



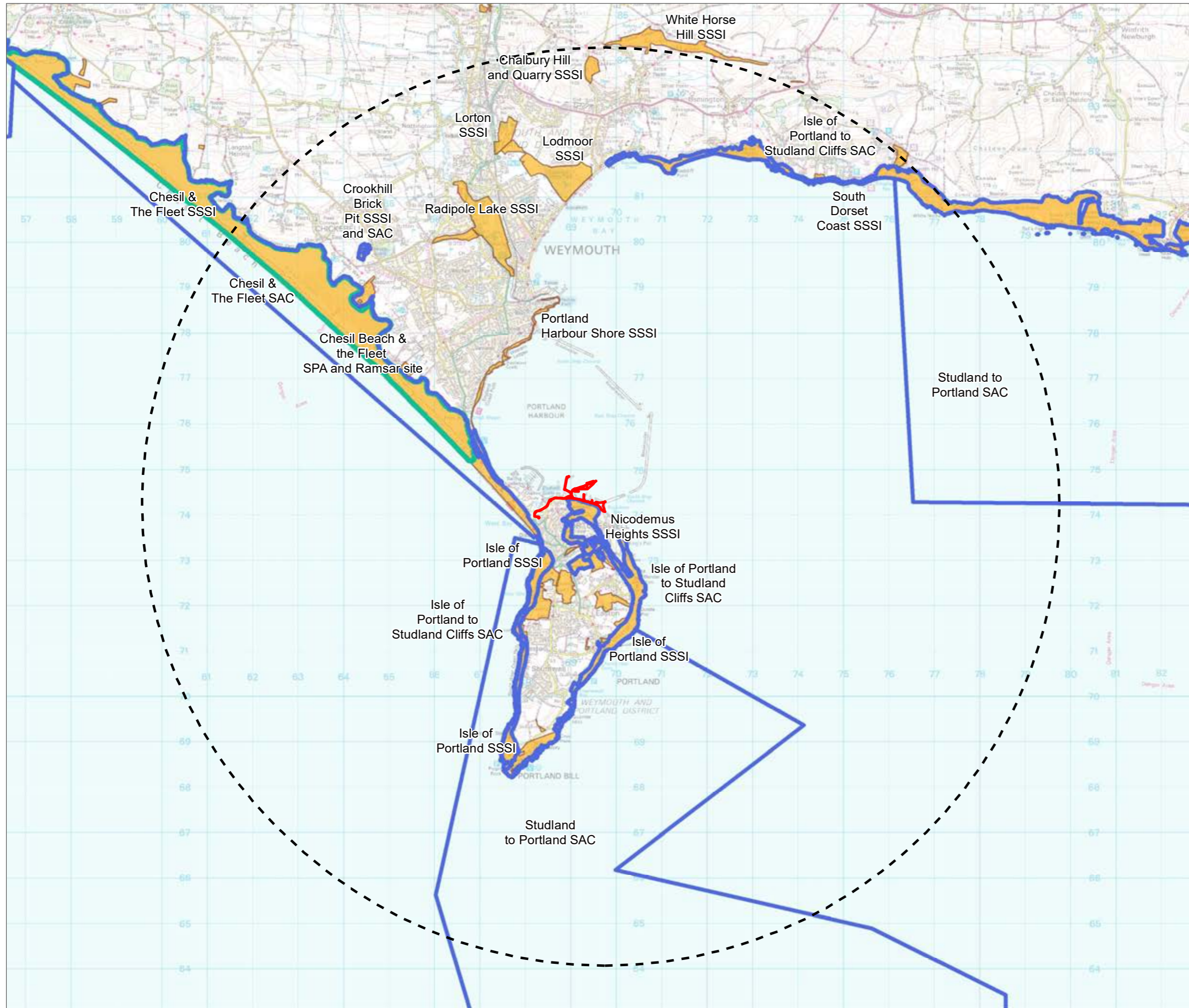
Portland
energy recovery
facility

Shadow Appropriate Assessment
September 2020



1.0 Introduction

- 1.1 This shadow Appropriate Assessment has been prepared in support of a planning application for the proposed development of an Energy Recovery Facility with ancillary buildings and works including administrative facilities, gatehouse and weighbridge, parking and circulation areas, cables routes to ship berths and existing off-site electrical sub-station, with site access though Portland Port from Castletown.
- 1.2 The stack location lies within 10km of four statutory designated site of European importance: The Isle of Portland to Studland Cliffs Special Area of Conservation (SAC), Chesil Beach and the Fleet Special Protection Area (SPA), Chesil and the Fleet SAC and Crookhill Brick Pit SAC. Chesil Beach and the Fleet is also a Ramsar site. The location of the site relative to these sites is shown in figure 1.
- 1.3 These sites receive statutory protection under the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations'), which transpose the requirements of the European Council Directives on the Conservation of Natural Habitats and of Wild Fauna and Flora (42/43/EEC) and the Conservation of Wild Birds (2009/147/EC) into domestic legislation. The Habitats Regulations afford a high level of protection to sites classified as areas that hold significant populations of certain bird species (SPAs). They also afford the same level of high protection to tracts of land supporting habitats or rare species (other than birds) considered scarce or vulnerable at a European community level (SACs).
- 1.4 Ramsar sites are designated as wetlands of international importance that are afforded similar legislative protection to Natura 2000 sites. The government has issued policy statements relating to the special status of Ramsar sites. This extends the same protection afforded to SPAs and SACs that have been designated under the EC Birds and Habitats Directives as part of the EU Natura 2000 network.
- 1.5 Under the Habitats Regulations, Dorset Council (DC) is a competent authority, responsible for ensuring that development management decisions do not adversely affect the integrity of European sites. This document provides information for the Habitats Regulations Assessment that DC will need to undertake in determining the planning application for the site. This document considers the implications of the project for the conservation objectives of the four European sites to determine whether the project will have an adverse effect on the integrity of the sites, either alone, or in combination with other plans and projects.



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

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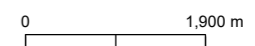


Figure 1: European sites

Dwg no/2627014/L02	Revision
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2.0 Legislative context and the tests of the Habitats Regulations

2.1 SACs and SPAs form part of a network of nature protection areas across the European Union known as Natura 2000 sites, and are protected in the determination of a planning application. Under Regulation 63 of the Habitats Regulations the competent authority is responsible for assessing whether land use plans or proposed developments could adversely affect a Natura 2000 site. This requires a process known as a Habitats Regulations Assessment (HRA), encompassing two tests required under Regulation 63(1) of the Habitats Regulations.

- **Test 1:** having ascertained that the plan is not directly connected to, or necessary for site management for nature conservation, the first test of the HRA, commonly referred to as a screening test, considers whether or not a plan or project is likely to have a significant effect on a European site either alone or in combination with other plans or projects. A significant effect is any effect that would undermine the conservation objectives for the respective European site and may include physical loss and/or damage of a habitat, disturbance effects, and changes to water availability, deposition of contaminants through changes in air quality etc.
- **Test 2:** The second test of the HRA is relevant to those plans or projects that are screened as likely to have a significant effect alone or in combination with other plans or projects, and requires an appropriate assessment. The role of the appropriate assessment is to consider the implications of the plan or project for the conservation objectives of the European sites in question, and to determine whether it will have an adverse effect on the integrity of the site. In carrying out an appropriate assessment, a local authority must have regard to the manner in which the project is proposed to be carried out, or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given.

2.2 A likely significant effect is any effect that is likely to undermine the site's conservation objectives, in light of the characteristics and specific environmental conditions of the SAC/SPA. The likely significant effect test must be based on objective information and the risks must be real, not hypothetical (Boggis vs Natural England 2009).

2.3 A recent European Court Judgment (ECJ) *People Over Wind and Sweetman v Coillte Teoranta (C-323/17)* has altered the process of screening for likely significant effects by overturning the 2008 *Hart District Council vs. Secretary of State* judgment (2008), known as *Dilley Lane*. The *Dilley Lane* judgment stated *"there is no legal requirement that a screening assessment... must be carried out in the absence of any mitigation measures that form part of that plan or project"*.

2.4 The recent *People Over Wind and Sweetman* ruling states that *"it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site"*. This means that mitigation measures must be excluded from the assessment of whether a project is likely to have a significant effect, either alone or in combination with other plans and projects.

2.5 In line with the ECJ ruling in *Briels* (2014) the adverse effect on integrity test that forms part of the appropriate assessment can *"take account of the protective measures forming part of the project aimed at avoiding or reducing any direct adverse effects for the site in order to avoid any adverse effects on integrity"*.

- 2.6 The ECJ ruling in *Grace and Sweetman* (C-164/17) highlights that a measure can only be considered mitigation “*where it is certain it will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt no adverse effect*”.
- 2.7 Guidance produced by the UK government highlights key principles to be considered by the competent authority when considering if an appropriate assessment is required. It notes that measures that have been specifically added to achieve the purpose of reducing its harmful effects on a habitats site should not be considered at the screening stage.

Conservation objectives

- 2.8 Conservation objectives are identified for all European sites and cover all features that qualify the site for classification or designation. The conservation objectives apply under the Habitats Regulations, Habitats Directive and Wild Birds Directive, and must be considered during a Habitats Regulation Assessment, including an Appropriate Assessment.

3.0 Description of development

- 3.1 The proposed development is for an Energy Recovery Facility with ancillary buildings and works including administrative facilities, gatehouse and weighbridge, parking and circulation areas, cables routes to ship berths and existing off-site electrical sub-station, with site access though Portland Port from Castletown. Further details of the proposals can be found in Chapter 2 of the Environmental Statement that accompanies the planning application.
- 3.2 The initial ecological evaluation of the scheme identified habitats within the European sites that would be sensitive to additions of certain pollutants, notably nitrogen and ammonia. Throughout the development of the proposed scheme Fichtner (the air quality consultants) and Terence O'Rourke (the ecology consultants) have worked together to test various options relating to stack height, stack location and the implementation of additional technologies to the process to reduce these emissions (particularly nitrogen and ammonia) on relevant areas of the European sites.
- 3.3 The final stack height is the result of efforts to reduce the deposition of aerial pollutants on European sites in proximity to the application site. As such the increase in stack height is regarded as mitigation (as defined by ECJ rulings and government advice - see paragraph 2.4 – 2.7). This necessitates the undertaking of an appropriate assessment to assess the implications of the plan for the conservation objectives of the European sites.
- 3.4 Other measures have also been proposed, such as the requirement for a Construction Environmental Management Plan (CEMP) to reduce the risk of impacts on the European sites (and other sensitive ecological sites, as assessed in the Environmental Statement). These measures are also considered to be mitigation and therefore require the undertaking of an appropriate assessment.

4.0 Baseline

- 4.1 The following section sets out the location, designation criteria and conservation objectives of the four European sites to be included in this appropriate assessment. The locations of these sites relative to the application site are shown in figure 1.

Chesil Beach and the Fleet SPA and Ramsar

- 4.2 The classified site qualifies as a SPA under article 4.1 of the Directive (79/409/EEC) as 1% or more of the biogeographical populations of one regularly occurring migratory species regularly use the site. The area regularly supports:
- 70 breeding pairs of little tern (*Sternula albifrons*): five-year mean of 54 pairs (1980-1984), representing 2.5% of the GB breeding population.
- 4.3 The classified site qualifies as a SPA under article 4.2 of the Directive (79/409/EEC) as 1% or more of the biogeographical populations of one regularly occurring migratory species regularly use the site. Over winter the area regularly supports:
- 1% of the North-western Europe population of wigeon (*Mareca penelope*): five-year peak mean 1980-81-1984-85, 4,594 individuals.
- 4.4 The information used in the assessment is set out in the SPA citation (site code: UK9010091). The citation was compiled in July 1985 and updated in November 2017.
- 4.5 The same SPA site qualifies for designation as a Ramsar site for supporting breeding little tern. It is also an important site for breeding common tern (*Sterna hirundo*) and ringed plover (*Charadrius histicula*). The Fleet is notable for the diversity of wintering waders and wildfowl. Alongside the wigeon population described above the site supports pochard (*Aythya ferina*), teal (*Anas crecca*), pintail (*Anas acuta*), mallard (*Anas platyrhynchos*), shoveler (*Spatula clypeata*), tufted duck (*Aythya fuligula*) and goldeneye (*Bucephala clangula*).
- 4.6 The SPA supports the largest resident mute swan (*Cygnus olor*) population in Britain and wintering dark-bellied brent geese (*Branta bernicula bernicula*).
- 4.7 Chesil Beach is one of the five largest shingle beaches in Britain. The small pebbled shingle in the western area supports a rich flora characteristic of unstable shingle. 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*.
- 4.8 At the time the citation was prepared the eastern end of Chesil Beach was believed to support the only population of scaly cricket (*Pseudomogoplistes squamiger*) in the British Isles. In 1998 a second colony was discovered in Devon.

Chesil and The Fleet SAC

- 4.9 This SAC site covers 1631.63ha and was designated in April 2005 (Site code:UK0017076). The site supports the following Annex 1 habitat types: 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.

- 4.10 The Fleet is the largest example of a lagoonal habitat in England and has features of both lagoonal inlets and percolation lagoons. It is bordered by the fossil shingle barrier beach structure of Chesil Beach, through which sea water percolates into the lagoon, but most of its water exchange occurs through the narrow channel that links it to Portland Harbour. A low freshwater input produces fully saline conditions throughout most of the Fleet, with reduced salinity occurring only in the west. The lagoon is extremely sheltered from wave action and has weak tidal streams, except in the eastern narrows and entrance channel. The tidal range is much smaller and the temperature range far greater than on the open coast. The lagoon supports extensive populations of two species of eelgrass *Zostera* and three species of tasselweed *Ruppia*, including the rare spiral tasselweed *R. cirrhosa*, and a diverse fauna that includes a number of nationally rare and scarce species.
- 4.11 The Annex 1 habitat Annual vegetation of drift lines is present on the inner shore of Chesil Bank and the shoreline of Portland Harbour. The inner shore of Chesil Bank supports extensive drift line vegetation dominated by sea beet (*Beta vulgaris* subsp. *maritima*) and orache (*Atriplex* spp). On the shoreline of Portland Harbour this feature is additionally represented by a small area of sea sandwort (*Honckenya peploides*) and sea rocket (*Cakile maritima*).
- 4.12 Over a large part of the designated site, the strandline vegetation appears to exist in a dynamic equilibrium with the shrubby sea-blite (*Suaeda vera*) dominated scrub, which is described below.
- 4.13 The Annex 1 habitat Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) forms a band of shrubby sea-blite and sea-purslane (*Atriplex portulacoides*) that lines much of the 13 km length of the seaward margin of the Fleet and forms a clear zone between the Fleet and the shingle vegetation of the Chesil Bank. It is also found above the upper limit of tidal inundation in ground depressions where saline conditions occur, for example, at the southern end of Portland Harbour shore.
- 4.14 Two other species, sea beet and the lichen *Xanthoria parietina*, occur in low abundance. It appears to exist in a dynamic equilibrium with the sea beet dominated drift line vegetation, for which the site has been separately selected. This replaces the scrub in areas subject to disturbance by waves or erosion, and is in turn displaced by the scrub after disturbance ceases.
- 4.15 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) occur within the site although no specific details are provided in the designation documentation. A report published by Footprint Ecology in March 2019 identified this habitat as occurring in sheltered areas along the Fleet shoreline, particularly tidal inundation pools. The largest stands were found around Abbotsbury Swannery.
- 4.16 The 28 km-long shingle bar of Chesil Beach, with the contiguous Portland Harbour shore, is an extensive representative of perennial vegetation of stony banks on the south coast of England, and most of it is relatively undisturbed by human activities. Much of the shingle bar is subject to wash-over and percolation in storm conditions and is therefore sparsely vegetated. It supports the most extensive occurrences of the rare sea-kale (*Crambe maritima*) and sea pea (*Lathyrus japonicus*) in the UK, together with other grassland and lichen-rich shingle plant communities typical of more stable conditions, especially towards the eastern end of the site.

Isle of Portland to Studland Cliffs SAC

- 4.17 This SAC site covers 1447.5ha and was designated in April 2005 (Site code:UK0019861). It supports the following Annex 1 habitat types: Annual vegetation of drift line, vegetated sea cliffs of the Atlantic and Baltic coasts, semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) and populations of the Annex II species early gentian (*Gentianella anglica*).
- 4.18 Isle of Portland to Studland Cliffs, including the detached peninsula of Portland, with St Albans Head to Durlston Head, forms a single unit of cliffed coastline some 40 km in length. The cliffs are formed of hard limestones, with chalk at the eastern end, interspersed with slumped sections of soft cliff of sand and clays. Along these cliffs the Annex 1 habitat vegetated sea cliffs of the Atlantic and Baltic coasts occurs.
- 4.19 The cliffs support species-rich calcareous grassland with species that are rare in the UK, such as wild cabbage (*Brassica oleracea* var. *oleracea*), early spider-orchid (*Ophrys sphegodes*) and Nottingham catchfly (*Silene nutans*). The Portland peninsula, extending 8 km south of the mainland, demonstrates very clearly the contrast between the exposed western and southern coasts, with sheer rock faces and sparse maritime vegetation, and the sheltered eastern side, with sloping cliffs supporting scrub communities, where wood spurge (*Euphorbia amygdaloides*) grows in grassland.
- 4.20 The Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) occurs at this SAC in both inland and coastal situations on both chalk and Jurassic limestone. The SAC contains extensive species-rich examples of CG4 *Brachypodium pinnatum* grassland in the southern part of its UK range. Smaller areas of CG2 *Festuca ovina* – *Avenula pratensis* grassland occur on shallow soils on steeper slopes. Transitions from calcareous grassland to both chalk heath and acid grassland are also present. The SAC has well-developed terricolous and saxicolous lichen and bryophyte communities associated with open turf, chalk rock and pebbles, and flinty soils. The SAC is also an important orchid site.
- 4.21 The Annex 1 habitat Annual vegetation of drift lines is present as a qualifying feature, but is not the primary reason for the selection of the SAC. This habitat occurs on deposits of shingle lying at or above the mean high-water mark of spring tides. These areas are subject to periodic displacement or overtopping by high tides and storms. The vegetation communities are largely composed of annual or short-lived perennial species.
- 4.22 The presence of populations of early gentian is a primary reason for the selection of the SAC. Together with St Albans Head to Durlston Head, the SAC supports important long-standing populations of early gentian numbering several thousands of plants in floristically-rich calcareous grassland.

Crookhill Brick Pit SAC

- 4.23 Crookhill Brick pit covers 4.46ha and is designated for supporting a population of the Annex II species great crested newt (*Triturus cristatus*). The SAC contains several ponds that support great crested newts, including one pond which has been recorded to have one of the highest counts of the species in Dorset. The SAC also contains a variety of habitats used by the great crested newt in the terrestrial phase, including grassland, scrub and quarry spoil. The newer ponds were created as part of a mitigation project for the construction of a waste transfer station. The disused brickpit also has important geological features (exposure of Lower and Middle Oxford Clay).

4.24 Copies of the SAC/SPA and Ramsar citations are included in Appendix 1.

Chesil Beach and The Fleet SPA Conservation Objectives

4.25 The conservation objectives for the SPA have been prepared by Natural England. With regard to the SPA and the individual species and/or assemblage of species for which it has been classified (the 'qualifying features'), and subject to natural change; the conservation objectives aim to ensure that the integrity of the SPA is maintained or restored as appropriate, and ensure that the SPA contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features
- The distribution of the qualifying features within the SPA

Ramsar

4.26 For Ramsar sites, a decision has been made by Defra and Natural England not to produce Conservation Advice packages, instead focussing on the production of High Level Conservation Objectives. As the provisions on the Habitats Regulations relating to HRAs extend to Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests. If there are Ramsar qualifying features not covered by overlapping European Marine Sites, Natural England will advise on the best approach on addressing these (e.g. to produce advice on a feature basis) if there is an operational risk.

Chesil and The Fleet SAC conservation objectives

4.27 The conservation objectives for the SAC have been prepared by Natural England. With regard to the SAC and the natural habitats and/or species for which it has been designated (the 'qualifying features'), and subject to natural change; the conservation objectives aim to ensure that the integrity of the SAC is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats
- The structure and function (including typical species) of qualifying natural habitats
- The supporting processes on which qualifying natural habitats rely

4.28 The supplementary advice on conserving and restoring site features, which accompanies the conservation objectives, sets an objective for air quality of: maintaining, as necessary, the concentrations and deposition of air pollutants to at, or below, the site-relevant critical loads or levels given on the Air Pollution Information System (APIS) website. This advice is relevant to the Annex 1 habitats perennial vegetation of stony banks, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)

Crookhill Brick Pit SAC conservation objectives

4.29 The conservation objectives for the SAC have been prepared by Natural England. With regard to the SAC and the natural habitats and/or species for which it has been designated (the 'qualifying features'), and subject to natural change; the conservation objectives aim to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the SAC contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features
- The distribution of the qualifying features within the SAC

Isle of Portland to Studland Cliffs SAC conservation objectives

4.30 The conservation objectives for the SAC have been prepared by Natural England. With regard to the SAC and the natural habitats and/or species for which it has been designated (the 'qualifying features' listed below), and subject to natural change; these aim to ensure that the integrity of the SAC is maintained or restored as appropriate, and ensure that the SAC contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of the qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species
- The distribution of the qualifying species within the SAC

4.31 The supplementary advice on conserving and restoring site features, which accompanies the conservation objectives, sets an objective for air quality of: maintaining, as necessary, the concentrations and deposition of air pollutants to at, or below, the site-relevant critical loads or levels given on the APIS website. This advice is relevant to the Annex 1 habitats vegetated sea cliffs of the Atlantic and Baltic coasts and semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) and encompasses the populations of the Annex II species early gentian.

5.0 Likely significant effect (LSE) test

- 5.1 The first test of Regulation 63 of the Habitats Regulations requires an assessment of whether the emissions from the scheme or any other activities, are likely to have a significant effect on the European sites in question, either alone or in combination with other plans and projects.
- 5.2 As set out in paragraph 2.2 a likely significant effect is any effect that is likely to undermine the designated site's conservation objectives, in light of the characteristics and specific environmental conditions of the SAC/SPA/Ramsar. The likely significant effect test must be based on objective information and the risks must be real, not hypothetical.
- 5.3 As part of the design process Fichtner was commissioned to undertake an Air Quality Assessment (AQA) to evaluate the changes increasing stack height had on the deposition of various pollutants on the European sites. The assessment undertaken by Fichtner covered a range of pollutants that are known to have impacts on ecosystems above certain levels. The APIS website was consulted to determine the appropriate critical loads and levels for use in the assessment of likely significant effect. Fichtner used this information when undertaking the modelling work. The list of pollutants assessments and the critical levels used for the assessment are set out in table 1.

Pollutant	Concentration ($\mu\text{g}/\text{m}^3$)	Measured as
Nitrogen oxides (NOx) (as nitrogen dioxide (NO ₂))	75	Daily mean
	30	Annual mean
Sulphur dioxide (SO ₂)	10	Annual mean for sensitive lichen communities and bryophytes and ecosystems where lichens and bryophytes are an important part of the ecosystem's integrity
	20	Annual mean for all higher plants
Hydrogen fluoride	5	Daily mean
	0.5	Weekly mean
Ammonia (NH ₃)	1	Annual mean for sensitive lichen communities and bryophytes and ecosystems where lichens and bryophytes are an important part of the ecosystem's integrity
	3	Annual mean for all higher plants

Table 1: Pollutants and relevant critical levels used for the ecological assessment.

- 5.4 In June 2019, the IAQM released the guidance document *A guide to the assessment of air quality impacts on designated nature conservation sites* (the IAQM (2019) guidance). This guidance draws on the Environment Agency's (2016) *Air Emissions Risk Assessment for your Environmental Permit*, which states that to screen out impacts as insignificant at European and UK statutory designated sites:
- The long-term process contribution (PC) must be less than 1% of the long-term environmental standard (i.e. the critical level or load); and
 - The short-term PC must be less than 10% of the short-term environmental standard

- 5.5 Critical levels and critical loads are the ambient concentrations and deposition fluxes below which significant harmful effects to sensitive ecosystems are unlikely to occur. Critical levels of air pollution and critical loads of pollutants have been identified by the United Nations Economic Commission for Europe (UNECE).
- 5.6 Critical loads are defined as: "*a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*".
- 5.7 Critical levels are defined as "*concentrations of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur according to present knowledge*".
- 5.8 It is important to distinguish between the critical load and the critical level. The critical load relates to the quantity of pollutant deposited from air to the ground, whereas the critical level is the gaseous concentration of a pollutant in the air.
- 5.9 The Environment Agency's Operational Instruction 67-12 states that if the PC is less than 1% critical level and load then emissions from the application are not significant, and if the predicted environmental contribution (PEC) is less than 70% critical level and load it can be concluded 'no likely significant effect' (alone and in-combination).
- 5.10 AQTAG 17 - Guidance on in combination assessments for aerial emissions from EPR permits states that "*Where the maximum process contribution (PC) at the European site(s) is less than the Stage 2 de-minimis threshold of the relevant critical level or load [i.e. the criteria detailed in paragraph 5.5], the PC is considered to be inconsequential and there is no potential for an alone or in-combination effects with other plans and projects.*"
- 5.11 The AQA modelled a range of stack heights due to the initial work identifying an exceedance of the 1% critical load threshold for nitrogen on part of Chesil and the Fleet SAC. The AQA modelling also identified an exceedance of 1% of the critical level for ammonia on part of the Isle of Portland to Studland Cliffs SAC. The final stack height (80m) was selected to ensure that the potential impacts of emissions on habitats and species within the European sites were minimised as far as practicable.
- 5.12 As noted in section 3 specific measures to reduce the impact on emissions on the European sites have been included as part of the project (increasing stack height). **The project also includes measures to protect the water environment during construction that will ensure there are no impacts on the European sites. Therefore, this project includes mitigation and likely significant effects cannot be screened out, in line with the recent People Over Wind ruling.**
- 5.13 The potential impact pathways identified for the project that could impact on the interest features of the European site are:
- Increases in deposition of nitrogen affecting certain Annex 1 habitats and early gentian within the SACs
 - Increases in acid deposition affecting certain Annex 1 habitats within the SACs
 - Increases in the critical level of ammonia affecting lower plants which form part of the species assemblage of certain Annex 1 habitats with the SACs
 - Increases in the critical level of NO_x affecting plants which form part of the species assemblage of certain Annex 1 habitats with the SACs

- Increases in deposition of nitrogen affecting habitat used by nesting little tern within the SPA/Ramsar
 - Increases in deposition of nitrogen affecting habitats used by wintering wigeon within the SPA/Ramsar
 - Increases in the critical level of NO_x affecting habitats used by breeding little tern or wintering wigeon within the SPA/Ramsar
 - Emissions from traffic (vehicles and ships) associated with the development (both during construction and operation) affecting habitats within the European sites
 - Run-off from the site, fuel spill or release of other contaminants (during construction or operation) entering Portland Harbour and affecting habitats within the European sites
 - Dust created by construction activity affecting vegetation within Isle of Portland to Studland Cliffs SAC.
- 5.14 Other potential pathways have been considered but ruled out of further consideration in an appropriate assessment. This is because no realistic potential for likely significant effects has been identified and no mitigation measures relating to reducing impacts on interest features of the European site have been included in the project.
- 5.15 Potential impact pathways that have been ruled out include noise during construction impacting on breeding little tern or wintering wigeon. Noise and visual impacts have been ruled out primarily due to the distance of the project from the SPA/Ramsar. Operational activities, such as the removal of residual incinerator bottom ash material (post-combustion) from the site via ship have been screened out due to the inert nature of the material leaving the site. Impacts on certain Annex 1 habitats have been screened out where background levels of relevant critical levels and loads are not exceeded and the process contribution is insignificant or the distribution of that habitat means no potential impact pathway exists.
- 5.16 No potential impact pathways have been identified on the Crookhill Brick Pits SAC. No significant emissions from the plant have been identified as occurring on this SAC and there will be no increases in traffic on the roads around this SAC related to this development.

Appropriate assessment

- 5.17 Paragraph 2.1 sets out the process of undertaking an appropriate assessment. The role of the appropriate assessment is to consider the implications of the plan or project for the conservation objectives of the European sites in question, and to determine whether they will have an adverse effect on the integrity of the site. In carrying out an appropriate assessment, a competent authority must have regard to the manner in which the project is proposed to be carried out, or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given.
- 5.18 The integrity of the designated site is defined as the “*coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or levels of populations of the species for which it was designated*” (UK government appropriate assessment guidance).

- 5.19 The information below looks at the potential impact pathways identified in paragraph 5.13 in more detail, considering whether the project would have an adverse effect on the integrity of the designated sites. The first part of the assessment looks at the critical levels predicted for the project followed by the critical loads. After the air quality assessment other potential impact pathways are considered.
- 5.20 In line with national guidance where the PC is below 1% of the relevant critical level or load and the background levels do not exceed the relevant critical load/level threshold set for the protection of vegetation, or lower plants (where relevant), it has been concluded that there will be no adverse effect on the integrity of the designated sites. These critical load and levels are recognised as thresholds below which harmful effects on sensitive UK habitats will not occur to a significant level according to current scientific understanding.
- 5.21 Where the 1% threshold of the relevant critical level/load is exceeded further assessment of the potential impact on the integrity of the designated sites has been undertaken and the outcome of this assessment set out below. The initial stage of the assessment considers the impact of the project alone.

Critical levels

Isle of Portland to Studland Cliffs SAC

- 5.22 The baseline concentration of NO_x for the Isle of Portland to Studland Cliffs SAC, taken from the APIS website and used in the air quality assessment, is a background concentration of NO_x of 10.83 µg/m³. The critical level for all vegetation types is 30µg/m³ (annual mean).
- 5.23 The air quality modelling undertaken by Fichtner shows that the annual mean NO_x PC is 0.38 µg/m³, 1.3% of the critical level for the SAC. The NO_x daily (24 hour) PC is 11.47 µg/m³, 15.3% of the critical level for the SAC. The annual mean PC combined with the baseline will be below the annual mean critical level of 30 µg/m³ for the protection of vegetation and ecosystems. The annual mean NO_x PEC would be 11.21µg/m³. The NO_x daily (24 hour) PEC is also below the daily mean critical level of 75 µg/m³ set for the protection of vegetation and ecosystems at 22.3µg/m³.
- 5.24 The area of the SAC where the annual mean NO_x PC is predicted to exceed 1% of the critical level is 5.19ha. This 1% contour encompasses the upper slopes around HMP The Verne. The area of the SAC where the daily mean NO_x PC is predicted to exceed 1% of the critical level occurs in a similar area of the SAC and covers 5.67ha.
- 5.25 Although the mean annual and daily PC exceed the relevant 1% and 10% critical level thresholds for NO_x, the overall PEC for both within the area of the SAC where levels will increase would remain below 70% of the long-term environmental standard with the facility in operation. The overall PEC as a percentage of the critical levels would be 37.4% for annual mean NO_x and 29.7% for daily mean NO_x. No adverse impacts on the integrity of the site from increased levels of NO_x within the Isle of Portland to Studland Cliffs SAC are predicted as a result of the development.
- 5.26 The baseline concentration of SO₂ for the Isle of Portland to Studland Cliffs SAC, taken from the APIS website and used in the air quality assessment, is a background concentration of 0.7 µg/m³. The air quality modelling undertaken by Fichtner shows that the annual mean SO₂ PC is 0.09 µg/m³, 0.9% of the critical level for the SAC. The annual mean PC for SO₂ combined with the baseline level is below the annual mean critical level of 10 µg/m³ for the protection of lichens and bryophytes with the

development in operation. No adverse impacts on the integrity of the site from increased levels of SO₂ within the Isle of Portland to Studland Cliffs SAC are predicted as a result of the development.

- 5.27 The baseline concentration of NH₃ for the Isle of Portland to Studland Cliffs SAC, taken from the APIS website and used in the air quality assessment, is a background concentration of 0.62 µg/m³. The annual mean NH₃ PC is 0.03 µg/m³, 2.5% of the critical level for the SAC. The annual mean PC for NH₃ combined with the baseline level is below the annual mean critical level of 1 µg/m³ for the protection of lichens and bryophytes with the development in operation.
- 5.28 The area affected by the increase in the critical level of ammonia covers 38.44ha of the SAC. This equates to c2.6% of the total SAC area (1447.5ha). The Magic website classifies the areas within this zone as maritime cliffs and slopes (the Annex 1 habitat vegetated sea cliffs of the Atlantic and Baltic Coasts) or calcareous grassland (the Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*). The supplementary advice to the conservation objectives identifies the lichen and bryophyte community as typical species of the calcareous grassland communities.
- 5.29 Although the mean annual PC exceeds 1% of the critical level threshold for NH₃, the overall PEC on the site would remain below 70% of the long-term environmental standard with the facility in operation. The overall PEC would be 65% of the critical level (0.65 µg/m³ of NH₃). No adverse impacts on the integrity of the site from increased levels of ammonia within the Isle of Portland to Studland Cliffs SAC are predicted as a result of the development.

Chesil and the Fleet SAC

- 5.30 The baseline concentration of NO_x for the Chesil and the Fleet SAC, taken from the APIS website and used in the air quality assessment, is a background concentration of NO_x of 11.79 µg/m³. The critical level for all vegetation types is 30µg/m³ (annual mean).
- 5.31 The air quality modelling undertaken by Fichtner shows that the annual mean NO_x PC is 0.16 µg/m³, 0.5% of the critical level for the SAC. The NO_x daily (24 hour) PC is 4.02 µg/m³, 5.4% of the critical level for the SAC. The annual mean PC combined with the baseline will be below the annual mean critical level of 30 µg/m³ for the protection of vegetation and ecosystems with the development in operation. The NO_x daily (24 hour) PC combined with the baseline is also below the daily mean critical level of 75 µg/m³ for the protection of vegetation and ecosystems.
- 5.32 As the mean annual and daily PC is below 1% and 10% of the relevant critical levels for NO_x no adverse impacts on the integrity of the site from increased levels of NO_x within Chesil and the Fleet SAC are predicted as a result of the development.
- 5.33 The baseline concentration of SO₂ for Chesil and the Fleet SAC, taken from the APIS website and used in the air quality assessment, is a background concentration of 0.89 µg/m³. The air quality modelling undertaken by Fichtner shows that the annual mean SO₂ PC is 0.09 µg/m³, 0.5% of the critical level for the SAC. The annual mean PC for SO₂ combined with the baseline level is below the annual mean critical level of 10-20 µg/m³ set for the protection of all vegetation with the development in operation. No adverse impacts on the integrity of the site from increased levels of SO₂ within Chesil and the Fleet SAC are predicted as a result of the development.

- 5.34 The baseline concentration of NH₃ for Chesil and the Fleet SAC, taken from the APIS website and used in the air quality assessment, is a background concentration of 0.62 µg/m³. The annual mean NH₃ PC is 0.01 µg/m³, 0.4% of the critical level for the SAC. The annual mean PC for NH₃ combined with the baseline level is below the annual mean critical level of 3 µg/m³ (as given on APIS) for the protection of vegetation with the development in operation. The PEC would be 0.63 µg/m³ (21% of the critical level given on APIS).
- 5.35 As a sensitivity test the air quality modelling also considered the potential impacts for the annual mean PC for ammonia on the SAC with an annual mean critical level of 1 µg/m³ set for the protection of lichens and bryophytes. This modelling has shown that there is some exceedance above 1% of this critical level in part of the SAC (5.14ha of the SAC).
- 5.36 Although the mean annual PC would exceed the relevant 1% critical level threshold for NH₃ at 1 µg/m³ the overall PEC on the site would remain below 70% of the long-term environmental standard with the facility in operation (the PEC would be 65% of the critical level for NH₃ at 1 µg/m³). Pioneer shingle communities do not support important lichen or bryophyte communities (see paragraph 5.62) and the more developed stands of vegetation adjacent to the A354, where levels of ammonia will increase, were not found to support significant populations of lichens and bryophytes during surveys undertaken in 2018 (see paragraphs 5.71 to 5.72). No adverse impacts on the integrity of the site from increased ammonia levels (at critical levels set at 1 µg/m³ and 3 µg/m³) within Chesil Beach and the Fleet SAC are predicted as a result of the development.

Chesil Beach and the Fleet SPA/Ramsar

- 5.37 The boundaries for Chesil Beach and the Fleet SPA/Ramsar are over 1km north west of the zone of impact discussed for Chesil and the Fleet SAC. The air quality modelling for the SAC represents a worst-case deposition scenario for the SPA/Ramsar site.
- 5.38 As demonstrated for the SAC, the mean annual and daily PC is below 1% and 10% of the relevant critical levels for NO_x. No adverse impacts on the integrity of the site from increased levels of NO_x within Chesil Beach and the Fleet SPA/Ramsar are predicted as a result of the development.
- 5.39 As demonstrated for the SAC, the annual mean PC for SO₂ combined with the baseline level is below the annual mean critical level of 10-20 µg/m³ set for the protection of all vegetation with the development in operation. No adverse impacts on the integrity of the site from increased levels of SO₂ within Chesil Beach and the Fleet SPA/Ramsar are predicted as a result of the development.
- 5.40 As demonstrated for the SAC the annual mean NH₃ PC is 0.01 µg/m³, 0.4% of the critical level for the SPA. The annual mean PC for NH₃ combined with the baseline level is below the annual mean critical level of 3 µg/m³ (as given on APIS and used in the air quality assessment) for the protection of vegetation with the development in operation. No adverse impacts on the integrity of the site from increased levels of NH₃ within Chesil Beach and the Fleet SPA/Ramsar are predicted as a result of the development.
- 5.41 Given the distance of the SPA/Ramsar from the development, and the fact that no adverse impacts on sensitive habitats (shingle communities) are predicted within the SAC which lies much closer to the development, no changes in the vegetation composition and structure within the SPA/Ramsar are anticipated. The breeding habitat of little tern (bare shingle and sandy substrates) and the feeding areas of wintering

wigeon (saltmarsh, grassland and mudflats) will be unaffected by changes in critical levels associated with the proposals.

Critical loads

Isle of Portland to Studland Cliffs SAC

- 5.42 The APIS website only provides critical loads for the Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) and early gentian. The critical load given for both is 15-25kg/N/ha/yr. Although APIS identifies the Annex 1 habitat vegetated sea cliffs of the Atlantic and Baltic Coasts as being sensitive to nitrogen no specific critical load has been set. The Annex 1 habitat annual vegetation of drift lines is not considered to be sensitive to nitrogen.
- 5.43 Across the SAC the rate of nitrogen deposition varies between 7.1 and 15kg/N/ha/yr. The area of highest nitrogen deposition occurs on the stretch of coast between Ringstead Bay and Durdle Door, beyond the predicted zone of impact for this facility. Apart from in this one area the baseline rate of nitrogen deposition does not exceed the lower limit of the critical loads given for all interest features of the SAC. The background level used in the air quality modelling for calcareous grassland is 8.128kg/N/ha/yr.
- 5.44 The deposition modelling undertaken by Fichtner shows a maximum rate of nitrogen deposition (PC) within the SAC of 0.169kg/N/ha/yr. This represents 1.1% of the lower end of the critical load given for all habitats and species within the SAC. The background level of nitrogen deposition in the area of the SAC closest to the proposed development is 8.1kg/N/ha/yr. The area of the SAC falling within the 1% contour totals 13.13ha, covering the upper slopes around HMP The Verne.
- 5.45 The predicted contribution of nitrogen to the Annex 1 habitats within the SAC is above 1% of the lower end of the critical load for semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) and early gentian. The zone of impact covers parts of SSSI units 33, 34, 51 and 52.
- 5.46 The Magic website classifies the area within SSSI unit 33 as the maritime cliffs and slopes, attributable to the Annex 1 habitat vegetated sea cliffs of the Atlantic and Baltic Coasts with small areas of woodland. The habitat vegetated sea cliffs of the Atlantic and Baltic Coasts is found around the whole of the coastline of the Isle of Portland. The majority of SSSI units 34, 51 and 52 are classified as lowland calcareous grassland (semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*)) with small areas of maritime cliffs and slopes habitat.
- 5.47 It is considered likely that areas of unit 33 have previously supported calcareous grassland communities and that lack of management has probably contributed to the loss of these through scrub encroachment. A precautionary approach to the assessment has been adopted which assumes the Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) is present within unit 33 and that deposition levels should not be at a level that would prevent this habitat re-establishing in the future should management regimes change.
- 5.48 Unit 33 is current considered to be in unfavourable declining condition due to a lack of grazing and insufficient scrub control. The nitrogen additions associated with the proposal alone combined with background levels will be below the lower end of the critical loads given for the Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*). The proposed development is not considered to affect the ability to achieve favourable conservation status for the site.

The key element to restoring this area to favourable conservation status relates to scrub clearance and control and the implementation of a suitable grazing regime.

- 5.49 The level of nitrogen deposition (PEC) is below the lower end of the critical load level identified as being the threshold where impacts on the Annex 1 habitat are predicted to occur based on current ecological understanding. This would mean that were unit 33 of the SSSI managed to restore the area to favourable condition by removing scrub and introducing grazing the deposition of nitrogen would not prevent the Annex 1 habitat from achieving favourable conservation status.
- 5.50 The supplementary advice for the conservation objectives notes that the critical loads for the Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) are currently within acceptable limits, although there are concerns about impacts of future increases in deposition levels on the feature. The supplementary advice for the conservation objectives covering early gentian highlight that the supporting habitat for this species (calcareous grassland) is sensitive to changes in air quality.
- 5.51 As the PEC will be below 70% of the long-term environmental standard for the Annex 1 habitat semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*) with the facility in operation (55.3% of the lower end of the critical load range), no adverse impacts on the integrity of the site from increased nitrogen deposition within the Isle of Portland to Studland Cliffs SAC are predicted as a result of the development.
- 5.52 The highest predicted contribution of acid deposition to the Annex 1 habitats within the SAC is 1% of the critical load function for semi-natural dry grassland and scrubland facies on calcareous substrates (*Festuco-Brometalia*). The PEC will be well below 70% of the long-term environmental standard for this Annex 1 habitat (3.8%) with the facility in operation, and no adverse impacts on the integrity of the site from acid deposition within the Isle of Portland to Studland Cliffs SAC are predicted as a result of the development.

Chesil and the Fleet SAC

- 5.53 The APIS website provides critical loads for four of the five Annex 1 habitats within the SAC. Perennial vegetation of stony banks is the most sensitive habitat to nitrogen with a critical load of 8-15kg/N/ha/yr. The Annex 1 habitats coastal lagoons, Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) all have a critical load of 20-30kg/N/ha/yr. The Annex 1 habitat annual vegetation of drift lines is not considered to be sensitive to nitrogen. Across the SAC the maximum rate of nitrogen deposition is 15.8kg/N/ha/yr (minimum 8.1kg/N/ha/yr, and an average of 9.3kg/N/ha/yr). This baseline rate of deposition exceeds the lower limit of the critical load given for perennial vegetation of stony banks; the lower limit of the critical load is not exceeded for any of the other Annex 1 habitats within the SAC. The air quality modelling uses a figure of 8.128kg/N/ha/yr.
- 5.54 The deposition modelling undertaken by Fichtner shows a maximum rate of nitrogen deposition (PC) within the SAC of 0.073kg/N/ha/yr. This represents 0.9% of the lower end of the critical load given for the Annex 1 habitat perennial vegetation of stony banks within the SAC. APIS shows that the highest levels of nitrogen deposition occur at the western end of the SAC, with levels of deposition at the eastern end of the SAC at the lower end of the critical load range given for this habitat (8.1kg/N/ha/yr).

- 5.55 Although the process contribution is below 1% of the critical load for nitrogen the Annex 1 habitat perennial vegetation of stony banks within the SAC is already experiencing levels of nitrogen deposition above the minimum deposition rate identified for this habitat. Excessive nitrogen deposition is considered to lead to increases in tall grasses, a decrease in prostrate plants, increased nitrogen leaching, soil acidification and the loss of typical lichen species. However, this is a variable community and there are different successional stages with similarities to grassland and heathland communities.
- 5.56 Two critical loads are provided by APIS for coastal vegetated shingle depending on the substrate. Communities on acid substrates have a lower critical load of 8kg/N/ha/yr, with those communities that occur on calcareous substrates are attributed a critical load of 10kg/N/ha/yr.
- 5.57 The geological conservation review published by JNCC examines the history of the formation of Chesil Beach which gives an indication of the type of substrate in this part of the SAC. Chesil Beach is noted for the systematic longshore size-grading of beach material, with the largest shingle cobbles (clasts) occurring at the eastern end of the beach (with a mean long-axis of 50mm). The ridge height also increases from west to east with a maximum height of c14m above mean sea level at Chesilton.
- 5.58 Around 98% of the material that forms Chesil Beach is flint or chert. Chert is a sedimentary rock composed of the mineral form of silicon dioxide. Limestone pebbles originating from the local Portland and Purbeck stone formations are present in the shingle at Chiswell. Although there is the possibility that sand or other calcareous material exists with the shingle structure it is considered unlikely given the size of the shingle pebbles at this end of the beach, which will have sizable internal voids between each shingle pebble. Fine substrates with a higher pH are likely to occur on the lee side of Chesil Beach. The formation of Chesil Beach is primarily from material from West Devon.
- 5.59 The JNCC undertook a nationwide survey of coastal vegetated shingle structures in 1993 (Sneddon and Randall, 1993). This survey covered a significant proportion of Chesil Beach, although not the area where nitrogen deposition is modelled to be over 1% of the critical load for this habitat. The information in the report provides useful background on the types of shingle plant communities that are likely to be present on this part of the SAC. This study also provided a more detailed set of descriptions for shingle vegetation communities than are presented in Rodwell (2000).
- 5.60 The report highlights that along Chesil Beach most of the vegetation communities form on the lee side of the storm crest. The plant community highlighted as being most prevalent at the eastern end of Chesil Beach is the SH7 community, which typically has only 30% plant cover in each quadrat and three species per quadrat on average (size). It is an extremely depauperate community dominated by sea campion (*Silene uniflora*) with only infrequent maritime herb associates such as yellow horned poppy (*Glaucium flavum*), field bindweed (*Convolvulus arvensis*), prickly sow-thistle (*Sonchus asper*) and orache (*Atriplex* species). The other likely community to be present is the SH3 community. This is another species-poor assemblage and is even more open than the SH7 community with around 95% bare shingle in each quadrat. Sea campion and curled dock (*Rumex crispus littoreus*) are the two constants that dominate the community. The most common associates are Danish scurveygrass (*Cochlearia danica*) and herb-robert (*Geranium robertianum*) although neither occurs in large amounts. This community occurs along much of the length of Chesil Beach.

- 5.61 Both these communities are identified as having affinities to the SD1 community described by Rodwell (2000), although neither is a close match, primarily due to the paucity of yellow horned poppy in both these communities on Chesil Beach. Rodwell notes that the fine gravel beaches tend to support the richer and denser stands of the SD1 community, particularly where there is some sand or comminuted organic detritus mixed in. It is possible that the presence of finer fractions of gravels is necessary for many shingle plants to develop an extensive network of absorptive roots needed to thrive. This may explain the very low abundance of plants recorded in the SH3 and SH7 communities identified in the JNCC survey which occur on very coarse shingles.
- 5.62 Rodwell notes that decaying wrack or other strandline detritus provides an opportunity of more nitrophilous plants such as spear-leaved orache (*Atriplex prostrata*), sea beet (*Beta vulgaris*) and sow-thistle species. However, the organic content of the substrate of the SD1 community is slight and there is never any development of an integrated soil profile, even in more stable stands. There are no mosses, lichens or liverworts associated with these communities.
- 5.63 In 2018 Footprint Ecology was commissioned by Natural England to update work by Groome and Crowther (2005) mapping Annex 1 habitat within the European site (Lake *et al*, 2019). This work divided the perennial vegetation of stony banks into two categories: pioneer shingle communities (represented by eight variants of the NVC SD1 community) and shingle grasslands (largely variants of MC5 and MC8 grasslands). The report notes that most of the vegetated areas of the beach include a varying amount of sand within the shingle matrix.
- 5.64 The EU interpretation manual identifies the NVC communities SD1 community as the community characteristic of the Annex 1 habitat type perennial vegetation of stony banks. The manual attributes the MC5 and MC8 maritime grassland communities to the Annex 1 habitat vegetated sea cliffs of the Atlantic and Baltic Coasts. Vegetated sea cliffs of the Atlantic and Baltic Coasts are not an interest feature of Chesil and the Fleet SAC.
- 5.65 The 2018 survey found that the SD1 communities within the site have declined by between 38-84% since 2005; the overall extent of the losses of SD1 sub-communities is shown in table 2. The loss of the pioneer shingle communities is attributed to recreational activities and where there are accumulations of anthropogenic litter.

NVC code	Sub-community description	Area in 2005	Area in 2018	% decline
SD1a	<i>Crambe maritima</i>	9.7	9.7	0%
SD1a	<i>Crithmum maritimum</i>	0.6	0.2	66%
SD1b	<i>Lathyrus japonicus</i>	7.3	3.9	47%
SD1b	<i>Arrhenatherum elatius</i>	2.9	1.3	55%
SD1	<i>Silene uniflora</i>	54.3	23.6 49 (if bare shingle included)	57% (10%)
SD1	<i>Geranium robertianum</i>	6.2	1	84%
SD1	Mixed <i>Sonchus arvensis</i>	2.9	1.8	38%
SD1- SD10	Pioneer shingle stands of <i>Carex arenaria</i>	0.04	-	100%

Table 2: Extent of vegetated shingle communities within Chesil and the Fleet SAC (from Lake *et al*, 2019)

- 5.66 The report notes that overall the extent of shingle vegetation within the site is remarkably stable and the apparent decline in the estimated cover of pioneer vegetation

is thought to be due to differences in recording areas of bare shingle between the 2005 and 2018 surveys.

- 5.67 The Footprint Ecology report identifies the SD1 vegetation community Mixed *Sonchus arvensis* as occurring within the area of deposition above 1%. There is also a stand of the SD1 community *Arrhenatherum elatius* within the zone of impact. The report notes that one of the stands of Mixed *Sonchus arvensis* appears to have developed since 2005, indicating that baseline conditions remain suitable for the development of Annex 1 habitat in this area.
- 5.68 This habitat has formed at the base of the lee side of the shingle bar alongside the A354, an area where the finer gravels and other sediments have accumulated (as described in Rodwell, see paragraph 5.60) allowing the richer and denser stands of the SD1 community to form. The Footprint Ecology report notes this community is usually found where the shingle has been disturbed and/or where there is finer grained material present. It is present in unit 1 of the SSSI near Portland and towards Bridport, usually close to the landward margins.
- 5.69 The supplementary advice on conservation objectives for the Annex 1 habitat perennial vegetation of stony banks (updated 13/3/20) sets a target to restore concentrations and deposition of air pollutants to below site-relevant critical load and level values given for this feature on APIS. The supporting notes include a site-relevant critical load for this Annex 1 habitat of 8-15kg/N/ha/yr, going on to note that, with a maximum deposition of 16.1kg/N/ha/yr, nitrogen deposition exceeds the site relevant critical load for ecosystem protection and hence there is a risk of harmful effects.
- 5.70 Information on APIS shows that the level of nitrogen deposition on this part of the SAC is far lower than occurs on other parts. The background level of nitrogen deposition on this part of the SAC between 2018 and 2020 was 8.12kg/N/ha/yr. (367826, 74236), an exceedance of the lower end of the critical load for this habitat of 0.12kg/N/ha/yr.
- 5.71 The Footprint Ecology report lists the key plant species recorded in the SD1 mixed *Sonchus* community which usually has a high cover of non-maritime species, many of which are short-lived perennials and ruderal species including perennial sow-thistle (*Sonchus arvensis*), bittersweet (*Solanum dulcamara*), bristly ox-tongue (*Picris echinoides*), common mallow (*Malva sylvestris*), field bindweed and sea mayweed (*Tripleurospermum maritimum*). Other species present include wild parsnip (*Pastinaca sativa*), wild carrot (*Daucus carota*), sea beet, creeping cinquefoil (*Potentilla reptans*), hedge bindweed (*Calystegia sepium*) and creeping buttercup (*Ranunculus repens*) and, less commonly, smooth sow-thistle (*Sonchus oleraceus*), ribwort plantain (*Plantago lanceolata*), Oxford ragwort (*Senecio squalidus*), hairy willowherb (*Epilobium hirsutum*), hoary ragwort (*Senecio erucifolius*), creeping thistle (*Cirsium arvense*), black medick (*Medicago lupulina*) and creeping bent (*Agrostis stolonifera*).
- 5.72 The Footprint Ecology report also lists the key plant species recorded in the SD1 *Arrhenatherum elatius* community. These include false oat grass (*Arrhenatherum elatius*), perennial sow-thistle, curled dock, sea mayweed, yellow horned poppy, sea beet and up to 50% bare shingle. Bittersweet, field bindweed, hedge bindweed and prickly sow-thistle, all species typical of the SD1 Mixed *Sonchus* community, occur in stands opposite Osprey Quay, adjacent to the road. It appears to be a transitional community between typical SD1 and MG1 communities on the landward extreme of the shingle ridge.
- 5.73 As indicated by the Footprint Ecology survey, the SD1 communities recorded in this part of the SAC contain a high proportion of non-maritime species. An assessment of

the species listed in paragraphs 5.71 to 5.72 against Ellenberg indicators show that over 80% of species are not typical of sites with saline conditions or significant exposure to salt. The same proportion of species are associated with weakly-basic or weakly acid soils or soils that lie between weakly-basic or weakly acid and calcareous or high pH soils. The assessment also found that 75% of the plants recorded were typical of richly fertile sites or sites with above intermediate fertility.

- 5.74 Typical plant species of acid dune communities, such as those in the North Norfolk Coast SAC, tend to have Ellenberg scores of 6 or below which indicates that they occur in soils that are at least weakly-basic or weakly acid and are tending towards moderately acidic. The clustering for the communities on Portland would suggest that the shingle is not strongly acidic.
- 5.75 This is an important distinction as research in the Baltics has shown that dune communities on more acidic substrates (like those within parts of the North Norfolk Coast) with a parent material pH <6.0 show significant changes in species richness and community composition with low rates of wet nitrogen deposition (5-8kg/N/ha/yr), but these changes were not apparent at slightly calcareous sites (parent material pH > 6.0). This is due to the buffering offered by the carbonate system which prevents acidification occurring with moderate inputs of atmospheric nitrogen (Remke *et al*, 2009).
- 5.76 A site visit to the area opposite Osprey Quay (August 2020) found that the substrate was formed of reasonably sized shingle pebbles with extensive bare shingle present. In some areas comminuted organic detritus, gravel and sand occurs in the gaps between shingle pebbles; this is where the better developed vegetation stands occur. This matter may have derived from flooding events, rotting plant material or dust and mud from the road. The presence of this material seems to allow non-maritime species the opportunity to establish, as described by Rodwell and Footprint Ecology.
- 5.77 Following the evaluation of the species present within the Annex 1 habitat perennial vegetation of stony banks at the eastern end of Chesil Beach (from published research and a site visit) it is concluded that many of the species are typical of at least moderately nutrient rich environments. Assessment of the vegetation community against an acid sand dune community suggests that the Annex 1 habitats on Chesil Beach are not growing on strongly acid base material. It is possible that the application of a 8kg/N/ha/yr critical load threshold is too low for Annex 1 habitat in this particular part of the SAC.
- 5.78 Given the composition of the community in this area and the transitional nature of these stands it is not considered that the additional nitrogen deposition that would occur as a result of this operation of the plant would result in any adverse effects on the integrity of Chesil and the Fleet SAC.
- 5.79 The highest predicted contribution of acid deposition within the SAC is 1.3% of the critical load function for acid grassland. As discussed in paragraphs 5.73 to 5.77, the grassland communities within the SAC support assemblages of plants associated with weakly acidic to calcareous substrates. The PEC will be well below 70% of the long-term environmental standard for acid grassland (35.6%) with the facility in operation. No adverse impacts on the integrity of the site from increased levels of acid deposition within Chesil and the Fleet SAC are predicted as a result of the development.

Chesil Beach and the Fleet SPA/Ramsar

- 5.80 The APIS website provides a range of critical load for nitrogen deposition on habitats used by breeding little tern within the SPA. These range from 8-10kg/N/ha/yr to 10-

20kg/N/ha/yr. The habitat used by wintering wigeon has a critical load of 20-30kg/N/ha/yr.

- 5.81 The deposition modelling undertaken by Fichtner shows the rate of nitrogen deposition (PC) within the SPA/Ramsar of is below 1% of the lower end of the critical load given for nesting habitat used by little tern within the SPA/Ramsar and below 1% of the lower end of the critical load given for wintering wigeon.
- 5.82 The deposition modelling undertaken by Fichtner shows that the area of highest nitrogen deposition (0.9% of the lowest critical load given for the habitat used by breeding little tern) occurs outside of the SPA. Little tern nest at the eastern end of the Fleet. The breeding area is roped off during the breeding season to prevent access and the site is wardened.
- 5.83 There is no published evidence of little tern breeding at the eastern extreme of Chesil Beach (beyond the boundary of the SPA) where the nitrogen deposition is predicted to be highest (0.9% of the relevant critical load). The tern colony is located c1.5km to the north west of where the highest level of nitrogen deposition is predicted to occur. No adverse impacts on the integrity of Chesil Beach and the Fleet SPA/Ramsar are predicted.
- 5.84 Wintering wigeon use the Fleet for foraging and roosting. The critical load for the habitat used by wintering wigeon is 20-30kg/N/ha/yr. The current levels of nitrogen deposition on the Fleet are below the lower end of the critical load given on APIS. Deposition associated with the development will be under 1% of the relevant critical load for this habitat and levels will remain below the lower end of the critical load range once the scheme is operational.
- 5.85 The area of highest nitrogen deposition from the facility on habitat potential suitable for nesting little terns falls outside the Ramsar boundary. As 8kg/N/ha/yr is one of the lowest critical loads set for habitats (5kg/N/ha/yr is the lowest end of the critical load range for habitats), it is considered sufficiently precautionary to conclude there will be no adverse impacts on other habitats within the Ramsar as a result of the implementation of this project. No adverse impacts on the integrity of Chesil Beach and the Fleet SPA/Ramsar are predicted.
- 5.86 The scaly cricket is known to occur in two 10km grid squares SY67 and SY68 on Chesil Beach. The bulk of this population live as interstitial residents within the shingle on the exposed seaward face of the shingle bank above the high-tide line. The animals emerge at night to feed on animal and vegetable matter associated with the strandline.
- 5.87 The predicted increase in nitrogen deposition would not lead to increased plant growth on the shingle ridge. Most of the plant communities that form the Annex 1 habitats form on the lee-side of the storm ridge. The tidal patterns of the local area and levels of strandline detritus would not be impacted by the project. It is concluded there will be no adverse impacts on site integrity as a result of the implementation of this project alone.

Water pollution

Chesil and the Fleet SAC and Chesil Beach and the Fleet SPA/Ramsar

- 5.88 The site is situated over 2km from the nearest point of the SAC and over 3km from the entrance to the Fleet. There is the possibility that contaminated water or other pollutants could enter Portland Harbour via surface water discharge from the site and impact on the interest features of the SAC/SPA/Ramsar.

- 5.89 To mitigate the potential for contamination of the waters of Portland Harbour a framework Construction and Environment Management Plan (CEMP) has been prepared (see Technical Appendix C of the ES) which sets out industry standard good practice working methods and mitigation measures set out in the Environment Agency's Pollution Prevention Guidelines (PPGs) (withdrawn) and Guidance for Pollution Prevention (GPPs). This includes details of the management of water and sediment across the site and provisions to minimise the likelihood of run-off, provide containment of spillage and capture or treat wastewaters where necessary.
- 5.90 Given the distance of the SAC from the proposed development it is concluded that, provided the measures set out in the CEMP are followed, no adverse impacts on Chesil and the Fleet SAC will occur. The CEMP will be approved by the competent authority prior to commencement of any works on site.
- 5.91 The adoption and implementation of measures set out in the CEMP will be sufficient to avoid any adverse impacts on site integrity relating to the Chesil Beach and the Fleet SPA/Ramsar.

Dust

Isle of Portland to Studland Cliffs SAC

- 5.92 Dust suppression measures that will be implemented on site are covered in the CEMP. Measures included in the CEMP include the locating of dust causing activities as far away from the SAC boundary as possible, erecting solid screens or barriers along the boundary of the site adjacent to the SAC, covering stockpiles of earth, the imposition of a site speed limit, requirements to damp down stockpiles and dusty areas as appropriate, the use of enclosed chutes and conveyors, covering skips, minimising drop heights, and the use of water-assisted dust sweepers along track out routes and use of wheel-washes.
- 5.93 The adoption and implementation of measures set out in the CEMP will be sufficient to avoid any adverse impacts on site integrity relating to the Isle of Portland to Studland Cliffs SAC.

Traffic emissions

Isle of Portland to Studland Cliffs SAC and Chesil and the Fleet SAC

- 5.94 The Design Manual for Roads and Bridges (DMRB) considers any receptor within 200m of a road source to be potentially affected by that operation. Natural England (2018) guidance document *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations* explains that it is widely accepted that imperceptible impacts are those which are less than 1% of the critical level or load which is considered to be roughly equivalent to 1,000 AADT for cars and 200 AADT for HGVs.
- 5.95 The trip generation rate for the proposed development is well below the 200 HGV screening threshold, but the routing of traffic is along Main Road and Portland Beach Road which both run adjacent to designated ecological sites. At all points along the modelled transects that cover the European sites, emissions from traffic alone (NH₃, NO_x and nitrogen) are below 1% of the relevant critical level or load for the most sensitive habitats within those sites.

- 5.96 When combining the impacts from process and traffic emissions there is some exceedance of the relevant critical levels and loads for ammonia, oxides of nitrogen and nitrogen within the European sites. The highest levels of exceedance are found closest to the road edges. The modelling is conservative as it assumes that all deliveries are via road. In reality, it is likely that some deliveries will arrive by sea.
- 5.97 Road traffic emissions, and those generated by ships in scenarios which have deliveries from both road and sea, have been factored into the modelling work and the impact on the increases in nitrogen oxides, ammonia and nitrogen deposition as a result of the operation of the facility have been assessed above.

6.0 Alone and in-combination

- 6.1 A list of eleven projects have been identified for assessment of the likelihood of in-combination effects on the European sites. Two of these projects relate to development permitted under the Portland Harbour Revision Orders. The others all lie outside the boundary of the port.
- 6.2 Only impacts related to changes in air quality, water quality and generation of dust were identified as having potential impact pathways that could affect the interest features of the European site. If any of the eleven projects identified generates the same impacts these need to be considered for potential in-combination effects. Table 3 below presents a summary of the potential in-combination pathways identified for the eleven projects.

Project	Potential in-combination impact pathway		
	Dust generation	Changes in water quality in Portland Harbour	Changes in air quality
Ocean Views, Hardy Complex, Castle Road, Portland (phase 2)	Located adjacent to Isle of Portland to Studland Cliffs SAC	Unlikely to be direct run-off into Portland Harbour	Construction and post-construction traffic
Royal Manor Arts College, Weston Road, Portland	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic
Verne Common Road and Ventnor Road, Portland	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic
Southwell Primary School, Sweethill Lane, Portland	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic
Ferrybridge Inn, Portland Road, Weymouth	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic
Disused Quarry Works Stockyard, Bottom Coombe, Park Road, Portland	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic
Plot X, Mulberry Avenue, Portland: erection of two blocks of two storey business units comprising three B1 units and six B8 units (total floorspace 766 sqm) with associated parking and landscaping	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic
Plot M1B, Hamm Beach Road, Portland: erection of three industrial and commercial buildings (B1, B2 and B8, total floorspace 2,879 sqm)	No, due to distance from application site	No, due to distance from Portland Harbour	Construction and post-construction traffic

and associated external works			
Remaining development (and associated planning permissions) permitted under the 1997 Portland Harbour Revision Order	Potential for in-combination effects from some elements	Potential for in-combination effects from some elements	Construction and post-construction traffic
Development (and associated planning permissions) permitted under the 2010 Portland Harbour Revision Order	Potential for in-combination effects from some elements	Potential for in-combination effects from some elements	Construction and post-construction traffic

Table 3: Potential in-combination effect pathways with other projects in the area

- 6.3 Ocean Views, Hardy Complex, Castle Road, Portland (phase 2) is the redevelopment of former naval accommodation block into 157 apartments, together with the development of 191 new build homes, with associated car parking (application reference: 02/00703/FUL, as amended). The consented works are likely to generate dust during the construction phase. However, dust generation is likely to be minimised through the adoption of industry best-practice measures. The distance between this site and the location for the ERF means any fugitive dust created will be deposited on different parts of the SAC. These dust accumulations are not considered likely to act in-combination and no adverse impacts on site integrity are anticipated.
- 6.4 The two Portland Harbour Revision Orders cover a number of developments within the port area.
- 6.5 Remaining development (and associated planning permissions) permitted under the 1997 Portland Harbour Revision Order is as follows:
- Project Osprey: construction of two animal feed storage and distribution warehouses, each 140m x 45m x 20m, and an office building 16m x 4m x 5.15m, to handle 250,000-300,000 tonnes per year (Council reference: WP/19/00514/SCRE), currently under construction.
 - Project Inner Breakwater and Camber Area Alterations: development of operational land for the purposes of shipping and in connection with the embarking, disembarking, loading, discharging or transport of passengers, livestock or goods, including a new berth apron in the Crane Berth Apron Operational Area and a new yard pavement at the Camber Operational Yard to enable the berthing and handling of ships up to 120 m long, their cargoes and passengers (Council reference: WP/15/00328/PD).
 - Open storage of waste products, including waste wood and metal, on the Parade Ground area of the Rifle Range.
 - High Speed Ferries: a cross-Channel passenger / car high speed ferry operating 2-3 daily sailings (round trips) over the 26-week summer season (April-October) and weekend sailings (Friday, Saturday and Sunday) over 20 weeks during the winter season (permitted under the RoRo ferries element of the HRO, but currently seeking finance).
 - The HRO grants permitted development rights for B1/B2/B8 development on several areas of land at the Port that have yet to be developed (areas Port 2, Port 5, Port 6 and Port 7). While no specific proposals are available for these

areas, for the purposes of the assessment it is assumed that each area could be developed for single storey warehouse buildings similar to those proposed at Project Osprey.

- Landside aquaculture: construction of a warehouse building for aquaculture, producing 200-300 tonnes of fish, on a site measuring 135m x 37m (application references: WP/14/01033/OUT and WP/16/00150/RES) – these permissions have lapsed, but the site is being marketed as a potential development site for a similar use so, for the purposes of the assessment, it is assumed a similar development could be constructed on the site in the future.

6.6 Of these elements Project Inner Breakwater and Camber Area Alterations has the potential to result in pollution entering Portland Harbour during construction and operation. As with this project, it is anticipated works undertaken under the Harbour Revision Orders will follow industry best practice to reduce the risk of pollutants entering water bodies. Any pollution incident is likely to be localised in nature and the chances of similar events occurring at the same time on different sites at a sufficient scale to result in adverse impacts on site integrity are considered to be very small.

6.7 All the works covered under the 1997 Portland Harbour Revision Order will generate construction and post-construction traffic that has the potential to result in changes in air quality that could affect the interest features of the European site.

6.8 Development (and associated planning permissions) permitted under the 2010 Portland Harbour Revision Order, is as follows:

- New berthing faces to the north and east of New Quay and Coaling Pier Island (Works 1 and 5) and new berthing faces to the retaining structures to the south and west of Queen's Pier (Work 7) by the construction of concrete blockwork quay walls and/or piled and suspended deck sections and/or rock armoured rubble mound retaining embankments.
- Reclamation of as much of the foreshore and seabed as is required for the above works (Works 2, 6 and 8). Pollution incidents and noise during construction.
- Two 30m wide floating linkspans commencing on the new northern and eastern faces of the berthing faces adjacent to the shoreward arm of Queen's Pier (Work 3).
- A 30m wide floating linkspan commencing on the eastern face of Work 7 (Work 9)
- A mooring dolphin lying 70m to the east of the eastern face of Work 1, with bearing piles, mooring structures and reinforced concrete heads, connected to Work 1 by a steel access walkway (Work 4).
- Two lines of mooring dolphins up to 250m long and up to 70m apart, with bearing piles, mooring structures and reinforced concrete heads, connected by steel walkways and the permanent mooring at the dolphins of a floating dry-dock (Work 10).
- A reinforced concrete or steel pontoon providing access to and from Work 10 (Work 11).

6.9 Any works within, or adjacent to, Portland Harbour have the potential to result in pollution entering the harbour during construction and operation. As with this project, it is anticipated works undertaken under the Harbour Revision Orders will follow industry best practice to reduce the risk of pollutants entering water bodies. Any pollution incident is likely to be localised in nature and the chances of similar events occurring at

the same time on different sites at a sufficient scale to result in adverse impacts on site integrity are considered to be very small.

- 6.10 Dust may be generated by work associated with the creation of new berthing faces to the retaining structures to the south and west of Queen's Pier (Work 7). However, dust generation is likely to be minimised through the adoption of industry best-practice measures. The distance between this site and the location for the ERF means any fugitive dust created will be deposited on different parts of the SAC. These dust accumulations are not considered likely to act in-combination and no adverse impacts on site integrity are anticipated.
- 6.11 All the works covered under the 2010 Portland Harbour Revision Order will generate construction and post-construction traffic that has the potential to result in changes in air quality that could affect the interest features of the European site.
- 6.12 The air quality modelling takes into account the potential for cumulative effects on traffic emissions as a result of development on Portland. Traffic flows associated with the development permitted by the Harbour Revision Orders, the Ocean Views development and the Royal Manor Arts College development were specifically added in to the future baseline traffic modelling. The traffic associated with the other smaller developments was included within the background traffic growth factors from Temprow that were applied to the baseline flows. The assessment of impacts of changes in air quality on the interest features of the European sites, undertaken in section 5, therefore includes traffic from the other developments. The assessment of changes in air quality concluded there would be no adverse effects on site integrity from the scheme, alone or in-combination with the project set out above.

7.0 Conclusion

- 7.1 The assessment of the application concluded that, in the absence of avoidance and mitigation measures, the project was likely to result in a significant effect on the Isle of Portland to Studland Cliffs SAC and Chesil and the Fleet SAC. This document sets out a shadow appropriate assessment for the Portland Energy Recovery Facility, in accordance with Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended).
- 7.2 The shadow appropriate assessment evaluated the mitigation measures; those embedded in the design of the facility and those where mitigation measures will need to be conditioned through any planning permission, to determine if these were sufficient to prevent adverse impacts on site integrity.
- 7.3 On the basis of the mitigation measures set out in this document it is concluded that the construction and operation of the Portland Energy Recovery Facility will not have an adverse effect on the integrity of the European sites assessed, either alone or in combination with other plans and projects.
- 7.4 As the competent authority, Dorset Council is required to undertake its own independent appropriate assessment. The council can choose to adopt this document, following professional scrutiny to evaluate the evidence presented and examine the conclusions reached; or it can undertake its own appropriate assessment using the material provided as part of the planning application and any other relevant material from the applicant requested under Regulation 63.

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Appendix 1: Ramsar information sheet and SPA and SAC citations

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name:	Chesil and the Fleet
Unitary Authority/County:	Dorset
SAC status:	Designated on 1 April 2005
Grid reference:	SY630795
SAC EU code:	UK0017076
Area (ha):	1631.63
Component SSSI:	Chesil Beach and The Fleet SSSI, Portland Harbour Shore SSSI, West Dorset Coast SSSI

Site description:

The Fleet is the largest example of a lagoonal habitat in England and has features of both lagoonal inlets and percolation lagoons. It is bordered by the fossil shingle barrier beach structure of Chesil Beach, through which sea water percolates into the lagoon, but most of its water exchange occurs through the narrow channel that links it to Portland Harbour. A low freshwater input produces fully saline conditions throughout most of the Fleet, with reduced salinity occurring only in the west. The lagoon is extremely sheltered from wave action and has weak tidal streams, except in the eastern narrows and entrance channel. The tidal range is much smaller and temperature range far greater than on the open coast. The lagoon supports extensive populations of two species of eelgrass *Zostera* and three species of tasselweed *Ruppia*, including the rare spiral tasselweed *R. cirrhosa*, and a diverse fauna that includes a number of nationally rare and scarce species.

The 28 km-long shingle bar of Chesil Beach, with the contiguous Portland Harbour shore, is an extensive representative of perennial vegetation of stony banks, and most of it is relatively undisturbed by human activities. Much of the shingle bar is subject to wash-over and percolation in storm conditions and is therefore sparsely vegetated. It supports the most extensive occurrences of the rare sea-kale *Crambe maritima* and sea pea *Lathyrus japonicus* in the UK, together with other grassland and lichen-rich shingle plant communities typical of more stable conditions, especially towards the eastern end of the site. The inner shore of the beach supports extensive drift-line vegetation dominated by sea beet *Beta vulgaris* ssp. *maritima* and orache *Atriplex* spp. This community exists in a dynamic equilibrium with Mediterranean saltmarsh scrub, which it replaces in areas subject to disturbance, and is in turn displaced by the scrub after disturbance ceases.

Mediterranean saltmarsh scrub occurs as a band of shrubby sea-blite *Suaeda vera* and sea-purslane *Atriplex portulacoides*. The largest extent of this community lines much of the 13 km length of the seaward margin of the Fleet. The community forms a clear zone between the Fleet and the shingle vegetation of Chesil Bank.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Coastal lagoons*
- Annual vegetation of drift lines
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*). (Mediterranean saltmarsh scrub)
- Perennial vegetation of stony banks. (Coastal shingle vegetation outside the reach of waves)

Annex I priority habitats are denoted by an asterisk (*).

This citation relates to a site entered in the Register of European Sites for Great Britain.

Register reference number: UK0017076

Date of registration: 14 June 2005

Signed: [REDACTED]

On behalf of the Secretary of State for Environment, Food and Rural Affairs

CHESIL BEACH AND THE FLEET, DORSET

Chesil Beach is one of the five largest shingle beaches in Britain and is of international interest both as a rare habitat and as a unique physiographic feature. It is the largest shingle tombolo in the Country; comprising a simple, linear shingle storm beach linking the Isle of Portland to the mainland.

The shingle provides nesting habitat for up to 100 pairs of little Terns (*Sterna albifrons*) comprising c.5% of the British breeding population. It is also an important site for Common Tern (*Sterna hirundo*) (c. 65 pairs) and Ringed Plover (*Charadrius histicula*) (c. 50 pairs).

The small pebbled shingle in the west is well vegetated in parts and has a very rich flora; including local species like sea-kale (*Crambe maritima*), Yellow Horned-poppy (*Glaucium flavum*), Sea Pea (*Lathyrus japonicus*), Shrubby Sea-blite (*Suaeda fruticosa*) and Rough Clover (*Trifolium scabrum*): plants that are characteristic of unstable shingle.

It is the only British locality for the Wingless Cricket (*Neogoplistes squamiger*).

The Fleet is the largest regularly-tidal lagoon in Britain; which with fresh-water stream inputs, gives rise to saline/brackish conditions. The bed of the Fleet shows unusual transitional habitats between the claybottom deposits and shingle substrate. The flora contains the most extensive mixed population of Eelgrasses (*Zostera* spp) in Britain, the very local Spiral Tasselweed (*Puppia spiralis*), a rare stonewort (*Chara* sp) and diverse marine algal assemblages.

"The section of the Fleet from the Narrows east to Small Mouth has a dominant marine influence with very rich communities including several species rarely recorded within the British Isles - notably the sponge, *Suberites massa* and goby *Gobius couchi* (both recorded in only two other localities in Britain), the burrowing anemone, *Scolanthus callimorphus* (type locality in Portland Harbour and recorded on West coast of Ireland) and the polychaete *Sabella flabellata*."

The Fleet is notable for the diversity of waders and wildfowl in winter. In particular it regularly supports at least 1% of the north-west European population of Wigeon (*Anas penelope*) with up to 7,000 birds being recorded in recent years. Good numbers of Pochard (*Aythya ferina*), Teal (*Anas crecca*), Pintail (*Anas acuta*), Mallard (*Anas platyrhynchos*), Shoveler (*Anas clypeata*), Tufted Duck (*Aythya fuligula*) and Goldeneye (*Bucephala clangula*) are also present.

The site supports the largest resident Mute Swan (*Cygnus olor*) population in Britain (1000 + birds) which predominantly graze the *Zostera* beds. Some 30-40 pairs breed.

In recent years, Dark-bellied Brent Geese (*Branta bernicula*) have begun to over-winter.

This citation / map relates to a site entered in
the Register of European sites for Great Britain.
Register reference number UK001009
Date of registration 30 JAN 1996

Signed [REDACTED]
on behalf of the Secretary of State for the Environment

NATURA 2000 – STANDARD DATA FORM

Special Protection Areas (SPAs) classified under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version), also known as the ‘Birds Directive’

and

Special Areas of Conservation (SACs) (includes candidate SACs, Sites of Community Importance (SCIs) and designated SACs) designated under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, also known as the ‘Habitats Directive’

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information.

The information provided here follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 \(2011/484/EU\)](#).

The Standard Data Forms are generated automatically for all of the UK’s Natura 2000 sites using the European Environment Agency’s Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA’s Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here:
http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

In December 2015, several sections of the UK’s previously published Standard Data Forms were updated. For details of the approach taken by the UK in this submission please refer to the following document:

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf.

These changes formed part of the UK Submission to the European Commission on 22/12/2015.

More general information on Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the United Kingdom, including in Gibraltar, is available from the [SPA homepage](#) and [SAC homepage](#) on the JNCC website. These webpages also provide links to Standard Data Forms for all Natura 2000 sites in the UK.

Date Standard Data Form generated by the Joint Nature Conservation Committee:	14 th November 2017 (UK Tranche 56)
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NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE UK9010091
SITENAME Chesil Beach and The Fleet

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- [6. SITE MANAGEMENT](#)
- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type A	1.2 Site code UK9010091	Back to top
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1.3 Site name

Chesil Beach and The Fleet

1.4 First Compilation date 1985-07	1.5 Update date 2017-11
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1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee
Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough
PE1 1JY
Email:

1.7 Site indication and designation / classification dates

Date site classified as SPA:	1985-07
National legal reference of SPA designation	Regulations 12A and 13-15 of the Conservation Habitats and Species Regulations 2010, (http://www.legislation.gov.uk/uksi/2010/490/contents/made) as amended by The Conservation of Habitats and Species (Amendment) Regulations 2011 (http://www.legislation.gov.uk/uksi/2011/625/contents/made).

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

Longitude

-2.539

Latitude

50.619

2.2 Area [ha]:

747.37

2.3 Marine area [%]

68.8

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code**Region Name**

UKK2	Dorset and Somerset
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2.6 Biogeographical Region(s)

Atlantic (100.0
%)

3. ECOLOGICAL INFORMATION

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species			Population in the site							Site assessment				
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	AIBICID	AIBIC		
						Min	Max				Pop.	Con.	Iso.	Glo.
B	A050	Anas penelope			w	4594	4594	i		G	C		C	
B	A195	Sterna albifrons			r	54	54	p		G	C		C	

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

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4.1 General site character

Habitat class	% Cover
N07	2.0
N03	4.0
N02	48.0
N05	46.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: peat,nutrient-rich,sedimentary,shingle 2 Terrestrial: Geomorphology and landscape: lowland,coastal 3 Marine: Geology: chert/flint,pebble,mud,gravel,shingle,clay,sand 4 Marine: Geomorphology: enclosed coast (including embayment),lagoon,intertidal sediments (including sandflat/mudflat),shingle bar,open coast (including bay),barrier beach,subtidal sediments (including sandbank/mudbank)

4.2 Quality and importance

ARTICLE 4.1 QUALIFICATION (79/409/EEC) During the breeding season the area regularly supports: Sternula albifrons - 2.5% of the GB breeding population (5 year mean 1980-1984, 54 pairs). ARTICLE 4.2 QUALIFICATION (79/409/EEC) Over winter the area regularly supports: Anas penelope - 1% of the north-west European population (5 year peak mean 1980/81-1984/85, 4594 individuals).

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [ilolb]
H	H02	X	b
H	K03		i
M	G04		b
M	F02		i
M	H04	N	o
H	G01		b
H	I01		b
H	H01	X	o
M	K01		b
M	D05		i
M	F01		b

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [ilolb]
	G03		o
	D05		b
H	A02		i

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <http://publications.naturalengland.org.uk/category/6490068894089216>

<http://publications.naturalengland.org.uk/category/3212324>

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

<http://publications.naturalengland.org.uk/publication/2967759?category=3212324>

<http://publications.naturalengland.org.uk/publication/6443620974460928?category=5374002071601152>

<http://publications.naturalengland.org.uk/publication/5436996537286656>

5. SITE PROTECTION STATUS (optional)

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5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

6. SITE MANAGEMENT

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6.1 Body(ies) responsible for the site management:

Organisation:	Natural England, Ilchester Estates, Dorset County Council, Weymouth and Portland Borough Council, Southern Inshore Fisheries and Conservation Authority
Address:	
Email:	

Organisation:	Environment Agency, The Crown Estate, Wessex Water, Ministry of Defence, Portland Harbour Authority, The RSPB, Dorset Wildlife Trust
Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

<input checked="" type="checkbox"/> Yes	Name: Chesil and the Fleet European Marine Site Management Scheme 2001 Link: http://publications.naturalengland.org.uk/file/7437307
<input type="checkbox"/> No, but in preparation	
<input type="checkbox"/> No	

6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

7. MAP OF THE SITES

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INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

The codes in the table below are also explained in the [official European Union guidelines for the Standard Data Form](#). The relevant corresponding page number is shown in the table below.

1.1 Site type

CODE	DESCRIPTION	PAGE NO
A	SPA (classified Special Protection Area)	53
B	cSAC, SCI or SAC (candidate Special Area of Conservation, Site of Community Importance, designated Special Area of Conservation)	53
C	SPA area/boundary is the same as the cSAC/SCI/SAC i.e. a co-classified/designated site (Note: in the UK Natura 2000 submission, this is only used in Gibraltar)	53

3.1 Habitat representativity

CODE	DESCRIPTION	PAGE NO
A	Excellent representativity	57
B	Good representativity	57
C	Significant representativity	57
D	Non-significant presence	57

3.1 Habitat code

CODE	DESCRIPTION	PAGE NO
1110	Sandbanks which are slightly covered by sea water all the time	57
1130	Estuaries	57
1140	Mudflats and sandflats not covered by seawater at low tide	57
1150	Coastal lagoons	57
1160	Large shallow inlets and bays	57
1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Gluco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippophaë rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
3140	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	57
3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	57

CODE	DESCRIPTION	PAGE NO
3160	Natural dystrophic lakes and ponds	57
3170	Mediterranean temporary ponds	57
3180	Turloughs	57
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	57
4010	Northern Atlantic wet heaths with Erica tetralix	57
4020	Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix	57
4030	European dry heaths	57
4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
6130	Calaminarian grasslands of the Violetalia calaminariae	57
6150	Siliceous alpine and boreal grasslands	57
6170	Alpine and subalpine calcareous grasslands	57
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	57
6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	57
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	57
6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	57
6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	57
6520	Mountain hay meadows	57
7110	Active raised bogs	57
7120	Degraded raised bogs still capable of natural regeneration	57
7130	Blanket bogs (* if active bog)	57
7140	Transition mires and quaking bogs	57
7150	Depressions on peat substrates of the Rhynchosporion	57
7210	Calcareous fens with Cladium mariscus and species of the Caricion davallianae	57
7220	Petrifying springs with tufa formation (Cratoneurion)	57
7230	Alkaline fens	57
7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	57
8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	57
8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	57
8210	Calcareous rocky slopes with chasmophytic vegetation	57
8220	Siliceous rocky slopes with chasmophytic vegetation	57
8240	Limestone pavements	57
8310	Caves not open to the public	57
8330	Submerged or partially submerged sea caves	57
9120	Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)	57
9130	Asperulo-Fagetum beech forests	57
9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	57
9180	Tilio-Acerion forests of slopes, screes and ravines	57
9190	Old acidophilous oak woods with Quercus robur on sandy plains	57
91A0	Old sessile oak woods with Ilex and Blechnum in the British Isles	57
91C0	Caledonian forest	57
91D0	Bog woodland	57
91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	57
91J0	Taxus baccata woods of the British Isles	57

3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	58
B	> 2%-15%	58
C	≤ 2%	58

3.1 Degree of conservation

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	59
B	Good conservation	59
C	Average or reduced conservation	59

3.1 Global assessment

CODE	DESCRIPTION	PAGE NO
A	Excellent value	59
B	Good value	59
C	Significant value	59

3.2 Population (abbreviated to 'Pop.' in data form)

CODE	DESCRIPTION	PAGE NO
A	> 15%-100%	62
B	> 2%-15%	62
C	≤ 2%	62
D	Non-significant population	62

3.2 Degree of conservation (abbreviated to 'Con.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent conservation	63
B	Good conservation	63
C	Average or reduced conservation	63

3.2 Isolation (abbreviated to 'Iso.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Population (almost) Isolated	63
B	Population not-isolated, but on margins of area of distribution	63
C	Population not-isolated within extended distribution range	63

3.2 Global assessment (abbreviated to 'Glo.' or 'G.' in data form)

CODE	DESCRIPTION	PAGE NO
A	Excellent value	63
B	Good value	63
C	Significant value	63

3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non-breeding waterbird assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Scree, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc., trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67
UK05	Marine Conservation Zone	67
UK06	Nature Conservation Marine Protected Area	67
UK86	Special Area (Channel Islands)	67
UK98	Area of Special Scientific Interest (NI)	67
IN00	Ramsar Convention site	67
IN08	Special Protection Area (SPA, EC Birds Directive)	67
IN09	Special Area of Conservation (SAC, EC Habitats Directive)	67

NATURA 2000 – STANDARD DATA FORM

Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 \(2011/484/EU\)](#).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here
http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:
http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the [SAC home page on the JNCC website](#). This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee
25 January 2016.



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE UK0019861
SITENAME Isle of Portland to Studland Cliffs

TABLE OF CONTENTS

- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)
- [7. MAP OF THE SITE](#)

1. SITE IDENTIFICATION

1.1 Type B	1.2 Site code UK0019861	Back to top
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1.3 Site name

Isle of Portland to Studland Cliffs

1.4 First Compilation date 1998-06	1.5 Update date 2015-12
--	-----------------------------------

1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee
Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough
PE1 1JY
Email:

Date site proposed as SCI:	1998-06
Date site confirmed as SCI:	2004-12
Date site designated as SAC:	2005-04
National legal reference of SAC designation:	Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010 (http://www.legislation.gov.uk/uksi/2010/490/contents/made).

2. SITE LOCATION

2.1 Site-centre location [decimal degrees]:

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Longitude

-2.2261

Latitude

50.6206

2.2 Area [ha]:

1441.75

2.3 Marine area [%]

0.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

UKK2	Dorset and Somerset
------	---------------------

2.6 Biogeographical Region(s)

Atlantic (100.0
%)

3. ECOLOGICAL INFORMATION

3.1 Habitat types present on the site and assessment for them

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Annex I Habitat types						Site assessment			
Code	PF	NP	Cover [ha]	Cave [number]	Data quality	AIBICID	AIBIC		
						Representativity	Relative Surface	Conservation	Global
1210			1.44		G	C	C	C	C
1220			1.44		G	D			
1230			576.7		M	A	B	A	A
6210			792.96		G	A	C	A	B

- **PF:** for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter "X" in the column PF to indicate the priority form.
- **NP:** in case that a habitat type no longer exists in the site enter: x (optional)
- **Cover:** decimal values can be entered
- **Caves:** for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive

92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	AIBICID	AIBIC		
						Min	Max				Pop.	Con.	Iso.	Glo.
P	1654	Gentianella anglica			p	1001	10000	i		M	C	B	C	B
A	1166	Triturus cristatus			p				P	DD	D			

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

4.1 General site character

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Habitat class	% Cover
N08	5.0
N09	55.0
N05	40.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: basic, sedimentary 2 Terrestrial: Geomorphology and landscape: coastal, lowland
 Marine: Geology: limestone/chalk 4 Marine: Geomorphology: cliffs

4.2 Quality and importance

Annual vegetation of drift lines for which the area is considered to support a significant presence. which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 100 hectares. Vegetated sea cliffs of the Atlantic and Baltic coasts for which this is considered to be one of the best areas in the United Kingdom. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) for which this is considered to be one of the best areas in the United Kingdom. *Gentianella anglica* for which this is considered to be one of the best areas in the United Kingdom.

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
	Threats		

Positive Impacts		
	Activities,	Pollution

Rank	and pressures [code]	Pollution (optional) [code]	inside/outside [ilolb]
H	G01		I
H	A01		I
H	I01		B
H	K02		I
H	A04		I

Rank	management [code]	(optional) [code]	inside/outside [ilolb]
H	A03		I
H	A06		I
H	B02		I
H	A04		I
H	A02		I

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,
T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <http://publications.naturalengland.org.uk/category/6490068894089216>

<http://publications.naturalengland.org.uk/category/3212324>

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

5. SITE PROTECTION STATUS (optional)

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5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

6. SITE MANAGEMENT

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6.1 Body(ies) responsible for the site management:

Organisation:	Natural England
Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No, but in preparation
<input checked="" type="checkbox"/>	No

6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

7. MAP OF THE SITES

INSPIRE ID:

Map delivered as PDF in electronic format (optional)

Yes No

Reference(s) to the original map used for the digitalisation of the electronic boundaries (optional).

EXPLANATION OF CODES USED IN THE NATURA 2000 STANDARD DATA FORMS

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1.1 Site type

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3.1 Habitat representativity

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1170	Reefs	57
1180	Submarine structures made by leaking gases	57
1210	Annual vegetation of drift lines	57
1220	Perennial vegetation of stony banks	57
1230	Vegetated sea cliffs of the Atlantic and Baltic Coasts	57
1310	Salicornia and other annuals colonizing mud and sand	57
1320	Spartina swards (Spartinion maritimae)	57
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	57
1340	Inland salt meadows	57
1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	57
2110	Embryonic shifting dunes	57
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	57
2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	57
2140	Decalcified fixed dunes with Empetrum nigrum	57
2150	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	57
2160	Dunes with Hippophila rhamnoides	57
2170	Dunes with Salix repens ssp. argentea (Salicion arenariae)	57
2190	Humid dune slacks	57
21A0	Machairs (* in Ireland)	57
2250	Coastal dunes with Juniperus spp.	57
2330	Inland dunes with open Corynephorus and Agrostis grasslands	57
3110	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	57
3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	57
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3170	Mediterranean temporary ponds	57
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4040	Dry Atlantic coastal heaths with Erica vagans	57
4060	Alpine and Boreal heaths	57
4080	Sub-Arctic Salix spp. scrub	57
5110	Stable xerothermophilous formations with Buxus sempervirens on rock slopes (Berberidion p.p.)	57
5130	Juniperus communis formations on heaths or calcareous grasslands	57
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6150	Siliceous alpine and boreal grasslands	57
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3.1 Relative surface

CODE	DESCRIPTION	PAGE NO
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3.1 Conservation status habitat

CODE	DESCRIPTION	PAGE NO
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3.1 Global grade habitat

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3.2 Conservation status species (abbreviated to 'Con.' in data form)

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3.2 Global Grade (abbreviated to 'Glo.' Or 'G.' in data form)

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B	Good value	63
C	Significant value	63

3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc.), trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67

NATURA 2000 – STANDARD DATA FORM

Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance and designated SACs).

Each Natura 2000 site in the United Kingdom has its own Standard Data Form containing site-specific information. The data form for this site has been generated from the Natura 2000 Database submitted to the European Commission on the following date:

22/12/2015

The information provided here, follows the officially agreed site information format for Natura 2000 sites, as set out in the [Official Journal of the European Union recording the Commission Implementing Decision of 11 July 2011 \(2011/484/EU\)](#).

The Standard Data Forms are generated automatically for all of the UK's Natura 2000 sites using the European Environment Agency's Natura 2000 software. The structure and format of these forms is exactly as produced by the EEA's Natura 2000 software (except for the addition of this coversheet and the end notes). The content matches exactly the data submitted to the European Commission.

Please note that these forms contain a number of codes, all of which are explained either within the data forms themselves or in the end notes.

Further technical documentation may be found here
http://bd.eionet.europa.eu/activities/Natura_2000/reference_portal

As part of the December 2015 submission, several sections of the UK's previously published Standard Data Forms have been updated. For details of the approach taken by the UK in this submission please refer to the following document:
http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

More general information on Special Areas of Conservation (SACs) in the United Kingdom is available from the [SAC home page on the JNCC website](#). This webpage also provides links to Standard Data Forms for all SACs in the UK.

Date form generated by the Joint Nature Conservation Committee
25 January 2016.



NATURA 2000 - STANDARD DATA FORM

For Special Protection Areas (SPA),
Proposed Sites for Community Importance (pSCI),
Sites of Community Importance (SCI) and
for Special Areas of Conservation (SAC)

SITE UK0030349
SITENAME Crookhill Brick Pit

TABLE OF CONTENTS

- [1. SITE IDENTIFICATION](#)
- [2. SITE LOCATION](#)
- [3. ECOLOGICAL INFORMATION](#)
- [4. SITE DESCRIPTION](#)
- [5. SITE PROTECTION STATUS AND RELATION WITH CORINE BIOTOPES](#)
- [6. SITE MANAGEMENT](#)

1. SITE IDENTIFICATION

1.1 Type B	1.2 Site code UK0030349	Back to top
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1.3 Site name

Crookhill Brick Pit

1.4 First Compilation date 2004-07	1.5 Update date 2015-12
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1.6 Respondent:

Name/Organisation: Joint Nature Conservation Committee
Address: Joint Nature Conservation Committee Monkstone House City Road Peterborough
PE1 1JY
Email:

Date site proposed as SCI:	2004-07
Date site confirmed as SCI:	2004-12
Date site designated as SAC:	2005-04
National legal reference of SAC designation:	Regulations 11 and 13-15 of the Conservation of Habitats and Species Regulations 2010 (http://www.legislation.gov.uk/uksi/2010/490/contents/made).

2. SITE LOCATION

[Back to top](#)

2.1 Site-centre location [decimal degrees]:

Longitude

-2.504444444

Latitude

50.61638889

2.2 Area [ha]:

4.64

2.3 Marine area [%]

0.0

2.4 Sitelength [km]:

0.0

2.5 Administrative region code and name

NUTS level 2 code

Region Name

UKK2	Dorset and Somerset
------	---------------------

2.6 Biogeographical Region(s)

Atlantic (100.0
%)

3. ECOLOGICAL INFORMATION

[Back to top](#)

3.2 Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them

Species					Population in the site						Site assessment			
G	Code	Scientific Name	S	NP	T	Size		Unit	Cat.	D.qual.	AIBICID	AIBIC		
						Min	Max				Pop.	Con.	Iso.	Glo.
A	1166	Triturus cristatus			p	101	250	i		M	C	B	B	B

- **Group:** A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles
- **S:** in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes
- **NP:** in case that a species is no longer present in the site enter: x (optional)
- **Type:** p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent)
- **Unit:** i = individuals, p = pairs or other units according to the Standard list of population units and codes in accordance with Article 12 and 17 reporting (see [reference portal](#))
- **Abundance categories (Cat.):** C = common, R = rare, V = very rare, P = present - to fill if data are deficient (DD) or in addition to population size information
- **Data quality:** G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); VP = 'Very poor' (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field "Abundance categories" has to be filled in)

4. SITE DESCRIPTION

4.1 General site character

Habitat class	% Cover
N16	35.0
N23	10.0
N06	5.0
N09	50.0
Total Habitat Cover	100

Other Site Characteristics

1 Terrestrial: Soil & Geology: clay,neutral 2 Terrestrial: Geomorphology and landscape: lowland

4.2 Quality and importance

Triturus cristatus for which this is considered to be one of the best areas in the United Kingdom.
--

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative Impacts			
Rank	Threats and pressures [code]	Pollution (optional) [code]	inside/outside [ilolb]
H	K02		I

Positive Impacts			
Rank	Activities, management [code]	Pollution (optional) [code]	inside/outside [ilolb]

Rank: H = high, M = medium, L = low

Pollution: N = Nitrogen input, P = Phosphor/Phosphate input, A = Acid input/acidification,

T = toxic inorganic chemicals, O = toxic organic chemicals, X = Mixed pollutions

i = inside, o = outside, b = both

4.5 Documentation

Conservation Objectives - the Natural England links below provide access to the Conservation Objectives (and other site-related information) for its terrestrial and inshore Natura 2000 sites, including conservation advice packages and supporting documents for European Marine Sites within English waters and for cross-border sites. See also the 'UK Approach' document for more information (link via the JNCC website).

Link(s): <http://publications.naturalengland.org.uk/category/3212324>

<http://publications.naturalengland.org.uk/category/6490068894089216>

http://jncc.defra.gov.uk/pdf/Natura2000_StandardDataForm_UKApproach_Dec2015.pdf

5. SITE PROTECTION STATUS (optional)

5.1 Designation types at national and regional level:

Code	Cover [%]	Code	Cover [%]	Code	Cover [%]
UK04	100.0				

6. SITE MANAGEMENT

6.1 Body(ies) responsible for the site management:

Organisation:	Natural England
Address:	
Email:	

6.2 Management Plan(s):

An actual management plan does exist:

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No, but in preparation
<input checked="" type="checkbox"/>	No

6.3 Conservation measures (optional)

For available information, including on Conservation Objectives, see Section 4.5.

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B	Good value	63
C	Significant value	63

3.3 Assemblages types

CODE	DESCRIPTION	PAGE NO
WATR	Non breeding waterfowl assemblage	UK specific code
SBA	Breeding seabird assemblage	UK specific code
BBA	Breeding bird assemblage (applies only to sites classified pre 2000)	UK specific code

4.1 Habitat class code

CODE	DESCRIPTION	PAGE NO
N01	Marine areas, Sea inlets	65
N02	Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	65
N03	Salt marshes, Salt pastures, Salt steppes	65
N04	Coastal sand dunes, Sand beaches, Machair	65
N05	Shingle, Sea cliffs, Islets	65
N06	Inland water bodies (Standing water, Running water)	65
N07	Bogs, Marshes, Water fringed vegetation, Fens	65
N08	Heath, Scrub, Maquis and Garrigue, Phygrana	65
N09	Dry grassland, Steppes	65
N10	Humid grassland, Mesophile grassland	65
N11	Alpine and sub-Alpine grassland	65
N14	Improved grassland	65
N15	Other arable land	65
N16	Broad-leaved deciduous woodland	65
N17	Coniferous woodland	65
N19	Mixed woodland	65
N21	Non-forest areas cultivated with woody plants (including Orchards, groves, Vineyards, Dehesas)	65
N22	Inland rocks, Screes, Sands, Permanent Snow and ice	65
N23	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites)	65
N25	Grassland and scrub habitats (general)	65
N26	Woodland habitats (general)	65

4.3 Threats code

CODE	DESCRIPTION	PAGE NO
A01	Cultivation	65
A02	Modification of cultivation practices	65
A03	Mowing / cutting of grassland	65
A04	Grazing	65
A05	Livestock farming and animal breeding (without grazing)	65
A06	Annual and perennial non-timber crops	65
A07	Use of biocides, hormones and chemicals	65
A08	Fertilisation	65
A10	Restructuring agricultural land holding	65
A11	Agriculture activities not referred to above	65
B01	Forest planting on open ground	65
B02	Forest and Plantation management & use	65
B03	Forest exploitation without replanting or natural regrowth	65
B04	Use of biocides, hormones and chemicals (forestry)	65
B06	Grazing in forests/ woodland	65
B07	Forestry activities not referred to above	65
C01	Mining and quarrying	65
C02	Exploration and extraction of oil or gas	65
C03	Renewable abiotic energy use	65
D01	Roads, paths and railroads	65
D02	Utility and service lines	65
D03	Shipping lanes, ports, marine constructions	65
D04	Airports, flightpaths	65
D05	Improved access to site	65
E01	Urbanised areas, human habitation	65
E02	Industrial or commercial areas	65

CODE	DESCRIPTION	PAGE NO
E03	Discharges	65
E04	Structures, buildings in the landscape	65
E06	Other urbanisation, industrial and similar activities	65
F01	Marine and Freshwater Aquaculture	65
F02	Fishing and harvesting aquatic resources	65
F03	Hunting and collection of wild animals (terrestrial), including damage caused by game (excessive density), and taking/removal of terrestrial animals (including collection of insects, reptiles, amphibians, birds of prey, etc.), trapping, poisoning, poaching, predator control, accidental capture (e.g. due to fishing gear), etc.)	65
F04	Taking / Removal of terrestrial plants, general	65
F05	Illegal taking/ removal of marine fauna	65
F06	Hunting, fishing or collecting activities not referred to above	65
G01	Outdoor sports and leisure activities, recreational activities	65
G02	Sport and leisure structures	65
G03	Interpretative centres	65
G04	Military use and civil unrest	65
G05	Other human intrusions and disturbances	65
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)	65
H02	Pollution to groundwater (point sources and diffuse sources)	65
H03	Marine water pollution	65
H04	Air pollution, air-borne pollutants	65
H05	Soil pollution and solid waste (excluding discharges)	65
H06	Excess energy	65
H07	Other forms of pollution	65
I01	Invasive non-native species	65
I02	Problematic native species	65
I03	Introduced genetic material, GMO	65
J01	Fire and fire suppression	65
J02	Human induced changes in hydraulic conditions	65
J03	Other ecosystem modifications	65
K01	Abiotic (slow) natural processes	65
K02	Biocenotic evolution, succession	65
K03	Interspecific faunal relations	65
K04	Interspecific floral relations	65
K05	Reduced fecundity/ genetic depression	65
L05	Collapse of terrain, landslide	65
L07	Storm, cyclone	65
L08	Inundation (natural processes)	65
L10	Other natural catastrophes	65
M01	Changes in abiotic conditions	65
M02	Changes in biotic conditions	65
U	Unknown threat or pressure	65
XO	Threats and pressures from outside the Member State	65

5.1 Designation type codes

CODE	DESCRIPTION	PAGE NO
UK00	No Protection Status	67
UK01	National Nature Reserve	67
UK02	Marine Nature Reserve	67
UK04	Site of Special Scientific Interest (UK)	67