

IMMINGHAM EASTERN RO-RO TERMINAL



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2 Proposed Development

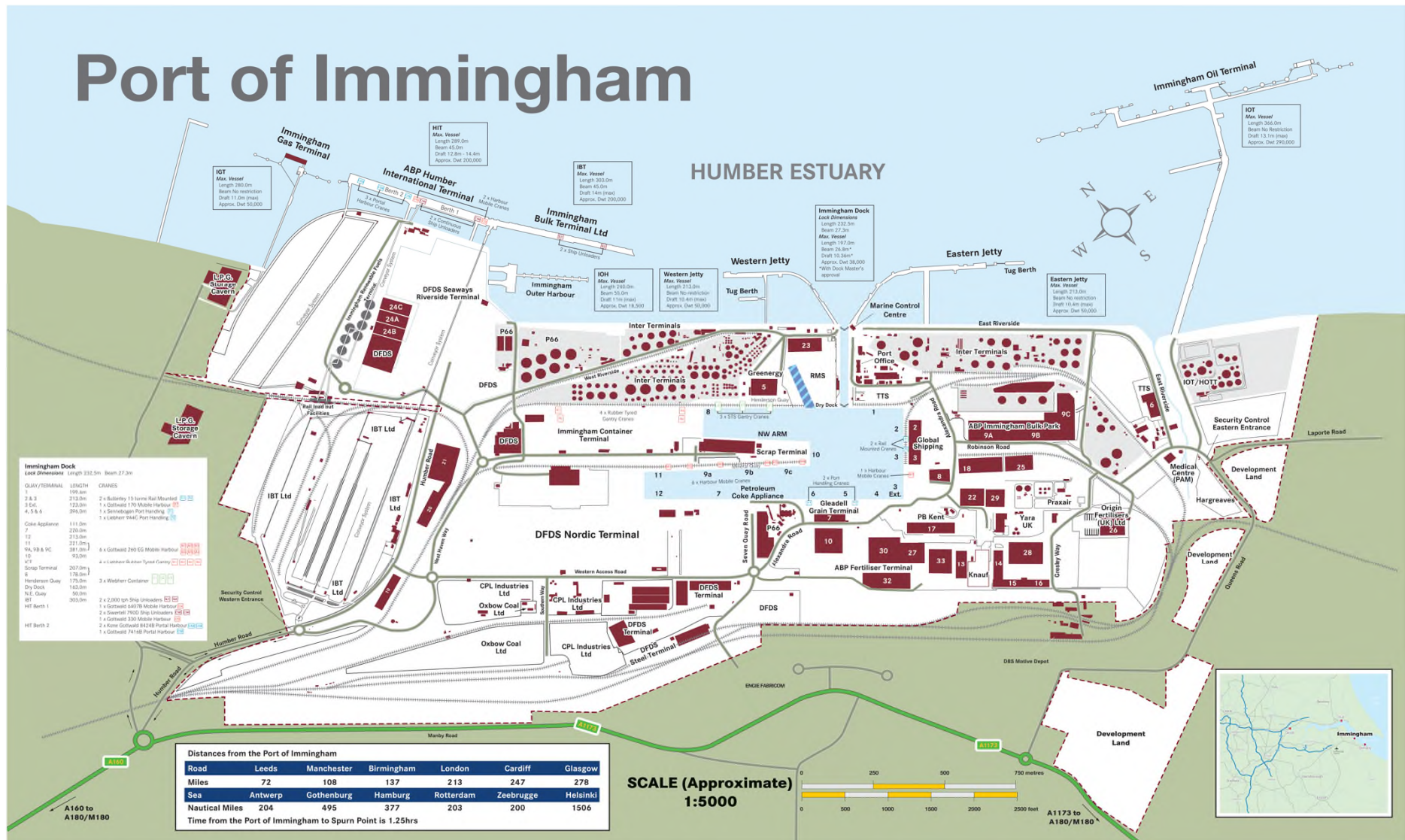
2.1 Introduction

- 2.1.1 This chapter is divided into two sections which follow this short introductory section. The first, Section 2.2 provides a description of the proposed Immingham Eastern Ro-Ro Terminal (IERRT) development site and the surrounding area – those descriptions being supplemented by the more detailed descriptions required for the topic specific assessment chapters that follow in this ES.
- 2.1.2 Section 2.3 then provides a detailed description of the IERRT project itself. To place this in context, the location of the proposed development is shown on Figure 1.1 in Volume 2 of the ES (Application Document Reference number 8.3). The marine works and landside works are then shown separately on Figures 1.2 and Figure 1.3 respectively, which are superseded by Figure 2.3 and Figure 2.2 of the ES Addendum (Application Document Reference number 10.3.8) respectively. This chapter should be read in conjunction with Chapter 3 which provides details on how the project is to be constructed and operated.

2.2 Application site and surrounding area

- 2.2.1 The Port of Immingham came into operational use over 100 years ago, having been officially opened by King George V in the early 1900s. Today it is the UK's largest port by tonnage, handling around 46 million tonnes of cargo every year and is part of the UK's leading port complex acting as a gateway to Europe and the rest of the world.
- 2.2.2 The Port lies immediately adjacent to the Humber Estuary's main deep-water shipping channel which means that the Port is able to accommodate and service some of the largest vessels afloat today.
- 2.2.3 It is also well located for the transport of goods to and from the Port by road. It benefits from two entry points – the East and West Gates – both of which are easily accessible from the A180 (via the A160 for the West Gate, and via A1173 and Queens Road for the East Gate). The A180 becomes the M180 Motorway at Barnetby Top. The M180 in turn provides good access to the M1 or the A1 via the M18 to the south, and the M62, also via the M18, to the north. The Port also has the added benefit of its own rail terminal and indeed some 25% of all rail freight in the United Kingdom (UK) originates from the Port of Immingham.
- 2.2.4 The Port consists of a number of discrete operational areas. Bulk commodities such as liquid fuels, solid fuels and ores, as well as roll-on/roll-off (Ro-Ro) freight, are handled from in-river jetties. These include the Eastern and Western Jetties, the Immingham Oil Terminal (IOT), the Immingham Gas Terminal, the Immingham Outer Harbour (IOH), the Humber International Terminal (HIT) and the Immingham Bulk Terminal

(IBT). The location of these facilities is shown on the ABP Port Plan (Image 2.1 of this chapter – below) and Figure 1.1 to this ES.



Source: <https://www.abports.co.uk/locations/immingham/>

Image 2.1. Existing plan of the Port of Immingham

- 2.2.5 Other traffic, cargoes and commodities – including load-on/load-off (Lo-Lo) freight, animal feed and grain – are handled mainly at berths within the Port's internal dock and are then moved to an array of storage compounds within the port estate for onward distribution. The internal dock complex is accessed via a lock entrance located between the eastern and western jetties. This locked entrance can accommodate vessels of up to 198 m length overall (LOA), 26.2 m beam and approximately 36,000 dead weight tonnes (DWT).
- 2.2.6 It should be noted that some parts of the Port are subject to the requirements of the Control of Major Accident Hazards (COMAH) Regulations 2015 and the Planning (Hazardous Substances) Act 1990. This is in light of the types and volumes of materials that may be present at any one time within the port estate (further detail regarding this aspect of the port's business is provided in the Land Use Planning chapter (Chapter 18) of this ES (Application Document Reference number 8.2.18) supplemented by Chapter 18 of the ES Addendum (Application Document Reference number 10.3.8)).

IERRT application site – landside

- 2.2.7 The landside areas of the proposed development site – which will be used as waiting areas for embarking wheeled cargo or storage areas for disembarked wheeled cargo – all fall within the eastern and south eastern part of the statutory port estate. These areas are all effectively 'brownfield' land (see Figure 1.3 to this ES, which are superseded by Figure 2.2 of the ES Addendum (Application Document Reference number 10.3.8)) in that they are already in, or have been in, port operational use. At the date of this application, the two parts of the development site that comprise the Northern and the Central Storage Areas are currently used for the open-air storage and handling of bulk cargoes. The Southern and Western Storage Areas are used to store trade cars, break-bulk cargo (timber and steel, for example), and for occasional dock use parking.
- 2.2.8 Drury Engineering Services Limited, Malcolm West Fork Lifts (Immingham) Limited and P.K. Construction (Lincs) Limited are located within the Northern Storage Area of the proposed project application site. At present, J.C. Peacock & Co., Limited and Bulk Minerals Limited also use the central area to store bulk materials but both will be relocated within the Port by the end of 2023.
- 2.2.9 Volkswagen Group United Kingdom Limited are located within the Western Storage Area of the proposed project application site.
- 2.2.10 In addition, Exolum Immingham Ltd has pipelines located along the foreshore and pipelines adjacent to the proposed Northern Storage Area, with further infrastructure located across the wider Port estate.
- 2.2.11 Other businesses within the Port located immediately adjacent to the application site include T.T.S (Shipping) Limited, Origin UK Operations Limited, Yara UK Limited, Nippon Gases UK Limited, Tronox Pigment UK

Limited, People Asset Management Ltd, and Associated Petroleum Terminals (Immingham) Limited (APT). DB Cargo (UK) Limited and Network Rail Infrastructure Limited operate adjacent to the Port of Immingham.

IERRT application site – marine

- 2.2.12 The marine elements of the proposed IERRT project are situated to the east of the existing Eastern Jetty and to the west of the IOT. In terms of the proposed IERRT marine infrastructure, the IOT comprises an approach jetty (also referred to as the trunk way) with finger piers to accommodate berthing vessels. Humber Oil Terminals Trustee Limited (HOTT) is the licensee of the IOT jetties as well as a mooring buoy located within the IERRT project site whilst on the landside, APT operates the oil terminal and tank farm associated with the IOT. The IOT operations comprise the transport of oils and spirits for the Phillips 66 Humber Oil Refinery at South Killingholme, and the Lindsey Oil Refinery in North Killingholme.
- 2.2.13 Svitzer Humber Limited has a tug mooring point within the IERRT project site with further infrastructure adjacent to the IERRT project boundary.
- 2.2.14 Rix Petroleum Limited operate from berths 8 and 9 of the IOT finger pier.

2.3 Project description

- 2.3.1 Having regard to the requirements for the IERRT project, ABP's own current and future port operational requirements and taking into account the baseline position in terms of land availability within the eastern part of the statutory port estate – the western sector already being intensively occupied - ABP carried out a design exercise to work up a proposed form of development which eventually was to act as the basis of the proposal publicly announced and which was made the subject of statutory consultation in early 2022.
- 2.3.2 As a result of responses received during the first 2022 statutory consultation exercise, ongoing consultation with stakeholders and bodies, and evolving design and assessment work, the IERRT project was further refined and improved. Refinements to the scheme were then incorporated following the comments received as part of the supplementary statutory consultation in late 2022.
- 2.3.3 This design exercise took account of relevant historic port design work undertaken by and on behalf of ABP at the Port of Immingham and relevant design standards. The location and orientation of the marine infrastructure (described below) was also informed by a series of navigational simulations – provided at Appendix 10.2 and Appendix 10.3 in Volume 3 of this ES (Application Document Reference number 8.4) – design reviews, quasi-static force analysis studies, and vessel mooring analysis studies and also involved consultation with relevant stakeholders/interested parties.

- 2.3.4 ***Rochdale Envelope*** – In assessing the impact of the IERRT proposals, full account has been taken of the “Rochdale Envelope” process, as detailed in PINS Advice Note Nine.
- 2.3.5 In brief, the “Rochdale Envelope” is based on legally decided cases which determined that in order to provide certainty in terms of the assessment of impacts of a given project/development, the details of a project can be described by the adoption of maximum, or minimum, parameters – in effect the ‘worst case’ scenario. By so doing, whilst the detailed design of the scheme may vary as it evolves, provided that variation is within the assessed ‘envelope’ – the environmental assessment of the project will not be invalidated.
- 2.3.6 For the purposes of this IERRT DCO application, therefore, with a view to defining a ‘worst case’ scenario, the marine infrastructure and landside buildings have been assessed, as detailed below, on the basis of their maximum parameters.
- 2.3.7 By so adopting the Rochdale Envelope, the potential impacts of the Project have been assessed on the basis of the maximum parameters of the scheme as a whole and its individual components – thereby providing certainty as to potential worst- case impacts.
- 2.3.8 The detail of the proposed IERRT development is shown on Figures 1.2 and 1.3 of this ES (Application Document Reference number 8.3.1 superseded by Figure 2.3 and Figure 2.2 of the ES Addendum (Application Document Reference number 10.3.8)), and the project is described further below, under the headings of marine works and landside works respectively and in Chapter 3 which looks specifically at construction methodology.
- 2.3.9 The application for the IERRT DCO is supported by plans and sections including General Arrangement Plans, engineering drawings and sections, (Application Document Reference numbers 2.5 and 2.6).
- 2.3.10 The total area covered by the proposed project is some 78 hectares. The area within which the marine works will be undertaken cover around 40 hectares and the landside works some 38 hectares (including Long Wood, which measures approximately one hectare).

Marine works

Marine infrastructure

- 2.3.11 The following paragraphs describe the marine infrastructure of the proposed IERRT project.
- 2.3.12 An open piled approach jetty with abutments will be constructed to provide access for vehicles and wheeled cargo between the shore and the berthing infrastructure. The approach jetty will rise from ground level on the landside and cross over the existing sea defence wall and pipelines. It will then extend from the shore across the intertidal area to the pontoons and berthing infrastructure in a roughly north easterly direction. To span the sea

- defence and pipelines, two abutment structures will be constructed. On the landside of the pipelines, the abutment structure will consist of three vertical continuous flight auger piles. On the foreshore side of the pipelines, the abutment structure will consist of three steel tubular piles, with a maximum diameter of 1,422 mm. Across these abutment structures, a 22-m long half-trough steel bridge section will be constructed over the pipelines. A clearance of 2.1 m will be allowed to facilitate inspection of the pipelines. The approach jetty itself will be a maximum of 250 m in length, 12.5 m in width (though wider, up to 13 m, at the positions of the piles and up to 17 m at the last set of piles before the linkspan to accommodate the swept path of heavy goods vehicles (HGVs)), and 13.5 m in height above chart datum (CD). The rest of the deck will be supported by a maximum of 46 piles with a maximum diameter of 1,422 mm. A series of multi piled transverse rigid frames and a concrete and/or steel deck will be used to form the jetty. Due to the minimal draught available along the approximately 60 m-long section of the approach jetty closest to land, the initial section of the approach jetty is proposed to be built using the 'end-over-end' construction technique (see Chapter 3 of this ES). This requires the spans to be slightly closer together, 12.5 m, to favour this method of construction. The spans between each set of piled frames for the remaining section of the approach jetty will be a minimum of 25 m, though this may increase if detailed design reveals that fewer piles can be used.
- 2.3.13 The jetty will terminate at a bankseat consisting of up to six piles which will form the foundation for the linkspan bridge – see below. A roadway, a separate footway, utilities including cable management for the shore power systems, power and lighting, and environmental screens up to 4 m in height to minimise bird disturbance during operation (see the Nature Conservation and Marine Ecology chapter (Chapter 9) of this ES for further details) will be constructed on the surface of the approach jetty. In total, including the abutment structure on the foreshore and the linkspan bankseat, the maximum number of piles for the approach jetty is 55.
- 2.3.14 A linkspan bridge carrying a roadway, a separate footway, lighting, utilities and environmental screens will be located on the approach jetty's bankseat with its free end resting upon the edge of the innermost floating pontoon. The linkspan will extend in a generally northerly direction acting as a link between the approach jetty and the floating pontoons allowing vehicles and cargo to embark and disembark. The linkspan will be a maximum of 90 m in length and 10 m wide. Its length has been optimised to ensure that vehicular accessibility from the approach jetty to the berthed Ro-Ro vessels via the two floating pontoons, as noted below, can be maintained at all states of the tide.
- 2.3.15 The floating pontoons will be located adjacent to a finger pier (see below) so as to be able to receive the loading and unloading ramps of berthed Ro-Ro vessels. Each floating pontoon will be constructed from steel and/or concrete and equipped with lighting, power and a small crew shelter. The dimensions of the pontoons will be a maximum of 40 m x 90 m x 9.35 m. They will be linked together by a short linking bridge up to 20 m in length.

- Both floating pontoons will provide the resting point for the moored vessels' stern ramp and the linkspan bridges. Each pontoon will be secured in place by four reinforced concrete restraint dolphins with maximum dimensions of 12 m x 8 m. Three dolphins will consist of four piles plus a guiding pile, and the fourth will consist of six piles plus a guiding pile. The maximum diameter of these piles will be 1,520 mm. These will ensure the pontoons can range up and down freely with the tide.
- 2.3.16 Positioned perpendicular to each floating pontoon and extending away in a north westerly direction, two open piled finger piers with concrete decks will be constructed against which the Ro-Ro vessels will berth. Each finger pier will be a maximum of 270 m in length, 6 m in width (though wider, up to 13 m, at the positions of the piles), and 10.9 m above CD and will consist of up to 56 piles with a maximum diameter of 1,422 mm. Each pier will include navigation markers, lighting, shore power infrastructure, cable management and connections for berthed vessels and water bunkering facilities.
- 2.3.17 The northern finger pier will be constructed with berthing faces (lined with fender panels and equipped with mooring infrastructure such as fixed bollards and/or quick-release hooks) on both its northern and southern elevations. The southern finger pier will be constructed with a berthing face to its northern elevation only (it will also be lined with fender panels and equipped with mooring infrastructure such as fixed bollards and/or quick-release hooks). As a consequence, vessels will be able to berth on either side of the northernmost pier (i.e., providing two berths) and one vessel will be able to berth on the northern side of the southernmost pier (i.e., providing one berth) – three berths in total.

Vessel impact protection

- 2.3.18 The final element of the marine infrastructure is the possible inclusion of vessel impact protection measures to provide protection in the unlikely event of an errant vessel contacting the IOT jetty/trunk way or the finger pier. ABP does not believe that such measures will actually be required, but it has been decided to make provision for them in this application so as to ensure that the infrastructure is consented as part of the IERRT DCO should it be determined at some future date that they are required.
- 2.3.19 One impact protection structure will be installed, if required, adjacent to the IOT approach jetty to the south of the IOT finger pier. It would be a maximum of 160 m in length, consisting of a linear concrete beam supported by up to 20 piles with a maximum diameter of 1,520 mm. The outward face may, if deemed necessary, be provided with fendering units and panels to protect the structure from vessel impacts. Another impact protection structure will be installed, if required, at the western end of the IOT finger pier. The IOT finger pier impact protection will be a piled dolphin structure consisting of a maximum of 12 piles of 1,520 mm diameter spread over an overall footprint of 14 m x 30 m. The piles will be connected by a capping slab at the top of the piles. A 5 m gap will be allowed between the end of the IOT finger pier and the new impact protection measures. In addition,

four piles of 1,422 mm diameter will be installed at each corner of the piled dolphin structure. These will be located 1 m away from the structure in line with the berthing face of the IOT finger pier. These will act as fenders for vessels approaching and departing from berths on the IOT finger pier. Donut roller fenders will be placed on the piles to assist the safe manoeuvring of vessels moving along the finger pier. The exact layout and form of these measures is still being finalised; however, the above parameters are considered to be the worst case.

- 2.3.20 The decision as to whether impact protection measures should be installed will be made by the Harbour Master, Humber or the Dock Master, Port of Immingham. If it is determined that such measures should be provided, they will form part of the adaptive controls to be put in place during the operation of IERRT.

Capital dredge

- 2.3.21 The proposed development will require a capital dredge of the new berthing area to ensure accessibility and safe mooring for vessels at all states of the tide. The maximum spatial extent of the dredge is estimated at being in the order of 70,000 m², dredged into existing bathymetry which varies across the area between 1.1 m above CD to 9 m below CD. The berthing area will have 1 in 4 side slopes (which is similar in gradient to the existing slopes in the area), optimised so as to ensure its stability. It will be dredged to a depth of 9 m below CD, with an allowance for the general tolerances of the dredging equipment. The area beneath the floating pontoons will be dredged to 6 m below CD. The majority of the berth pocket does not require any deepening as it is already below the required depth for the IERRT (i.e., 9 m below CD). Furthermore, over most of the area that does require dredging, only a relatively small amount of deepening is required in light of the current depth of the dredge area. Therefore, in real terms the dredge represents a maximum deepening of 6.2 m over a small area, with an average lowering of 2.35 m. The location of the dredge area is shown on Figure 2.1 in Volume 2 of this ES.
- 2.3.22 It is estimated that a maximum of 190,000 m³ of material in total will be removed as a result of the dredge. This is estimated to consist of approximately 40,000 m³ of boulder clay together with 150,000 m³ of sand/silt (alluvium) *in situ*.
- 2.3.23 The capital dredging requirements have been calculated by analysing data collected from a bathymetry survey in January 2022. This data was then overlaid with a modelled surface of the scheme design requirements, which then allowed the area and volume of material that needs to be removed to be calculated. The estimate of material types is based on the interpretation of geophysical data (multibeam echosounder (MBES) and sub-bottom profiler (SBP)) collected in January 2022, as well as pre-existing information on material types in the area (i.e., historical borehole logs). This information is presented in the Geophysical Survey Report, which is provided in Appendix 7.2 of the ES.

Disposal of dredge material

- 2.3.24 ABP recognises that it is under an obligation, if possible and practicable, to identify a beneficial use for the dredged arisings. As set out in the Waste Hierarchy Assessment (WHA) (Appendix 2.1 to this ES) it is not considered that the dredged material (being predominantly silt and clay) is of a quality suitable for alternative beneficial use, such as, for example, for the purpose of construction/reclamation infill either on land or within the marine environment, by reason of its low potential bearing capacity. In addition, no infill material will be required for the project nor, as far as ABP is aware, for any other project in the locality.
- 2.3.25 Consideration has also been given to use of dredged material for habitat enhancement in the estuary – should such a scheme become available. It is considered, however, that the need for dredged material for this purpose is unlikely because habitat creation on the fringes of the Humber Estuary normally follows a process known as ‘managed realignment’ or ‘regulated tidal exchange’. Such schemes generally do not require the inclusion of additional excavated arisings from another project. Dredged material can also sometimes be used for saltmarsh recharge where it is pumped or sprayed on intertidal areas to raise the elevation of the foreshore in the tidal cycle and thereby encourage saltmarsh formation. In the Humber Estuary, however, saltmarsh habitat is extensive given that the estuary is an accretionary system and, therefore, habitat creation of this type is not required. ABP has, in this context, consulted the Humber Nature Partnership (a partnership of organisations, businesses, communities, stakeholders and individuals with interests in delivering sustainable management of the Humber Estuary European Marine Site) on this matter who have indicated that they are not aware of any schemes around the estuary where dredged arisings could be used to benefit the ecology of the estuary. It should be noted in this context that, although it is intended that any disposal would take place by barge, if an alternative beneficial use is identified for the dredged arisings which requires transportation of the arisings by road, such road transport will not be permitted unless the impact of road transportation has been assessed and formally approved by the local planning authority – and a Requirement to that effect has been included in the draft DCO.
- 2.3.26 Given that, in light of the above, an alternative beneficial use has not been identified, it is considered that disposal by barge within the estuary is the best available option. The quality of the dredge material is described in the Water and Sediment Quality chapter (Chapter 8) of this ES (Application Document Reference number 8.2.8) and has been assessed as being suitable for disposal at sea (subject to the view of the Marine Management Organisation (MMO) and the Centre for Environment, Fisheries and Aquaculture Science (Cefas)). The disposal of the dredge material in this manner will have the benefit of ensuring that the sediment is retained within the estuary system, thereby maintaining the existing sediment budget for the wider Humber Estuary.

- 2.3.27 As already indicated, it is estimated that about 40,000 m³ of boulder clay, alongside 150,000 m³ of sand/silt (alluvium) *in situ* is likely to require disposal in the estuary. The licensed disposal site HU056 (Holme Channel) will be used to dispose of inerodible clay material, and HU060 (Clay Huts) will be used to dispose of sand/silt (alluvium) material. This is based on the proximity of those sites to the proposed IERRT development, and their suitability and capacity to receive the dredged material. The location of the licensed disposal sites is shown on Figure 2.2 in Volume 2 of this ES. These disposal sites regularly receive maintenance dredge arisings from the Port of Immingham and other ports on the Humber Estuary.
- 2.3.28 The effects associated with using these identified sites is included in this ES. A WHA, which includes a more detailed consideration of the options for the dredge material, is included in Appendix 2.1 to the ES (Application Document Reference number 8.4.2(a)).

Landside works

- 2.3.29 Landside works are primarily required to improve that part of the project application site's surface so as to provide suitable areas to accommodate wheeled cargo and HGVs either awaiting embarkation or collection following disembarkation, together with essential storage.
- 2.3.30 Being part of the statutory and operational port estate, the vast majority of the landside area will only require a simple upgrade. This will be achieved through the provision of new pavements and associated infrastructure. Some peripheral parts of the areas which will be used for waiting vehicles/cargo trailers are likely to require additional ground works.
- 2.3.31 Further built infrastructure is also required within the project application site to facilitate the transport of wheeled cargo within the Terminal. This is explained in more detail below. Appendix 2.3 to the ES (Application Document Reference number 8.4.2(c)), superseded by Annex B of the ES Addendum (Application Document Reference number 10.3.8) provides a schedule of buildings that will be constructed for the IERRT project.
- 2.3.32 The Terminal will be separated into four distinct areas. These will be known as the Northern Storage Area, the Central Storage Area, the Southern Storage Area, and the Western Storage Area (which may at time be referenced as the North, Central, South, and West Storage Areas respectively) – as shown on Figure 1.3 to this ES (superseded by Figure 2.2 of the ES Addendum (Application Document Reference number 10.3.8)). The specific landside works associated with each area is described in turn below. In respect of the various numbers of trailer bays and container slots referred to in the following paragraphs it should be noted that ongoing detailed design work could further increase the number of slots deliverable within the proposed storage areas. The number of slots, therefore, remain subject to the ongoing detailed design process, but where the maximum level of activity is controlled by the proposed movement cap for the terminal – which reflects the assessment of the environmental effects of the terminal operating at that maximum level.

Northern Storage Area

- 2.3.33 The Northern Storage Area will comprise an area of just over 4 hectares in size, with the provision of some 266 trailer bays, 65 container (40 ft) ground slots and 19 trade unit ground slots. The bays and parking spaces will consist of paved areas with spaces marked out with painted lines.
- 2.3.34 A new substation (maximum footprint of 12 m x 5 m, and maximum height of 5 m) will be constructed together with the provision of an area for the siting of a frequency converter station (maximum footprint of 12 m x 5 m, and maximum height of 5 m) for shore power provision to the berths. The new substation will be connected into the existing port ring main and be fed from existing port substations No. 5 and 37. The new substation will also provide all power to the new berths and yard including small power, closed-circuit television (CCTV) and lighting. These works will include the installation of all electrical equipment including low voltage/high voltage (LV/HV) cables, shore power systems, frequency converters, transformers, switch gear and LV/HV panels etc.

Central Storage Area

- 2.3.35 The Central Storage Area will cover approximately 3.56 hectares and will provide approximately 211 trailer bays, approximately 75 staff parking spaces, and 15 equipment parking spaces. The parking spaces and bays will consist of paved areas with spaces marked out with painted lines.
- 2.3.36 A small workshop with fuel station (maximum footprint of 15 m x 10 m, and maximum height of 8 m) will be provided in the Central Storage Area. The cyclamen portal and the secondary examination building (maximum footprint of 20 m x 10 m, and maximum height of 8 m) include within it a small office and welfare facilities. A new level crossing across an ABP controlled railway will be provided to join the Southern Storage Area and Central Storage Area whilst a new internal bridge and another level crossing will link the Central and Northern Storage Areas (see paragraph 2.3.41 below).

Southern Storage Area

- 2.3.37 The Southern Storage Area will cover just over 11 hectares and will include provision for some 397 trailer bays, some 6 trade unit ground slots, approximately 50 pre-gate HGV parking spaces and appropriate staff and passenger parking provision. Tugmaster parking spaces and marshalling/holding lanes for accompanied freight and passenger vehicles will also be provided. The parking spaces and bays will consist of paved areas with spaces marked out with painted lines.
- 2.3.38 The main terminal building, a maximum footprint of 40 m x 15 m in size and limited to 10.5 m in height (i.e., two storeys), will be constructed within the Southern Storage Area as will a number of ancillary buildings (see Appendix 2.3 to the ES (superseded by Annex B of the ES Addendum (Application Document Reference number 10.3.8))) including a welfare building for HGV drivers and passengers awaiting embarkation with a (maximum footprint

16 m x 8 m, and maximum height of 4.5 m). The buildings and facilities listed below will also be provided for use by the UK Border Force. The buildings will rest upon either a shallow foundation (strip/pad) or a piled foundation depending upon the ground conditions present. None of the buildings will exceed two storeys in height and will generally resemble the style of buildings that already exist within the port estate (see Appendix 2.3 to the ES (superseded by Annex B of the ES Addendum (Application Document Reference number 10.3.8))):

- A customs and holding facility building (maximum dimensions of 25.5 m x 79 m x 10.5 m);
- Customs car search bays (41 m x 10.5 m);
- Vehicle X-ray scanner building (38 m x 8.5 m);
- Cyclamen secondary exam building (20 m x 10 m);
- Cyclamen monitoring office building (12 m x 4 m);
- Cyclamen Portals; and
- Passport control booths.

2.3.39 The Terminal's 'in and out' gates will also be located in the Southern Storage Area.

Western Storage Area

2.3.40 The Western Storage Area will be 9.6 hectares in size and will provide some 800 trailer bays. The trailer bays will consist of paved areas with spaces marked out with painted lines. In and out gates will also be provided to access the Western Storage Area from and to the Southern Storage Area, as well as ancillary buildings (see Appendix 2.3 to the ES (superseded by Annex B of the ES Addendum (Application Document Reference number 10.3.8))).

Internal bridge

2.3.41 As noted above, a two-lane bridge and new level crossing will be constructed to provide contiguous terminal operations between the Northern Storage Area and Central Storage Area. It will be a two-span bridge with a maximum deck length of 86 m and a maximum width of 12 m and will span Robinson Road – an existing internal dock road. The bridge will land before joining into an at-grade level crossing over an ABP controlled railway. The bridge will, at its highest point, be a maximum of 11 m above the surrounding ground. The bridge has been designed to British Standards and will also include lighting and utilities.

2.3.42 To facilitate the construction of this internal link bridge, it will be necessary to demolish four existing buildings, as well as an extension of a further building and a welding shop, a workshop, and a temporary structure – all of which are located in the southern part of the Northern Storage Area (see Figure 3.1 to this ES (superseded by Figure 3.1 of the ES Addendum (Application Document Reference number 10.3.8))). The facilities provided by two of these buildings and the extension, which are used by Drury Engineering Services Limited, will be moved to another existing adjacent

building. One building and one workshop, currently used by Malcolm West Fork Lifts, will be replaced with new structures to the east of their current location. These buildings will measure a maximum of 12.5 m x 12.5 m x 12.2 m and 20 m x 5 m x 10 m respectively, largely replicating the existing buildings. The facilities provided by an existing building extension and welding shop used by Drury Engineering Services Limited that are to be demolished will be replaced with two new structures to the north of their current location, listed below. Figure 3.1 to the ES (superseded by Figure 3.1 of the ES Addendum (Application Document Reference number 10.3.8)) respectively shows the location and dimensions of the existing buildings that will be demolished. The further ancillary buildings to be constructed are noted in the Building Schedule at Appendix 2.3 to the ES (superseded by Annex B of the ES Addendum (Application Document Reference number 10.3.8)).

- Welding bays / presser building (maximum size of 15m x 13 m x 8 m); and
- Drury's storage building (maximum size of 20 m x 15 m x 8 m).

East Gate improvement works

- 2.3.43 As part of the IERRT project, improvements will also be made to the Port's East Gate entrance to facilitate the movement of vehicles through that Gate from the public highway. The existing gate house will be demolished, and the existing entrance road will be widened by up to 4 m to accommodate an extra inbound lane with a newly constructed security gate house (maximum dimensions of 6 m x 3.5 m x 4.5 m). The new second entry lane will allow a higher volume of traffic (broadly double) to access the Port each hour assisting the processing of vehicles arriving at the Port of Immingham and preventing queuing along Queen's Road or Laporte Road.
- 2.3.44 In addition, included within these improvements, new emergency traffic management signals will be installed together with box junction line marking at the junction of Robinson Road and the IOT access road – adjacent to the East Gate entrance and within the port estate. These signals and line markings will help to ensure unimpeded access into the Port for IOT emergency vehicles should there be an incident at the IOT facility.
- 2.3.45 On the adjacent public highway, the bus stop will be repositioned and the existing layby, which is occasionally used by HGVs for parking, will be removed. A footway between East Gate and the bus stop will be provided alongside the East Gate improvements.
- 2.3.46 The proposed highway works have been discussed with the local highway authority and will be secured by legal agreement.

Related landside works within the statutory port estate

- 2.3.47 Related works within the statutory port estate will include improvements to the junction of Robinson Road and East Dock Road together with improvements to Gresley Way and to the approach to the entrance and exit

- to Shed 26. A new junction off Robinson Road to connect with Gresley Way will also be provided. In terms of operations within the Terminal itself, vehicle circulatory and access routes will be provided within the cargo storage areas and for the “in and out” gates.
- 2.3.48 It should be noted that a new footway from Robinson Road to the Workshop in the Central Storage Area and then on to the storage areas will be provided which will include pedestrian crossings of both the new connecting road and the exit road from Shed 26 (which is occupied by Origin UK Operations Limited).
- 2.3.49 **Access to the Terminal – cargo and passengers** - Access into and out of the proposed development will be achieved via remotely operated barriers. Rather than operate a gatehouse system, it is envisaged that when drivers report in, they will, if not using the self check-in automatic facilities, park in the pre-gate parking area within the terminal site and walk to the check-in facilities in the main terminal building with the required paperwork for processing.
- 2.3.50 Once check-in has been completed, the drivers will make their way back to their vehicles and enter the secured terminal area (i.e., within the International Ship and Port Facility Security (ISPS) boundary fence – see below) through the security barriers. Further information on the operation of the IERRT project is provided in Chapter 3 of this ES.
- 2.3.51 The Terminal site will be fully fenced to comply with ISPS Code criteria and will also require adequate lighting and security provision. In most areas this will simply represent a replication of existing lighting and infrastructure already present within the port estate (i.e., high masts, and street lighting). The lighting for the proposed development will consist of a mixture of Light Emitting Diode (LED) street lighting for access roads, and high mast LED lighting (a maximum of 30 m in height) for operational areas. A Concept Lighting Design Stage Summary Report has been produced and is included at Appendix 2.2 to the ES (Application Document Reference number 8.4.2(b)) superseded by Annex A of the ES Addendum (Application Document Reference number 10.3.8).
- 2.3.52 Electrical power will be provided to the Northern, Central, Southern and Western Storage Areas, associated buildings and infrastructure from existing ABP owned substations within the port. The substations are either located within the development boundaries or are close to the development site. Those substations that are located outside the site boundary are included within the Order limits. These works will include, where required, substation upgrades, the provision of and installation of new electrical equipment where required, new cables from substations to the new buildings, new lighting, CCTV, electrical meters, panels, feeder pillars and associated electrical infrastructure.
- 2.3.53 Appropriate drainage (see Drainage Plan at Application Document Reference number 2.7 and the Drainage Strategy provided at Annex B of

the Flood Risk Assessment (Appendix 11.1 to this ES – Application Document Reference number 8.4.11)) and services infrastructure will also be provided throughout the new terminal areas as appropriate.

Environmental enhancement

- 2.3.54 Terrestrial environmental enhancement is being provided as part of the application at Long Wood, as noted below. It should be noted, however, that this environmental enhancement is not being provided to act as either mitigation or compensation in terms of the Habitat Regulations.
- 2.3.55 In addition, it should be noted that ABP's supplementary statutory consultation exercise referenced potential marine environmental enhancement so as to enable ABP to meet local policy requirements which looks to advantage being taken of opportunities to enhance biodiversity conservation interests as part of new development proposals. This site no longer forms part of the DCO application but ABP does intend to allocate the site as environmental enhancement.

Long wood

- 2.3.56 Forming part of the IERRT DCO application, a suite of terrestrial enhancements will be delivered within an existing area of woodland, owned by ABP, south of Laporte Road named Long Wood. The site measures just under 1.2 hectares. The objectives of the proposed works of enhancement are to reduce understorey canopy cover and create open 'glades' to encourage the development of woodland ground flora, to create more ecological niches for terrestrial invertebrates and amphibians, to increase nesting opportunities for birds, and to increase roosting opportunities for bats. This will improve the structure and function of the woodland so as to deliver measurable ecological enhancements through targeted management interventions, resulting in a beneficial effect. The works to be carried out to provide the enhancements – which are similar to every day land management activities – will be very localised and effectively minimal in scope. No adverse environmental effects will be generated as a result of the enhancement measures.
- 2.3.57 This element of environmental enhancement is considered further in the Preliminary Ecological Appraisal (PEA) Report (Appendix 6.2 to this ES) as well as the in the WEMP (Application Document Reference number 9.4).

Outstrays to Skeffling Managed Realignment Scheme

- 2.3.58 Whilst not part of the IERRT DCO application, it should be noted that ABP also intends to allocate or 'ring fence' the environmental benefits and enhancements generated by an area of one hectare of intertidal habitat that is being created through an already approved (and currently under construction) realignment scheme known as the Outstrays to Skeffling Managed Realignment Scheme (OtSMRS), which is located on the north bank of the Humber Estuary. The OtSMRS as a whole will contribute to the enhancement of the biodiversity and ecological functioning of the wider Humber Estuary.

2.3.59 For the avoidance of doubt, the physical delivery of the OtSMRS, including the one hectare element referred to above, does not form part of the IERRT project as this is occurring under a separate process which has already been consented. An Environmental Impact Assessment (EIA), together with other assessments such as a Habitats Regulations Assessment (HRA), were undertaken to support the planning and marine licence applications for the OtSMRS. Whilst not part of the IERRT application, it should be noted that cumulative and in-combination effects associated with the IERRT project and the OtSMRS are nevertheless considered in the Cumulative and In-combination Effects chapter (Chapter 20) of this ES.

2.4 Abbreviations/Acronyms

Acronym	Definition
ABP	Associated British Ports
APT	Associated Petroleum Terminals (Immingham) Limited
CCTV	Closed-Circuit Television
CD	Chart Datum
Cefas	Centre for Environment, Fisheries and Aquaculture Science
COMAH	Control of Major Accident Hazards
DCO	Development Consent Order
DWT	Dead Weight Tonnes
ES	Environmental Statement
HGV	Heavy Goods Vehicle
HIT	Humber International Terminal
HV	High Voltage
IBT	Immingham Bulk Terminal
IERRT	Immingham Eastern Ro-Ro Terminal
IOH	Immingham Outer Harbour
IOT	Immingham Oil Terminal
ISPS	International Ship and Port Facility Security
LED	Light Emitting Diode
LOA	Length Overall
Lo-Lo	Load-on/load-off
LV	Low Voltage
MBES	Multibeam Echosounder
MMO	Marine Management Organisation
OtSMRS	Outstrays to Skeffling Managed Realignment Scheme
PEA	Preliminary Ecological Appraisal
Ro-Ro	Roll-on/roll-off

SBP	Sub-Bottom Profiler
UK	United Kingdom
WEMP	Woodland Enhancement and Management Plan
WHA	Waste Hierarchy Assessment

Cardinal points/directions are used unless otherwise stated.

SI units are used unless otherwise stated.

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