

14 LANDSCAPE AND VISUAL IMPACT

Introduction

- 1.1 This chapter of the Environmental Statement (ES) presents the results of the Environmental Impact Assessment (EIA) for the potential landscape and visual impacts that would result from the development proposals, hereafter referred to as the 'Proposed Development' associated with the Pembroke Dock Infrastructure project. The Proposed Development is located in the settlement of Pembroke Dock along the Milford Haven Inner Waterway in Pembrokeshire (grid reference: SM958037, X [Easting]: 195835 and Y [Northing]: 203799), hereafter referred to as the 'Application Site'.
- 1.2 It is intended that the ES will provide statutory and non-statutory consultees with sufficient information to determine the potential significant impacts of the Proposed Development on the receiving environment and will inform the issue of appropriate planning permission by the local authority. It will also inform any consent conditions.
- 1.3 In particular, this ES chapter:
 - Presents the existing environmental baseline established from desk studies, and consultation;
 - Presents the potential environmental effects of the landscape and visual impacts arising from the Pembroke Dock Marine project, based on the information gathered and the analysis and assessments undertaken;
 - Presents the potential environmental effects on the visual amenity of the study area from the selected viewpoints including changes to the composition of views and the perception and response by receptor groups to these changes;
 - Identifies any assumptions and limitations encountered in compiling the environmental information; and
 - Highlights any necessary monitoring and/or mitigation measures which could prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process.
- 1.4 A plan showing the location of the Proposed Development and its context are shown in Figure 14.1: Site Location Plan.
 - This report considers the effects on:
 - Landscape elements and features;
 - Landscape Character; and
 - Visual Amenity.

- 1.5 This chapter provides an overview of the Proposed Development within the landscape and visual context of the surrounding area and sets out the planning context with reference to landscape issues. The existing baseline landscape features and landscape character, which together make up the landscape resource, are described and reference is made to published landscape character studies and any relevant landscape designations. The current visibility of the Proposed Development from selected representative viewpoints in the surrounding landscape is also assessed.
- 1.6 Landscape effects refer to changes arising from the Proposed Development on the physical elements that make up the landscape and which influence its character. These, together, form the landscape resource. Visual effects refer to the changes to existing views available from representative viewpoints within the landscape surrounding the Proposed Development.

Assessment Methodology

- 1.7 This chapter has been prepared with regard to best practice as described in the following:
- Guidelines for Landscape and Visual Impact Assessment, Third Edition Landscape Institute and the Institute of Environmental Management and Assessment (2013);
 - Guidelines for Landscape and Visual Impact Assessment Statement of Clarification 1/13;
 - An Approach to Landscape Character Assessment, Natural England (2014);
 - Visual Representation of Development Proposals, Technical Guidance Note 06/19, Landscape Institute (17th September 2019);
 - Planning Policy Wales Edition 10 (2018); and
 - LANDMAP Guidance Note 1: LANDMAP and Special Landscape Areas (2017).
- 1.8 The Guidelines for Landscape and Visual Impact Assessment (GLVIA3) are broad guidelines rather than detailed prescriptive methodologies. The methodologies tailored for the assessment of the Proposed Development are based on GLVIA3 guidance and are presented in detail at Appendix A. and summarised below.
- 1.9 Landscape and visual studies provide an analysis of the physical and perceptual attributes of an area. The assessment of landscape issues relates to the potential effect of development on the landscape resource, which encompasses landscape character, quality and distinctive features, including topography, drainage, vegetation and built features, whereas the study of visual constraints is concerned with the potential effect on views and visual amenity.
- 1.10 The analysis of visual constraints includes the identification of important views towards the Application Site, which are generally from a range of visual receptors, both public (highways and public rights of way) and private (residential properties and places of employment). Visual receptors are of varying sensitivity to change, with views from the ground floors of private residences generally accepted as being more sensitive to change than those from highways or places of work where

attention is focussed elsewhere. Public rights of way through rural areas with attractive landscapes, which are used for recreational purposes, are also usually accepted as being of high sensitivity to change.

- 1.11 The landscape assessment combines the results of both an objective and subjective appraisal of the landscape. This appraisal consisted of three stages including a desk study, a field survey and an analysis of the likely effects resulting from the Proposed Development in the light of these studies.
- 1.12 The study area for the assessment extends to a radial distance of 5 km from the Application Site boundary. Whilst there may be the potential for effects of the Proposed Development to extend beyond this limit, it is considered that the visual perception of the Proposed Development within the landscape is likely to diminish with ever increasing distance and the Proposed Development, where visible, would be seen as an increasingly smaller component of the wider composite view.

Planning Policy Context

- 1.13 Policy generally seeks to minimise landscape and visual effects from development and to avoid significant adverse effects. This applies particularly to landscapes with statutory designations, including in this case, Pembrokeshire Coast National Park (PCNP), but also other landscapes outside of designated areas, where there is an aspiration in policy terms to conserve and enhance landscapes of high value or features which are particularly distinctive.

Relevant Guidance

- 1.14 Planning Policy Wales Edition 10 (PPW 10) sets out the land use policy of Welsh Government. Chapter 5 of PPW 10 emphasises the particular importance of statutory designations of National Parks and Areas of Outstanding Natural Beauty (AONBs) and also states that all landscapes in Wales are valued and should have their special qualities protected. Paragraphs 5.30 and 5.31 of PPW 10 refer to the importance of LANDMAP, the use of which is discussed in the paragraph below. Paragraph 5.113 of PPW 10 explains that areas subject to constraints or considered unsuitable for development may include those where conservation or enhancement of the natural and historic environment requires development to be limited, where visual intrusion will need to be carefully considered, including the policies to be pursued in Heritage Coast areas, and where there maybe risks of erosion, flooding or land instability.
- 1.15 Pembrokeshire Local Development Plan (February 2013) – In relation to landscape, seascape and visual impacts, Policy GN.1 'General Development Policy' states development will be permitted where the following criteria are met:
 - The nature, location, siting and scale of the proposed development is compatible with the capacity and character of the site and the area within which it is located;
 - It would not result in a significant detrimental impact on local amenity in terms of visual impact, loss of light or privacy, odours, smoke, fumes, dust, air quality or an increase in noise or vibration levels; and

- It would not adversely affect landscape character, quality or diversity, including the special qualities of the PCNP and neighbouring authorities.

1.16 National Character Areas – LANDMAP is the formally adopted methodology for landscape assessment and is advocated by Planning Policy Wales (PPW) and is promoted by Natural Resource Wales (NRW). It is considered to be a “whole” landscape approach that covers all landscapes, designated and non-designated in Wales. LANDMAP separates each character area into nationally consistent datasets into the following five categories (Aspects) as follows:

- Geological Landscape;
- Landscape Habitats;
- Visual and Sensory Landscape;
- Historic Landscape; and
- Cultural Landscape.

1.17 Each category is provided with an evaluation level as provided in Table 14.1 below.

Table 14.1: LANDMAP Evaluation

Evaluation	Definition
High	Of regional or county importance to the aspect
Moderate	Of local importance to the aspect
Low	Of little or no importance to the aspect
Unknown	Insufficient information exists to evaluate the area

Study Area

1.18 The study area extends to a radial distance of 5 km around the Application Site as per the guidelines stated in the Guidelines for Landscape and Visual Impact Assessment (GLVIA3). Figure 14.5: Zone of Theoretical Visibility shows the location of the project as well as the extent of each 5 km radius.

Baseline Methodology

1.19 GLVIA3 contains broad guidelines rather than detailed prescriptive methodologies. The methodologies tailored for the assessment of the Proposed Development are based on GLVIA3 guidance and are presented in detail at Appendix 14.1. The methodology is summarised below.

1.20 Landscape and visual assessment studies provide an analysis of the physical and perceptual attributes of an area. The assessment of seascape issues relates to the potential effect of development on the landscape/seascape resource, which encompasses character, quality and distinctive features including topography, drainage, vegetation and built features, whereas the study of visual constraints is concerned with the potential effect on views and visual amenity.

1.21 The analysis of visual constraints includes the identification of representative views towards the project site, which are generally from a range of visual receptors, both public (highways and public rights of way) and private (residential properties). Visual receptors are of varying sensitivity to

change, with views from the ground floors of private residences generally accepted as being more sensitive to change than those from highways or places of work where attention is focused elsewhere. Public rights of way through rural areas with attractive landscapes, which are used for recreational purposes, are also usually accepted as being of high sensitivity to change.

- 1.22 The landscape and visual assessment combine the results of both an objective and subjective appraisal of the landscape. This appraisal consisted of three stages including a desk study, a field survey and an analysis of the likely effects resulting from the proposed development in light of these studies. The study area for the assessment extends to a radial distance of 5 km from the Application Site. With respect to the seascape baseline, information has been derived from the Marine Character Areas (MCA)21: Milford Haven; MCA22: South Pembrokeshire Coastal and Inshore Waters and the PCNP Seascape Character Assessment (LDA, Pembrokeshire Coast National Park Authority [PCNPA], 2013).

Desktop Study

- 1.23 Information on the project study area was collected through a detailed desktop review of existing studies and datasets including the assessment of 1:25,000 scale Ordnance Survey maps together with aerial photography to establish the general context of the Proposed Development's landscape seascape visual study area.
- 1.24 The ZTV Plan (Figure 14.5: Zone of Theoretical Visibility) shows areas from which the Proposed Development may be visible. The ZTV takes account for the screening effects of existing significant vegetation blocks (modelled at 12 m) and built form (modelled at 9 m), uses an assumed observer height of 2 m. Five origin points have been used to represent the parameters of the Proposed Development. Landform data was taken from OS Terrain 5 mapping, using point data across the Application Site. The range of proposed building heights (between 10 m – 40 m) for buildings as shown on the Figure JPW1115-04 Indicative Proposed Masterplan.
- 1.25 A 5 km radius has been selected for the extent of the study area used for this assessment which is considered to be consistent with GLVIA3 guidelines which refer to a “need for an approach that is in proportion to the scale of the project that is being assessed and the nature of the likely effects. Judgement needs to be exercised at all stages in terms of the scale of investigation that is appropriate and proportional.
- 1.26 This was followed by an analysis of relevant documentation (reports, development plans, assessments, government guidance etc.) to clarify the landscape and planning context. These are summarised at Table 14.2 below.

Table 14.2: Summary of Key Desktop Reports

Title	Source	Year
Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)	Landscape Institute and the Institute of Environmental Management and Assessment	2013
GLVIA3 Statement of Clarification 1/13	Landscape Institute and the Institute of Environmental Management and Assessment	2014
National Park Management Plan 2015 - 2019	Pembrokeshire National Park Authority	2014
An Approach to Landscape Character Assessment	Natural England	2013

Local Development Plan	Pembroke County Council	2013
LANDMAP Methodology "Visual and Sensory"	NRW	2016
Pembrokeshire Coast National Park Coast Seascape Character Assessment	NRW	2013
Marine Character Areas	Natural England, Scottish Natural Heritage and Countryside Council for Wales	2012

Fieldwork

- 1.27 Fieldwork involved a visual survey of the Application Site and the surrounding area to assess its character and identify key landscape elements and features. To inform the EIA, site specific surveys were undertaken within the environs of the Application Site to record the character and identify key landscape features and visual analysis as per the methodology in GLVIA3. A summary of the surveys undertaken to inform the landscape and visual assessment is outlined in Table 14.3 below with the viewpoints visited listed in Table 14.4.

Table 14.3: Summary of site-specific survey data.

Extent of survey	Date	Reference to further information
5km ZVI radius. Environs and shore-based survey along the long-range PCP Wales coastal path and the local network of public rights of way and public highways relating to the Application Site.	03rd May 2018, 25th Oct 2018 and 21st Oct 2019.	N/A

Identification of landscape designations

- 1.28 All landscape designations (see Figure 14.2: Landscape Designations) within the Proposed Development's landscape seascape visual study area that could be affected by the construction and operational phases of the project were identified using the two-step process described as follows:
- Step 1: All designated sites of international, national and local importance within the Proposed Development's landscape and seascape and visual study with a radius of 5 km were identified using a number of sources. These included NRW LANDMAP database, NRW National Character Areas, NRW National Seascape Assessment for Wales, Pembrokeshire Coast National Park Seascape Character Assessment (SCA 31, 32 and 34), Pembrokeshire Coast Landscape Character Assessment, Pembroke County Council Local Development Plan, and
 - Step 2: Using the above information and expert judgement, sites were included for further consideration if e.g. a designated site directly overlaps with the Pembroke Dock Infrastructure project; and e.g. sites and associated features were located within the potential Zone of Impact (Zol) for impacts associated with the project.
- 1.29 Regarding the landscape baseline, information has been derived from NRW database LANDMAP. This is an "all-Wales Geographical Information System based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a

nationally consistent dataset". It is administered by NRW and comprises five spatially related datasets or aspect layers as follows:

- Geological Landscape: *"considers the physical, primarily geological influences that have shaped the contemporary landscape and identifies those landscape qualities which are linked to the control or influence exerted by bedrock, surface processes, landforms and hydrology";*
- Landscape Habitats: *"considers the distribution of habitats at a broad scale comparable to other aspect layers leaving more localised information to be accessed through other datasets";*
- Visual and Sensory: *considers what aspects of landscape are "perceived through our senses, primarily visually, from the physical attributes of landform and landcover to their visible patterns of distribution and their consistent relationships in particular areas";*
- Historic Landscape: *"identifies those classes of historic land uses, patterns and features that are structurally prominent and contribute to the overall historic character of the present landscape"; and*
- Cultural Landscape: *"within LANDMAP this is taken to embrace any kind of human activity that can be related to landscape. It includes the contrived and sometimes pre-eminent expressions of culture, like art or literature, in which the landscape maybe depicted or described, as well as the prosaic and commonplace expressions, like the choice of building materials, which were perhaps not intended to create something valuable or special".*

Consultation

- 1.30 Following the Scoping Opinion from Pembrokeshire County Council (28th June 2018), contact was made with the Landscape Officer to discuss and agree viewpoints and photomontages as listed in table 14.4 below with the viewpoints agreed listed in Table 14.5. The viewpoint locations are shown on Figure 14.7: Viewpoint Locations.

Table 14.4: Consultation Responses Relevant to this Chapter

Date	Consultee and Issues Raised
11th October 2018	Mr Richard Staden Landscape Officer at Pembrokeshire County Council to agree 2km radius and viewpoint locations.

Table 14.5: Representative Viewpoint Description

Representative Viewpoint Number	Viewpoint Orientation	Viewpoint Description
VP 1	Hazelbeach - distance of 1196m looking SE towards the site	View from PCP in Hazelbeach
VP 2	Llanstadwell - distance of 1117m looking SE towards the site	View from PCP in Llanstadwell
VP 3	Neyland - distance of 1134m looking S towards the site	View from PCP and coastal public highway in Neyland

VP 4	Neyland - distance of 989m looking SW towards the site	View from PCP and coastal public highway in Neyland
VP 5	Neyland - distance of 1223m looking SW towards the site	View from public highway near Neyland centre
VP 6	Neyland - distance of 982m looking SW towards the site	View from coastal car park in Neyland
VP 7	Cleddau Bridge - distance of 1584m looking SW towards the site	View from elevated public highway on bridge
VP 8	Burton Ferry - distance of 2100m looking SW towards the site	View from costal public highway
VP 9	Pembroke Dock - distance of 682m looking SW towards the site	View from costal public park
VP 10	Pembroke Dock - distance of 600m looking SW towards the site	View from costal highway
VP 11	Pembroke Dock Presely Road - distance of 337m looking NW towards the site	View from PCP near Defensible Barrack Hill
VP 12	South Pembrokeshire Golf Course - distance of 900m looking NE towards the site	View from PRow
VP 13	Pembroke Dock St Patrick's Hill - distance of 22m looking NE towards the site	View from public highway
VP 14	Pembroke Dock coast - distance of 33m looking NE towards the site	View from public car park
VP 15	Llanreath - distance of 478m looking NE towards the site	View from costal public beach
VP 16	Pwllcrochan - distance of 3800m looking NE	View from coastal PCP

Assessment Criteria and Assignment of Significance

1.31 The landscape and visual assessment follows a standard approach as described by the Landscape Institute in GLVIA3:

- Establish baseline conditions against which the effects of the Proposed Development are assessed.
- Determine the nature of the receptor likely to be affected, i.e. Its sensitivity (which in turn combines judgements about its susceptibility to change arising from a specific proposal with judgements about the value attached to it);
- Predict the nature or magnitude of the effect likely to occur, which combines judgements about the likely size and scale of the change, the extent of the area over which it is likely to occur, whether the effect would be direct or indirect, reversible or irreversible, short, medium or long term in duration and whether it is positive, neutral or negative; and
- Consider how any significant visual effects identified could be reduced through design or specific mitigation measures.

1.32 The visual assessment involves a combination of quantitative and qualitative assessment and the application of professional judgement within a structured assessment framework. GLVIA3 notes:

‘...whilst there is some scope for quantitative measurement of some relatively objective matters, ...much of the assessment must rely on qualitative judgement, for example what effect the introduction of a new development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative’ (Paragraph 2.23) and ‘In all cases there is a need for judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others’ (Paragraph 2.24).

- 1.33 Full details of the assessment methodology and criteria used can be found within Appendix 14.1. A summary of this can be found in the 2.29 to 2.33 below.
- 1.34 The criteria for determining the significance of effects is a two-stage process that involves defining the sensitivity of the receptors and the magnitude of the impacts. This section describes the criteria applied in this chapter to assign values to the sensitivity of receptors and the magnitude of potential impacts. The criteria for defining magnitude in this chapter are outlined in Table 14.6 and the criteria for defining sensitivity in this chapter are outlined in Table 14.7.

Receptor Sensitivity/Value

Table 14.6: Definitions of Sensitivity or Value

Sensitivity	Typical Descriptors
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Magnitude of Impact

Table 14.7: Definitions of Magnitude

Sensitivity	Typical Descriptors
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse). Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Medium	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse). Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Low	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse). Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse).

Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).

No change No loss or alteration of characteristics, features or elements; no observable impact in either direction.

- 1.35 The significance of the effect upon landscape, seascape and visual receptors is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 14.8. Where a range of significance of effect is presented, the final assessment for each effect is based upon expert judgement.
- 1.36 For the purposes of this assessment, effects considered to be significant e.g. effects of moderate and above are considered significant in terms of the EIA Regulations. Any effects with a significance level of minor or less have been concluded to be not significant in terms of the EIA Regulations.

Significance of Effects

- 1.37 The assessment of significance is based on the following matrix shown in Table 14.8 below.

Table 14.8: Assessment Matrix (Complex)

Sensitivity	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Minor or Moderate	Moderate or Major	Major or Substantial
Very high	No change	Minor	Moderate or Major	Major or Substantial	Substantial

- 1.38 The broad definitions of the terms used are in line with the following:
- **Substantial:** Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
 - **Major:** These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
 - **Moderate:** These beneficial or adverse effects may be important but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
 - **Minor:** These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.

- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Limitations of the Assessment

- 1.39 The baseline site survey work was undertaken in May 2018, October 2018 and October 2019 when the vegetation in the surrounding landscape was almost in full foliage. Visual penetration may increase in late autumn, winter and early spring when this vegetation will be without foliage. This has been taken into account as part of the visual impact analysis.

Baseline Environment

- 1.40 The aim of the baseline study is to describe the individual components of the physical landscape present on-site and within the landscape seascape visual study area and provide an understanding of how the landscape and seascape constituent elements including character, spatial variation, geographic extent, condition, the way in which the landscape is experienced, and the value attached to it which may be affected by the Proposed Development.

Description of the Surrounding Area

- 1.41 The Application Site is located along the Milford Haven Waterway, which is an integral part of Britain's oil and gas industry and one of the busiest ports in the UK. The Application Site also forms part of the town of Pembroke Dock along its northern shoreline and approximately 900m from the shoreline of the settlement of Neyland across the waterway to the north.
- 1.42 The landscape and seascape can be described as an intensely used urban waterway scattered with recreational floating craft and yachts, marker buoys and commercial shipping. Port operational activities are dominant, including the Pembroke car ferry, tugs, service and pilot vessels. Commercial fishing boats as well as large numbers of recreational motor and sailing craft as well as large jetty and slipway structures are common along the waterway. There are several commercial navigational lights, markers and buoys along the approaches as well as other markers for recreational navigation. Views to the west are dominated by the tall oil refinery structures, gas and petrochemical storage tanks and vertical element of the power stations elevated on the cliffs above the waterway edges. The Cleddau bridge lies approximately 1.5 km to the north east and is a dominating feature in the local landscape.

Public Rights of Way

- 1.43 The Pembrokeshire Coast Path (PCP) Public Right of Way (PROW) runs adjacent to the eastern boundary of the Application Site and then continues along the shoreline on the Neyland side of the waterway to the north. The PROWs associated with Application Site are shown on Figure 14.3: PROWs.

Landscape Designations

- 1.44 The Pembrokeshire Coast National Park (PCNP) lies within the 5 km study area as shown on Figure 14.2: Landscape Designations. However, the Application Site lies outside PCNP, which lies approximately 3.1 km to the north east at the nearest point and there is no inter-visibility.

- 1.45 The Application Site lies within the Milford Haven Landscape of Outstanding Historic Interest and Pembroke Dock Historic Landscape Character Area, which is described as comprising of the 19th century naval dockyards including Pembroke Dock and the 19th century grid-pattern planned town. Included in this area are many 19th century worker and town houses, with 20th century housing, light industrial development on its outskirts.
- 1.46 The Application Site also lies adjacent to the Pembrokeshire Marine Special Area of Conservation (SAC) and the estuary edges by the Milford Haven Waterway Site of Special Scientific Interest (SSSI).
- 1.47 The Application Site lies within MCA 21: Milford Haven and incorporates the marine components of the Pembrokeshire Coast National Park Seascape Character Areas (PCNPSCA). This identifies the key characteristics of the MCA as follows;
- *Drowned ria with steep red sandstone cliffs, sheltered bays and shallow creeks surrounded by rolling and occasionally steep sided hills with distinctive woodland down to the water's edge;*
 - *The sheltered tidal estuary creates an internationally and nationally important natural harbour with mudflats, sandy inlets, marshes, creeks and bays;*
 - *Strong currents and swell at mouth of the estuary becoming more sheltered the further inland travelled where tidal changes take over as the main influence factor on the character;*
 - *The ria forms a unifying theme between the two distinctly contrasting characters of the enclosed unsettled upper stretches in the east and the open developed estuary in the west;*
 - *Major deep-sea port, Pembroke Port and Milford Docks, with extensive industrial facilities, oil refineries, the largest oil/gas/petrochemical storage facilities in the UK and power station;*
 - *Dispersed settlement with single dwellings and some small medieval and traditional villages along the upper stretches of the river systems, with limited transport links;*
 - *Historically important quays at Milford Haven and Pembroke, along with Carew Castle and tidal mill, medieval waterside settlements and many features associated with military defence;*
 - *Popular recreation and sailing destination especially around Dale, although low key recreation including small boat moorings elsewhere. High numbers of walkers use the coastal path which hugs the coastline;*
 - *Busy ports and commercial shipping channels to the west with tanker terminals, ferry terminal and marinas contrasting to the high levels of tranquillity within the sheltered tidal estuary to the east;*
 - *Varied views within the estuary often contained and channelled by the surrounding steep hills of Pembrokeshire Coast National Park, opening up towards the wide estuary mouth; and*

- The oil refinery and associated infrastructure dominates views into the MCA, including from the surrounding seas (MCAs 18,19, 22 and 23).

LANDMAP Aspect Areas

- 1.48 A summary of each LANDMAP Aspect Area and description covering the site are provided in Table 14.9 below and are shown in Figures 14.6a to 14.6g.

Table 14.9: LANDMAP Aspects for Pembroke Dock Infrastructure

Aspect type	Area ID	Area name	Classification	Evaluation
Geological Landscape	PMBRKGL128	Cleddau	Other	High
Landscape Habitat	PEMBRKLH602	Pembroke Dock	Residential Greenspace	Moderate
Visual and Sensory	PMBRKVS067	Pembroke Dock	Urban	Moderate
Historic Landscape	PMBRKHL43875	Pembroke Dock	Planned Settlement	High

Listed Buildings and Conservation Areas

- 1.49 The Application Site lies within the Pembroke Dock Conservation Area and contains six listed buildings (or structures) as follows:

- Grade II* former Graving Dock including bollards and capstans;
- Grade II Building Slip No 1;
- Grade II Building Slip No 2;
- Grade II former Timber Pond (also known as the Pickling Pond);
- Grade II former Foremen's Office (currently in third party ownership but intended to become part of the scheme); and
- Grade II Dockyard Walls.

- 1.50 The complex known as Defensible Barracks lies in an elevated position overlooking the Application Site to the south is a Scheduled Ancient Monument. A separate chapter (Chapter 10) on the historic environment has been prepared as part of this EIA and provides a more detailed historical assessment and should be read in conjunction with this chapter.

Topography

- 1.51 Made ground exists across the Application Site with approximate thickness ranging from 0.2 to 7.9m below ground level. The majority of the surface covering within the site is concrete hardstanding which is in relatively good condition.
- 1.52 Regarding topography, the site is relatively flat although it slopes marginally towards the west, from 8.1 AOD along the eastern extent of the site to the lowest point of 6.0 AOD along the western boundary.

- 1.53 In terms of geology, weathered bedrock exists underneath the site to an approximate thickness of between 3.6 and 10.4m. Where the weathered bedrock was fully penetrated by boreholes, strata of the Pembroke Limestone Group was encountered and medium grained metamorphic rock was encountered in two boreholes.

Residential Properties

- 1.54 There are numerous residential properties within the ZTV that would therefore have potential views of the Application Site which are identified as:

- Properties located close by to the south and east in Pembroke Dock within 0.5 km;
- Properties located close by to the west associated with St Patricks Hill within 0.2 km;
- Properties located across the waterway to the north east in Waterston, Hazel Bank and Llanstadwell at approximately 1.0 - 1.5 km;
- Properties located across the waterway to the north in Neyland at approximately 1.0 - 1.5 km;
- Properties located across the waterway to the north in Neyland at approximately 1.0 - 1.5 km;
- Properties located across the waterway to the north east at approximately 2.0 km.

Commercial Properties

- 1.55 There are numerous commercial properties in Pembroke Dock including West Llanion Business Park, Cleddau Bridge Business Park as well as hotels, shops, public houses and South Pembroke hospital which are close to the Application Site and within the ZTV that would therefore have potential views of the Proposed Development.

Public Highways

- 1.56 The Application Site is located within the surroundings of the following public highways:

- Commercial Row/ Western Way A4139 located to the east;
- Fort Road located parallel to the south parallel;
- Cleddau Bridge A477 elevated to the north east.

Baseline Visual Receptors

- 1.57 The ZTV (see Figure 14.5) shows that the most prominent areas of potential visibility of the Proposed Development occur in areas to the north, east and west at distances between approximately 0.5 km to 2 km from the Application Site, mainly from across the waterway from the settlement of Neyland and to the east from the settlement of Pembroke Dock. The ZTV also indicates that some parts of the Application Site are potentially visible from the elevated ground directly to the south which will then diminish quickly due the elevated topography dropping away. Close range local views are limited due to the high boundary wall surrounding the Application Site.

Selection of Representative Viewpoints

- 1.58 The ZTV for the Proposed Development was used to guide the selection of representative viewpoints for the visual assessment. The selected viewpoints are not intended to cover every possible view, but rather are representative of a range of receptor types e.g. residents, walkers, cyclists and road users from various directions and distances from the Application Site boundary.
- 1.59 A visual assessment from the 16 representative viewpoints was carried out in May 2018, Oct 2018 and Oct 2019 to determine how the Proposed Development might influence the visual amenity for these typical receptors. The assessment was carried out as part of the site survey, with the photographic assessment recording the character of the view and the existing visibility of the Application Site. The representative viewpoint photographs (as shown on Figures 14.8a – 14.8p: Viewpoint photographs) and representative computer-generated images from 5 of the viewpoints (VP 1, VP4, VP9, VP11 and VP13) are shown on Figures 9a – 9e.

Detractors in the Landscape

- 1.60 The landscape and seascape has many factors that detract from the sensitivity of the area, including the existing power station towers, the refinery, wind turbines, tanks and associated industrial features, urban centres and large commercial sheds close to and visible from the water, the Cleddau bridge and main roads detracting from the tranquillity of the area and the presence of established commercial and recreational ships, boats and the ferry using the waterway.

Key Sensitive Receptors

- 1.61 Considering the results of the baseline, the key sensitive receptors of the Inner Milford Haven landscape and seascape in association with the Application Site and Development Proposals are as follows:
- Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest in Wales and Pembroke Dock Historic Landscape Character Area;
 - Popular recreational designation for walkers using the long range PCPPROW, visitors and recreational boating;
 - The settlement pattern of Pembroke Dock; and
 - Effect on visual amenity: Viewpoints from publicly assessable points in Pembroke Dock, the Cleddau Bridge and across the Daugleddau from publicly accessible coastal viewpoints in Neyland and Burton Ferry.

Future Baseline Conditions

- 1.62 Predicting the future baseline landscape involves a degree of speculation and uncertainty, as acknowledged at paragraph 5.33 of GLVIA3. The Pembrokeshire Coast National Park Management Plan 2015 – 2019 reviewed as part of the desk-based assessment for this chapter identifies forces for change in relation to development and retaining the special qualities of the landscape, this includes consideration of renewable energy potential and capacity. It contains a section on 'what the park might look like in 2050' predicting improvements in sustainable design and renewable

energy generation The National Landscape Character Areas (NRW 2016) (published by NRW) has also been reviewed but did not contain text relating to future issues or forces for change.

- 1.63 The Pembrokeshire Coast National Park Authority Seascape Character Assessment December 2013 was also reviewed as part of the desk-based assessment and identifies forces for change in relation to natural process and climate change. For Pembroke Dock and the port of Milford, growth in tourism and water-based motor leisure boats and sailing activities is predicted and increased mooring capacity. Marine commercial activity is predicted to continue to respond to more LNG and other changing requirements for energy.
- 1.64 It is recognised that no landscape or seascape is static and that the landscape and seascape across the study area is under different pressures and continually changing. Further to a review of the above, in terms of landscape character, it is considered that the character of the baseline landscape for the inner waterway will continue to change in the future mainly as a result of increases in recreational boating (up to and including 2050).

Mitigation Measures Adopted as Part of the Project

- 1.65 A full description of the Development Proposals is provided in Chapter 2 of this EIA with the main visual elements of the project described as buildings A and B. As a direct result of operational necessity, these two proposed buildings are large. However, historically, the Port has accommodated a number of large buildings, especially the numerous historic slipway cover buildings, all of which were located immediately adjacent to Milford Haven Waterway.
- 1.66 The design team examined several envelope options whilst developing a scheme to satisfy the end user needs and in part, due to the physical height and mass of these buildings in the locality, recognised the need to visually diminish their impact when viewed from significant locations.
- 1.67 The design concept of buildings A and B shows comparison of the proposed production facilities at Pembroke Port with their 19th century counterparts in the heyday of ship building and the form of the `mansard` type envelope structures sitting over the `Slip-Docks`. Although none of the original slip-dock structures remain at the Application Site, the historic CGI recreations by De Montfort University show how closely these resembled their contemporaries at Chatham Docks, of which the remaining slip no 3 (preserved as a museum) indicates today. The spirit of these great single volume structures with their unique scatter of roof lights, to provide the maximum quantity of natural light technically available at that time, provide a distinctive appearance and it is this concept that has been used to interpret to bring an identity to the proposed modern structures.
- 1.68 The internal space required to assemble modern `off shore structures` with the use of overhead travelling cranes and requiring large clear-opening gable doors to access external apron areas to the quayside, necessitate using a mansard with greater vertical emphasis to the side walls combined with a gentle sweeping curve to the roof providing a profile reminiscent of their historic forebears. Panelisation of the side walls and use of scatter pattern (colour -deep blue) translucent panels make suggestion of the `slip-docks` and their colour (metallic Pewter) selected for historic and visual purposes to minimise `volumetric bulk` in context of the industrial structures within the area (see Figures 14.9a – 14.9e: Photomontages. At night the structures provide a filigree of light from their many small scale translucent panels and visually diminish the mass of the entire structure.

- 1.69 Existing mature trees have been retained and a new ecology corridor has been created along the southern boundary.

Assessment of Construction and Operational Effects

- 1.70 The impacts of the construction and operational phases of the Proposed Development (as listed in paragraphs 5.1 and 5.2 above) have been evaluated and the impacts of each phase are considered to be very similar so have been combined in the following assessment.
- 1.71 The maximum design scenario of the visible elements of the construction and operational phases of the Proposed Development as shown on Figure JPW1115-04: Indicative Proposed Masterplan) are summarised in Table 14.10 below as follows:

Table 14.10: Summary of Proposed Development

Building or Area	Use	Maximum Footprint (sq m)	Maximum Width and Breadth (m)	Maximum Height (m)
Building A	Fabrication	11,900	170 x 75	40
Building B	Repair and Fabrication	4,900	75 x 65	40
Building C	Light Assembly	2,500	129 x 20	10
Area C1	Light Assembly and Maintenance External Storage and Parking	5,000	N/A	N/A
Area D	Open Batching Plant and Storage Area	15,600	N/A	N/A
Area E1	Employee Car Park	3,050	N/A	N/A
Area E2	Employee Car Park	4,900	N/A	N/A
Area F1	External Multi Use Laydown and Final Assembly Area	8,100	N/A	N/A
Area F2	External Processing and Multi Use Laydown and Assembly Area	4,850	N/A	N/A
Area J	Extended Slipway and Transition Area	13,100	N/A	N/A

- 1.72 The main visible components of the Proposed Development likely to create impact on the landscape and visual context are as follows:
- Building A;
 - Building B;
 - Building C;
 - Area J.
- 1.73 A conclusion of significance of impact on the key sensitive receptors as identified above in paragraph 1.72 including additional lighting during the construction phase has been given as follows:

Impact on the Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest and Pembroke Dock Historic Landscape Character Area

- 1.74 Pembroke Dock historic landscape character area comprises the century naval dockyards and the 19th century grid-pattern planned town. Included in this area are many 19th century worker and town houses, with 20th century housing, light industrial development on its outskirts. The large scale LNG terminal, refinery and gas/oil storage tanks, the power station and other energy related development including the wind turbines form elevated and visually prominent permanent elements in the local landscape beyond the port towards the open sea. This busy waterway and port are scattered with evidence of commercial shipping and recreational boating including markers buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships, LNG and oil tankers.

Magnitude of impact

- 1.75 The magnitude of the impact of the visible elements of the Proposed Development as listed above will form common elements within the wider landscape as large scale buildings associated with the energy industry, specifically:
- The impact is considered to be direct; and
 - The impact is considered to be short term.

- 1.76 The impact is predicted to be of local spatial, short term duration. It is predicted that the impact will affect the receptor directly, as buildings A and B will during construction be projecting from 0 m – 40 m which is considered to have a high impact, especially during the later stages of the construction period. The magnitude is therefore, considered to be high.

Sensitivity of the receptor

- 1.77 LANDMAP identifies the context as being of medium sensitivity. Due to the function of this part of the waterway as a port and for commercial and recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity. Consequently, the receptor is deemed to be of low vulnerability. The sensitivity of the receptor is therefore considered to be of medium value.

Significance of the effect

- 1.78 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be major. The effect will therefore be of Moderate Adverse significance of effect, which is not significant in EIA terms.

Popular recreational designation for walkers using the long range Pembrokeshire Coast Path (PCP), visitors and recreational boating

- 1.79 This busy waterway and port are scattered with evidence of commercial shipping and recreational boating including marker buoys, slipways and moorings and a variety of floating vessels ranging from small craft, yachts, tug boats, ferry ships and oil tankers. The large-scale LNG terminal, refinery and gas/oil storage tanks, the power station and other energy related development including the wind turbines form elevated and visually prominent permanent elements in the local landscape beyond the port towards the open sea.

Magnitude of impact

- 1.80 The magnitude of the impact of the visible elements of the Proposed Development as listed above will form common elements within the wider landscape as large-scale buildings associated with the energy industry, specifically:
- The impact is considered to be direct: and
 - The impact is considered to be short term.

- 1.81 The impact is predicted to be of local spatial, short term duration. It is predicted that the impact will affect the receptor directly, as buildings A and B will during construction be projecting from 0 m – 40 m which is considered to have a high impact, especially during the later stages of the construction period. The magnitude is therefore, considered to be high.

Sensitivity of the receptor

- 1.82 LANDMAP identifies the context as being of medium sensitivity. Due to the function of this part of the waterway as a port and for commercial and recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are a number of factors that detract from sensitivity. Consequently, the receptor is deemed to be of low vulnerability. However, as the majority of the receptors are recreational users of the PCP and within leisure boats, they are considered to be of medium value.

Significance of the effect

- 1.83 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be high. The effect will be of Moderate Adverse significance of effect, which is significant in EIA terms.

Settlement Pattern Pembroke Dock

- 1.84 Pembroke Dock is an urban historic settlement pattern. It is centred on the 19th century and early 20th century naval dockyards, and smaller private shipbuilding yards. The dockyards are surrounded by a high defensive wall and flanked by two 19th century gun towers. Large parts of the dockyards are now given over to modern industry, including the Irish Ferries terminal, but

several large stone buildings in the Georgian tradition close to the dock's entrance provide a strong architectural signature. Several of the original slipways also survive (refer to Chapter 10) as do a collection of 20th century military structures, including two large hangars built for flying boats. Defensible Barracks originally constructed on an open hillside overlooking the dockyards is now surrounded by development. The 19th century town is built in a grid pattern, and this, together with the survival of many wide streets of contemporaneous houses and other buildings, provides a strong architectural signature. The combination of a planned street pattern and high survival rate of contemporaneous houses and other buildings provides Pembroke Dock with a coherent historic character.

Magnitude of impact

- 1.85 The magnitude of the impact of the visible elements of the Proposed Development as listed above will form common elements within the wider landscape as large-scale buildings associated with the energy industry, specifically:
- The impact is considered to be direct: and
 - The impact is considered to be short term.
- 1.86 The impact is predicted to be of local spatial, short term duration. It is predicted that the impact will affect the receptor directly, as buildings A and B will during construction be projecting from 0 m – 40 m which is considered to have a high impact, especially during the later stages of the construction period. The magnitude is therefore considered to be high.

Sensitivity of the receptor

- 1.87 LANDMAP identifies the context as being of medium sensitivity. Due to the function of this part of the waterway as a port and for commercial and recreational boating concurrent with a number of dominant built structures adjacent (Cleddau Bridge and port buildings) concurrent with oil refinery structures and vertical elements of the power stations and wind turbines elevated on the cliffs above the waterway looking seawards, there are several factors that detract from sensitivity. Consequently, the receptor is deemed to be of low vulnerability. However, as the majority of the receptors are recreational users of the PCP and within leisure boats, they are considered to be of medium value.

Significance of the effect

- 1.88 Overall, the sensitivity of the receptor is considered to be of medium value and the magnitude of the impact of maximum design scenario is deemed to be high. The effect will therefore be of Moderate Adverse significance of effect, which is significant in EIA terms. Table 5.11 summarises the effects on landscape designations and elements.

Table 14.13: Summary of Effects on Landscape Designations and Elements.

Landscape Elements	Value	Susceptibility			Effect	
		Susceptibility	Sensitivity	Magnitude	Effect	EIA Significance
Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest	Medium	Low	Medium	High	Moderate Adverse (localised)	Yes
Pembroke Dock Historic Landscape Character Area	Medium	Low	Medium	High	Moderate Adverse (localised)	Yes
Popular recreational designation for walkers using the long range Pembrokeshire Coast Path (PCP), visitors and recreational boating	Medium	Low	Medium	High	Moderate Adverse (localised)	Yes
Settlement Pattern Pembroke Port	Medium	Medium	Medium	High	Moderate Adverse (localised)	Yes

Effect on visual amenity: Viewpoints from publicly assessable points in Pembroke Dock, the Cleddau Bridge and across the Daugleddau from Publicly Accessible Coastal Viewpoints in Neyland and Burton Ferry

- 1.89 A total of 16 viewpoints were assessed (see Figures 14.8a – 14.8p: Viewpoint photographs. The anticipated effects on visual receptors and representative viewpoints are shown in Table 14.14 below.

Distant Views (2 km+ from the Application Site)

- 1.90 There are two distance range representative viewpoints over a distance of 2 km – VP8 and VP16. VP8 is assessed as undergoing a Moderate Adverse significance of effect on visual amenity as a result of the Proposed Development, which is not significant in EIA terms. VP16 is assessed as undergoing a Minor Adverse significance of effect on visual amenity, which is not significant in EIA terms.

Distant Views (1 km – 2 km from the Application Site)

- 1.91 All seven medium range representative viewpoints – VP1, VP2, VP3, VP5, and VP7. All are assessed as undergoing a Moderate Adverse significance of effect on visual amenity as a result of the Proposed Development, which are significant in EIA terms.

Medium Range Views (500 m to 1 km from the Application Site)

- 1.92 There are four medium range representative viewpoints – VP4, VP6, VP9 and VP10. VP4, All would undergo a Moderate Adverse significance of effect on visual amenity as a result of the Proposed Development, which are significant in EIA terms.

Short-range Views (less than 500m from the Application Site)

- 1.93 Of the four representative short-range VP11, VP13, VP14, VP15, all of the effects would be localised and would undergo Moderate Adverse significance of Effects at Years 1 remaining at Moderate after 10 years.

Table 14.14 Summary of Effects on Visual Receptors and Representative Viewpoints

Visual Receptor/ Representative Viewpoint	Description of the View	Change in Baseline	Sensitivity	Magnitude	Effect Year 1 with mitigation	Effect Year 1 with mitigation	Significance in EIA Terms
VP1: Hazelbeach - distance of 1196m	Looking south east at a distance of 1196m from the nearest site boundary at contour 5 AOD. Receptors are slow moving walkers using the PCP along the shoreline.	Buildings A and B will be clearly visible in the docks across the seascape breaking the skyline in an already industrialised context where large commercial buildings are a common element.	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP2: Llanstadwell - distance of 1117m looking SE towards the site	Looking south east at a distance of 1117m from the nearest site boundary at contour 7 AOD. Receptors are slow moving walkers using the PCP along the shoreline and fast moving within vehicles using the highway.	New buildings A and B will be clearly visible above and within the built envelopment of the existing docks just breaking the skyline in an already industrialised context where large commercial buildings are a common element (see Figure 14.9a).	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP3: Neyland - distance of 1134m looking S towards the site	Looking south at a distance of 1134m from the nearest site boundary at contour 8 AOD. Receptors are slow moving walkers using the PCP along the shoreline and fast moving within vehicles using the highway.	Buildings A and B will be clearly visible in the docks across the seascape breaking the skyline in an already industrialised context where large commercial buildings are a common element.	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP4: Neyland - distance of 989m looking SW towards the site	Looking south west at a distance of 989m from the nearest site boundary at contour 8 AOD. Receptors are slow moving walkers using the PCP along the shoreline and fast moving within vehicles using the highway.	Buildings A and B will be clearly visible in the docks across the seascape just breaking the skyline in an already industrialised context where large commercial buildings are a common element (see Figure 14.9b).	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP5: Neyland - distance of 1223m looking SW towards the site	Looking south west at a distance of 1223m from the nearest site boundary at contour 15 AOD. Receptors are fast moving in vehicles using the town centre.	Buildings A and B will be clearly visible in the docks across the seascape in an already industrialised context where large commercial buildings are a common element.	Medium	High	Moderate Adverse	Moderate Adverse	Yes

Visual Receptor/ Representative Viewpoint	Description of the View	Change in Baseline	Sensitivity	Magnitude	Effect Year 1 with mitigation	Effect Year 1 with mitigation	Significance in EIA Terms
VP6: Neyland - distance of 982m looking SW towards the site.	Looking south west at a distance of 982m from the nearest site boundary at contour 19 AOD. Receptors are slow moving in vehicles and on foot using car park.	Buildings A and B will be clearly visible in the docks across the seascape just above the skyline in an already industrialised backdrop where large commercial buildings and energy related infrastructure are a common element.	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP7: Cleddau Bridge - distance of 1584m looking SW towards the site		Buildings A and B will be clearly visible in the docks across the seascape just above the skyline in an already industrialised backdrop where large commercial buildings and energy related infrastructure are a common element.	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP8: Burton Ferry - distance of 2100m looking SW towards the site	Looking south west at a distance of 2100m from the nearest site boundary at contour 8 AOD. Receptors are slow moving walkers and in vehicles using the using the highway.	Buildings A and B will be visible in the docks across the seascape just above the skyline underneath the Cleddau bridge which will remain the dominant element in the foreground against an already industrialised backdrop where large commercial buildings and energy related infrastructure are a common element.	Medium	Low	Minor Adverse	Minor Adverse	No
VP9: Pembroke Dock - distance of 682m looking SW towards the site	Looking south west at a distance of 682m from the nearest site boundary at contour 6 AOD. Receptors are slow moving walkers using the recreational open space.	Buildings A and B will be clearly visible in the context of the existing dock breaking the skyline against a backdrop already industrialised context where large commercial buildings and energy infrastructure are a common element (see Figure 14.9c).	Moderate	High	Moderate Adverse	Moderate Adverse	Yes
V10: Pembroke Dock - distance of 600m looking SW towards the site	Looking south west at a distance of 600m from the nearest site boundary at contour 7 AOD.	Buildings A and B will be clearly visible above the boundary wall in the context of the existing dock breaking the skyline against a backdrop already industrialised context where large commercial buildings	Moderate	High	Moderate Adverse	Moderate Adverse	Yes

Visual Receptor/ Representative Viewpoint	Description of the View	Change in Baseline	Sensitivity	Magnitude	Effect Year 1 with mitigation	Effect Year 1 with mitigation	Significance in EIA Terms
		and energy infrastructure are a common element.					
VP11: Pembroke Dock Presely Road near the Defensible Barracks - distance of 337m looking NW towards the site	Looking north west at a distance of 337m from the nearest site boundary at contour 39 AOD. Receptors are slow moving walkers using the PCP.	Buildings A and B will be clearly visible from this elevated viewpoint within the context of the dockland built envelope enclosed within the waterway where large commercial buildings and the ferry terminal are common elements (see Figure 14.9d).	Moderate	Medium	Moderate Adverse	Moderate Adverse	No
VP12: South Pembrokeshire Golf Course - distance of 900m looking NE towards the site	Looking north east at a distance of 900m from the nearest site boundary at contour 47 AOD. Receptors are slow moving walkers using the local footpath close to the PCP.	Buildings A will be clearly visible and building B will be partially visible from this elevated viewpoint within the context of the dockland built envelope enclosed within the waterway where large commercial buildings and the ferry terminal are common elements.	Medium	High	Moderate Adverse	Moderate Adverse	Yes
VP 13: Pembroke Dock St Patrick's Hill - distance of 22m looking NE towards the site	Looking south at a distance of 22m from the nearest site boundary at contour 21 AOD. Receptors are fast and slow moving using the local highway network	Buildings A and B will be clearly visible at close range from this elevated viewpoint within the context of the dockland built envelope enclosed within the waterway where large commercial buildings and the ferry terminal are common elements (see Figure 14.9e).	Medium	High	Moderate Adverse	Moderate Adverse	No
VP14: Pembroke Dock coast - distance of 33m looking NE towards the site	Looking north east at a distance of 33m from the nearest site boundary at contour 7m AOD. Receptors are slow moving and on foot using this public car park.	Buildings A and B will be clearly visible at close range above the boundary wall breaking the skyline.	Medium	High	Moderate Adverse	Moderate Adverse	No
VP 15: Llanreath - distance of 478m looking NE towards the site	Looking north east at a distance of 1470m from the nearest site boundary at contour 5 AOD. Receptors are slow moving using the beach and public highway.	Buildings A and B will be clearly visible within the context of the dockland built envelope breaking the skyline within the waterway where large commercial buildings common elements.	Medium	High	Moderate Adverse	Moderate Adverse	No

Visual Receptor/ Representative Viewpoint	Description of the View	Change in Baseline	Sensitivity	Magnitude	Effect Year 1 with mitigation	Effect Year 1 with mitigation	Significance in EIA Terms
VP16: Pwllcrochan - distance of 3800m looking NE	Looking north east at a distance of 3800m from the nearest site boundary at contour 26 AOD. Receptors are slow moving walkers using the PCP.	Buildings A and B will be visible in the middle distance within the docks and urban setting in an already industrialised context where large commercial buildings and energy infrastructure are a common element with the hills beyond in the landscape forming a prominent backdrop.	High	Low	Minor Adverse	Minor Adverse	No
Private Views from properties in Hazelbeach, Llanstadwell, Neyland, Burton Ferry, Pembroke Dock and St Patrick's Hill.	Private Views from properties in Hazelbeach, Llanstadwell, Neyland, Burton Ferry, Pembroke Dock and St Patrick's Hill. Receptors are static.	Generally, buildings A and B will be clearly visible in the context of the existing dock breaking the skyline against a backdrop already industrialised context where large commercial buildings and energy infrastructure are a common element.	Low	High	Moderate Adverse	Moderate Adverse	Yes

Night-time Visual Effects

- 1.94 At night the proposed Buildings A and B will provide a filigree of light from their many small scale translucent panels. The proposed translucent panels will glow, add interest and provide an attractive appearance during hours of darkness, emphasising a sense of place at Pembroke Port and creating a landmark along the Milford Haven Waterway. A sensitive wider lighting scheme should be provided for the development to minimise the night time visual effects on the local landscape.

Potential Changes to the Assessment as a Result of Climate Change

- 1.95 Forces for change in relation to natural process and climate change for the context of the Application Site is likely to be growth in tourism with increases in the number of water-based motor leisure boats, sailing activities and increased mooring capacity. Marine commercial activity is predicted to continue to respond to changing requirements for in the energy industry. As a result, the landscape and seascape across the study area is under different pressures and continually changing. Consequently, it is considered that the character of the baseline landscape for the inner waterway will continue to change in the future mainly as a result of increases in recreational boating (up to and including 2050). These changes in the baseline will not result in any lesser or greater impacts than those already identified for the construction and operational phases of the Proposed Development.

Assessment of Cumulative Effects

- 1.96 This section sets out the potential cumulative effects which may arise as a result of the Proposed Development.
- 1.97 A Cumulative Impact Assessment (CIA) considers the cumulative effects of multiple schemes upon the landscape fabric, landscape character and visual amenity.
- 1.98 It is acknowledged that wherever more than one development is visible at any given location in the landscape, there will be a greater overall or cumulative effect on landscape character than if just one development was visible in the landscape. Likewise, it is acknowledged that the more developments that are constructed in any given landscape, the greater the magnitude will be of overall (or combined) change to the landscape character that was present prior to the introduction of the development.
- 1.99 However, it is also noted that in any given landscape where developments of this type are already present the combined effect on landscape character of introducing further development may not be as significant as the introduction of the initial development due to a diminished affect caused by the existence of development within the baseline. Furthermore, the greater the amount of development in the baseline landscape the less significant the addition may be of further development on landscape character, as the landscape will be more heavily characterised by development in the baseline situation.

- 1.100 As there are no significant consented developments within the 2 km study area, there will be no cumulative landscape of visual effects as a result of the Proposed Development.

Summary of Effects

- 1.101 This chapter of the Environmental Statement presents the results of the EIA for the potential landscape and visual impacts that relate to the Proposed Development located along the north-western edge of the settlement of Pembroke Dock (grid reference: SM958037, X [Easting]: 195835 and Y [Northing]: 203799) on the southern side of the Milford Haven Waterway.
- 1.102 The Proposed Development relates to the existing port functions located within the Milford Haven Waterway, which is an integral part of Britain's oil and gas industry and one of the busiest ports in the UK. The landscape and seascape can be described as an intensely used urban waterway scattered with commercial shipping and fishing boats and marker buoys. Port operational activities are dominant including the Pembroke car ferry, tugs, service and pilot vessels. Large jetty and slipway structures are common along the waterway. Views to the west are dominated by the tall oil refinery structures, gas and chemical storage tanks and vertical elements of the power stations elevated on the cliffs above the waterway edges. The Cleddau bridge lies approximately 1.5 km to the north east and is a dominating feature in the local landscape.
- 1.103 PCNP is a nationally designated landscape within the 5 km study area. However, the Application Site lies approximately 3.1 km from the nearest boundary of the national park and there is no inter-visibility. There are no statutory landscape designations associated directly with the Application Site. However, it lies within the Milford Haven Waterway Registered Landscape of Outstanding Historic Interest and the Pembroke Dock Historic Landscape Character Area. The Milford Haven Waterway is adjacent to the north and contains the Pembrokeshire Marine SAC and Milford Haven Waterway SSSI, the boundaries of which lie approximately between 150 to 200 m from the site's northern boundary and Pembroke Port's northern shoreline.
- 1.104 Analysis of the LANDMAP Visual and Sensory Aspect Area reveals that the Application Site is classed as Urban. The Pembroke Dock Infrastructure project has been an evolving design process regarding landscape and visual effects, which has involved an interactive process within the design team considering environmental factors including landscape and seascape character and visual impact. This approach utilises the information provided within the LANDMAP datasets. The design and location of the proposed buildings have been refined in response to this process where design, appearance and scale has been a key factor in lessening the likely landscape and visual effects. The primary landscape qualities of all 5 Aspect Areas within the ZTV are maintained and respected as the land use of the Application Site would remain intact as a functional port and the Proposed Development would fit in with the existing urban pattern, respecting the urban grain.
- 1.105 The Proposed Development would follow the existing levels of Application Site respecting the topography, which would remain largely intact. Consequently, the urban pattern and complexity would not change as a result.
- 1.106 Of the four landscape designations and elements assessed, the Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest and the Pembroke Dock Historic Landscape Character Area would undergo Moderate Adverse impacts as a result of the Proposed

- Development. The effects on the popular recreational designation for walkers using the long range PCP, visitors and recreational boating and the settlement pattern of Pembroke Port would undergo Moderate Adverse impacts, all of which are significant in EIA terms.
- 1.107 Of the sixteen representative viewpoints assessed, four are short-range local views (VP11, VP13, VP14, VP15) where all of the effects would be localised and would undergo Moderate Adverse significance of visual effects at Years 1 remaining at Moderate after 10 years. There are four medium range (500 m – 1 km) representative views (VP4, VP6, VP9 and VP10), of which three would undergo a Moderate Adverse significance of effect on visual amenity and VP6 would undergo a Moderate Adverse effect on visual amenity. There are five medium range (1 km – 2 km) representative viewpoints with VP1, VP2 and VP3 assessed as undergoing a Moderate Adverse significance of effect on visual amenity and VP5 and VP7 are assessed as undergoing a Moderate Adverse significance of effect on visual amenity. Two distance range representative viewpoints (2+ km) were assessed with VP8 undergoing a Moderate Adverse significance of effect and VP16 undergoing a Minor Adverse significance of effect on visual amenity. Six of the sixteen viewpoints assessed result in an impact that is significant in EIA terms.
- 1.108 Mitigation measures adopted as part of the design development comprised the design team examining several envelope options whilst developing a scheme to satisfy the end user needs and in part, due to the physical height and mass of these buildings in the locality, recognised the need to visually diminish their impact when viewed from significant locations.
- 1.109 The design concept of the buildings A and B, which functionally and operationally need to be large, draws comparison of the proposed production facilities at Pembroke Port with their 19th century counterparts in the heyday of ship building and the form of the ‘mansard’ type envelope structures sitting over the ‘Slip-Docks’. The spirit of these great single volume structures with their unique scatter of roof lights to provide the maximum quantity of natural light technically available at that time provide a distinctive appearance and it is this concept that has been used to interpret and bring an identity to the proposed modern structure. Panelisation of the side walls and use of scatter pattern (colour – deep blue) translucent panels make suggestion of the slip-docks and their contrast colour (metallic Pewter) selected for historic and visual purposes to minimise ‘volumetric bulk’ in context of the industrial structures within the area. At night the structures provide a filigree of light from the many small scale translucent panels and visually diminish the mass of the entire structure.
- 1.110 It is acknowledged that with delivery of this development, as with any type of development, it will give rise to change in the visual character of the Application Site itself and to the views of people overlooking, visiting or walking through the localised area within a context where large scale prominent port commercial buildings and energy infrastructure are common elements. The extent of change has been minimised through careful/sensitive design and mitigation to ensure that the landscape and visual impacts judgement will need to be weighed against the benefits delivered by the Proposed Development.
- 1.111 Of the four landscape designations and elements assessed, the Designation of Milford Haven Waterway Registered Landscape of Outstanding Historic Interest and the Pembroke Dock Historic Landscape Character Area would undergo Moderate Adverse impacts as a result of the Proposed Development, which are not significant in EIA terms. The effects on the popular recreational

designation for walkers using the long range PCP, visitors and recreational boating and the settlement pattern of Pembroke Port would undergo Moderate Adverse impacts, all of which are significant in EIA terms.

References

Guidelines for Landscape and Visual Impact Assessment, second edition, Landscape Institute and Institute of Environmental Assessment.

GLVIA3 (2013). Guidelines for Landscape and Visual Impact Assessment, Third Edition Landscape Institute and the Institute of Environmental Management and Assessment.

GLVIA3 Statement of Clarification 1/13.

Visual Representation of Development Proposals, Technical Guidance Note 06/19, Landscape Institute (17th September 2019).

Natural England (2014). An Approach to Landscape Character Assessment.

Natural Resources Wales (2016). LANDMAP Methodology "Visual and Sensory".

Natural Resources Wales (2017). National Landscape Character Areas.

Natural England, Scottish Natural Heritage and the Countryside Council for Wales (2011). Landscape Character Assessment, Guidance for England, Scotland and Wales (consultation draft). Natural England, Scottish Natural Heritage and Countryside Council for Wales.

Natural England, Scottish Natural Heritage and the Countryside Council for Wales (2012). An approach to Seascape Character Assessment. Natural England, Scottish Natural Heritage and Countryside Council for Wales.

Pembroke Coast National Park Authority (2013). Pembrokeshire Coast National Park Coast Seascape Character Assessment.

Pembroke County Council (2013). Local Development Plan.

Pembroke County Council (2017). Pembroke Dock Conservation Area Character Appraisal and Management Plan.

Pembrokeshire Coast National Park (2014). Management Plan 2015 – 2019

Turley Heritage (2016). Heritage Assessment.