REPORT

MHPA Port Authority Jetty Improvements

Environmental Report

Client:	Milford Haven Port Authority (MHPA)
Reference:	PC1477-RHD-ZZ-ZZ-RP-EV-0001
Status:	Final/02
Date:	20 June 2025

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Enhancing Society Together

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Project related

Disclaimer

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1 INTRODUCTION

1.1 Background

The Milford Haven Port Authority (MHPA) Port Authority Jetty (PAJ) is situated on Milford Haven's northern shore, approximately 7.5km from the estuary mouth (see **Figure 1.1**). The original jetty structure was installed in the 1960's and while the installation date of the pontoons is not known, it has been in service in its current use for an excess of 20 years. Operations at the jetty are on a 24/7 basis with daily operation by the pilot boats and currently the jetty provides permanent berthing for the pollution response capabilities of the port. The RNLI all-weather lifeboat (ALB) is currently operating under a temporary agreement from PAJ due to operational constraints at their normal base at Angle. To secure the capability of their service, RNLI hope to are expected to shift their base of operation from Angle to the north shore, with a permanent berth allocation at PAJ.

With the development in the Port's pilot fleet seeing increases in vessel size over time, the current berthing arrangements are not designed to accommodate the current fleet as effectively as possible. With a larger 22m pilot boat expected to be operational from November 2025, the existing berthing arrangements will be insufficient to accommodate the new vessel alongside the existing fleet. A redesign is therefore required to maximise berthing capability (primarily for the ports own fleet) and to identify opportunities for further developments to accommodate third party vessels including the RNLI.

1.2 Purpose of this report

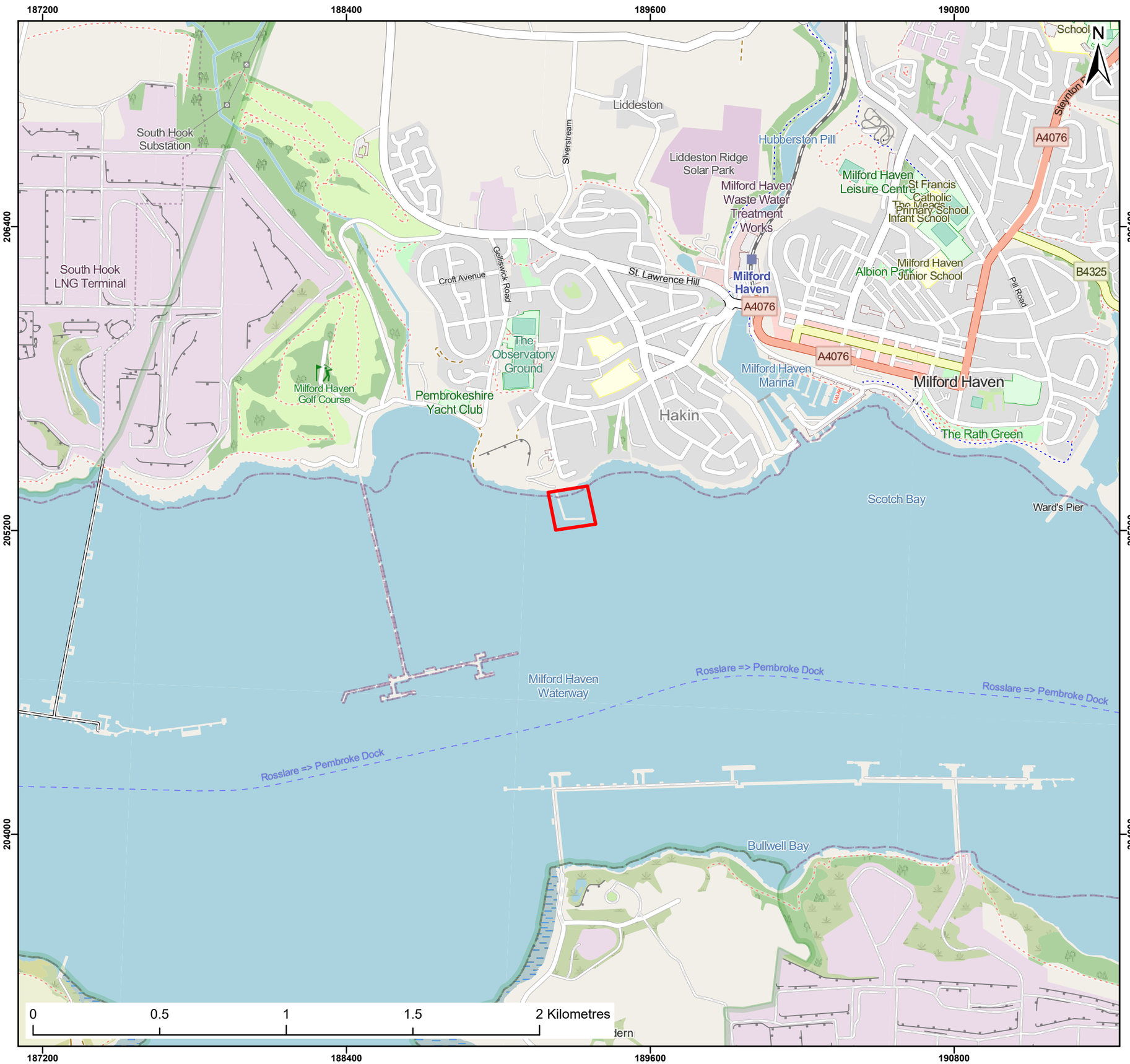
This Environmental Report (ER) supports the marine licence application to Natural Resources Wales (NRW) for the proposed improvement works to the PAJ.

This report is structured as follows:

- Section 2: Outline of the proposed works
- Section 3: Relevant legislation and policy
- Section 4: Environmental baseline and assessment
- Section 5: Findings and conclusions

This report is supported by the following additional assessments:

- Information to support a Habitats Regulations Assessment (document ref: PC1477-RHD-ZZ-ZZ-FN-EV-0001) and
- Water Environment Regulations Compliance Assessment (document ref: PC1477-RHD-ZZ-ZZ-FN-EV-0002).



Legend:

Area of works

Client:	Project:
Milford Haven Port Authority (MHPA)	Port Authority Jetty MLA

Title:

Area of proposed works

Figure:	Drawing No:
1	PC1477-RHD-ZZ-XX-DR-EV-0001

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	04/10/2024	CM	SM	A3	1:15,000

Co-ordinate system: British National Grid

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2 OUTLINE OF THE PROPOSED WORKS

2.1 Existing structure

The existing structure is presented in **Drawing 1586-1D**. The piled trestle jetty approach extends in a North-South orientation, connecting the jetty head to land on the northern shore of Milford Haven and comprises a concrete deck, used as an access road, which is supported above the seabed by piles. A short gangway runs parallel to the short North-South leg of the jetty providing access to a single floating pontoon. The floating pontoon is secured in place by two tubular piles and runs parallel to the West-East jetty head where vessels currently berth. The jetty head comprises a concrete deck suspended over the seabed by a concrete cross head, a concrete pier, and a concrete caisson, in which the precast concrete piles terminate. The jetty structure as a whole comprises 68 concrete precast piles.

A welfare cabin is currently located on the North-South section of the jetty head which has water and electricity services. There is also a fuel dispensing station positioned on the jetty head to distribute fuel from an onshore tank via continuous fuel lines.

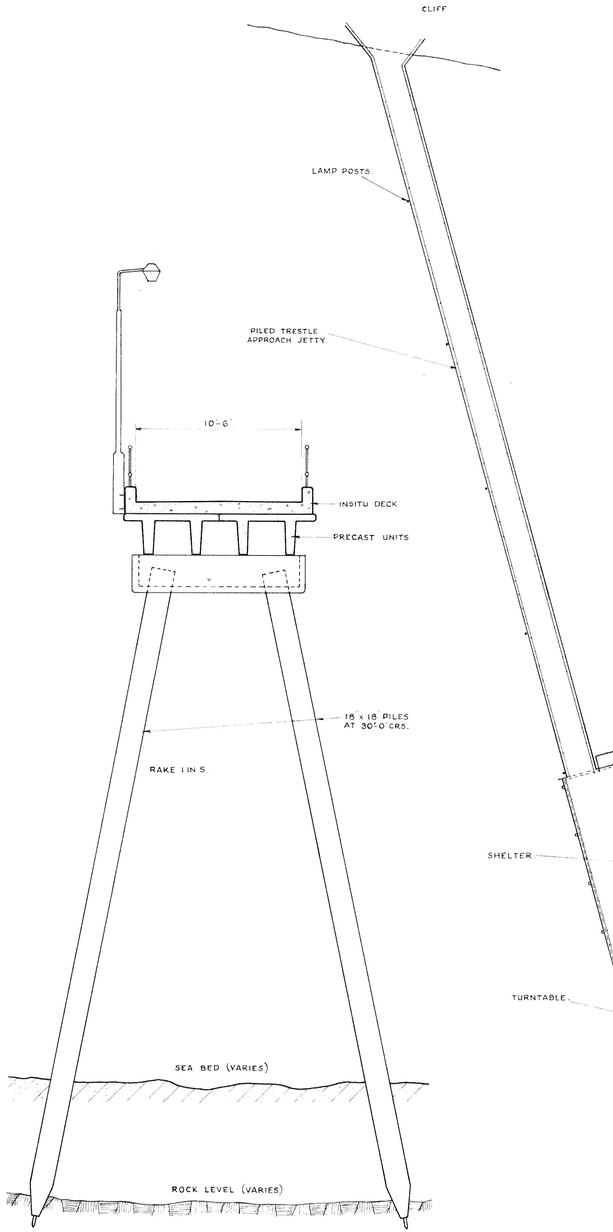
The jetty also has an existing fire water spur (potable water) starting at the head of the approach and terminating at the eastern extent of the jetty head. Deteriorated sections of the system will be replaced with a galvanised pipe and new fire monitors.

2.2 Overview of works

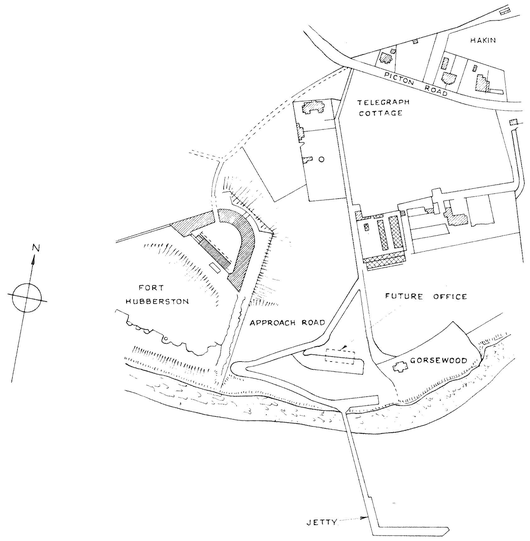
MHPA is planning works to the PAJ to improve its berthing capabilities. It is planned to undertake the following works:

- Removal of the existing welfare cabin, gangway (once new gangway is in place), pontoons and two restraining piles.
- Installation of a new gangway and full-length pontoon adjacent to the West-East leg of the jetty head extending its full length. The gangway and pontoon will be attached to the existing West-East Jetty leg via vertical fender piles that are affixed to the jetty itself and do not require installation into the seabed.
- Installation of a new finger pontoon, extending perpendicular from the North-South jetty head at its northern extent, supported by up to 6 piles up to 600mm in diameter.
- Installation of one new and one replacement welfare cabin on the jetty deck. One on the short leg and the other on the long leg.
- Installation of a replacement diesel fuel hose as part of the existing fuel dispensing station on the jetty head as well as one additional fuel dispenser and an onshore diesel storage tank.
- Reinstallation of water and electrical systems from existing landside services.

A plan of the proposed works is presented in the second drawing below.

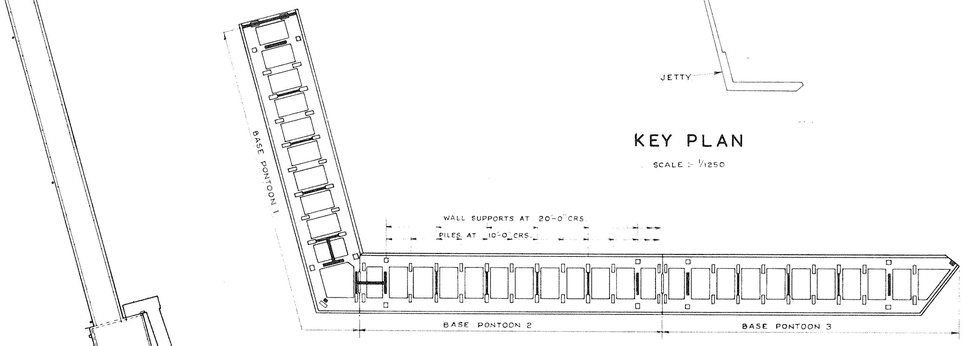


TYPICAL SECTION THROUGH APPROACH JETTY.

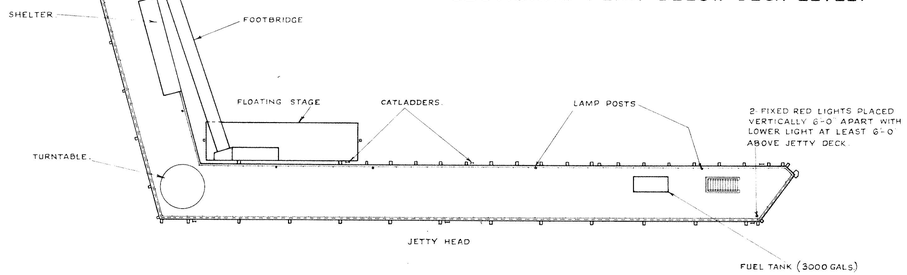


KEY PLAN

SCALE :- 1/1250

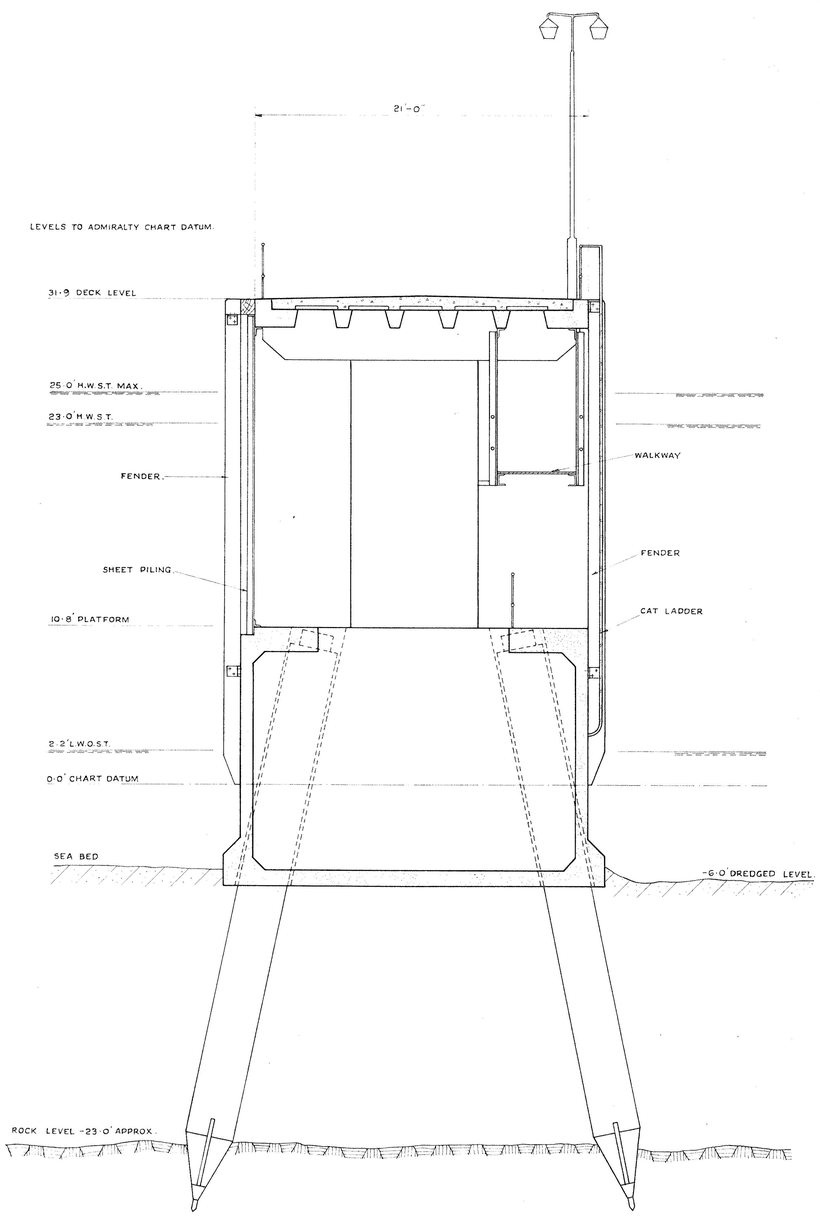


SECTIONAL PLAN BELOW DECK LEVEL.



PLAN

SCALE



TYPICAL SECTION OF PIER HEAD

D. JAN '62 AS MADE
AMENDMENT C. 23.10.'61. REDRAWN

MILFORD HAVEN CONSERVANCY BOARD

PROTECTED JETTY.
GENERAL ARRANGEMENT.

POSFORD, PAVRY & PARTNERS
CONSULTING ENGINEERS
ABBEY HOUSE.
WESTMINSTER.
LONDON, S.W.1.

SCALE 25 & 4 FT. TO 1" | DATE 23. 10 '61

DRG. No. 1586/1 C D

Small dia pontoon piles

Finger pontoon (Guests)

BERTH 1
22m

3m

BERTH 2
22m

3m

BERTH 3
15m

EXISTING GRP
ELECTRICAL CABINET

NEW FUEL STATION
BY OTHERS

NEW ACCESS
RAMP (1:8)

NEW HANDRAIL TO SUIT
NEW ACCESS RAMP

EXISTING HANDRAIL TO BE
REMOVED ADJACENT TO
THE ACCESS RAMP

EXISTING SERVICES TO BE ISOLATED
& RECONNECTED IF REQUIRED TO
SUIT BANKSEAT ARRANGEMENT

3m

4m

3m

NEW 22m PILOT VESSEL

NEW 22m PILOT VESSEL

NEW 22m
PILOT VESSEL

0.94t

1.14t

1.49t

NEW RECESSED
EMERGENCY LADDER

DYNEVOR
(13.5m WATER TRUCK)

A B C D E F G

NEW ACCESS GANGWAY APPROX. 40m LONG

EXISTING FUEL STATION
TO BE REMOVED BY
OTHERS

HANDRAIL TO BE ADJUSTED TO
SUIT NEW BANKSEAT & GANGWAY

NEW RAISED 500mm HIGH
LANDING TO ACCESS GANGWAY

NEW EMERGENCY
LADDERS

NEW PONTOON GUIDES
FIXED TO JETTY

NEW FUEL STATION
BY OTHERS

2.3 Current understanding of the construction methodology

2.3.1 Removal of the existing pontoon

The existing pontoon will be freed from its mechanical restraints and towed to the Port of Pembroke. From there is it will be lifted out of the water with a marine crane. The pontoon will then be stored on land and advertised as for sale. Otherwise, the pontoon will be disposed of at an appropriate onshore waste facility.

2.3.2 Removal of the existing gangway

Two small cranes (from either a jack up barge, floating barge or the jetty) will be used to lift the gangway from its bracket either onto the jetty deck or onto a barge to be removed. This will be undertaken at high spring tide when the gangway is in an almost horizontal position. The gangway will be dismantled at a suitable location or dry dock within the port estate and disposed of at an appropriate waste facility.

2.3.3 Removal of existing pontoon piles

A small crane (from either a jack up barge, floating barge or the jetty) will lift a pile cutting rig over the existing pontoon piles lowering it to the cutting point as close to the seabed as possible. Once cut, the piles will be lifted onto the jetty or JUB deck for processing. As the piles are steel, once removed, they will be melted down as part of the recycling process and reused.

2.3.4 Installation of new pontoons

Installation of a total of 6 piles (up to 600mm diameter) is required as part of the proposed works for the finger pontoon. The rock socket method will be used where possible for pile installation involving the use of a vibrating hammer and a rock socket drill. The underream method may also be used for pile installation involving the use of a vibrating hammer, under reaming drill and percussive piling. The use of percussive piling will be minimal and would only be used in combination with other methodologies to fully secure the piles where required.

The new pontoons will arrive at the Port of Pembroke via articulated lorry. From the Port they will be craned into the water and bolted together to form a flotilla of pontoons. The flotilla will be pulled or pushed via barge into the becalmed waters of the PAJ and reconfigured to the jetty head and fixed to the new piles.

2.3.5 Reinstallation of water and electrical systems

Potable water and electrical systems will be reinstalled from existing landside services once the pontoons are in place. Electrical cables and water pipes will be distributed throughout the pontoon arrangement.

2.3.6 Fuel station

A new diesel fuel hose will be installed as part of the existing fuel dispensing station on the jetty head. An additional fuel dispenser will be installed approximately 30m East of the existing fuel dispenser mounted on the top deck of the jetty. An additional 30 to 40 thousand litre double bunded diesel storage tank will also be installed onshore. The new storage tank will share the same distribution pipework as the existing tank.

2.4 Operation

Once the works at PAJ are completed, operations are expected to continue on a 24/7 basis. However, as commercial vessel movements increase within the Milford Haven Waterway, more frequent pilot launches are expected and subsequently the utilisation of PAJ may increase as required by MHPA to fulfil its statutory duties for navigational safety.

2.5 Programme of works

The proposed works are expected to be undertaken for maximum of 3 months. Timing is dependent on the marine licence issue date.

The programme has allowed 1 week for the removal of the existing gangway and pontoons including the removal of existing piles. Each pile is expected to require a day to install, however 2.5 weeks has been allowed for this task in the programme. The programme has allowed 2 weeks for the installation of the new pontoons and gangway. Then a further 3 weeks has been allowed for the reinstallation of utilities and an additional 3 weeks for the installation of the new fuel distribution system.

3 RELEVANT LEGISLATION AND POLICY

3.1 Legislative context

This section describes the legislation context for the proposed works.

3.1.1 The Marine and Coastal Access Act (2009)

Part 4 of The Marine and Coastal Access Act 2009 (as amended) (hereafter referred to as 'MCAA'), provides a framework for the marine licensing system for works below the level of MHWS tides. NRW is the regulatory authority for most marine licensing in Welsh inshore and offshore waters. A marine licence is required for the proposed works, and this report has been prepared to support the MLA.

Part 5 of the MCAA provides a framework for the designation and protection of Marine Conservation Zones (MCZs) around the coasts of England and Wales. There are no MCZs within 10km of the PAJ and therefore an MCZ assessment is not required in support of this application.

3.1.2 Marine Works (Environmental Impact Assessment) Regulations 2007

The Marine Works (Environmental Impact Assessment) Regulations 2007 (referred to as 'the MWR'), (as amended), sets out the requirement for an Environmental Impact Assessment (EIA) of the effects of certain public and private projects on the environment.

The MWR includes two schedules of development:

- Schedule A1: development of this type requires that an EIA is undertaken.
- Schedule A2: development of this type may require that an EIA is undertaken depending on the scale of the development, its characteristics and the sensitivity of the environment in which the development will take place.

The proposed works do not fall within Schedule A1 or Schedule A2 of the MWR as they represent upgrades to an existing structure. Therefore there is no requirement to consider the proposed works under the MWR.

3.1.3 The Wildlife and Countryside Act (1981)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain and requires that any operations within or adjacent to a Site of Special Scientific Interest (SSSI) notify NRW and obtain consent, unless approved by another public body such as via a planning permission, or marine licence.

The proposed works are within the vicinity of the Milford Haven Waterway SSSI, and therefore Part II (which relates to the countryside and national parks (and the designation of protected areas)) of the Act applies. Further information on designated sites can be found in **Section 4.8.**

3.1.4 The Conservation of Habitats and Species Regulations (2017)

The Conservation of Habitats and Species Regulations (2017) (as amended) (herein referred to as 'the Habitats Regulations') requires that an Appropriate Assessment be undertaken for any plan or project, not connected with the management of a National Site Network (NSN) site, which is likely to have a significant effect on the site either alone or in-combination with other plans or projects. NSN sites comprise Special Protection Areas (SPA) and Special Areas of Conservation (SAC). Appropriate Assessment is also required as a matter of government policy for potential SPAs (pSPA) and candidate SACs (cSAC).

The proposed works are within the vicinity of several of these sites and are therefore subject to the provisions of the Habitats Regulations. Further information on designated sites can be found in **Section 4.8** and information to support a Habitats Regulations Assessment (HRA) is provided in document PC1477-RHD-ZZ-ZZ-FN-EV-0001.

As a matter of policy, the UK Government also applies the procedures of HRA to the protection of features of Internationally Important Wetlands (especially as waterfowl habitat) designated under the UN Ramsar Convention.

3.1.5 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

The Water Framework Directive (WFD) (Council Directive 2000/60/EC establishing a framework for community action in the field of water policy) requires that EU Member States prevent deterioration and protect and enhance the status of aquatic ecosystems. This means that EU Member States must ensure that new schemes do not adversely impact upon the status of aquatic ecosystems, and that historical modifications that are already impacting it need to be addressed.

While the UK is no longer an EU Member State, the Water Environment (Water Framework Directive) (England and Wales) (as amended) Regulations (WER) 2017, transposes the WFD into UK Law and requires the WER to be considered at all stages of the planning and development process in England and Wales. The consideration of the proposals under the WER therefore applies to all water bodies that have the potential to be affected by the proposed works.

A WER Compliance Assessment has been undertaken and has been submitted alongside the ER as part of the MLA (document ref: PC1477-RHD-ZZ-ZZ-FN-EV-0002). The relevant water body for the proposed works is the Milford Haven Outer coastal water body. Further information on water and sediment quality can be found in **Section 4.2 and 4.3**.

3.1.6 Waste Framework Directive (2008)

The Waste Framework Directive (2008/98/EC) provides the overarching legislative framework for the collection, transport, recovery and disposal of waste, and includes a common definition of waste. The directive requires all EU Member States to take appropriate measures to encourage, firstly, the prevention or reduction of waste production and its harmfulness and, secondly, the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy under Article 4: Waste Hierarchy.

The directive also requires EU Member States to take the necessary measures to ensure waste is recovered or disposed of without endangering human health or causing harm to the environment and includes permitting, registration and inspection requirements under Article 13: Protection of human health and the environment. The directive's overarching requirements are supplemented by other directives for specific waste streams.

While the UK is no longer an EU Member State, the Waste (England and Wales) Regulations 2011 (2011/988) transposes the Waste Framework Directive into UK Law and requires the Waste Framework Directive to be considered during the planning and development process in England and Wales.

Further information on waste can be found in **Section 4.4**.

3.1.7 Environment Permitting Regulations (2016)

The Environmental Permitting (England and Wales) Regulations aim to protect the environment by delivering environmental permitting for a number of facilities, ensure permitting compliance, encourage regulators to promote best practice in the operation of facilities, and implement European legislation. Works classed as flood risk activities under the Environmental Permitting Regulations require the permission of the Environment Agency in the form of a Flood Risk Activity permit. However, under the Environmental Permitting Regulations the Environment Agency can dis-apply the requirement for a Flood Risk Activity permit if a marine licence is in place that covers the proposed works and any conditions required by the Environment Agency.

3.1.8 Well-being of Future Generations (Wales) Act 2015

The Well-being of Future Generations (Wales) Act 2015 aims to improve the social, economic, environmental and cultural well-being of Wales. It requires public bodies in Wales (including NRW) to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs. The Act puts in place seven well-being goals that should be met; together the goals provide a shared vision for public bodies to work towards (see Error! Reference source not found.). Public bodies must work to achieve all of the goals.

Table 3.1 Well-being of Future Generations (Wales) Act 2005 goals

Well-being goal	Description of the goal
A Prosperous Wales	"An innovative, productive and low-carbon society which recognises the limits of the global environment and uses resources efficiently and proportionately, and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities".
A Resilient Wales	"A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change".
A More Equal Wales	"A society that enables people to fulfil their potential no matter what their background or circumstances".
A Healthier Wales	"A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood".
A Wales of Cohesive Communities	"Attractive, viable, safe and well-connected communities".
A Wales of Vibrant Culture & Welsh Language	"A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, sport and recreation".
A Globally Responsible Wales	"A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being".

In order that a public body can work in line with the sustainable development principle to meet the seven goals, it must set and publish well-being objectives that are designed to maximise its contribution to meeting the goals. The Future Generations Act sets out five ways of working that the body should consider when carrying out its duties:

- Long term – the importance of balancing short-term needs with the need to safeguard the ability to also meet long-term needs (especially where things done to meet short-term needs may have detrimental long-term effects);
- Integration – consideration of how the body's well-being objectives may impact upon each of the well-being goals, on their objectives, or on the objectives of other public bodies;

- Involvement – the importance of involving people with an interest in achieving the well-being goals, and ensuring that those people reflect the diversity of the area which the body serves;
- Collaboration – acting in collaboration with any other person (or different parts of the body itself) that could help the body to meet its well-being objectives; and,
- Prevention – consideration of how acting to prevent problems occurring or getting worse may help public bodies meet their objectives.

3.2 Relevant policies

The MCAA divides the UK marine area into planning regions with an associated plan authority responsible for preparing plans for their region. Once adopted, marine plans will have the same effect on authorisation or enforcement decisions in the UK marine area as the UK MPS, including the requirements and conditions attached to authorisations and the enforcement action that would be taken to ensure compliance.

3.2.1 Welsh National Marine Plan

The Welsh National Marine Plan area consists of around 32,000 km^2 of sea, with 2,120 km of coastline. This Plan covers both the Welsh inshore region (from mean high water spring tides out to 12 nautical miles) and offshore region (beyond 12 nautical miles). Applicants are required to consider the Welsh National Marine Plan policies for proposals and licence applications to ensure sustainable development in Welsh waters.

The plan objectives have been reviewed and an assessment of those relevant to the proposed works has been undertaken in **Table 3.2**. This concludes that the proposed works are compliant with the marine plan policies.

Table 3.2 Assessment of the proposed works in relation to the Welsh National Marine Plan objectives

Objective		Assessment
Overarching		
1	Support the sustainable development of the Welsh marine area by contributing across Wales' well-being goals, supporting the Sustainable Management of Natural Resources (SMNR) through decision making and by taking account of the cumulative effects of all uses of the marine environment.	This report, alongside a HRA and WER compliance assessment, have been prepared to provide information to for NRW's decision making in relation to a marine licence application to undertake the proposed works. Cumulative effects have been considered throughout the assessments undertaken.
Achieving a sustainable marine economy		
2	Contribute to a thriving Welsh economy by encouraging economically productive activities and profitable and sustainable businesses that create long term employment at all skill levels.	The purpose of the proposed works is to improve the berthing capabilities of the PAJ at Milford Haven. Once completed the PAJ will be able to support the proposed larger Pilot Boat as well as allow third-party use of the jetty (e.g. by the RNLI). The upgrade of the PAJ will not in itself contribute to the local economy but will enable MHPA to manage potential future increases in vessel visits at the port.
3	Support the opportunity to sustainably develop marine renewable energy resources with the right development in the right place, helping to achieve the UK's energy security and carbon reduction objectives, whilst fully considering other's interests, and ecosystem resilience.	The purpose of the proposed works is to improve the berthing capabilities of the PAJ at Milford Haven. Therefore, the nature of the works does not present opportunities to sustainably develop marine renewable energy resources.
4	Provide space to support existing and future economic activity through managing multiple uses, encouraging	During the construction phase prior to the use of vessels, marine plant or the delivery and removal of materials by vessel,

Objective		Assessment
	the coexistence of compatible activities, the mitigation of conflicts between users and, where possible, by reducing the displacement of existing activities.	liaison with the relevant harbour authority will be undertaken to ensure navigational safety. Upon completion of the proposed works, the PAJ will be able to support the proposed larger Pilot Boat as well as allow third-party use of the jetty (e.g. by the RNLI). The upgrade of the PAJ will therefore enable MHPA to manage potential future increases in vessel visits at the port and will enable coexistence.
5	Recognise the significant value of coastal tourism and recreation to the Welsh economy and well-being and ensure such activity and potential for future growth are appropriately safeguarded.	The purpose of the proposed works is to improve the berthing capabilities of the PAJ and support ongoing commercial operations in Milford Haven. The proposed works would not, however, prevent existing or future coastal tourism or recreation on the Haven.
Ensuring a strong, healthy and just society		
6	Contribute to supporting the development of vibrant, more equitable, culturally and linguistically distinct, cohesive and resilient coastal communities.	The purpose of the proposed works is to improve the berthing capabilities of the PAJ at Milford Haven. The proposed works are not expected to oppose this objective however, the nature of the works also does not present opportunities to contribute to supporting the development of vibrant, more equitable, culturally and linguistically distinct, cohesive and resilient coastal communities.
7	Support enjoyment and stewardship of our coasts and seas and their resources by encouraging equitable and safe access to a resilient marine environment, whilst protecting and promoting valuable landscapes, seascapes and historic assets.	The purpose of the proposed works is to improve the berthing capabilities of the PAJ at Milford Haven. The PAJ is required so that MHPA can ensure safe passage of vessels through the Milford Haven Waterway. No significant impacts on National Parks or Areas of Outstanding Natural Beauty are expected as a result of the proposed works. Potential impacts on historic assets as a result of the proposed works have been considered in Section 4.8. As the heritage assets identified are all located onshore or far from the proposed works there is no pathway for direct impacts and limited potential for indirect impacts as a result of the proposed works.
8	Improve understanding and enable action supporting climate change adaptation and mitigation.	The purpose of the proposed works is to improve the berthing capabilities of the PAJ at Milford Haven. Once completed the use of the jetty is not anticipated to differ significantly from current activities. The proposed works are not expected to oppose this objective however the nature of the works also does not present opportunities to improve understanding and enable action supporting climate change adaptation and mitigation.
Living within environmental limits		
9	Support the achievement and maintenance of Good Environmental Status (GES) and Good Ecological Status (GeS).	A WER Compliance Assessment has been undertaken which concluded that the proposed improvement works to the MHPA PAJ are not predicted to have a non-temporary effect on the WER parameters and therefore will not cause a deterioration in the status of the Milford Haven Outer coastal water body. Consideration of the potential cumulative impacts also did not identify any additional risks to the water body. See Section 4.2 for further details.

Objective		Assessment
10	Protect, conserve, restore and enhance marine biodiversity to halt and reverse its decline including supporting the development and functioning of a well-managed and ecologically coherent network of Marine Protected Areas (MPAs) and resilient populations of representative, rare and vulnerable species.	A HRA has been undertaken which identified potential LSE on the Pembrokeshire Marine / Sir Benfro Forol SAC. The 'Noise / visual disturbance affecting mobile species' pressure was taken forward to Appropriate Assessment which concluded that following the implementation of the suggested mitigation measures related to migratory fish periods, the proposed piling works will not adversely affect the integrity of the SAC. See Section 4.5 for further details.
11	Maintain and enhance the resilience of marine ecosystems and the benefits they provide in order to meet the needs of present and future generations.	No significant risk of the proposed works contributing to the spread of Invasive Non-Native Species has been identified. All reasonable precautions will be taken to prevent the disposal of man-made debris at sea.
Promoting good governance		
12	Support proportionate, consistent and integrated decision making through implementing forward-looking policies as part of a plan-led, precautionary, risk-based and adaptive approach to managing Welsh seas.	The proposed works have been considered against the Welsh National Marine Plan objectives (and the underpinning polices) in this table. Additionally, this report, alongside a HRA and WER compliance assessment, have been prepared to provide information to inform NRW's decision making in relation to a marine licence application to undertake the proposed works. Cumulative effects have been considered throughout the assessments undertaken.
Using sound science responsibly		
13	Develop a shared, accessible marine evidence base to support use of sound evidence and provide a mechanism for the unique characteristics and opportunities of the Welsh Marine Area to be better understood.	This report, alongside a HRA and WER compliance assessment, have been prepared using reputable and relevant evidence to provide information to for NRW's decision making in relation to a marine licence application to undertake the proposed works.

4 ENVIRONMENTAL BASELINE AND ASSESSMENT

This section of the report provides an overview of the relevant environmental baseline and, where required, provides an assessment of potential environmental effects as a result of the proposed works. Should the potential for adverse effects be identified, mitigation measures to be secured have been identified and will be implemented.

4.1 Coastal Processes and Hydrodynamics

The Milford Haven Waterway extends from East to West along the South-West coast of Wales. The bathymetry of the Waterway is variable reaching natural depths down to 26m below chart datum (bCD) and some areas are maintenance dredged to between 5m and 18.5m bCD.

Offshore waves generally approach the entrance to the Waterway from the West and South-West across the Celtic Sea. Some of this wave energy is dissipated by the headlands of the Angle Peninsula to the South and St Ann's Head to the North before it reaches the shorelines within the Waterway with correspondingly smaller wave heights.

The Waterway experiences a semi-diurnal tidal regime with two high waters and two low waters a day. The tidal range is macrotidal, varying from 6.3m to 2.7m. Currents are West to East on the flood tide and East to West on the ebb tide with relatively low peak spring tidal velocities at less than 1.0m/s.

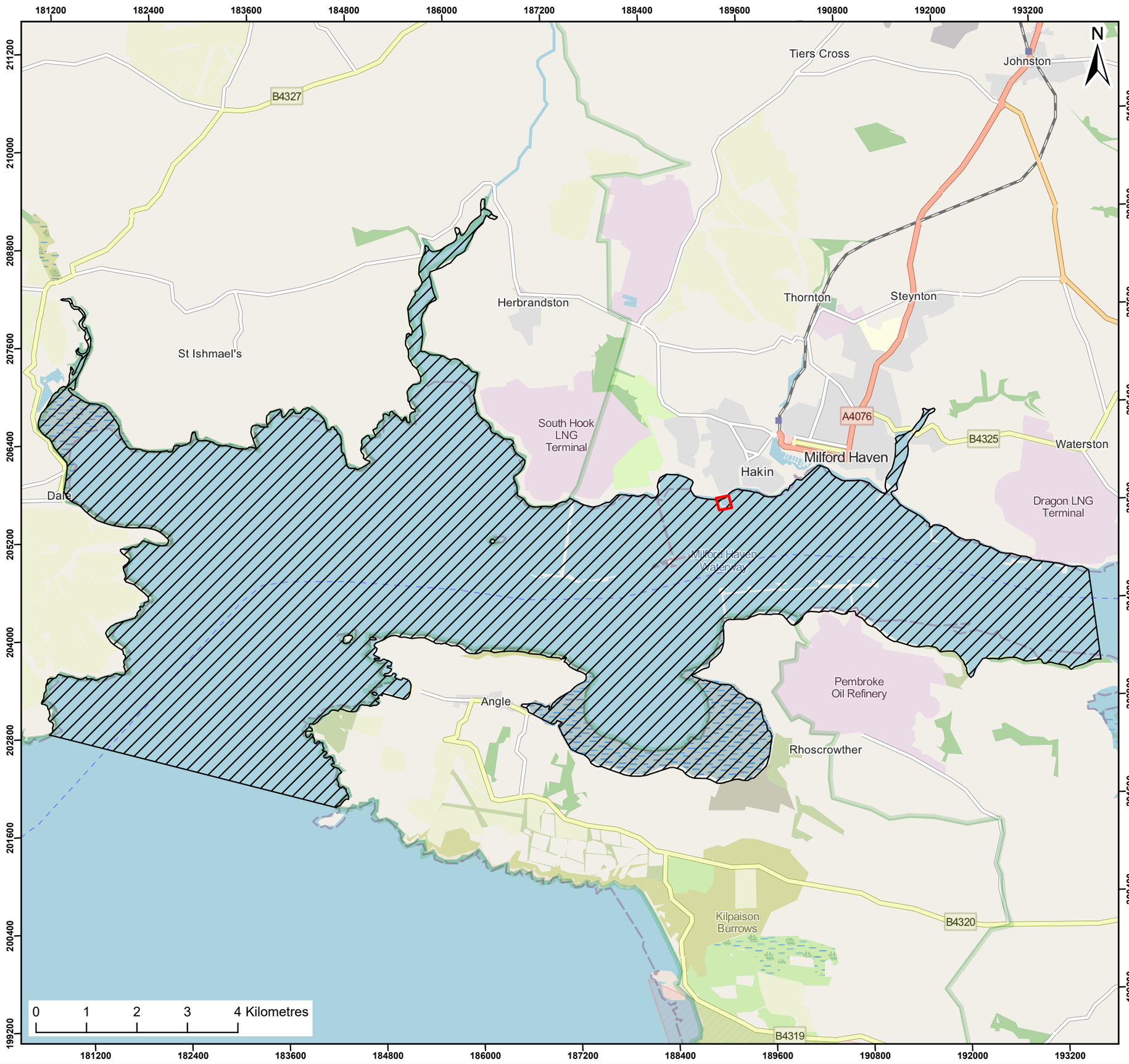
The main channel within the Waterway consists of mixed sediment with extensive rock foreshores and limited intertidal sandflats and mudflats towards the shoreline. Mudflats are common with high levels of sediment deposition in sheltered areas further up the channel. The Waterway is largely self-contained and acts as a sediment sink, storing all the sediment that enters it.

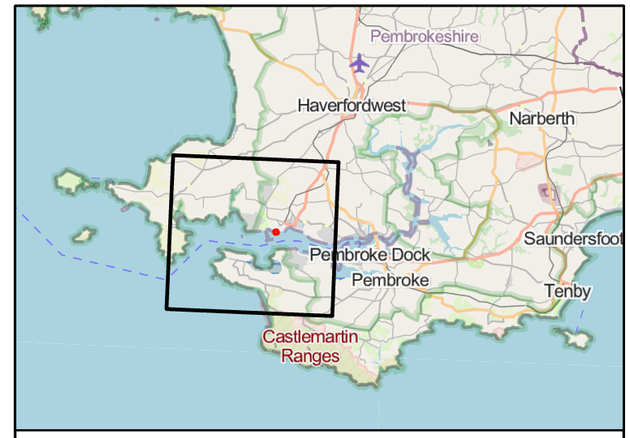
4.1.1 Potential effects

The intention of the proposed works is to install replacement and new floating pontoons at the PAJ which requires the installation of piles, increasing the number, type and location of piles in the area. During construction, piling activities have the potential to resuspend sediments resulting in short term, localised increases in turbidity, which may temporarily lead to increased sediment deposition within the vicinity of the proposed works. Any plume of suspended sediment is expected to be small and quickly dispersed by tidal and surface currents. Once the jetty is operational significant changes to the physical processes and hydrodynamics within the Haven are not anticipated particularly due to the sheltered nature of the Waterway. Any effects are therefore considered to be temporary and/or small in scale and highly localised and no potential for any significant effects on coastal processes and hydrodynamics within the Haven is predicted.

4.2 Water quality

There are two main rivers within the catchment for the Milford Haven Waterway, Western and Eastern Cleddau which join to form the Daugleddau before entering the Milford Haven Waterway. The proposed works are within the Milford Haven Outer coastal water body (GB641008220000) (see **Figure 4.1**) which has an overall status of 'moderate'. This is due to levels of polybrominated diphenyl ethers (PBDEs) polycyclic aromatic hydrocarbons (PAHs), macroalgae and dissolved inorganic nitrogen (DIN). However, in 2019 the assessment methods for determining chemical status have changed and the evidence base has increased. As a result, all water bodies now fail chemical status, and this assessment is not comparable to previous years assessments. The following pollutants can cause significant change in chemical classification: PBDEs, Mercury, certain PAHs and Perfluorooctane sulfonate (PFOS).





Legend:

- Area of works
- Milford Haven Outer coastal waterbody (GB641008220000)

Client:	Project:
Milford Haven Port Authority (MHPA)	Port Authority Jetty MLA

Title: Relevant waterbody in relation to the area of proposed works

Figure:	Drawing No:
4.1	PC1477-RHD-ZZ-XX-DR-EV-0001

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P01	04/10/2024	CM	SM	A3	1:75,000

Co-ordinate system: British National Grid

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The Milford Haven Outer coastal water body falls within the Western Wales River Basin District and is designated as natural (NRW, 2022). Upstream, the Pembrokeshire Carboniferous Limestone Groundwater body, and downstream, the Pembrokeshire South Coastal water body, has an Overall status of 'good'.

4.2.1 Potential effects

The improvements to the PAJ would not disturb significant volumes of sediment therefore effects on water quality associated with physio-chemical parameters are not predicted. Any sediment disturbed by the proposed works would be temporary in nature and minimal in comparison to ongoing operations undertaken throughout Milford Haven Waterway. Therefore, a significant effect on water quality in the Haven is not expected as a result of the proposed works.

Works will be undertaken in line with standard industry practice to protect the marine environment from accidental spills or pollution events, such as in accordance with NRW's Guidance for Pollution Prevention for work or maintenance in or near the water. There are no planned releases of any chemicals on the Environmental Quality Standards Directive (EQSD) list as part of the proposed works.

An assessment to consider the proposed works against the WER compliance criteria has been undertaken. A WER compliance assessment (PC1477-RHD-ZZ-ZZ-FN-EV-0002) has been undertaken on the potential risks from the proposed activities screened into the assessment, identifying the following potential risks to the Milford Haven Outer coastal water body (GB641008220000):

- Biology: fish; and
- Protected areas.

These potential risk issues were taken forward to Stage 3: Further Assessment which concluded that the proposed works to the PAJ would not have a non-temporary effect on the WER parameters and therefore will not cause a deterioration in the status of the Milford Haven Outer coastal water body. Consideration of the potential cumulative impacts also did not identify any additional risks to the water body.

4.3 Sediment quality

The Milford Haven Waterway has a long history of heavy industrial use as one of the UK's largest oil and gas ports. As such, the Waterway has been subject to high levels of hydrocarbon and heavy metal contamination through oil spills and operational use. Contaminants include PAHs, polychlorinated biphenyls (PCBs) and heavy metals which have been monitored on a regular basis since 1978 (hydrocarbons) and 1982 (metals). However, no detailed sediment analysis has been conducted within the footprint of the proposed works.

Sediment levels within the berths at the PAJ are limited as the majority of sediment is cleared by propeller wash from the vessels using the jetty. Therefore, contaminated sediments are unlikely to be present within the area of proposed works.

4.3.1 Potential effects

There is potential for effects on sediment quality to occur due to the spillage or leakage of fuels/oils from construction plant and equipment. However, standard industry practice measures will be followed to minimise the risk of such effects occurring and an adverse effect on sediment quality during the construction and operation of the PAJ is not anticipated.

4.4 Waste

This section assesses the impacts of the proposed works in terms of waste generation. Based on the Waste Hierarchy, set by the Waste (England and Wales) Regulations 2011, the producer / holder of a waste is required to consider the most suitable waste management option for all waste prior to removal from the site. The proposed works are not expected to generate a significant amount of waste. However, the Waste Hierarchy has been considered in the construction methodology outlined in **Section 2.3**.

Additionally, actions will be taken to ensure any general waste is managed in accordance with the Waste Hierarchy and best practice measures will be implemented to maximise waste prevention, re-use and recycling.

Given the limited potential for the proposed works to generate a significant amount of waste, it is considered that no further Waste Regulations Assessment is required to support this MLA. Any waste generated other than the waste considered in **Section 2.3**, will be managed in accordance with the Waste Hierarchy and best practice measures will be implemented to maximise waste prevention, re-use and recycling.

4.5 Migratory fish

The Milford Haven Waterway is known to support populations of migratory fish including sea and river lamprey (*Petromyzon marinus* and *Lampetra fluviatilis*), Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta*), Allis shad (*Alosa alosa*), Twaite shad (*Alosa fallax*) and European eel (*Anguilla anguilla*). These species are UK BAP Priority Species and species of principal importance under the NERC Act 2006. The European Eel is also listed as Critically Endangered on the IUCN Red List.

River and sea lamprey migrate from North Atlantic coastal waters to spawn in the upper and middle reaches of many rivers in the UK. There are limited records of lamprey within the Pembrokeshire Marine SAC however populations have been identified in the Eastern and Western Cleddau rivers that flow into the Milford Haven Waterway. As lamprey are qualifying and the primary features of the Afonydd Cleddau/ Cleddau Rivers SAC, they are expected to pass through the Milford Haven Waterway. Young adults of both species migrate downstream during darkness to estuaries between July and September. Migration of both species at both stages occurs at night when conditions are suitable, hiding under stones and vegetation during the day.

Twaite shad are known to occur in a few rivers in England and Wales so may be present in the Milford Haven Waterway. However, the Tamar estuary in Devon is the only confirmed spawning population of Allis shad although some individuals may occasionally pass through the Milford Haven Waterway.

Atlantic salmon typically enter the river between August and October followed by their young passing back through the river from February to June. Sea trout enter the river earlier with peak migration in June. Based on NRW monitoring the stock status for Atlantic salmon has decreased since 2006 and the species is classed as ‘at risk’ (NRW, 2022).

European eels are widely distributed throughout European estuaries and inland waters. The species enter UK estuaries during the spring and migrate upstream into freshwater as part of their lifecycle. The Milford Haven Waterway is a known migratory route for European eels.

4.5.1 Potential effects

4.5.1.1 Resuspension of sediment

The suspension of fine sediment during the proposed construction and piling works has the potential to impact key migratory fish species. However, it is considered that there is no potential for these effects to be significant.

Piling activities have the potential to resuspend sediments resulting in short term, localised increases in turbidity, which may temporarily lead to increased sediment deposition within the vicinity of the proposed works. However, due to the small scale of the proposed piling activities, any plume of suspended sediment is expected to be small and quickly dispersed by tidal currents. Any effects are therefore considered to be temporary and no potential for any significant effects on migratory fish is predicted.

4.5.1.2 Underwater noise

Significant increases in underwater noise can result in lethal effects, physical injury or behavioural effects on fish. The sensitivity of fish species to underwater noise is dependent on the presence and use of a swim bladder. River and sea lamprey are considered to have a low sensitivity to noise as a swim bladder is not present. European eel, Atlantic salmon and sea trout have a medium sensitivity to noise as a swim bladder is present but does not aid hearing. Allis shad and Twaite shad have a high sensitivity to noise as a swim bladder or other air cavities are used to aid hearing.

Changes in underwater noise resulting from the piling activities required for the proposed works has the potential to adversely affect migratory fish. However, as outlined in **Section 2.3** the majority of piling will be undertaken using a vibrating hammer or a drilling method. The use of percussive piling will be minimal and would only be used in combination with other methodologies to fully secure the piles where required. With a pile diameter of up to 600mm, it is expected that minimal percussive piling will be required to fully secure the piles, representing a short-term and temporary impact on the ecology of the Waterway.

Though percussive piling is considered unlikely to have a significant effect on migratory fish due to the short-term and temporary nature of the impact and limited pathway for effect, to minimise the potential for effects, all percussive piling will be undertaken using soft-start procedures to ensure incremental increases in pile power over a set time period until full operational power is achieved. This will be undertaken in-line with JNCC guidance, to minimise the potential for impacts to migratory fish that may be present in the vicinity of the works. The soft-start duration will be a period of no less than 20 minutes. Should piling cease for a period greater than 10 minutes, then the soft start procedure will be repeated.

4.6 Marine mammals

Several cetacean species are potentially present off the South coast of Pembrokeshire. A review was undertaken of the Sea Watch sightings data, Small Cetaceans in the European Atlantic and North Sea (SCANS-III) surveys and the Management Units for cetaceans in UK waters (Inter-Agency Marine Mammal Working Group (IAMMWG), 2023). The following cetacean species are potentially present:

- Harbour porpoise (*Phocoena Phocoena*)
- Bottlenose dolphin (*Tursiops truncatus*)
- Common dolphin (*Delphinus delphis*)
- Minke whale (*Balaenoptera acutorostrata*)
- Risso's dolphin (*Grampus griseus*)

Grey seals (*Halichoerus grypus*) are present throughout the Celtic and Irish Sea in varying numbers, with a relatively high presence of grey seal around St David's Head and Skomer Island. The latest grey seal count for Wales is provided in the Special Committee on Seals (SCOS, 2021), which states that an estimated 900 grey seal were counted in the most recent counts. The closest grey seal haul-out sites to the proposed development are at Skomer Island (approximately 12km from the proposed works) which is within an SAC designated for grey seal.

Harbour seal (*Phoca vitulina*) presence is very low around Wales. The latest SCOS report (SCOS, 2022) shows that, within the Wales Management Unit (which the proposed development is within), harbour seal are present in very low numbers, with an estimated 13 individuals counted in the Wales Management Unit, and no identified haul-out sites in Wales.

As the proposed works are within Milford Haven, approximately 7.5km inland from the open coastline it is considered unlikely that there would be any regular presence of any marine mammal species in its vicinity.

4.6.1 Potential effects

There is potential for the proposed works to cause disturbance to marine mammals as a result of percussive piling should these species be present within the vicinity of the works while being undertaken. However, given it is considered unlikely that there would be any regular presence of any marine mammal species in the vicinity of the works, no significant disturbance impacts to marine mammals are expected as a result of the proposed works.

Mitigation measures proposed above (**Section 4.5.1.2**) to minimise the potential effects of percussive piling on migratory fish species would also mitigate any adverse effects on marine mammal species potentially in the vicinity of the proposed works.

4.7 Archaeology and heritage

For the purposes of establishing the archaeology and heritage baseline, a study area has been established comprising the proposed area of works, plus a 500m buffer. Records of designated heritage assets and wrecks were obtained from The National Monuments Record of Wales (NMRW).

There is a scheduled monument, Fort Hubberston (SM number: PE338), located onshore, 130m to the East of the PAJ approach. Two Grade II* listed buildings are present within this site (record numbers: 12920 and 12921). A Grade II listed building, on Westaway Drive (record number: 12924), 220m to the North of the PAJ. Also, located to the North of the PAJ (315m) there is another Grade II listed building, Telegraph Cottage (record number: 12919). As the heritage assets identified are all located onshore there is no pathway for direct impacts and limited potential for indirect impacts to the setting of these heritage assets as a result of the proposed works.

The nearest protected wreck is 'The Smalls' (record number: DW4) and is located over 40km from the PAJ, off the Pembrokeshire coastline. Given the distance from the nearest protected wreck, there is no pathway for direct or indirect impacts on protected wrecks as a result of the proposed works.

4.8 Nature Conservation Designations

Milford Haven is protected by a number of international and national designated sites of conservation importance. A summary of the designated sites identified within the vicinity of the proposed works area is presented in **Table 4.1**, outlining key interest features. The location of these sites in relation to the proposed works is presented in **Figure 4.2**.

Table 4.1 Summary of nature conservation designations within the vicinity of the proposed works

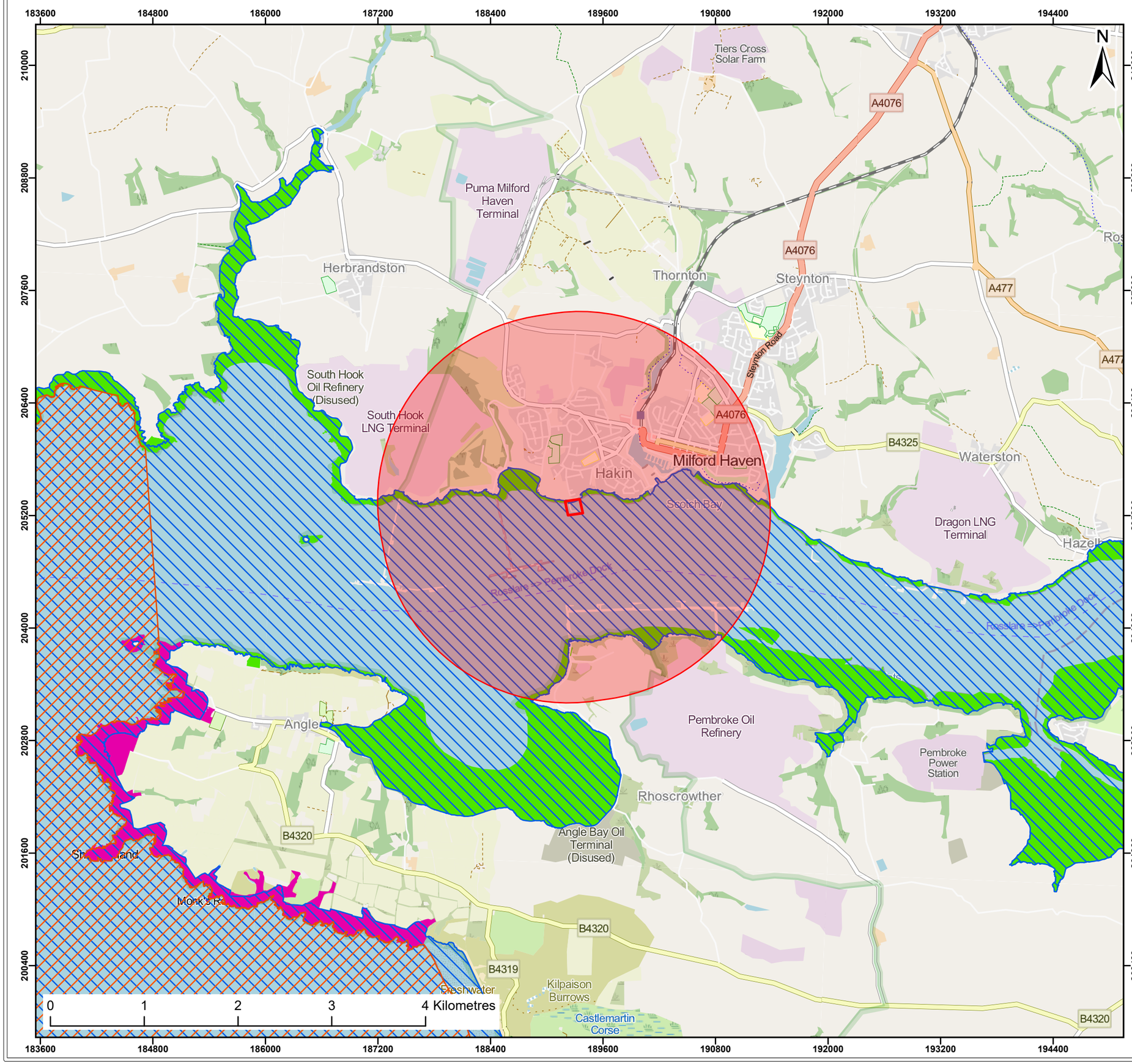
Site Name	Distance from works (closest point)	Summary of Key Interest Features
Pembrokeshire Marine / Sir Benfro Forol SAC	Within	• Large shallow inlets and bays* • Estuaries* • Reefs* • Mudflats and sadflats • Grey seal (*Halichoerus grypus*)* • River lamprey (*Lampetra fluviatilis*) • Sea lamprey (*Petromyzon marinus*) • Allis shad (*Alosa alosa*) • Twaite shad (*Alosa fallax*) • Otter (*Lutra lutra*)
Milford Haven Waterway SSSI	60m (landwards of jetty)	• Intertidal rocky shores • Sandy beaches • Mudflats and muddy creeks • Intertidal sediments supporting diverse range of communities
Angle Peninsula Coast / Arfordir Penrhyn Angle SSSI	4.4km	• Reefs • Sea caves
West Wales Marine / Gorllewin Cymru Forol SAC	4.5km	• Harbour porpoise (*Phocoena phocoena*)*

*Species given as a primary reason for the designation of this site indicated by **

4.8.1 Information to support a HRA

Information to inform a HRA has been provided alongside this ER to support the MLA for the proposed works (document PC1477-RHD-ZZ-ZZ-FN-EV-0001). As part of the screening for Likely Significant Effect (LSE) the relevant designated sites and associated features were considered in relation to the potential pressures from the works. The outcome of the screening for LSE identified the potential effects of underwater noise and loss/reduction of habitat extent required further assessment under an Appropriate Assessment:

Please refer to the Information for HRA Document PC1477-RHD-ZZ-ZZ-FN-EV-0001 for details on the AA. The report concludes that with the implementation of mitigation adverse effects on the integrity of the SAC will not occur.



Legend:

- Area of works
- 2km from area of works

Special Areas of Conservation (SAC)

- West Wales Marine / Gorllewin Cymru Forol
- Pembrokeshire Marine / Sir Benfro Forol

Site of Special Scientific Interest (SSSI)

- Milford Haven Waterway
- Arfordir Penrhyn Angle / Angle Peninsula Coast

Client:	Project:
Milford Haven Port Authority (MHPA)	Port Authority Jetty MLA

Title: Relevant designated sites in relation to the area of proposed works

Figure: 4.2 | Drawing No: PC1477-RHD-ZZ-XX-DR-EV-0001

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
P01	04/10/2024	CM	SM	A3	1:40,000

Co-ordinate system: British National Grid

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5 FINDINGS AND CONCLUSIONS

This ER, read in conjunction with the HRA and the WER Compliance Assessment, considers the existing environmental baseline and potential effects upon a range of relevant receptors in light of the proposed works.

Environmental assessments, in line with relevant UK legislation, have been undertaken and summarised within this report. An assessment of the potential effects arising from the construction and operation of the proposed works in relation to coastal processes, water quality, waste, migratory fish, marine mammals and archaeology and heritage assets has been undertaken and it is considered there is limited potential for significant effects.

The WER Compliance Assessment concluded that the proposed improvement works to the PAJ are not predicted to have a non-temporary effect on the WER parameters and therefore will not cause a deterioration in the status of the Milford Haven Outer coastal water body. Consideration of the potential cumulative impacts also did not identify any additional risks to the water body.

Information to support HRA concludes that, adverse effects on SAC habitats are not likely and with the implementation of measures to mitigate the potential effects of percussive piling, significant effects on migratory fish and marine mammal species are also not likely and an adverse effect on the integrity of NSN sites (including underpinning SSSIs) will not occur.

6 REFERENCES

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