-Frequent
 - O-Occasional
 - R-Rarely distributed
 - L-Local (used as a prefix to any of the above)
- 10.18 Habitats and features were also assessed during the phase 1 survey for their potential to support protected species. This included, but was not limited to, searches for signs of badger (*Meles meles*), bat species, hazel dormice (*Muscardinus avellanarius*), great crested newts (*Triturus cristatus*), nesting birds and reptiles.
- 10.19 A direct search was undertaken for signs of badger. Signs of badger may include setts, dung pits, latrines, paths or hairs on fences and vegetation. Any setts encountered were classified according to the number of entrances and the extent of their use.
- 10.20 Habitats within the proposed development area were assessed for their suitability to provide foraging and commuting habitat, in line with the *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (Collins, 2016). The survey was carried out by a licensed bat surveyor using appropriate equipment. A bat preliminary roost assessment was conducted on 23 September 2019, scoping tunnels adjacent to the site.
- 10.21 The habitat on site was assessed for the potential to support hazel dormice, which are found in habitats such as woodlands, scrub and hedgerows with good connectivity and suitable food plants. Satellite images were used to assess the connectivity of any suitable habitat present on the site to other areas of woodland and hedgerow networks.
- 10.22 Habitats within the proposed survey area were assessed for their suitability to provide breeding, foraging and commuting habitat for great crested newts. All

ponds within 500 m of the proposed development area were identified from a variety of mapping resources. Suitable breeding ponds are essential to support populations of great crested newt, although they actually only spend a relatively short period of the year in the ponds during the spring for breeding. The remainder of the year is spent in suitable foraging habitat such as tall grassland and woodland. During the winter the great crested newt hibernates, often amongst the roots of trees and scrub or in places such as piles of rubble, amongst foundations of buildings or under fallen trees and logs.

- 10.23 Birds utilise a wide variety of vegetation and buildings for nesting and several breeding species can be present in a small area. All habitats within the proposed development area were searched for evidence of breeding birds and assessed for their suitability to support bird nests. Breeding bird surveys were undertaken on 19 June and 3 July 2019. Monthly wintering bird surveys were conducted on 24 October 2019, 20 November 2019, 19 December 2019, 17 January 2020, 25 February 2020, and 17 March 2020.
- 10.24 Reptiles are widespread in habitats that provide both cover, in the form of scrub or tall vegetation, and basking areas such as areas of hardstanding or short grassland communities. Piles of debris or rubble also provide excellent cover and hibernation sites for reptiles. Habitats within the site were therefore assessed for their suitability to support reptiles. The reptile survey was conducted between 12 September and 4 October 2019.
- 10.25 Invertebrates are key species within all ecosystems and can be found in most habitats throughout the UK. Detailed invertebrate surveys are normally only carried out where rare or protected species are recorded nearby and suitable habitat for these species is recorded on site. Surveyors recorded common invertebrates during phase 1 surveys where possible. The site was visited on 9 June, 2 July and 29 July 2020 by an experienced invertebrate ecologist.

Impact assessment

- 10.26 The Chartered Institute of Ecology and Environmental Management (CIEEM; 2018) guidance is followed in assigning value to a feature and in the assessment of the significance of effects. The value of a feature is assigned by CIEEM to one of seven levels, from international to 'within the immediate zone of the proposal only'. For the purpose of this assessment, international, national, regional / county / district and local levels are considered. The justification for selecting the level of value is given for each feature in the assessment. To provide consistency with the approach used in other chapters of this ES, table 10.2 explains how the CIEEM levels relate to the general Terence O'Rourke Ltd approach to assessment described in chapter 3 of this ES.

CIEEM guidelines	Terence O'Rourke Ltd approach
International	High
UK	High
National (England / Northern Ireland / Scotland / Wales)	High to medium
Regional	Medium
County / Metropolitan area	Medium
District / unitary authority / city / borough	Medium
Local or parish	Low
Table 10.2: Relationship between the CIEEM and the Terence O'Rourke Ltd approach for assessing the importance / value of a receptor	

- 10.27 A nature conservation designation does not necessarily imply a level of significance. For example, if a county wildlife site is cited for the population of a particular species of bird, that population is of county importance, but other features of the site may be less important. Similarly, legal protection at a national level, or the presence of a priority species or habitat in the UK BAP, does not imply national importance. The mitigation required to meet legal obligations is provided as separate advice for protected species.
- 10.28 For each feature of value (e.g. habitat or species), the effects of proposed activities during and after construction are assessed and the type of impact characterised according to its extent, magnitude, duration, reversibility, timing, frequency and cumulative effects. The effect of the impact on the function of the ecosystem (integrity), the quality and extent of the habitat or the population size of the species is predicted and an estimate made of the degree of uncertainty in the prediction. Mitigation and enhancement measures, if applicable, are described and the residual effect after these measures have been taken into account is quantified as accurately as possible.
- 10.29 Effects are defined as either significant or not significant and are assessed both before and after mitigation. For example, a proposal that may have a large effect on a bird population for which a county wildlife site is cited without mitigation would result in a significant effect, but when fully mitigated the effect would be of negligible magnitude and would be described as an effect on a feature of county value that was not significant.
- 10.30 In order to provide an assessment of impacts that is comparable with the other chapters of this ES, a degree is also given to each effect, following protocols developed by Terence O'Rourke Ltd. Where there is uncertainty over the degree of effect, for example where there is considerable uncertainty about the full extent of the local resource (habitat area or population size), this is stated and as a precaution the higher degree of effect is applied.
- 10.31 Significance has been derived from two measures: the importance of receptors (figure 10.1) and the magnitude of change (figure 10.2). These two sets of criteria are used together in the degree of effect matrix (figure 10.3) to derive the generic definitions of the degree of potential effects. Where there is doubt over the appropriate degree of effect, for example whether there is uncertainty about the full extent of the local resource (habitat area or population size), this is stated and as a precaution the higher degree of effect is applied.
- 10.32 The CIEEM guidelines suggest that an effect is either ecologically significant or not, whereas the Terence O'Rourke Ltd approach is a development of this and determines significance based on the degree of the effect. The CIEEM and Terence O'Rourke Ltd approaches are compared in table 10.3.

CIEEM significance	Terence O'Rourke Ltd approach
Significant	Very substantial
	Substantial
	Moderate
Not significant	Slight
	None

Table 10.3: Comparison of the CIEEM and Terence O'Rourke Ltd approach for assessing potential significance of effects

Limitations and uncertainties

- 10.33 All surveys were carried out during the guideline timings and conditions and there were no constraints to surveying the full area.

Baseline

Designated sites

Internationally and nationally designated sites

- 10.34 There are five internationally designated sites and 14 nationally designated sites within 10 km of the proposed development (figure 10.4). Table 10.4 sets out which of these sites have been included in the assessment. Where sites have been excluded, this is because no potential impact pathways have been identified for significant effects to occur. These designated sites are too far from the site to be affected by construction activity or post-construction disturbance, are outside the potential impact zone for emissions from the plant, and are not adjacent to roads that will experience increased traffic as a result of the proposed development.

Designated site	Distance from application site	Included in assessment?
Studland to Portland SAC	1.5 km SW	Yes
Isle of Portland to Studland Cliffs SAC	30 m SW	Yes
Chesil and The Fleet SAC	1.3 km W	Yes
Chesil Beach and The Fleet SPA / Ramsar site	2.8 km NW	Yes
Crookhill Brick Pit SAC	7.3 km NW	No
Isle of Portland SSSI	Adjacent W	Yes
Nicodemus Heights SSSI	590 m S	Yes
Chesil and The Fleet SSSI	1.3 km W	Yes
Portland Harbour Shore SSSI	2.0 km NW	Yes
Crookhill Brick Pit SSSI	7.3 km NW	No
Chalbury Hill and Quarry SSSI	9.2 km N	No
Lodmoor SSSI	6.6 km N	No
Lorton SSSI	7.9 km NW	Yes
Radipole Lake SSSI	5.2 km NW	Yes
South Dorset Coast SSSI	7.3 km N	No
White Horse Hill SSSI	9.9 km N	No
Chesil Beach and Stennis Ledges MCZ	1.3 km W	Yes
South of Portland MCZ	6.6 km SW	Yes
Purbeck Coast MCZ	6.7 km E	Yes
Table 10.4: Internationally and nationally designated sites within 10 km of the application site		

- 10.35 In addition, two water bodies designated under the Water Framework Directive have been included within the assessment because of their proximity to the site.
- 10.36 Studland to Portland SAC is designated due to the presence of the Annex 1 habitat reefs, which exhibit a large amount of geological variety and biological diversity. The Portland reefs are characterised by flat bedrock, limestone ledges, large boulders and cobbles. Mussel (*Mytilus edulis*) beds are found at very high densities on bedrock associated with strong currents to the south east of Portland Bill. This designated site is considered to be a receptor of high (or international) importance.

- 10.37 Isle of Portland to Studland Cliffs SAC covers 1447.5 ha. The SAC supports the following habitats of importance at a European level: Vegetated sea cliffs of the Atlantic and Baltic Coasts, semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) and annual vegetation of drift lines. The SAC also supports populations of early gentian (*Gentianella anglica*).
- 10.38 Further details of the interest features of this designated site are provided in the shadow appropriate assessment submitted in support of the planning application. This designated site is considered to be a receptor of high (or international) importance.
- 10.39 Chesil Beach and the Fleet SPA / Ramsar site supports a breeding population of little tern (*Sterna albifrons*) and a wintering population of wigeon (*Mareca penelope*). The interest features of the Ramsar site include breeding common tern (*Sterna hirundo*) and ringed plover (*Charadrius histicula*).
- 10.40 The Fleet is notable for the diversity of wintering waders and wildfowl. Alongside the wigeon population described above, the SPA supports pochard (*Aythya ferina*), teal (*Anas crecca*), pintail (*Anas acuta*), mallard (*Anas platyrhynchos*), shoveler (*Spatula clypeata*), tufted duck (*Aythya fuligula*), goldeneye (*Bucephala clangula*) and dark-bellied brent geese (*Branta bernicula*).
- 10.41 The Fleet is the largest regularly-tidal lagoon in Britain and contains a mixed population of eelgrasses (*Zostera* spp), spiral tasselweed (*Ruppia cirrhosa*), a rare stonewort (*Chara* sp) and diverse marine algae communities. The more marine influenced areas support populations of the sponge *Suberites massa*, the goby *Gobins couchi*, burrowing anemone *Scolanthus callimorphus* and the polychaete *Sabella flabellata*.
- 10.42 Further details of the interest features of the SPA / Ramsar site are provided in the shadow appropriate assessment submitted in support of the planning application. This site is considered to be a receptor of high (or international) importance.
- 10.43 Chesil and the Fleet SAC covers 1631.63 ha. It supports the following habitats of importance at a European level: Annual vegetation of drift lines, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), Coastal lagoons (a priority habitat), Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruitcosi*) and perennial vegetation of stony banks.
- 10.44 Further details of the interest features of this SAC are provided in the shadow appropriate assessment submitted in support of the planning application. This designated site is considered to be a receptor of high (or international) importance.
- 10.45 Portland Harbour (a Water Framework Directive water body) lies to the north of the site and supports subtidal kelp beds covering 26.87 ha and subtidal seagrass covering 5.01 ha. Subtidal soft sediment covers the majority of the harbour area, including the area immediately north of the site.
- 10.46 Sea pens, a type of octocoral, occur in Portland Harbour. Three species are found in the UK: phosphorescent sea pen, slender sea pen (the species most likely to be found in Portland Harbour) and tall sea pen. Sea pens are filter

feeders that catch plankton and other particles of food. Portland Harbour is considered to be a receptor of high (or national) importance.

- 10.47 Balaclava Bay to the south of the breakwater is located within the Dorset / Hampshire coastal water body (Water Framework Directive water body), which supports 24962.19 ha of chalk reef, 205.8 ha of maerl beds, subtidal kelp beds covering 406.99 ha and subtidal seagrass covering 119.17 ha. An area of gravels and cobbles lies to the west of the Site in Balaclava Bay. Further south there are areas of rocky shore, subtidal soft sediment, subtidal rocky reef and, further offshore, more gravels and cobbles. The Dorset / Hampshire coastal water body is considered to be a receptor of high (or national) importance.
- 10.48 Chesil Beach and Stennis Ledges MCZ is an inshore site running the length of Chesil Beach from Abbotsbury to Weston on the Isle of Portland. It covers approximately 37 km² and supports the following protected features: high energy infralittoral rock, high energy intertidal rock, intertidal coarse sediment, subtidal coarse sediment, subtidal mixed sediments, subtidal sand, high energy circalittoral rock and pink sea fan (*Eunicella verrucosa*). This designated site is considered to be a receptor of high (or national) importance.
- 10.49 The South of Portland MCZ is an inshore site located off Portland Bill. It covers approximately 17 km² and supports the following protected features: high energy circalittoral rock, moderate energy circalittoral rock, subtidal coarse sediment and subtidal sand. This designated site is considered to be a receptor of high (or national) importance.
- 10.50 The Purbeck Coast MCZ is an inshore site stretching from Ringstead Bay in the west to Swanage Bay in the east. It covers an area of 282 km² and supports the following protected features: high energy intertidal rock, moderate energy intertidal rock, intertidal coarse sediment, subtidal coarse sediment, subtidal mixed sediments, maerl beds, stalked jellyfish (*Haliclystus* sp.), and peacock's tail (*Padina pavonica*). This designated site is considered to be a receptor of high (or national) importance.
- 10.51 Nicodemus Heights SSSI is important for supporting limestone grassland communities, nationally rare and scarce bryophytes including *Cephaloziella baumgartneri* and *Southbya nigrella* and higher plants including dwarf mouse-ear (*Cerastium pumilum*), populations of early gentian and silver-studded blue (*Plebejus argus*). This designated site is considered to be a receptor of high (or national) importance.
- 10.52 The Isle of Portland SSSI is notified for its internationally important geological formations and the rich assemblages of plants and animals associated with limestone grassland, scrub and coastal habitats. It supports Portland sea lavender (*Limonium recurvum*), a species confined to the Isle of Portland, and hoary stock (*Mathiola incana*). The Weares support grassland and scrub communities where various broomrapes (*Orobancha* sp.) can be found.
- 10.53 The SSSI supports a bryophyte flora of essentially Mediterranean characteristics, including the rare *Eurhynchium meridionale* and *Southbya nigrella*. Over 210 species of lichen have been recorded, most occurring on the limestone rocks, but rocks near the high-water mark also constitute an important lichen community.

- 10.54 The SSSI supports populations of rare molluscs, butterflies and two species of moth: Portland ribbon wave (*Sterrha degeneraria*) and four spotted (*Tyta lactuosa*). The largest population of four spotted occurs around Portland Bill and Portland ribbon wave generally occurs on the Weares on the eastern side of the island. This designated site is considered to be a receptor of high (or national) importance.
- 10.55 Chesil and the Fleet SSSI is notified as one of three major shingle structures in Britain and is of international importance for coastal geomorphology. The Fleet is the largest tidal lagoon in Britain. The shingle supports nationally important populations of sea kale (*Crambe maritima*), sea pea (*Lathyrus japonicus*) and shrubby sea-blite (*Suaeda vera*). Little robin (*Geranium purpureum*) is also present. The SSSI also supports a colony of breeding little tern and up to 30 pairs of ringed plover (*Charadius hiaticula*). Chesil Beach also supports a population of scaly cricket (*Mogoplistes squamiger*).
- 10.56 The Fleet supports over 150 species of algae and underwater meadows of eel-grasses (*Zostera* sp.) and tassel-weeds (*Ruppia* sp.). It also supports populations of the sponge *Suberites massa*, the anemone *Scolanthes callimorphus*, the looping snail *Truncatella subcylindrical* and the sea slug *Tenellia adspersa*. It is the only significant estuarine breeding area for fish between Swanage and Seaton.
- 10.57 The Fleet supports up to 1,200 wintering mute swan (*Cygnus olor*), c7,500 wigeon, 1,000 dunlin (*Calidris alpina*) and 1,500 lapwing (*Vanellus vanellus*).
- 10.58 Other habitats occurring with the SSSI include saltmarsh, reedbed, grassland, scrub and woodland. All are considered to be important and integral components of the site. This designated site is considered to be a receptor of high (or national) importance.
- 10.59 Portland Harbour Shore SSSI is notified due to the outstanding geological importance of the cliffs on the north western shore of Portland Harbour. The SSSI also includes maritime grassland and the intertidal shore area. The maritime grassland is similar to that of the adjacent Chesil and the Fleet SSSI. This designated site is considered to be a receptor of high (or national) importance.
- 10.60 Portland Harbour Shore SSSI also supports a population of the micro moth *Scythris siccella*. Monitoring undertaken by Butterfly Conservation between 2011 and 2016 has recorded a significant decline in the number of larval tubes recorded each year. Small scrapes have been dug to provide suitable areas of loose sand close to food plants. On-going vegetation management is needed to maintain suitable habitat for this species. This species is considered to be a receptor of high (or national) importance.
- 10.61 Radipole Lake SSSI is notified due to the variety of wetland habitats that are of great importance for wintering, passage and breeding birds. Breeding species include Cetti's warbler (*Cettia cetti*) and bearded tit (*Panurus biarmicus*), with the flock of wintering shoveler particularly notable. This designated site is considered to be a receptor of high (or national) importance.

10.62 Lorton SSSI is notified for supporting neutral grassland communities as well as the largest remaining area of ancient woodland in the former borough of Weymouth and Portland, some of which is ancient. Scarce species such as pepper saxifrage (*Silva saxifraga*) and corky-fruited water dropwort (*Oenanthe pimpinelloides*) occur in the grassland. This SSSI is considered to be a receptor of high (or national) importance.

Locally designated sites

10.63 There are nine locally designated nature conservation sites within 2 km of the site (figure 10.5). East Weare Camp site of nature conservation interest (SNCI) covers 8.47 ha and supports a matrix of scrub and grassland in and around the former camp. It is selected as a SNCI for supporting calcareous grassland. This designated site is considered to be a receptor of medium (or county) importance.

10.64 East Weare Rifle Ranges SNCI covers 3.38 ha and supports scrub and grassland habitats by the former rifle ranges. It is selected as a SNCI for supporting calcareous grassland. This designated site is considered to be a receptor of medium (or county) importance.

10.65 Verne to Grove SNCI covers 3.19 ha. This site is described as a mix of limestone and clay spoil and is selected as a SNCI for supporting calcareous grassland. This designated site is considered to be a receptor of medium (or county) importance.

10.66 Grove Quarry SNCI covers 0.99 ha. This abandoned quarry has been colonised by grassland and scrub. It is selected as a SNCI for supporting calcareous grassland. It is considered to be a receptor of medium (or county) importance.

10.67 Portland Heights SNCI covers 4.16 ha. It is described as a varied site with rich calcareous grassland. It is selected as a SNCI for supporting calcareous grassland and being a habitat restoration site. This designated site is considered to be a receptor of medium (or county) importance.

10.68 Verne Yeates Local Nature Reserve (LNR) covers 14.45 ha comprising unimproved and semi-improved limestone grassland. Part of the LNR designation overlaps with the Isle of Portland SSSI. The designated site (where it lies outside the SSSI) is considered to be a receptor of medium (or county) importance.

10.69 Osprey Quay Bunds SNCI covers 1.24 ha comprising a mix of calcareous and coastal grassland. It is selected as a SNCI for supporting maritime grassland and being a habitat restoration site. This SNCI is considered to be a receptor of medium (or county) importance.

10.70 Two Dorset Wildlife Trust reserves, King Barrow Quarries and Tout Quarries, lie within 2 km of the site. Both are former stone quarries that have been allowed to regenerate naturally and overlap with the Isle of Portland SSSI. These sites (where they fall outside the SSSI) are considered to be receptors of medium (or county) importance.

Habitats and vegetation on site

10.71 The application site covers a 6.29 ha area of brownfield site, 2.14 ha of which is the main site for the ERF buildings and the remaining 4.15 ha of which comprise the cable routes. The proposed development area will cover the majority of the 2.14 ha main site. The results of the phase 1 habitat survey (CGO, 2020) are shown on figure 10.6 and a summary of the habitats recorded on site is provided below. Table 10.5 summarises the level of importance that can be attributed to each habitat that was encountered during the survey. The development site comprises largely colonised hardstanding and rubble, with very small areas of unconnected improved grassland and scrub.

Colonised hardstanding

10.72 A large proportion of the site comprises hardstanding that has been colonised by a combination of tall ruderal and scrub planting. The hardstanding is composed of rubble, tarmac and concrete. This habitat includes a frequent distribution of buddleja (*Buddleja davidii*), with an abundance of tall ruderal species, including: Canadian fleabane (*Conyza Canadensis*), perennial wall-rocket (*Diplotaxis tenuifolia*), weld (*Reseda luteola*), Viper's bugloss (*Echium vulgare*), Oxford ragwort (*Senecio squalidus*), bristly oxtongue (*Picris echioides*) and scentless mayweed (*Tripleurospermum inodorum*).

10.73 One of the colonised habitats within the development area is a wall that forms part of the entrance to the inner breakwater. Rock sea-spurrey (*Spergularia rupicola*) and Sea spleenwort (*Asplenium marinum*) were recorded on this habitat and both are county level notable species. The nationally scarce maidenhair fern (*Adiantum capillus-veneris*) was also recorded on this habitat.

Improved grassland

10.74 Throughout the development area there are fragments of grassland which are dominantly composed of red fescue (*Festuca rubra*), cock's-foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*). These areas also have a frequent abundance of common herbs, which include red clover (*Trifolium pratense*), ribwort plantain (*Plantago lanceolata*) and creeping cinquefoil (*Potentilla reptans*). Within these fragments of grassland there are localised areas where more uncommon species have become locally distributed, including buck's-horn plantain (*Plantago coronopus*), biting stonecrop (*Sedum acre*) and mouse-ear hawkweed (*Pilosella officinarum*).

10.75 There is a very small section of grassland and colonised short perennial habitat in the east of the site, adjacent to the pipeline. This area has been subject to a higher level of sea spray and as such has been colonised by more coastal plants. County level notable species were recorded in this small area of habitat. The species included: greater sea-spurrey (*Spergularia media*), Portland spurge (*Euphorbia portlandica*), and golden samphire (*Inula crithmoides*).

Scrub

10.76 There are two small areas of scrub located within the south of the site. Buddleja, bramble (*Rubus fruticosus* agg) and traveller's joy (*Clematis vitalba*) are abundant in this habitat above ground level. The ground level is dominantly ivy (*Hedera*

helix) with a rare abundance of herb Robert (*Geranium robertianum*) and the county notable species ivy broomrape (*Orobancha hederae*).

Summary of receptor importance

10.77 Table 10.5 summarises the importance of the habitat receptors listed above.

Receptor	Evaluation rationale	Value of receptor
Colonised hardstanding	This is a common habitat at local levels that provides limited biodiversity value for pollinators and foraging birds	Local / low
Improved grassland	Improved grassland is locally common and provides habitat for a range of flora and fauna, including foraging bats, birds, invertebrates, reptiles and amphibians. The low floral diversity of grassland lowers its overall biodiversity value	Local / low
Scrub	The bramble scrub is a locally common habitat of semi-urban environments. It provides foraging and nesting habitat for a variety of bird species	Local / low
Table 10.5: Level of value of habitats recorded within the site		

10.78 Though notable and scarce species were recorded in some of the habitats on site the value of the habitats is not considered to be of higher importance. This is as the colonisation has occurred since the site was abandoned five years ago and colonisation has occurred from the surrounding habitats which are both of higher quality and greater abundance.

Fauna

Badger

10.79 The phase 1 survey recorded no evidence of badger within the proposed development site and it not considered that any population of badger is using the habitats on site as part of its territorial range. This species is therefore not considered further in the assessment.

Bats

10.80 There are no existing buildings or trees within the development area that could be used by bats species for roosting. The habitats within the proposed development area are of negligible value to foraging bats due to their small size and poor quality. When considered at a landscape level, the habitats on site are exposed to the sea on the north and east, which would largely discourage bat species from approaching the site from these areas. The west and south of the site are adjacent to the habitats of the Isle of Portland SSSI and include Incline Road, which acts as an linear feature that runs along the edge of the habitats of the SSSI. Bat commuting and foraging is likely to occur along Incline Road and along the western fringe of the scrubland habitats that border the west of the site.

10.81 No evidence of roosting bats was found in the tunnels and the roost assessment concluded that the way the tunnels are secured probably prevents bats from entering.

Dormice

- 10.82 Dormice require a high quality interconnected habitat that is dominantly formed from tree species. No suitable habitat for dormouse exists within the development area. There are also no biological records of dormouse on the Isle of Portland and it is not considered that the habitats within the surrounding area are part of the natural range of this species. This species is considered absent from the site and the surrounding area and so has not been considered further in the assessment.

Great crested newt

- 10.83 Great crested newts require a combination of freshwater aquatic habitats and suitable terrestrial habitat for foraging within a maximal dispersion distance of 500 m. No suitable aquatic or terrestrial habitat is present within the development area and there is no known population of great crested newt within the 500-metre radius that would allow a metapopulation within the surrounding landscape to disperse into the site boundary. This species is considered absent from the site and the surrounding area and so has not been considered further in the assessment.

Breeding birds

- 10.84 Suitable habitat for breeding birds is present within the proposed development site in the form of scrub, buildings and the sea wall. The value of these nesting habitats is generally considered to be low. The site was subject to breeding bird survey (CGO, 2019), which identified that, although a number of gull roosts (herring gull (*Larus argentatus*), Lesser black-backed gull (*Larus fuscus*) and black-headed gull (*Chroicocephalus ridibundus*)) were present, no evidence of breeding birds was recorded from within the site boundary.
- 10.85 The site was also subject to wintering bird surveys (LCE, 2020) that identified consistent utilisation of the survey area by black redstart (*Phoenicurus ochruros*) with a peak count of nine individuals being recorded. In addition to these records a single adult male was recorded singing on site in March 2020. While suitable habitat is present on site for the nesting requirements of this species, it is considered that the individual was migrating and not breeding. The wintering bird survey identified no species of bird that the nearby SPA and Ramsar sites are designated for and, as a result, it was concluded that there is no functional link between the designated sites and the habitats present within the development area.
- 10.86 The suitable nesting habitat on site exists in relatively small areas but is able to support a range of common and widespread breeding bird species. Out of the species recorded on site during the breeding bird surveys, it is considered that the habitat present would only be suitable for black redstart nesting. The gull species are very unlikely to breed on the site due to the potential exposure to predators and high levels of disturbance.
- 10.87 During the breeding bird survey, nine species of bird were recorded and these are shown in table 10.6, along with their UK status. No breeding on site was recorded by any of these species.

Species	Scientific name	NERC S41 species	Birds of conservation concern
Blackbird	<i>Turdus merula</i>	No	Green
Black-headed gull	<i>Chroicocephalus ridibundus</i>	No	Amber
Common chiff chaff	<i>Phylloscopus collybita</i>	No	Green
Greater black-backed gull	<i>Larus marinus</i>	No	Amber
Herring gull	<i>Larus argentatus</i>	Yes	Red
Lesser black-backed gull	<i>Larus fuscus</i>	No	Amber
Lesser whitethroat	<i>Sylvia curruca</i>	No	Green
Peregrine falcon	<i>Falco peregrinus</i>	No	Green
Wren	<i>Troglodytes troglodytes</i>	No	Green

Table 10.6: Conservation status of breeding bird species

10.88 During the wintering bird survey, nine species of bird were recorded and these are shown in table 10.7, along with their UK status. No breeding on site was recorded by any of these species.

Species	Scientific name	NERC S41 species	Birds of conservation concern
Common sandpiper	<i>Actitis hypoleucos</i>	No	Amber
Long-tailed tit	<i>Aegithalos caudatus</i>	No	Green
Razorbill	<i>Alca torda</i>	No	Amber
Rock pipit	<i>Anthus pectorosus</i>	No	Green
Grey heron	<i>Ardea cinerea</i>	No	Green
Turnstone	<i>Arenaria interpres</i>	No	Amber
Buzzard	<i>Buteo buteo</i>	No	Green
Purple sandpiper	<i>Calidris maritima</i>	No	Amber
Black-headed gull	<i>Chroicocephalus ridibundus</i>	No	Amber
Stock dove	<i>Columba oenas</i>	No	Amber
Wood pigeon	<i>Columba palumbus</i>	No	Green
Carrion crow	<i>Corvus corone</i>	No	Green
Blue tit	<i>Cyanistes caeruleus</i>	No	Green
Little egret	<i>Egretta garzetta</i>	No	Green
Robin	<i>Erithacus rubecula</i>	No	Green
Peregrine	<i>Falco peregrinus</i>	No	Green
Kestrel	<i>Falco tinnunculus</i>	No	Amber
Chaffinch	<i>Fringilla coelebs</i>	No	Green
Great northern diver	<i>Gavia immer</i>	No	Amber
Mediterranean gull	<i>Ichthyaeus melanocephalus</i>	No	Amber
Herring gull	<i>Larus argentatus</i>	Yes	Red
Greater black-backed gull	<i>Larus marinus</i>	No	Amber
Pied wagtail	<i>Motacilla alba</i>	No	Green
Grey wagtail	<i>Motacilla cinerea</i>	No	Red
Wheatear	<i>Oenanthe oenanthe</i>	No	Green
Great tit	<i>Parus major</i>	No	Green
Shag	<i>Phalacrocorax aristotelis</i>	No	Red

Species	Scientific name	NERC S41 species	Birds of conservation concern
Cormorant	<i>Phalacrocorax carbo</i>	No	Green
Black redstart	<i>Phoenicurus ochruros</i>	No	Red
Dunnock	<i>Prunella modularis</i>	Yes	Amber
Goldcrest	<i>Regulus regulus</i>	No	Green

Table 10.7: Conservation status of wintering bird species

Reptiles

10.89 Reptile species require a mixed height sward with suitable areas for foraging and refuge. There is suitable habitat for reptiles on site within a small strip of grassland adjacent to Incline Road (CGO, 2019). This habitat has only been present on site for five years, since the demolition of the former buildings, and would only have been suitable for reptile use after vegetation has formed. The site is isolated within the surrounding landscape by the sea, hardstanding and sub-optimal scrubland. It is unlikely that reptiles would have colonised the site from these habitats within the relatively short time period in which the habitats have become sufficiently vegetated to support them. Reptile surveys carried out in 2018 by CGO Ecology Ltd found no reptiles within the boundary of the proposed development area. Reptiles are therefore not considered to be present within the proposed development site and are given no further consideration.

Invertebrates

- 10.90 Multiple terrestrial mollusc species were recorded site during the ecological appraisals of the site (CGO, 2019). No notable or rare species were recorded during this survey. However, the site is within close proximity to the Isle of Portland SSSI, which is known to support both Silver-studded blue and Adonis blue butterflies. These species forage on heather species and horseshoe vetch (*Hippocrepis comosa*) respectively. Food species for this species were not recorded within the limited suitable habitat within the development area and as such there is considered to be no functional link between the SSSI and the habitats on site.
- 10.91 A subsequent dedicated invertebrate survey of the site (LCECO, 2020) recorded four nationally scarce invertebrate species and a further 35 species that are considered to be local, with restricted distribution or habitat niches.
- 10.92 The record of the micro moth *Ethmia bipunctella* is significant at a county level, being regarded as a 'very rare resident' by Dorset Moth Group. There are four modern records (i.e. post-2000) for Dorset. There are a further two historic records (i.e. 1970-1999), including one from Portland. It was last recorded in the region in 2004. The food plant, Viper's bugloss, is locally frequent at the site. The usual habitat is vegetated coastal shingle, where Viper's bugloss is a usual botanical component; this habitat is mimicked by the vegetated rubble substrate with a coastal influence at the survey site.
- 10.93 The nationally scarce six-belted clearwing moth (*Bembecia ichneumoniformis*) is regarded as a 'scarce and thinly distributed resident' by Dorset Moth Group. It has a long history within the county, being first recorded in 1890. The last modern record was 2011. This highly distinctive species was swept from its food-plant bird's-foot trefoil (*Lotus corniculatus*) on all three survey visits; with

the highest number of individuals noted in June. Spring heat-wave conditions had parched much of the vegetation of the wider area of rubble, but fresh food-plants (and the moth) were found concentrated in a small area of herb-rich grassland sandwiched between the pipeline and the fence-line above the beach.

- 10.94 A further micro moth of interest is the nationally local large clover case-bearer (*Coleophora trifolii*). In Dorset this moth is regarded as a 'scarce and thinly distributed resident', being last recorded a decade ago in 2010. There are several previous records for Portland. Despite the specific name of 'trifolii' the moth is associated with melilotus species (i.e. not with trifolium species of clovers). A yellow flowering melilotus species was locally common around the pipeline adjacent to Balaclava Beach.
- 10.95 The nationally scarce lesser cockroach (*Ectobius panzeri*) is largely a southern coastal species associated with a broad range of coastal habitats. *E. panzeri* was the only *Ectobius* species found to be present at the site, all three UK *Ectobius* species being nationally scarce. The parasitic wasp of *Ectobius* species, the very local *Brachygaster minutus*, was also recorded. The Parasitica is a large insect group for which identification can be extremely difficult for many species. Therefore, the group as a whole is poorly known, under-recorded and unlikely to be reviewed under IUCN criteria due to the large number of data deficient species. As its hosts are all nationally scarce, it follows that in all likelihood so is the wasp.
- 10.96 The nationally scarce Adonis' ladybird (*Hippodamia variegata*) has increased its distribution in recent years and will likely be downgraded to local when the group is formally reviewed using IUCN criteria. Formerly associated with coastal habitats, such as vegetated shingle, it has become increasingly common inland and is a typical species of ruderal and brownfield sites. Apart from one or two isolated outliers, Portland represents the western extremity of the species' range in southern Britain (Roy et al., 2012), and it is thus potentially important at a county level. Conversely, the local but widespread 11-spot Ladybird (*Coccinella undecimpunctata*) has shown a marked decline since around the 1980s in Britain. The UK ladybird survey dataset (Roy et al., 2012) shows no post-1990 records for Dorset; however, there are likely to be at least a handful of records since the publication date. Nevertheless, this may represent a record of some importance at a county level for this nationally declining species.
- 10.97 The local money spider *Erigone promiscua* is largely a northern and, to a lesser extent, western species with a localised distribution in Dorset. There are only 12 modern records (post-1992) for the county in the UK spider recording scheme dataset. The previous record for Portland is extremely isolated, the bulk of records being from the east of the county.
- 10.98 The local wharf borer beetle *Nacorderdes melanura* is notable based on 10 km square occupancy and was only recently downgraded in the IUCN. The reason for demotion was the questionable nativity of a species that has historically been spread around the globe in ship timbers.

Summary of receptor importance

- 10.99 Table 10.8 summarises the protected species assessment.

Receptor	Evaluation rationale	Value of receptor
Bats	<p>A total of seven confirmed bat species were returned from the DERC data request for all bat species within 5 km of the proposed development area. The 5 km bat search found roosts for at least four species; brown long-eared (<i>Plecotus auritus</i>), noctule (<i>Nyctalus noctule</i>), pipistrelle (<i>Pipistrellus sp</i>), and serotine (<i>Eptesicus serotinus</i>). In addition to this records for at least seven species including common pipistrelle (<i>Pipistrellus pipistrelles</i>), Daubenton's bat (<i>Myotis daubentonii</i>), long-eared (<i>Plecotus sp</i>), Nathusius pipistrelle (<i>Pipistrellus nathusii</i>), Natterer's bat (<i>Myotis nattereri</i>), serotine, soprano pipistrelle (<i>Pipistrellus pygmaeus</i>) and whiskered (<i>Myotis mystacinus</i>). The nearest bat roosts are over 1 km to the west and south west.</p> <p>No potential for roosting bats was recorded on site. The habitats present within the proposed development site are of negligible value to foraging and commuting bats. Habitats surrounding the site are of low value to foraging and commuting bats.</p>	Local / low
Breeding and wintering birds	<p>A total of nine bird species were recorded on site during the breeding bird survey. These included one red listed species and three amber listed species, one of which is a NERC S41 listed species. No breeding by bird species was recorded.</p> <p>A total of 31 bird species were recorded during the wintering bird survey. These included four red listed and eleven amber listed species.</p> <p>The suitable nesting habitat on site exists in relatively small areas but is able to support a range of common and widespread breeding bird species. Out of the species recorded on site during the breeding bird surveys, it is considered that the habitat present would only be suitable for black redstart nesting, although none were recorded nesting.</p>	Local / low
Invertebrates	<p>Suitable habitat is present to support common and widespread invertebrate species and some with specific habitat niche requirements typical of the site's coastal location; however, the small amounts of relatively low value habitat present have been shown to support a relatively low diversity compared to other nearby sites</p>	Local / Low

Table 10.8: Level of value of protected species recorded on site

Future baseline

10.100 In the absence of development there would be no short-term change in the value of the habitat. This is because the habitats present are colonising an area of hardstanding and, in the short-term, this will not result in a significant change in species composition as the site is at the early stage of succession. In the long-term the colonisation of the site will become more scrub based, as the woody species present will obscure ground cover. This would increase the habitats' suitability for supporting nesting birds, but would result in the loss of the exposed habitats where the notable species were recorded. In any case there is no outcome in any temporal period where the value of the habitats would increase significantly; overall biodiversity value of the site would remain of local / low value.

Effects during construction

Designated sites

Internationally and nationally designated sites

- 10.101 The water quality assessment in ES chapter 8 has identified a 1 km zone around the site to evaluate designated sites that have some degree of hydrological connectivity to the proposed development. All the MCZ are situated at least 5 km from the application site by water and therefore no significant effects are anticipated. This also applies to the Studland to Portland SAC (which is around 3 km from the site by water).
- 10.102 Chesil Beach and the Fleet SPA / Ramsar site and Chesil and the Fleet SAC are both situated over 2 km from the proposed facility by water. At this distance it is not considered likely that any pollution or suspended sediments from the site would reach these sites in sufficient quantities to have a significant effect. In line with industry good practice a framework construction environment management plan (CEMP) has been prepared (see paragraphs 10.149 to 10.150), which further reduces the potential risk to these sites.
- 10.103 Portland Harbour and Balaclava Bay would both potentially be at risk from raised suspended sediment concentrations in runoff from earthworks and stockpiles created during the construction of the facility or from accidental spills such as concrete or fuel oils from construction plant. Runoff from the site would be via existing tidal outfalls. Potential pollution events would represent a small to medium magnitude of change on receptors of high (or national) importance. The unmitigated effect would be moderate to substantial, adverse, short-term and significant.
- 10.104 The disturbance of made ground, which may contain chemicals on the Environmental Quality Standards Directive (EQSD) list, during construction may allow chemicals to enter the sea. However, the desk-based assessment in ES chapter 8 identified low concentrations of metals and organic compounds in the made ground beneath the site, indicating the risk is low. Potential pollution events would represent a small magnitude of change on receptors of high (or national) importance. The unmitigated effect would be moderate, adverse, short-term and significant.
- 10.105 The Isle of Portland to Studland Cliffs SAC is within 50 m of the site. This designated site overlaps with the Isle of Portland SSSI. It is possible that dust from construction activities will be deposited on vegetation within the SAC and SSSI, which are receptors of high importance. Dust deposition over a long period can affect photosynthesis, respiration and transpiration rates in plants. It may also leave plants more susceptible to fungal attack or absorption of phytotoxic gaseous pollutants. These impacts should be balanced against the fact that dust generation is likely to be short-term, with wind and rain removing dust accumulations from vegetation. The unmitigated effect would be moderate, adverse, short-term and significant.
- 10.106 Dust was screened out as a potential impact on other European and nationally designated sites in line with the methodology outlined within the 2016 Institute of Air Quality Management (IAQM) guidance document *Guidance on the*

assessment of dust from demolition and construction. The guidance indicates that 500 m is the distance from the area of muddy ground where dust could be deposited by vehicles leaving a site and re-suspended by vehicles using the road network.

- 10.107 Vehicles leaving the site will have to travel over 1 km on port and public roads before reaching the closest point of Chesil and the Fleet SAC and SSSI, which are the nearest designated sites on the construction HGV route. At this distance no impacts from dust associated with construction traffic are anticipated on protected sites adjacent to the A354. Construction HGVs will not travel past the Nicodemus Heights SSSI, so there is no potential for significant effects on this designated site.
- 10.108 Construction traffic will access the site via the A354, which passes Lorton SSSI, Radipole Lake SSSI, Chesil and the Fleet SAC and SSSI, Chesil Beach and The Fleet SPA / Ramsar site, and Portland Harbour Shore SSSI. There is the potential that emissions from the traffic associated with construction traffic, notably oxides of nitrogen and ammonia, could result in significant increases in depositions of nitrogen on these sites.
- 10.109 Vehicle movements associated with construction of the proposed development will have a negligible effect on traffic flows along the A354. The air quality modelling in ES chapter 4 has shown that no significant increases in oxides of nitrogen and ammonia will occur in the vicinity of any of the protected sites along the route of the A354. No significant effects linked to changes in levels of nitrogen oxides and ammonia associated with construction traffic are therefore anticipated on protected sites adjacent to the A354.
- 10.110 Noise generated during construction from the removal of hard-standing, concrete crushing, excavation and piling (continuous flight auger) and construction of the superstructure of the building has the potential to disturb birds using the SPA. The noise assessment submitted in support of the planning application shows that background average levels of noise on the western side of Portland Harbour are typically between 50 and 57 dBL and noise related to construction activities at the same receptors will be below these levels for all types of construction activity. No significant effects on wintering or breeding birds within the SPA are anticipated.
- 10.111 There are no receptors identified within the interest features of the Isle of Portland to Studland Cliffs SAC and Isle of Portland SSSI that are considered to be sensitive to noise. No significant effects are predicted on these designated sites as a result of construction noise.

Locally designated sites

- 10.112 All of the locally designated sites have been selected for designation due to floral interest. No mammals or birds that may be sensitive to noise during construction are listed as features of interest. Due to the distance of the locally designated sites from the site, and nature of the interest features of the designated sites, no significant adverse effects from noise are predicted.
- 10.113 East Weare Camp SNCI is located approximately 35 m from the boundary of the site and could therefore be affected by dust deposition during construction. This

would represent a small to medium magnitude of change on a receptor of medium (or county) importance. The unmitigated effect would be slight to moderate, adverse, short-term and significant.

10.114 All the other SNCIs are over 200 m from the site. At this distance dust deposition, where the zone of potential impact is generally within 50 m of the source activity, is not predicted to have any significant adverse effects on the other locally designated sites.

Habitats and vegetation on site

10.115 During the construction period, the primary impacts will be the direct loss of all site habitats.

Direct impacts - habitat loss

10.116 During the construction phase of the proposed development, all habitats present will be lost. For the purposes of assessment, all the habitats on site have been combined and described as a calcareous mosaic habitat that makes up an area of 0.87 ha. Although the independent habitats within the mosaic have been described above, they have been combined for the purpose of impact assessment as the ecological value they hold is greater than that assigned to the individual fragment habitats when considered in isolation.

10.117 Site preparation work will result in the loss of approximately 0.87 ha of the mosaic habitat. This is a composite habitat that is of moderate biodiversity value due to its potential to support nesting birds. However, this potential is associated with its scrub composition, which makes up only a small part of the habitats. For this reason, the habitat is assigned a low importance, given the relatively small size of the habitats of value. Similarly, there are only very small fragments of habitats within this habitat's composition that support notable species. While the presence of these species would indicate a higher value habitat, their very limited distribution lowers their significance in the assessment of the habitat's value. This is because they have colonised the site in the last five years and as such would also be likely to colonise the post-development habitats.

10.118 Overall, there will be a total loss of habitats present within the proposed development area. The overall magnitude of change is small, and the unmitigated effect is assessed as being slight and not significant. The loss of these habitats has the potential to impact on bats, wintering birds and invertebrates. The potential effects on fauna are discussed below.

Fauna

10.119 The site is likely to be used occasionally by common and widespread bat species for foraging over suitable fringe habitats that border the site and along Incline Road. The off site habitats that border the site will not be impacted by the proposed development and are part of a statutory site so cannot be legally impacted. The habitats on site, when considered independently, are of a negligible value for bat foraging and commuting and are only of low value when considered as a marginal edge to the off site habitats. The removal of the on site

habitats during the construction phase will result in the loss of a negligible value resource for bats, which will not be significant.

10.120 If construction was to operate after dusk during the summer months, this may lead to increased disturbance on local bat populations through increased noise and light. The site is of low importance to local bat populations, the magnitude of change will be small, and the unmitigated effect is assessed as being slight and not significant.

10.121 The small areas of scrub provide habitat for nesting birds. Red and amber listed bird species, including NERC S41 species, were identified on site during the breeding and wintering bird surveys. The construction phase will result in the loss of all of potential nesting habitat, although this is only suitable to support common and widespread species. During site clearance works, nesting birds may be disturbed and prevented from breeding, or killed or injured in the absence of mitigation. The site is of low importance for nesting birds, the magnitude of change is small, and the unmitigated effect is assessed as being slight and not significant.

10.122 Habitats within the proposed development site are likely to support common and widespread invertebrate species, which provide a foraging resource for bats and birds. The construction phase will result in the loss of all habitats where invertebrates may be present. The site is of low importance for invertebrates, the magnitude of change is small, and the unmitigated effect is assessed as being slight and not significant.

Effects post-construction

Designated sites

Internationally and nationally designated sites

10.123 Once operational, surface water runoff from roads and other areas of hardstanding will be collected via linear drainage channels and external gullies and will be routed via a swale and an oil bypass separator to provide treatment prior to discharging into the sea. Clean roof runoff will be discharged directly into the sea. The existing drainage outfalls into the sea will be used, with clean roof runoff discharging into Balaclava Bay and treated runoff discharging into Portland Harbour to the north. This drainage system will ensure that there is no potential for pollution events or contaminated runoff to affect the water quality in either of the Water Framework Directive water bodies. A negligible change is predicted to these receptors of high (or national) importance, leading to a negligible effect that will not be significant.

10.124 As set out in ES chapter 2, the increase in ship movements as a result of the proposed development will be negligible in the context of the baseline level of ship movements at the port. The Water Framework Directive assessment in ES technical appendix I2 concludes there will be no impact on water body status as a result of increased ship movements. The increase in ship movements will not result in the need for new dredging within Portland Harbour or the provision of new facilities to accommodate the ships within the port itself. No significant adverse effects from increased ship movements on Portland Harbour or adjacent protected sites are predicted as a result of these proposals.

- 10.125 As with all ship movements within Portland Harbour, the presence of ships elevates the risk of the introduction and spread on invasive non-native species along this part of the coastline. The introduction of invasive non-native species would represent a medium magnitude of change on a receptor of high (or national) importance. The unmitigated effect would be substantial, adverse, potentially long-term and significant.
- 10.126 Portland Harbour has a history of harmful algae resulting from eutrophication. Sources of nitrogen include emissions from the engines of ships (nitrogen oxides), aquaculture, agricultural run-off and discharge from waste water treatment works. The proposals will discharge clean water from roof runoff south of the breakwater into Balaclava Bay and treated water from roads and other areas of hardstanding into Portland Harbour. No increases in nitrogen levels within Portland Harbour associated with surface water discharge are predicted as a result of the operation of the scheme.
- 10.127 The air quality modelling in ES chapter 4 and technical appendix D2 shows that the impact of operational process emissions from the stack will be less than 1% of the long-term and less than 10% of the short-term critical levels, and less than 1% of the critical loads, at all European and nationally designated sites, with the exception of:
- Annual mean oxides of nitrogen impacts at the Isle of Portland to Studland Cliffs SAC and SSSI (1.3%)
 - Daily mean oxides of nitrogen impacts at the Isle of Portland to Studland Cliffs SAC and SSSI (15.3%)
 - Annual mean ammonia impacts at the Isle of Portland to Studland Cliffs SAC and SSSI and Nicodemus Heights SSSI (2.5% and 1.1% respectively)
 - Nitrogen deposition impacts at calcareous grasslands and broadleaved deciduous woodland at the Isle of Portland to Studland Cliffs SAC and SSSI (1.1% and 2.7% respectively)
 - Acid deposition impacts at calcareous grasslands at the Isle of Portland to Studland Cliffs SAC and SSSI and acid grassland at Chesil and The Fleet SAC and SSSI (1.0% and 1.3% respectively)
- 10.128 There is therefore no potential for significant effects on the other internationally and nationally designated sites in the study area as a result of operational process emissions from the ERF.
- 10.129 The potential impacts of emissions from stack on terrestrial European sites is dealt with in the shadow appropriate assessment submitted in support of the planning application. This demonstrates that, at all sites where the impact exceeds 1% of the long-term or 10% of the short-term critical level or load, the predicted environmental concentrations will be below the 70% threshold where a significant effect could occur. The assessment therefore concludes that there will be a negligible magnitude of change on sites of high (or international) importance, meaning that there will be no significant effects on any of the internationally designated sites.
- 10.130 The Isle of Portland SSSI forms part of the Isle of Portland to Studland Cliffs SAC. The shadow appropriate assessment undertaken for the European sites

assessed the impacts of a range of aerial pollutants on calcareous grassland, maritime cliffs and slopes and lichens and bryophytes, which all form parts of the interest features of the European site. As discussed above, the shadow appropriate assessment concluded there will be no significant effects on the interest features of the SAC as a result of the operation of the facility.

- 10.131 The interest features of the SSSI include rare molluscs, butterflies and moths, along with a scarce cockroach and a population of grey bush cricket (*Platycleis denticulata*). These interest features were not covered in the shadow appropriate assessment.
- 10.132 The species listed above will depend on the continued presence of favoured food sources and suitable habitat within the SSSI. The air quality assessment undertaken for the Isle of Portland to Studland Cliffs SAC has shown that there will be no significant changes in the levels of nitrogen and acid deposition or ammonia levels on the designated site that could affect its habitats. The impact on species associated with these habitats is therefore considered to be negligible and the effect will be negligible to slight and not significant.
- 10.133 Nicodemus Heights SSSI falls within the Isle of Portland to Studland Cliffs SAC. The shadow appropriate assessment undertaken for the European sites assessed the impacts of a range of aerial pollutants on calcareous grassland, early gentian, maritime cliffs and slopes and lichens and bryophytes, which all form parts of the interest features of the European site. As discussed above, the shadow appropriate assessment concluded that there will be no significant effects on the interest features of the SAC as a result of the operation of the facility.
- 10.134 The SSSI also supports populations of silver-studded blue (*Plebejus argus cretaceous*) and small blue (*Cupido minimus*). These interest features were not covered in the shadow appropriate assessment. These species will depend on the continued presence of favoured food sources and suitable habitat within the SSSI. In the case of silver-studded blue, the presence of the ant species *Lasius niger* is also of critical importance. The air quality assessment undertaken for the Isle of Portland to Studland Cliffs SAC has shown that there will be no significant changes in the levels of nitrogen and acid deposition or ammonia levels on the designated site that could affect habitats. The impact on species associated with these habitats is therefore considered to be negligible and the effect will be negligible to slight and not significant.
- 10.135 Chesil and the Fleet SSSI forms part of Chesil and the Fleet SAC. The shadow appropriate assessment undertaken for the European sites assessed the impacts of a range of aerial pollutants on shingle communities and scaly cricket within the SSSI. As discussed above, the assessment concluded there will be no significant effects on the interest features of the SAC as a result of the operation of the facility.
- 10.136 There are no other interest features listed on the SSSI notification that occur within the zone of impact identified by the air quality modelling. However, the SSSI supports *Scythris siccella*, which has a restricted distribution within the designated site. Significant increases in levels of nitrogen deposition in this area could result in increased growth rates of competitive grasses and other species,

which could change both the species composition of the community and reduce the extent of exposed loose sand.

10.137 However, the only area where the moth is known to occur is a significant distance from the zone where the highest level of nitrogen deposition from the development will occur on vegetated shingle habitat. The facility will therefore not lead to a significant increase in nitrogen deposition in the area of the SSSI inhabited by the moth. The impact on this species will therefore will negligible and the effect will be negligible and not significant.

10.138 Aerial deposition at protected sites where the interest features are subtidal is considered to be insignificant. Using Chesil and the Fleet SAC as a proxy site for Portland Harbour, the APIS website shows the biggest contributors to nitrogen at this site are livestock and imports from Europe, followed by international shipping. The contribution of nitrogen from the operational facility is insignificant and there will be a negligible magnitude of change on sites of high (or national) importance, leading to a negligible effect that will not be significant.

10.139 Natural England (2018) states that an increase of 1% of the critical level or load is considered to be roughly equivalent to flows of 1,000 vehicles (annual average daily traffic; AADT) for cars and 200 AADT for HGVs. The trip generation rate for the proposed development is well below the 200 HGV screening threshold, but traffic will be routed along Main Road and Portland Beach Road, which runs adjacent to the Isle of Portland to Studland Cliffs SAC and SSSI, Chesil and The Fleet SAC and SSSI, Chesil Beach and The Fleet SPA / Ramsar site and Portland Harbour Shore SSSI. At all points along the modelled transects that cover the designated sites, emissions from traffic (ammonia, oxides of nitrogen and nitrogen) will be below 1% of the relevant critical level or load for the most sensitive habitats within the designated sites. The changes in air quality as a result of increased traffic movements will be insignificant and the magnitude of change on the designated sites is considered to be negligible, leading to a negligible effect that will not be significant.

10.140 Similarly, emissions from traffic using the A354 passing Radipole Lake SSSI and Lorton SSSI will result in insignificant changes in air quality effects on ecological receptors within these sites. The in-combination assessment took account of emissions from the ERF, ship emissions and traffic emissions. The magnitude of change on the SSSIs is considered to be negligible and the effect will be negligible and not significant.

10.141 Noise generated during the operation of the facility has the potential to disturb birds using the SPA. The noise assessment shows that background average levels of noise on the western side of Portland Harbour are typically between 50 and 57 dBL and noise related to operational activities at the same receptors would be below these levels. No significant effects on wintering or breeding birds within the SPA are anticipated.

Locally designated sites

10.142 The air quality modelling in ES chapter 4 predicts a marginal increase in the amount of nitrogen oxides (both annual and daily mean of oxides of nitrogen) at Verne Yeates LNR. It also shows a marginal increase in levels of ammonia (annual mean) at all sites apart from Grove Quarry SNCI and East Weare Rifle

Range SNCI. This modelling is based on the premise that all sites support lower plant communities.

- 10.143 The shadow appropriate assessment undertaken for the European sites assessed the impacts of a range of aerial pollutants on calcareous grassland, maritime cliffs and slopes and lichens and bryophytes, which all form parts of the interest features of the Isle of Portland to Studland Cliffs SAC. The assessment concluded there will be no significant effects on the interest features of the SAC as a result of the operation of the facility. As a result, the impacts on these locally designated sites are also considered to be negligible and the effect will be negligible to slight and not significant.
- 10.144 The air quality modelling also shows a small increase in levels of nitrogen and acid deposition across Osprey Quay Bunds SNCI. This designated site is a mix of calcareous and maritime grassland. The shadow appropriate assessment undertaken for the European sites also assessed the impacts of a range of aerial pollutants on shingle communities within Chesil and The Fleet SAC. The assessment concluded there would be no significant effects on the interest features of the SAC as a result of the operation of the facility. The impact on the SNCI is therefore also considered to be negligible and the effect will be negligible to slight and not significant.
- 10.145 As discussed above, the trip generation rate for the proposed development will be well below the 200 HGV screening threshold, but traffic will use Portland Beach Road, which runs adjacent to Osprey Quay Bunds SNCI. The changes in air quality as a result of increased traffic movements (and those including process and shipping emissions) will be negligible and the associated effect on the SNCI is considered to be negligible and not significant.

Habitats and vegetation on site

- 10.146 None of the existing habitats will remain on site post-construction (as assessed previously) and therefore no further effects on these are considered likely to occur as a result of the development. An effort will be made to retain the top soil from areas where the notable species were recorded previously. This top soil will then be redistributed on site post-development in an effort to maintain the seed bank of these species present on site.

Fauna

- 10.147 In the absence of mitigation and enhancements, the increased level of developed habitats post-construction will reduce suitability for foraging and commuting bats, nesting birds and invertebrates, compared to pre-construction levels. The proposed development includes a number of green space habitats, which will be of a higher biodiversity value than the existing habitats but will occupy a smaller area. Considering the low importance of the site for these species pre-construction, these small impacts are considered to lead to slight effects that will not be significant.
- 10.148 As outlined within the lighting statement submitted in support of the planning application, there is a substantial level of existing lighting along the marginal habitats adjacent to the west and south of the site. This includes existing flood lighting and road lighting on columns. The post-construction light modelling

outlined within the lighting statement demonstrates that the lighting used will largely be directed towards the development area and that the light spill into the adjacent habitats will be between 0.5 and 1 lux. The light levels would rapidly diminish between the site and the surrounding habitats. This means that the light spill along Incline Road and into the habitats of the Isle of Portland SSSI will be within the 1 lux range required to ensure that there will be no impacts to widespread foraging bat species. Due to the lack of roosting features, combined with the low value of foraging habitat within the development area and the low level of predicted light spill, no significant effects are predicted on bat species on site or within the surrounding area.

Mitigation and monitoring

- 10.149 The framework CEMP in technical appendix C sets out how industry standard practice working methods and mitigation measures set out in the Environment Agency's Pollution Prevention Guidelines (PPGs) (withdrawn) and Guidance for Pollution Prevention (GPPs) will be implemented. These include details of the management of water and sediment across the site and provisions to minimise the likelihood of runoff, provide containment of spillage and capture or treat wastewaters where necessary. With the mitigation measures in place the magnitude of change on receptors of high (or national) importance would be reduced to negligible to small and the effect will be slight, short-term, adverse and not significant.
- 10.150 Dust suppression measures that will be implemented on site are also covered in the CEMP. These include the locating of dust causing activities as far away from the Isle of Portland to Studland Cliffs SSSI boundary as possible, erecting solid screens or barriers along the boundary of the site adjacent to the SSSI, covering stockpiles of earth, imposition of a site speed limit, damping down stockpiles and dusty areas as appropriate, use of enclosed chutes and conveyors, covering skips and minimise drop heights, the use of water-assisted dust sweepers along trackout routes and use of wheel-washes. With the mitigation measures in place the magnitude of change on a receptor of high (or national) importance will be reduced to negligible and the effect will be negligible and not significant.
- 10.151 The mitigation measures set out in the CEMP will also mitigate the impacts of dust deposition on East Weare Camp SNCI. The magnitude of change would be reduced to negligible to small on a receptor of medium (or county) importance. The mitigated effect will be negligible to slight, short-term, adverse and not significant.
- 10.152 All relevant standards and protocols will be followed by ships associated with the proposed development, including Maritime and Coastguard Agency's guidance on the control and management of ballast water to reduce the risk of the introduction or spread of invasive non-native species. With the mitigation measures in place the magnitude of change on receptors of high (or national) importance will be reduced to negligible to small and the effect would be slight, short-term adverse and not significant.
- 10.153 The construction phase will result in the loss of a calcareous mosaic habitat that makes up an area of 0.87 ha. Table 10.9 shows the habitats that will be created on site to mitigate for the loss of existing habitats. The existing scrub and

hedgerow provide habitat for nesting birds, which are protected during the breeding bird season from March to September inclusive. The mitigation for protecting nesting birds during site clearance is specified in the fauna, breeding bird mitigation section below.

Receptor lost	Mitigation habitat proposed	Area of habitat
Bare sand / shingle / pebble / boulder habitat	Planted with coastal / maritime species including Dorset notables found on site. This also provides black redstart foraging habitat. Bare sand patches will be managed for burrowing invertebrates.	0.064 ha
Mosaic habitats	To be created with translocated material from the existing site, oversown and plug planted with a seed mix of existing site species and Dorset notables. Will provide black redstart foraging habitat and habitat for invertebrates.	0.062 ha
Colonised hardstanding (gabion walls)	To be planted with species including the nationally scarce maidenhair fern found on site in appropriate areas and then maritime and drought tolerant natives in exposed areas. Will provide black redstart foraging habitat and habitat for invertebrates.	0.14 ha

Table 10.9: Habitats to be planted as mitigation for habitats lost on site

10.154 The only specific mitigation required for protected species related to the proposed development is the consideration of nesting birds during the removal of on-site vegetation. To prevent the disturbance of nesting birds, the following methods for site clearance should be employed:

- Vegetation should be removed outside of the breeding bird season, between October and February, or
- Vegetation can be removed during the breeding bird season if preceded by a nesting bird check by a suitably experienced ecologist. Any nests that are recorded must be left with a 5 m exclusion zone around them until all of the chicks have fledged. For some species this may be up to five weeks

10.155 Using these mitigation methods will ensure no nests are disturbed or lost to the clearance works. The site is of low importance for nesting birds, the magnitude of change will be small, and the effect will be slight and not significant.

Enhancements

10.156 In addition to the mitigation habitats to be created on site, additional species-specific features will be created and installed to provide enhancements for the site. These are summarised in table 10.10, with locations shown in figure 10.7.

Feature to be created	Description	Area / amount of habitat
Bat boxes	A total of five bat boxes will be installed within suitably dark areas of the development. Schwegler 2FN bat boxes will be used. These boxes are suitable for crevice dwelling bat species such as common pipistrelle.	5 boxes
Bird boxes	A total of 30 bird boxes will be installed around the site. These will include ten boxes suitable for swift (<i>Apus apus</i>) boxes and five boxes for black redstart. The other 15 boxes to be installed will be suitable for grey wagtail (<i>Motacilla cinerea</i>), pied wagtail (<i>Motacilla alba</i>) and common and widespread passerines.	30 boxes
Hedgehog hibernation boxes	A total of five hedgehog hibernation boxes will be installed in sheltered habitats around the site, away from any roads.	5 boxes
Bug hotels	Five bug hotels will be installed on site. These will be installed in sunny locations along the eastern boundary of the site.	10 hotels

Table 10.10: Enhancement features to be created and installed on site

10.157 All mitigation and enhancement habitat will be included in a landscape and ecological management plan (LEMP) for the site, which will specify the long-term management strategy for the proposed habitats, to ensure they reach their target condition and are maintained at that condition. It is anticipated that the LEMP would be secured through a planning condition.

Biodiversity net gain

10.158 Under the requirements of the NPPF in relation to development and biodiversity, there should always be a net gain from any new development and, under the new Environment Bill due to be released in late 2020, all developments will be required to seek a minimum 10% net gain from existing levels on site. To help quantify this, a metric has been designed and released by the Dorset Natural Environment Team, which forms a compensation framework for quantifying habitat loss. This is based on the Defra biodiversity net gain metric.

10.159 Habitats totalling 0.871 ha will be lost to the development. To provide some mitigation, relevant habitats totalling 0.127 ha will be provided as part of the proposals. Therefore, there will be a residual loss of 0.744 ha after development. To compensate for this loss, a financial calculation has been made using the Dorset Biodiversity Compensation Framework. The compensation payment and all other biodiversity mitigation and enhancement proposals will be agreed and secured through a Dorset Natural Environment Team biodiversity plan.

10.160 Without this off site habitat creation there would be a net loss in the amount of these habitats present locally. This would result in a small magnitude of change, although the value of the habitats being lost is negligible. With the compensation payment, a total of 0.744 ha of calcareous grassland will be created off site and managed by the local authority. This will reduce the overall magnitude of change from the total loss of habitats to negligible and the effects to negligible and not significant.

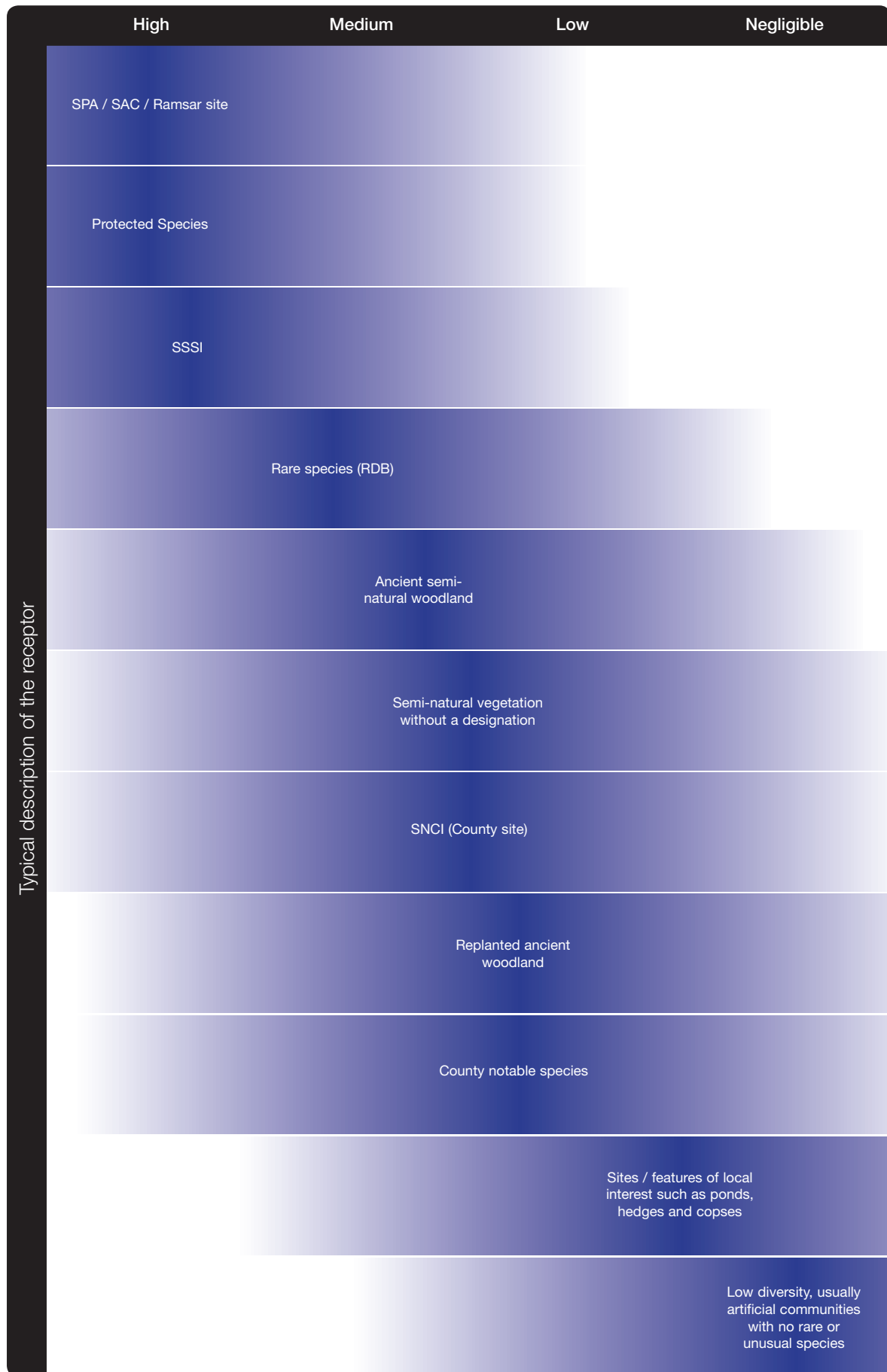
Residual effects

10.161 No significant residual effects are predicted.

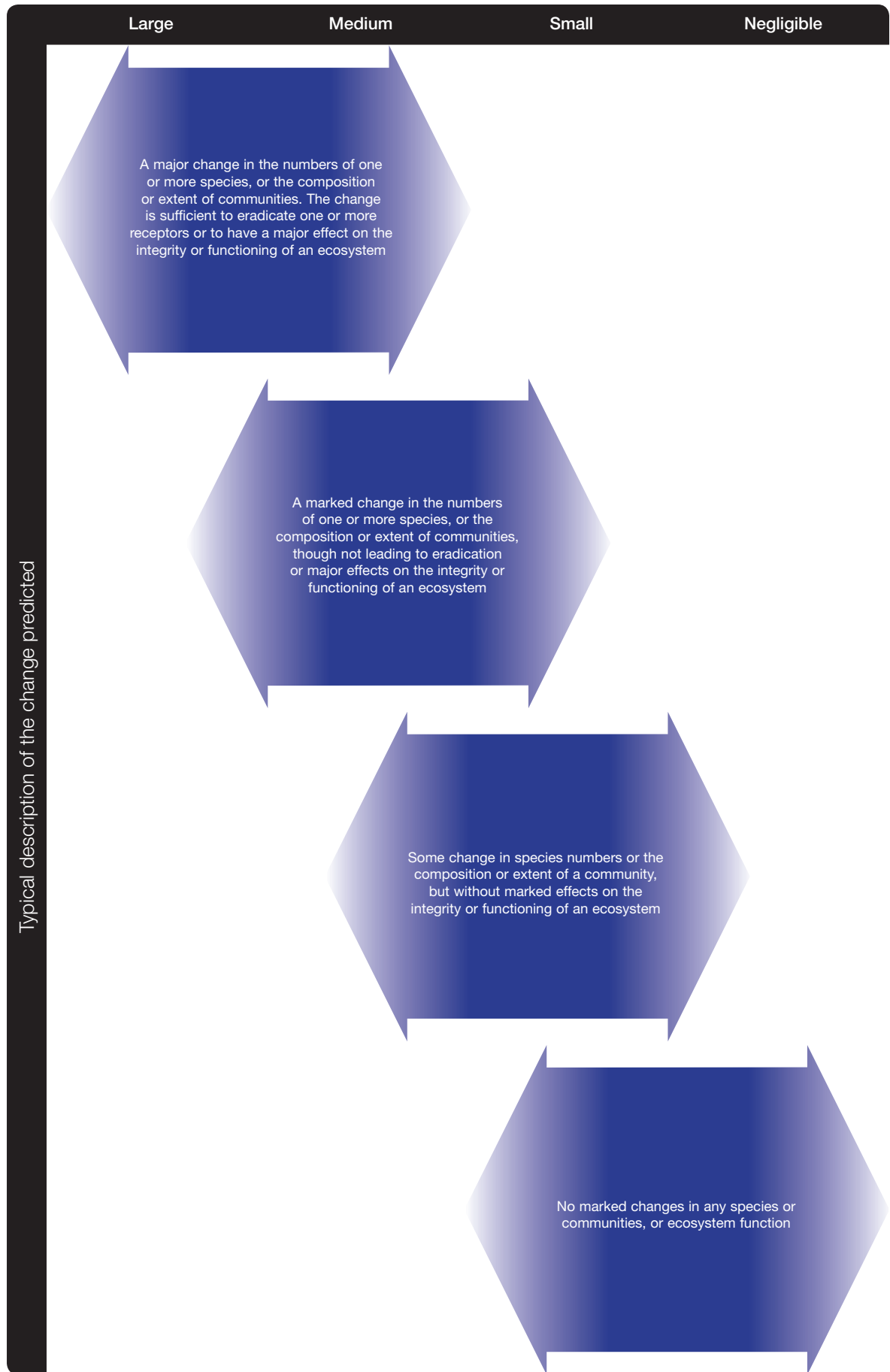
Cumulative effects

- 10.162 Although the proposed development is unlikely to have any significant effects on ecological receptors in isolation, there are other developments proposed nearby, that in combination may lead to an effect. As set out in chapter 3, there are a total of 22 proposals within the Isle of Portland and Portland Beach Road curtilage that need to be considered. The majority of these are within 1 km; however, two are over 4.5 km away. These include seven consented housing developments, two industrial and business developments, six developments permitted under the 1997 Portland Harbour Revision Order (HRO) and seven permitted under the 2010 Portland HRO.
- 10.163 The approved housing developments represent the largest potential effect on local biodiversity, due to the total number of houses proposed and the number of additional residents on the Isle of Portland. Whilst the majority of these sites are proposed on brownfield sites with existing infrastructure and are unlikely to have significant direct impacts on biodiversity on the island, they have the potential to lead to pressure on European designated sites through increased recreational activities. However, the proposed ERF will not lead to any increased recreational activity within European sites and there is no potential for a significant cumulative effect. In combination with the ERF proposals, there are not likely to be any significant cumulative effects on local ecological receptors retained as part of the developments.
- 10.164 None of the cumulative schemes listed in chapter 3 include point source emissions, so there is no potential for cumulative effects with the stack emissions from the ERF. All the residential schemes and some of the industrial / business schemes, including within the curtilage of the port, are likely to contribute to increases in road use between Portland and the mainland on Portland Beach Road. However, traffic flows associated with the cumulative schemes were included within the traffic modelling. Therefore, the potential cumulative effects from vehicle emissions are included in the modelling results and no significant cumulative effects are predicted.
- 10.165 Direct cumulative impacts on local biodiversity are possible for the 1997 HRO developments, because these proposals may impact similar habitats as exist on the proposed ERF site. However, the proposed mitigation for these habitats on the ERF site, and off-site contributions, will lead to there being no significant effects on local biodiversity and therefore in combination effects are also likely to be negligible.
- 10.166 Overall, there are unlikely to be any significant cumulative effects on the ecological receptors identified as part of this study, including internationally protected sites, local habitats and protected species.

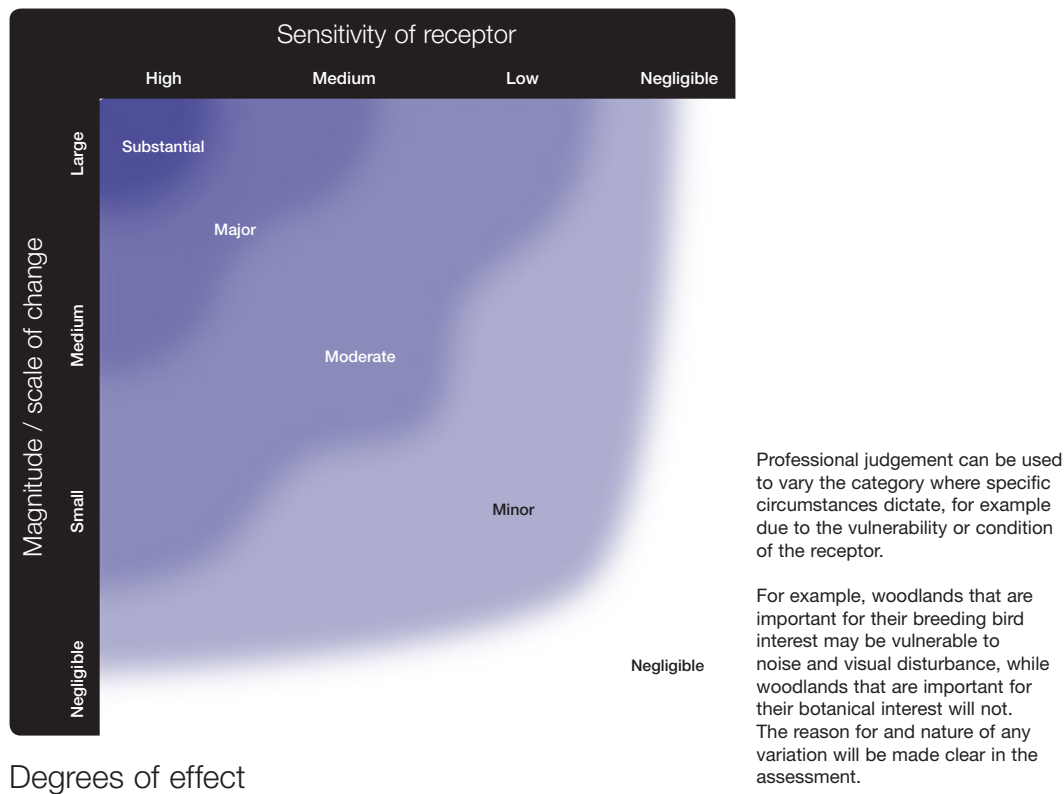
Sensitivity of receptor – Natural heritage



Magnitude of change – Natural heritage



Determination of effect matrix – Natural heritage



Degrees of effect

Substantial:

A major change in the numbers of one or more very important species or the composition or extent of very important communities, or those which support beneficial or very important species. This might be a reduction or complete eradication of a species, which for some organisms could lead to a negative effect on the functioning of the particular ecosystem and/or other connected ecosystems.

Major:

A marked change in the numbers of one or more important or very important species or the composition or extent of important or very important communities, or those which support beneficial or important species.

Moderate:

A marked change in population densities or community composition or extent, but not a change which results in total eradication of a species or community or which has any marked effect on important or beneficial species, or important communities.

Minor:

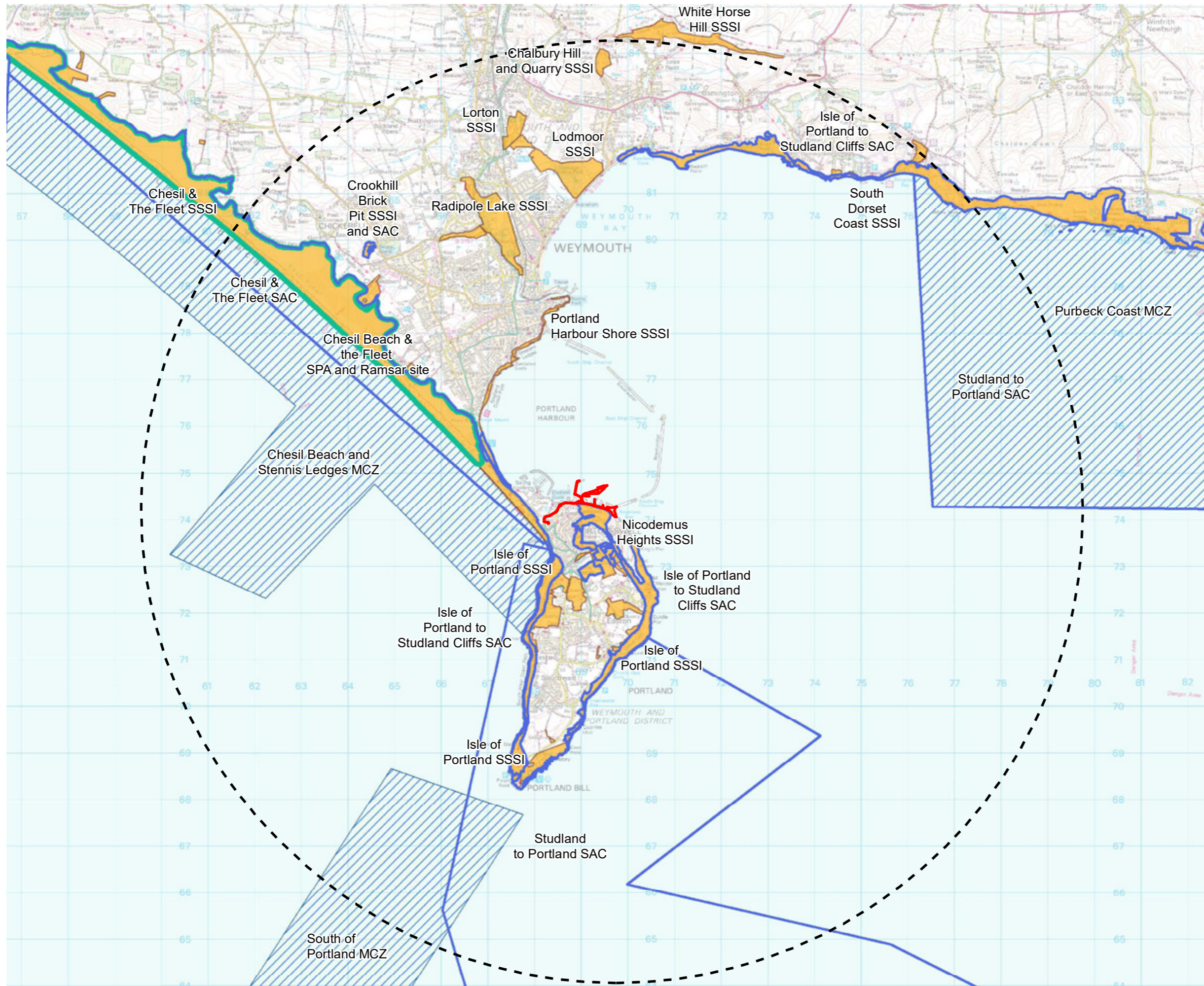
Some change in the population densities or community composition or extent, but without total eradication of any species or community, and with no effects on important species or communities, or ecosystem function.

Negligible:

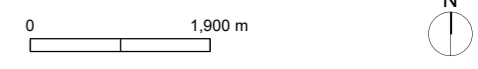
No marked changes in any of the populations in the environment or in any ecosystem functions.

Significance

If the degree of effect is moderate or above, then the effect is considered to be significant.



- Site boundary
- 10km study area
- Special Area of Conservation
- Special Protection Area and Ramsar site
- Marine Conservation Zones
- Site of Special Scientific Interest

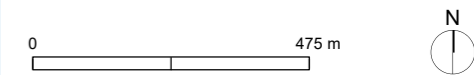


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Figure 10.4 Nationally and internationally designated sites within 10 km of the site

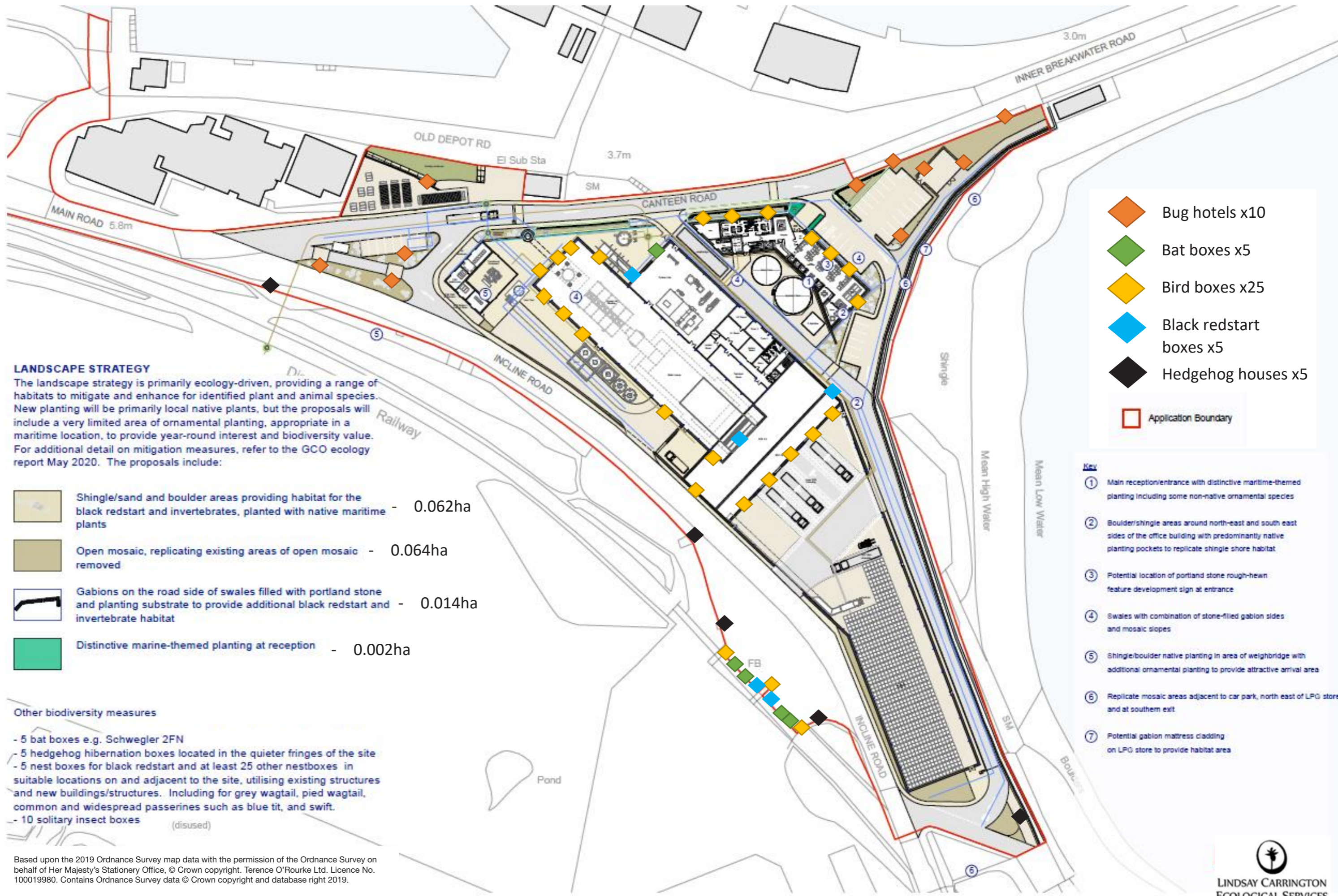


- Site boundary
- Sites of Nature Conservation Importance



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LANDSCAPE STRATEGY

The landscape strategy is primarily ecology-driven, providing a range of habitats to mitigate and enhance for identified plant and animal species. New planting will be primarily local native plants, but the proposals will include a very limited area of ornamental planting, appropriate in a maritime location, to provide year-round interest and biodiversity value. For additional detail on mitigation measures, refer to the GCO ecology report May 2020. The proposals include:

	Shingle/sand and boulder areas providing habitat for the black redstart and invertebrates, planted with native maritime plants	- 0.062ha
	Open mosaic, replicating existing areas of open mosaic removed	- 0.064ha
	Gabions on the road side of swales filled with portland stone and planting substrate to provide additional black redstart and invertebrate habitat	- 0.014ha
	Distinctive marine-themed planting at reception	- 0.002ha

Other biodiversity measures

- 5 bat boxes e.g. Schwegler 2FN
- 5 hedgehog hibernation boxes located in the quieter fringes of the site
- 5 nest boxes for black redstart and at least 25 other nestboxes in suitable locations on and adjacent to the site, utilising existing structures and new buildings/structures. Including for grey wagtail, pied wagtail, common and widespread passerines such as blue tit, and swift.
- 10 solitary insect boxes (disused)

- Bug hotels x10
- Bat boxes x5
- Bird boxes x25
- Black redstart boxes x5
- Hedgehog houses x5
- Application Boundary

- Key**
- ① Main reception/entrance with distinctive maritime-themed planting including some non-native ornamental species
 - ② Boulder/shingle areas around north-east and south east sides of the office building with predominantly native planting pockets to replicate shingle shore habitat
 - ③ Potential location of portland stone rough-hewn feature development sign at entrance
 - ④ Swales with combination of stone-filled gabion sides and mosaic slopes
 - ⑤ Shingle/boulder native planting in area of weighbridge with additional ornamental planting to provide attractive arrival area
 - ⑥ Replicate mosaic areas adjacent to car park, north east of LPG store and at southern exit
 - ⑦ Potential gabion mattress cladding on LPG store to provide habitat area

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Figure 10.7 Locations of proposed ecological enhancements