Solent Gateway 2

EIA Scoping Report

Planning Act 2008

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1 INTRODUCTION

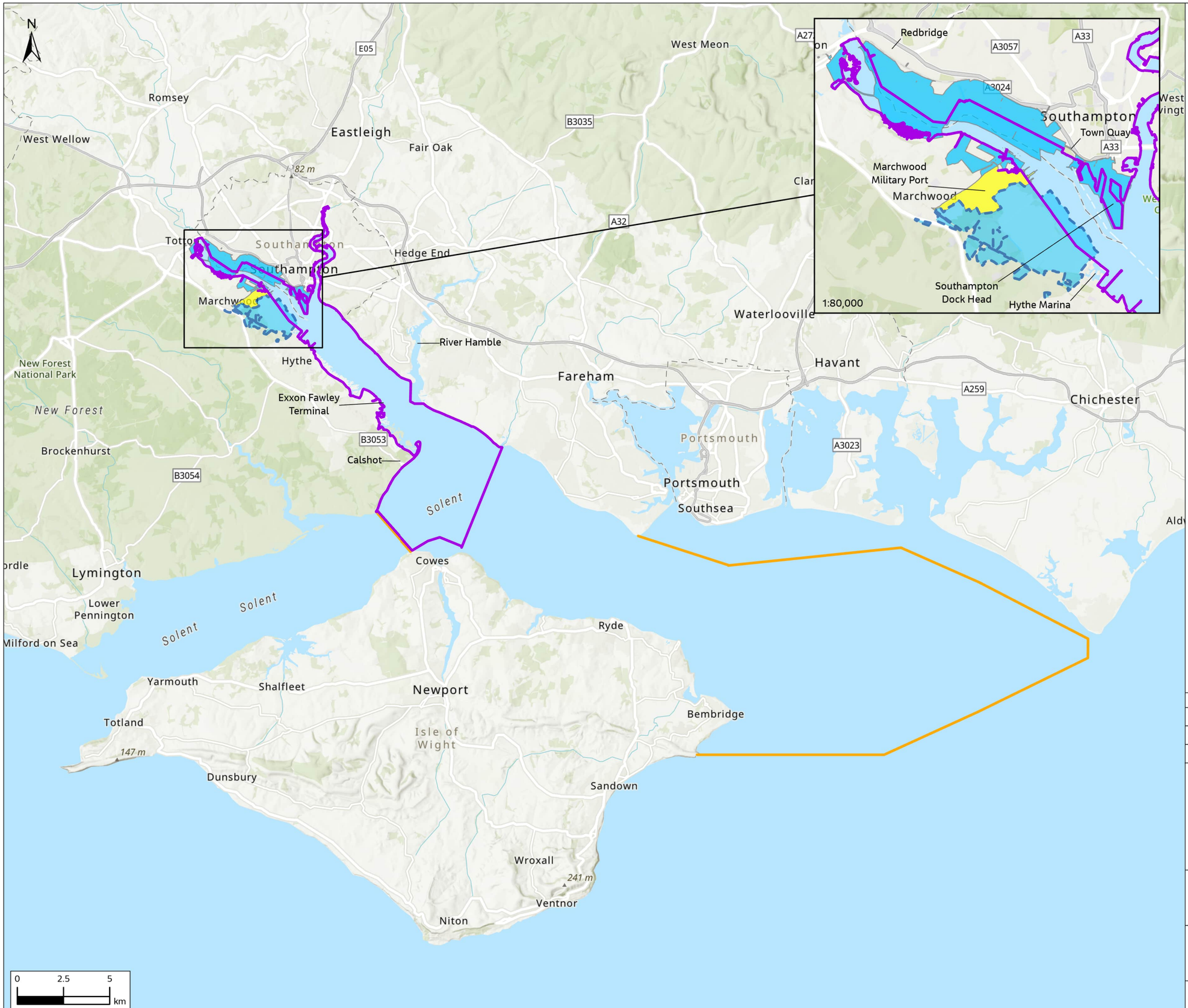
1.1 Background

1.1.1 The Port of Southampton is a major international gateway into and out of the UK. It plays a key role in the national economy, is a key part of the nation's transport infrastructure and is a leading player in several trades that are key to the UK economy. The value of goods passing through the Port of Southampton (as reported by MDS Transmodal in 2016) was £71 billion; with the Port handling £40 billion of exports every year, including £36 billion of non-EU trade, and £31 billion in imports; and supporting 45,600 jobs (ABP, 2018).

1.1.2 The Port of Southampton (**Figure 1.1**), owned and operated by Associated British Ports (ABP), is located at a strategic position on the central south coast of England in close proximity to the international shipping lanes and mainland Europe. Based on the latest available statistics from the Department for Transport (DfT), in 2024 the Port handled approximately 33.3 million tonnes of cargo, making it the third largest port in the UK by tonnage. The Port is a premier global gateway for international trade and is of national strategic importance to the UK, contributing around £2.5 billion to the UK economy.

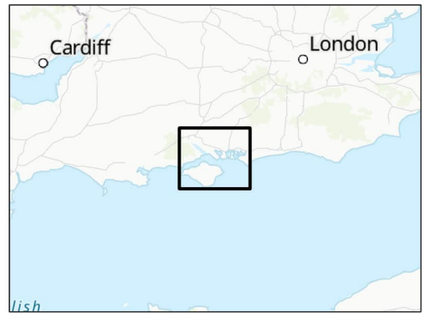
1.1.3 The Port accommodates a range of trades of national importance, including containers and cruise, which are described in more detail below:

- Automotive: one of the largest automotive ports in the UK and the main seaborne export port for the automotive industry, typically handling over 450,000 Roll-on/Roll-off (Ro-Ro) vehicles (the majority of which are British-manufactured vehicles for export). The Port receives the largest number of specialised car carriers in the UK and provides the most deep-sea services to worldwide markets, with 150 sailings per month by 12 lines to 54 ports in 41 countries.
- Containers: The DP World operated Southampton Container Terminal (SCT) is one of three UK deep-sea container terminals, handling approximately 20 % of the UK's deep-sea trade with the important economies of the Far East. SCT handled around 1.8 million container units (TEU) in 2024 and is capable of handling the world's largest container vessels that are characteristic of this trading route into Northern Europe.



Legend

- Statutory Harbour Area
- Competent Harbour Area
- Extent of ABP's land holding
- Solent Gateway
- Strategic Land Reserve



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ABP | ASSOCIATED BRITISH PORTS

Project

SOLENT GATEWAY 2

Drawing Title

LOCATION OF ABP'S LAND HOLDINGS
AND HARBOUR AUTHORITY JURISDICTION

Drawing No.	Drawing Status
S6585-MDEC-ZZ-ZZ-DG-EC-0100050	FINAL

FIGURE 1.1

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Limitation: This drawing has been prepared on behalf of, and for the exclusive use of Jacobs' Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this drawing by any third party.

L:\B2488100_ABP_SG2\ArcGIS\004_Figures\EIA_Scoping\01_Introduction\Figure1_1_Location of ABP's land holdings and harbour authority jurisdiction.aprx

- Cruise: Southampton is the North European capital for the cruise passenger industry, which continues to experience strong year-on-year growth. The Port has five dedicated cruise terminals and handled a record 3 million international cruise passenger movements in 2024 with circa 500 cruise ship calls.
- Other trades: the Port typically handles some 1.5 million tonnes of dry bulks per annum, fresh produce and perishables and over 20 million tonnes of liquid bulks through the Fawley Exxon terminal. ABP is also the owner of Solent Gateway Ltd, operator of Marchwood Port, and the Port of Southampton is home to a number of independent wharf operators. The Red Funnel freight and passenger service is an important link to the Isle of Wight, welcoming over 3.4 million passengers every year.

1.1.4 In addition to being the owner and operator of the Port of Southampton, ABP is the Statutory Harbour Authority (Harbour Master), the Competent Harbour Authority (**Figure 1.1**), the Vessel Traffic Services (VTS) Authority and Local Lighthouse Authority for Southampton. Under these statutory functions ABP is responsible for:

- the safety of navigation and regulation of all vessel traffic;
- the provision of pilotage services;
- the conservancy of the harbour area (provision of navigational aids and the maintenance of obstruction free navigational channels);
- response to oil pollution incident management; and,
- the regulation of dangerous goods in transit through the harbour area.

1.1.5 The Port is ideally located to handle deep-sea traffic. The Port offers minimal shipping route deviation from the main shipping routes in the English Channel. It is also the first and last port of call in Northern Europe for major seaborne trades, offering attractive economies for shipping companies and shippers alike. It is the south coast's only port capable of accommodating the very largest vessels and is located in a naturally sheltered harbour, with minimal weather downtime experienced throughout the year. It also has excellent road and rail connectivity to UK markets, manufacturers and logistics centres.

1.1.6 To achieve and retain its position, ABP has invested significantly in upgrading and consolidating operations within the existing port boundary, making the optimum use of space and maximising efficiencies. Consequently, the Port has experienced significant growth in recent years and is now considered to be operating at close to its maximum capacity and capability.

1.1.7 ABP is therefore promoting a new development – Solent Gateway 2 (SG2) ('the proposed Project') – to assist in securing the Port's future and the sustainable growth of the regional and national economy. SG2 would be a Roll-on Roll-off (Ro-Ro) (automotive handling) facility that would provide the infrastructure to support the handling of a variety of wheeled and tracked vehicles.

1.2 Solent Gateway 2

1.2.1 The Landside Terminal for SG2 would be located within land owned by the Port of Southampton between Marchwood Military Port (currently operated by ABP under concession from the Ministry of Defence (MoD) as Solent Gateway Limited (SGL)) and Hythe Marina Village, on the western shore of the River Test (**Figure 1.2**). The land extends to approximately 402 hectares (990 acres).

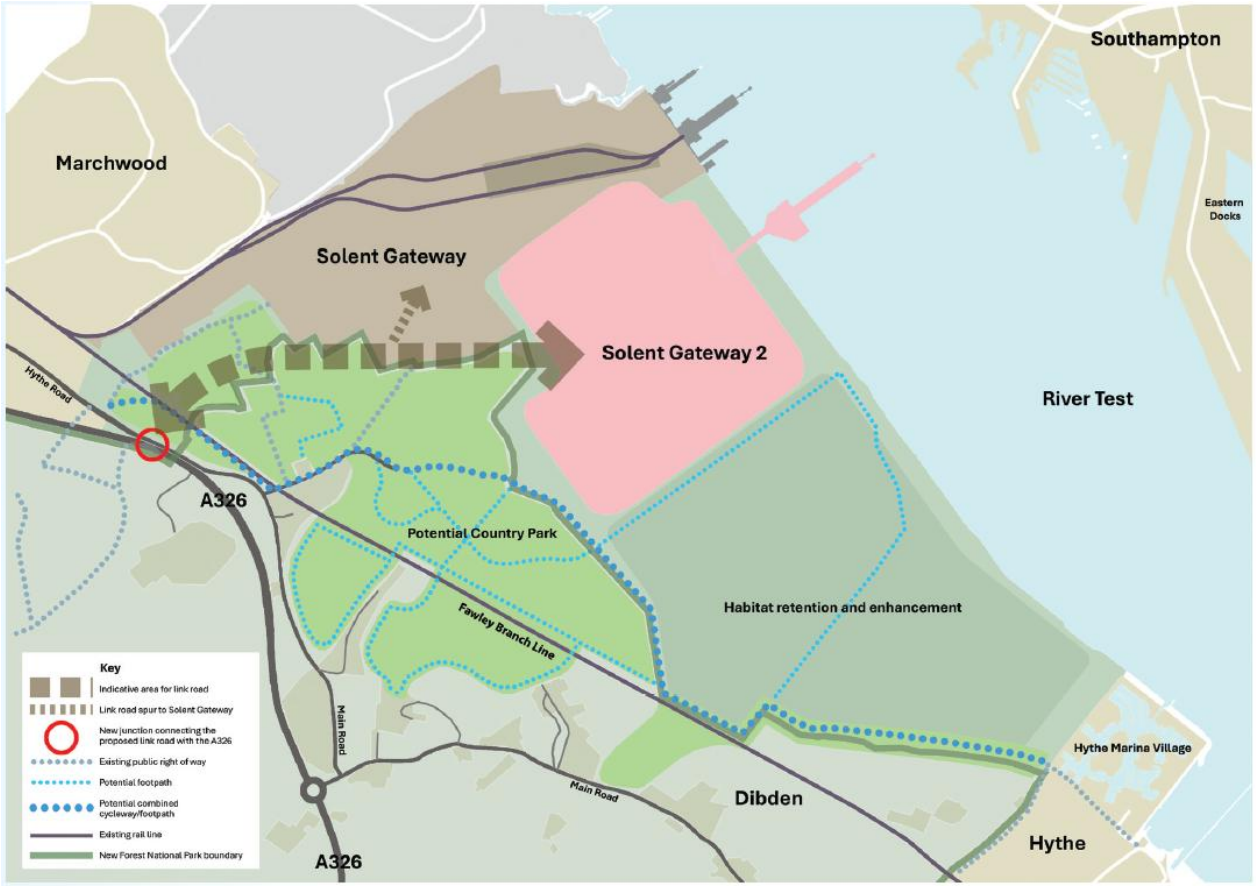


Figure 1.2 Indicative outline plan of the proposed Project

1.2.2 The majority of units passing through SG2 are expected to comprise cars and 'high and heavy' vehicles. Other cargo, such as breakbulk and project cargo (i.e. large and heavy breakbulk cargo, non-wheeled equipment and construction

equipment), is anticipated to be limited and would be placed on wheeled handling equipment to roll the cargo on and off the vessel.

1.2.3 It is currently envisaged that the proposed Project will comprise the main elements listed in **Table 1.1** (further details are provided in **Section 2**) and will be subject to further assessment and consultation.

Table 1.1 Summary of the main elements of the proposed Project

Element	Key Components
Marine Facilities	• A piled jetty structure, including a jetty approach, berthing structure, mooring dolphins, floating pontoon and linkspan • Dredging of vessel manoeuvring area and berth pockets • Shoreline protection • Lighting and navigation aids • Shore power infrastructure • Water services
Landside Terminal	• Paved open storage and vehicle circulation routes, including surface water drainage and lighting • Covered structures for vehicle processing, stevedore operations, workshop and vehicle wash bays • Multi-decks for vehicle storage • Administration office building, including staff and visitor parking) • Road transporter set down and load lanes • Terminal maintenance area • Services and utilities (power, water and telecoms) • Security gatehouse and fencing • Truck park with associated welfare facility building
Road Access	• Access road (from the A326 to the security gatehouse) • Crossing of the Fawley branch line • Spur road into the existing Solent Gateway facility from the main access road
Landscape and ecological works	• Enhancement of existing retained landscape features, including hedgerows, woodland and other vegetation belts • On- and off-site measures to mitigate and compensate for potential ecological impact, as required
Country Park	• Enhanced public access (informal footpaths and cycleway) • Creation of a publicly accessible Country Park

1.3 Need and Alternatives

1.3.1 Within the Environmental Statement a chapter will be provided which will set out a summary of the need for the proposed Project. This summary of the need will draw upon a more detailed explanation of the need for the proposed Project that will be contained within other SG2 application documents.

1.3.2 In respect of the need for the proposed Project, in summary, the internationally significant Port of Southampton needs to increase its berth and operational capacity in order to meet the growing and changing nature of demand from the trades it handles and the markets which it serves. Meeting this need will result in a number of benefits including, amongst other things, that it will retain and strengthen:

- the contribution which the Port of Southampton makes to an effective, efficient and resilient UK port industry;
- the Port of Southampton's offering to the markets, trades and customers that want to operate from the Port;
- the competitive position of the port, and,
- the socio-economic benefits which the Port of Southampton generates.

1.3.3 Having provided a summary of the need for the proposed Project, the ES chapter will then go on to describe the reasonable alternatives which have been studied by ABP which are relevant to the proposed Project and its characteristics. The chapter will provide an indication of the main reasons, including environmental considerations as appropriate, as to why the proposed Project is the development which is being taken forward including a comparison of the environmental effects.

1.3.4 The explanation of the reasonable alternatives considered will draw upon, as appropriate, information on the consideration of alternatives to meet specific legislative and policy tests that will be set out elsewhere within other SG2 application documentation.

1.4 Purpose of this EIA Scoping Report

1.4.1 The proposed Project would involve the construction of a harbour facility in England that is expected to be capable of handling the embarkation or disembarkation of at least 250,000 Ro-Ro units. The proposed Project would therefore be a project falling within the definition of a Nationally Significant Infrastructure Project (NSIP) under sections 14(j) and 24 of the Planning Act 2008 requiring a Development Consent Order (DCO). The process of EIA for NSIPs is

governed by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) ('the EIA Regulations').

1.4.2 Under the EIA Regulations, the proposed Project constitutes EIA development as it falls within the definition of a Schedule 1 Development under paragraph 8(2). Consequently, the application for an order granting development consent must be accompanied by an Environmental Statement (ES).

1.4.3 This EIA Scoping Report provides an overview of the environmental baseline and identifies the potential significant environmental effects associated with the proposed Project's construction and operational phases. The assessment of decommissioning effects of the Project is proposed to be scoped out of the EIA on the following basis:

- It is assumed that the applicant (or any successor) will maintain the proposed Project in perpetuity.
- The design life for the different physical assets of the infrastructure is different, ranging from 50 to 100 years. The design life of port infrastructure is not the same as its operational life, and instead refers to the period of operational function of the infrastructure before it is expected to require major maintenance. The operational life of the proposed Project is assumed to be in perpetuity, as the proposed Project would become core marine infrastructure.

1.4.4 This EIA Scoping Report also provides a description of the proposed approach to the subsequent stages of the EIA process for each topic area (e.g. required surveys and approach to modelling and assessment).

1.4.5 Regulation 10(1) of the EIA Regulations enables the applicant to seek a scoping opinion from the Secretary of State (in this case the Secretary of State for Transport) as to the scope, and level of detail, of the information to be included in an ES. This EIA Scoping Report supports a request for a scoping opinion.

1.4.6 A request made under Regulation 10(1) must provide the following information:

- A plan sufficient to identify the land (**Figure 2.1**).
- A description of the proposed development, including its location and technical capacity (**Section 2**).
- An explanation of the likely significant effects of the development on the environment (**Sections 5-27**).
- Such other information or representations as the person making the request may wish to provide or make.

1.4.7 The Planning Inspectorate (PINS) provides guidance on the appropriate level of information that should be presented in a Scoping Report in Advice Note 7: EIA: process, preliminary environmental information and environmental statements (PINS, 2025a). This EIA Scoping Report has been prepared having regard to Advice Note 7.

1.4.8 Relevant stakeholders, including statutory consultees, will be requested by PINS to provide comments on this EIA Scoping Report which will inform the scoping opinion, and will guide the progression of the EIA.

1.4.9 This EIA Scoping Report has been produced using currently available environmental information. However, the design of the proposed Project is still evolving and the land potentially required to deliver it, including for example the compensation, mitigation and enhancement components of the proposed Project is not yet fully defined. This allows an iterative design process to be followed, which takes account of environmental issues that emerge from the EIA process and community engagement, and for the incorporation of avoidance, mitigation, compensatory and enhancement measures into the proposed Project.

1.5 Report Structure

1.5.1 Following this introduction, **Section 2** provides a description of the construction and operation phases of the proposed Project. The legislative and regulatory regime, including the policy context, applicable to the proposed Project is described in **Section 3**. The proposed EIA methodology is set out in **Section 4**.

1.5.2 **Sections 5** to **Section 26** provide an overview of the legislation and policy relevant to the topic, available baseline information for each topic is considered along with an explanation of the potential impact pathways associated with the construction and operation phases of the proposed Project. An initial view on the potential requirement for mitigation is provided, followed by a description of the approach to the assessment and data gathering to be undertaken in the subsequent phases of the EIA process.

1.5.3 The following topic areas are covered in the EIA Scoping Report:

- Coastal Processes and Geomorphology (**Section 5**).
- Marine Water and Sediment Quality (**Section 6**).
- Marine Ecology (**Section 7**).
- Coastal Ornithology (**Section 8**).
- Commercial and Recreational Fisheries (**Section 9**).
- Commercial and Recreational Navigation (**Section 10**).
- Ground Conditions and Contamination (**Section 11**).

- Terrestrial Ecology (**Section 12**).
- Traffic and Transport (**Section 13**).
- Noise and Vibration (**Section 14**).
- Air Quality (**Section 15**).
- Landscape, Seascape and Visual (**Section 16**).
- Archaeology and Cultural Heritage (**Section 17**).
- Water Resources and Flood Risk (**Section 18**).
- Infrastructure and Other Users (**Section 19**).
- Tourism and Recreation (**Section 20**).
- Human Health (**Section 21**).
- Socioeconomics and Population (**Section 22**).
- Agriculture and Land Use (**Section 23**).
- Major Accidents and Disasters (**Section 24**).
- Climate Change (**Section 25**).
- Waste (**Section 26**).

1.5.4 **Section 27** sets out the proposed scope of the cumulative effects assessment.

1.5.5 This EIA Scoping Report has been prepared by competent experts. The ES will include a statement detailing the relevant expertise and qualifications of the specialists involved in the preparation of the ES.

2 PROJECT DESCRIPTION

2.1 Introduction

2.1.1 This section provides an overview of the main components of the proposed Project, the scope of which is summarised in **Table 1.1** and **Figure 1.1**. It also describes the construction and operation phases of the proposed Project as they are known at this stage.

2.1.2 **Figure 2.1** provides an overview of the indicative proposed layout showing the Landside Terminal boundary, indicative position of the jetty, the envelope within which capital dredged is proposed and road access to the Landside Terminal.

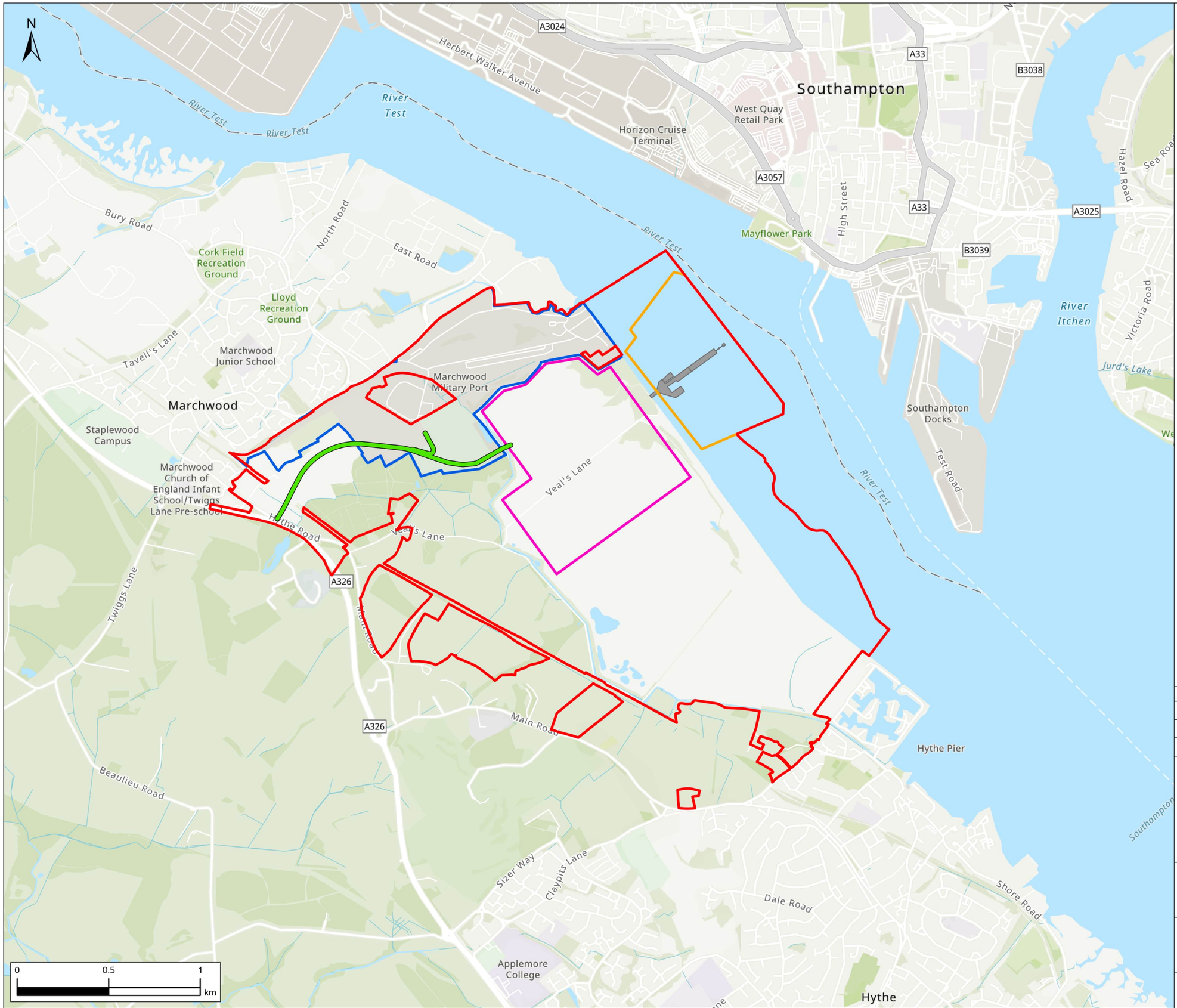
2.1.3 **Figure 2.1** also identifies the 'Scoping Boundary'. The Scoping Boundary identifies the land that is required for the proposed Project, including the main elements of the built development referred to above and also encompasses the land within which the country park and the on-site ecological mitigation and enhancement measures are proposed.

2.1.4 As **Section 1.2** explains, there is the potential for off-site locations to be required to deliver some elements of ecological compensation, mitigation and enhancement (CME). These locations are not yet identified. **Section 2.5** explains the process that is being undertaken to identify these locations, the guiding principles behind the development of the CME package and the proposed approach to the environmental assessment of this aspect of the proposed Project. This aligns with the approach presented to PINS at an inception meeting for the proposed Project held on 21 August 2025.

2.2 Rochdale Envelope Approach

2.2.1 The description of the proposed Project provided in this section reflects the level of design information currently available. The design will continue to evolve through the EIA process and, therefore, the description of the proposed Project will be further defined for the purposes of EIA.

2.2.2 The description of the proposed Project that will be included in the ES, and on which the EIA will be undertaken, will be based on a 'Rochdale Envelope' approach, where appropriate. This approach comprises defining parameters for elements of the proposed Project rather than a finalised detailed design solution.



Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)

Proposed Project

- Indicative Access Road Alignment
- Terminal Boundary
- Dredge Envelope Area
- Jetty



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Scale @ A3 — Scale: 1:20,000 — DO NOT SCALE

Jacobs No. B2488100

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Project: SOLENT GATEWAY 2

Drawing Title: LOCATION AND LAYOUT OF THE PROPOSED PROJECT

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-010001

Drawing Status: FINAL

FIGURE 2.1

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2.2.3 The Rochdale Envelope approach is widely recognised, and the approach to be adopted here is consistent with PINS Advice Note Nine: Rochdale Envelope (PINS, 2025b) which states that:

"*The 'Rochdale Envelope' is an acknowledged way of dealing with an application comprising EIA development where details of a project have not been resolved at the time when the application is submitted*".

2.2.4 Flexibility to respond to emerging circumstances and technological advances is important to enable port infrastructure developments to be implemented efficiently. A degree of flexibility will, therefore, be built into the definition of the parameters for the proposed Project. It is, however, recognised that it is desirable to have as much certainty as is reasonably possible and this flexibility will be restricted to those areas where it is required.

2.3 Construction Phase

Site Preparation Works

2.3.1 The Site Preparation Works comprise the preliminary activities necessary to facilitate the commencement of main construction works. It is anticipated that the following would be required to facilitate the construction of the proposed Project:

- Establishment of site compounds within the boundary of the proposed Project site:
  - A main site compound including primary site offices and welfare, parking, storage and logistics area.
  - Satellite compounds to support discrete elements of the work such as the crossing of the Fawley branch line and new access road, including additional welfare, parking and site facilities.
  - Concrete and asphalt batching plants, if determined to be necessary.
- Use of existing marine offloading facilities at SGL, requiring a temporary construction haul road access to the site from SGL.

2.3.2 These elements would require site clearance and stripping of topsoil, as well as the creation of hardstanding using geotextile and compacted stone. Initial works will be undertaken site-wide including:

- Site clearance.
- Topsoil strip.
- Fencing.

- Installation of lighting as per HSG38[1].

Marine Facilities

2.3.3 This section describes the marine facilities that are considered likely to be required as part of the proposed Project, including items related to vessel marine access and berthing facilities.

2.3.4 It is anticipated that a single jetty structure, providing two berths, will be constructed (**Figure 2.1**). The jetty structure will be designed for the current largest vessel in the global fleet with allowance for future projected growth and these parameters will be detailed in the ES.

2.3.5 A clear, suitable distance will be required between the proposed new jetty structure and the existing facilities to allow for activities such as vessel manoeuvring, tug operations and bunker activity. The final location of the jetty structure will be determined following the results of ongoing assessment, including the results of navigational studies to determine the appropriate distance required to meet navigational safety requirements.

2.3.6 The jetty would have suitable berthing and mooring equipment for an appropriate range of vessels, appropriate landing areas for Ro-Ro vessel ramps and jetty approach providing vehicle access to the Landside Terminal. It would provide two berths to accommodate a variety of vessel ramps.

2.3.7 A floating pontoon and linkspan would be required for the landing of any stern ramp vessels.

2.3.8 The jetty structure would be likely to comprise suspended steel or concrete decks supported on steel tubular piles. The steel piles would be brought to site either by barge or road and welded together to the required length.

2.3.9 The technique for installing the piles is not yet determined and is influenced by the ground conditions. One possible technique is percussive / driven piling and this technique is considered worst case as it generates the highest airborne and underwater noise levels. For the purposes of assessment this is therefore the assumed approach for the installation of piles. Piling is likely to be done from a combination of floating marine plant (e.g. crane barges or jack up barges) and working from the shore.

2.3.10 The jetty structure suspended deck would likely be constructed using precast reinforced concrete units tied together with an in situ concrete topping, or a mix of

[1] *https://www.hse.gov.uk/pubns/priced/hsg38.pdf*

reinforced concrete deck with metal walkway structures. Therefore, a precast yard could be required on the site to manufacture the units.

2.3.11 It is likely that additional mooring dolphins would be required to aid vessel manoeuvring while protecting the jetty structure.

2.3.12 Capital dredging of the berths would be undertaken, most likely using a combination of trailing hopper suction dredgers and mechanical dredgers (such as a hydraulic backhoe or grab) with barges to access shallower areas. The most likely dredging plant required will be informed by the results of the ground investigation. If there are options for the dredging plant, the ES will assess the potential impact of the plant which would generate the worst case impact on water quality and underwater noise.

2.3.13 Capital dredging is required to provide an estimated maximum dredge depth of up to -14.8m Chart Datum to enable vessels to access the berths at all states of the tide and loading conditions.

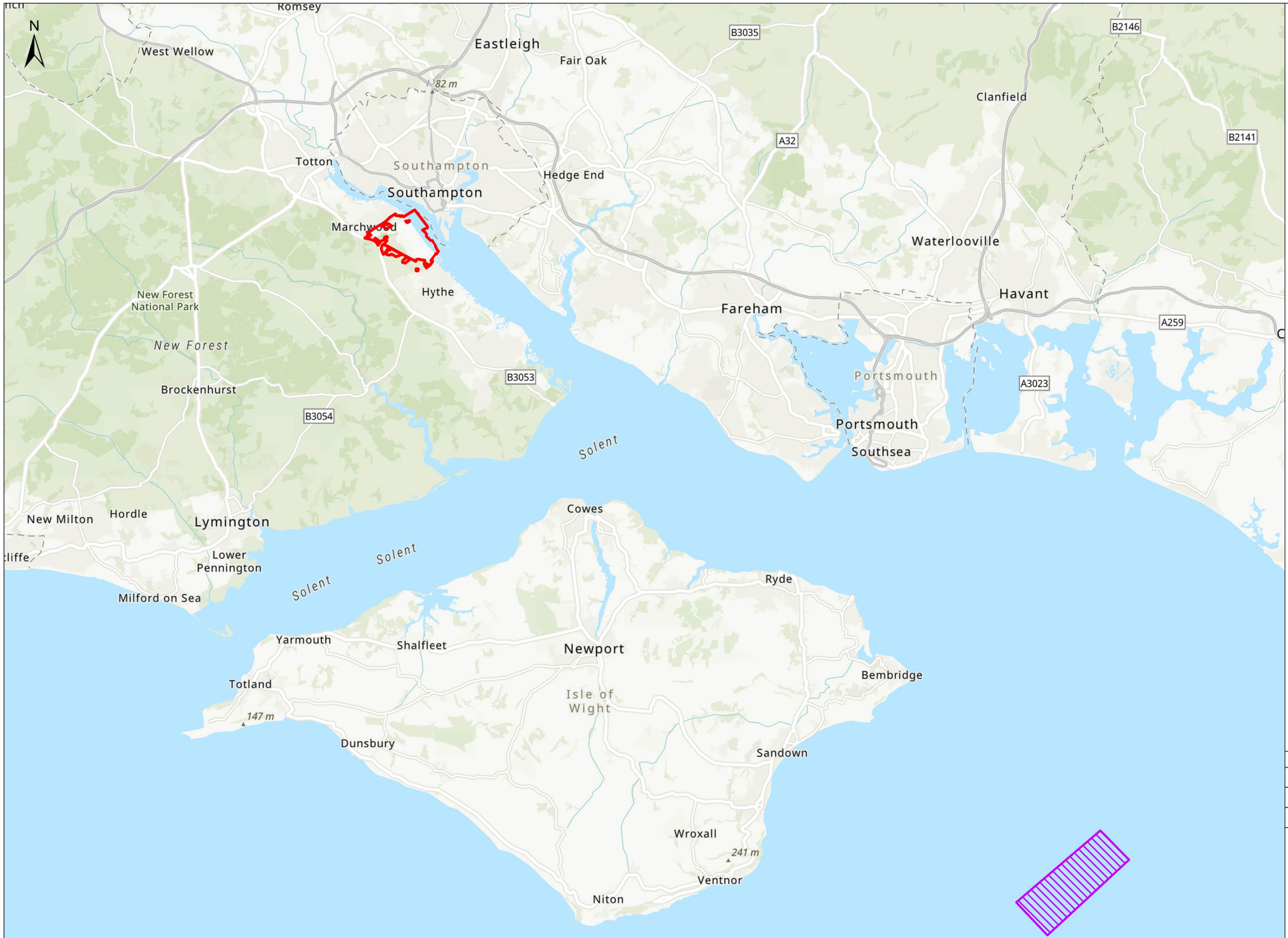
2.3.14 As the location of the jetty has not been finally determined at this time, the dredge extent shown on **Figure 2.1** shows the envelope within which the capital dredging could take place. Once the location of the jetty has been refined following the results of navigational studies to determine the navigational safety requirements, the final dredge footprint will be refined and confirmed.

2.3.15 It is anticipated that disposal of dredged material at sea would be undertaken at the Nab Tower disposal site (WI060), located to the south-east of the Isle of Wight (**Figure 2.2**), subject to the prior assessment of the potential for alternative (beneficial) use of dredged material.

2.3.16 The jetty structure will be positioned as close to the marine access channel as possible to minimise the amount of capital dredging required and to minimise the area of intertidal loss as much as possible.

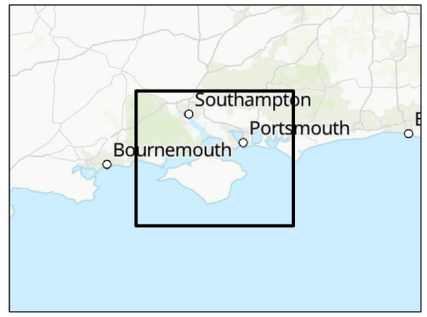
2.3.17 The existing shore protection structures are currently in poor or very poor condition and, therefore, the requirement for repairs or realignment is currently under review. The approach to improving shoreline protection will be confirmed through later phases of the design process.

2.3.18 Once the Marine Facilities are complete, and prior to the start of operation, there may be a requirement to undertake final dredge of the berths and vessel navigation areas to a declared depth.



Legend

- Scoping Boundary
- Nab Tower DIsposal Site



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Project

SOLENT GATEWAY 2

Drawing Title

LOCATION OF NAB TOWER DISPOSAL SITE

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-010002

Drawing Status FINAL

FIGURE 2.2

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Landside Terminal

2.3.19 The general construction sequence for the Landside Terminal area (see **Figure 2.1**) is likely to comprise:

- site clearance and topsoil strip;
- earthworks and ground improvement works (including the import of granular fill material);
- installation of vertical band drains to drain the area to be developed surcharging of areas to be developed with imported granular fill;
- grading of the site to required levels;
- placing of suitable pavement sub-base materials;
- installation of a new underground cable to connect the proposed Project to a substation;
- construction and erection of buildings and structures;
- installation of services such as surface water and foul drainage, electrical power, potable and fire water, communications utilities, lighting and CCTV;
- construction of paving and car parks including Electric Vehicle (EV) chargers); and,
- installation of security fencing.

2.3.20 It is currently envisaged that the Landside Terminal will consist of a number of distinct areas, as follows:

- First Point of Rest (FPOR):
  - An open paved (at-grade) area for temporary storage of import cars and light commercial vehicles immediately following offloading from the vessel.
- Car import and export storage:
  - Main storage area for import and export cars and light commercial vehicles, either open paved and/or in multi-decks.
- High and Heavy storage:
  - An open paved storage area for both import and export of high and heavy vehicles (such as construction and agricultural machinery).
- Warehousing, workshop and vehicle wash-bays:
  - A warehouse, workshop and vehicle wash-bays.
- Vehicle Processing Centre and Equipment Processing Centre (VPC/EPC):

    - An open paved area and warehouse facilities used for vehicle processing to support accessory installation, repairs, pre-delivery checks; includes EV charging.
- Central Reception Area (CRA) / Load Lanes:
    - An open paved area used for offloading import and export cars and light commercial vehicles from road transporters, and their inspection and temporary storage prior to transfer to the main car export storage area.
- Stevedore operations area:
    - An open paved area used by the stevedore operations staff for parking of minibuses and staff vehicles, adjacent to the stevedore operational building.
- Main administration area:
    - An open paved area used for staff and visitor parking, located adjacent to the administration and control centre building.

2.3.21 The following buildings and ancillary structures are, at present, anticipated to be required:

- Terminal gatehouse – main security control point at the terminal entrance.
- Administration and control centre building – within the main administration area, adjacent to the terminal entrance.
- Stevedore operational building.
- VPC and EPC – covered area for vehicle processing services.
- Vehicle wash bays and fumigation area.
- Warehouse (covered storage).
- Multi-decks – covered import vehicle storage.
- Truck park and welfare facility.

2.3.22 The multi-decks, warehouse, and VPC buildings would likely be of warehouse construction (i.e. steel portal frame with profiled sheeting).

2.3.23 The Landside Terminal would provide storage at grade and through the use of multi-decks, requiring a terminal area of approximately 75 ha (**Figure 2.1**).

2.3.24 During the construction phase, the impact of HGVs would be closely managed to be routed away from residential areas and unsuitable local roads. Consideration will be given to maximising the use of maritime facilities at SGL to transport construction materials to the site.

2.3.25 Appropriate drainage systems and runoff water treatment will be provided for paved terminal areas before discharge. This could include various features including swales, ponds, rainwater harvesting and pollution interceptors.

2.3.26 The proposed Project is likely to be connected to existing services for foul and potable water. A grid connection would also be required. The connection point has not been confirmed at this stage, but possible connection points could be at Marchwood or Butts Ash.

Surface Access

2.3.27 To enable operation of the proposed Project, road and rail access is required. The following outlines the proposed rail and road access and identifies where options are currently under consideration.

Rail access

2.3.28 The SG2 site is adjacent to an existing freight-only railway line, known as the Fawley branch line. This line served the Fawley oil refinery until the rail service ceased operation in 2016. Since then, the only use of the line is by freight services running to and from SGL (Marchwood Military Port).

2.3.29 It is proposed that the existing rail infrastructure, including sidings, within SGL will be utilised as the proposed Project's rail terminal, with minimal upgrade works required.

Road access

2.3.30 The public highways in the area surrounding the proposed Project consist of the local road network including the A326, Hythe Road and Main Road and the wider strategic road network including the M3, M27, M271 and A34. Potential alignment options for the access road from the A326 to the terminal are being considered.

2.3.31 The access road would need to cross the Fawley branch line. This could be achieved with a bridge, an at-grade level crossing or an underpass.

2.3.32 The junction between the access road and the A326 would likely be in the form of an at-grade signal-controlled junction or a roundabout (both requiring the realignment of Hythe Road). In the vicinity of the proposed Project, there are emerging proposals by Hampshire County Council (HCC) to provide improvements to the A326, which ABP understands will include a junction to the south of Marchwood on the A326 that could also be used as the junction between the A326 and the access road for the proposed Project. These road improvements are separate to the proposed Project and are being taken forward by HCC. It is

currently assumed that these road improvements will be consented and constructed prior to the operation of SG2.

Pedestrian and cycle access

2.3.33 To promote the use of active travel for journeys to work, the Landside Terminal would be accessible by a footpath and cycle way, located alongside, but separated from, the terminal access road.

2.3.34 Other proposed improvements to the publicly accessible footpaths and cycle ways are set out below.

Country Park

2.3.35 The proposed Project includes the creation of a country park on land between the Landside Terminal and the A326.

2.3.36 The country park would include access via pedestrian and cycle routes between Hythe and Marchwood, improving connectivity and providing an enhanced area of amenity value.

Ecological Compensation, Mitigation and Enhancement

2.3.37 The proposed Project will include ecological compensation, mitigation and enhancement measures, as explained in **Section 2.5**. The implementation of those measures will require construction activities.

2.4 Operation Phase

Operational Activity

2.4.1 The proposed Project will operate on a 24 hour, 7 days a week basis.

2.4.2 A proportion of vehicles being exported via SG2 is anticipated to arrive via train from car manufacturers that have production facilities linked to rail infrastructure. The remaining proportion of vehicles for export would arrive by road transporter. Trains or road transporters arriving at the site would be loaded or unloaded in the SGL rail terminal and the load lanes, respectively.

2.4.3 Imports arriving at SG2 will be unloaded from arriving vessels and either immediately distributed away from SG2 or stored within the SG2 site until their next destination is identified.

2.4.4 In terms of routing, road freight traffic is most likely to use the A326 to access the strategic road network at the M27 (Junction 2). Journeys to work for staff employed at SG2 are anticipated to originate in the surrounding area, including Fawley, Hythe, Marchwood, Totton and Southampton. It is likely that employees would use the A35 as well as the A326.

Shore Protection

2.4.5 As set out in **Section 2.3**, the existing shore protection would be subject to repairs or realigned, which will be defined at the later design stages. During operation, there will be a requirement for ongoing surveys to monitor the condition of this shore protection.

Lighting

2.4.6 Both the Landside Terminal and the jetty will be illuminated according to the requirements of the Health and Safety Executive, Approved Code of Practice Safety in Docks (HSE L148, 2014) and in accordance with the requirements of the Local Lighthouse Authority. The guidance provided within relevant British Standards and the Port Skills and Safety, Health and Safety in Ports - Guidance on Lighting (SIP009, 2010) would also be applied.

2.4.7 Access roadways and operational areas on the jetty would be illuminated by Light-emitting Diode (LED) streetlamps mounted onto columns.

Maintenance Activities

2.4.8 Maintenance requirements will be defined at a later stage in the design. Elements where maintenance is anticipated to be required include the following:

- Jetty piles, steel deck work and floating pontoons – the corrosion protection system would require maintenance. Examples include cathodic protection (scarification anodes or impressed current systems), paint systems, etc. Floating pontoons also require routine inspection and maintenance, such as buoyancy checks.
- Jetty fender system – fender systems typically have a lower working design life than the design life of the jetty and would require routine inspection and replacement.
- Ancillary items – other items would also require routine inspection and maintenance as required, such as linkspan bearings, linkspan / pontoon road surfacing and mooring bollards.

- Berth pockets – maintenance dredging would be required to maintain the berth pockets. The volume and frequency of maintenance dredging requirements will be confirmed through the hydrodynamic and sediment transport studies.
- Drainage systems, channels and outfalls will need regular inspections and maintenance to remove blockages, siltation and debris.

2.5 Ecological Compensation, Mitigation and Enhancement

2.5.1 The proposed Project is likely to have direct and indirect effects on sites designated for their ecological value. As a result, a Compensation, Mitigation and Enhancement (CME) strategy is being developed with the objective of offsetting potential significant residual adverse effects and delivering biodiversity net gain both on site in retained habitats and, where appropriate and proportionate, at offsite locations. The principles of the mitigation hierarchy will be adopted in relation to addressing potential impact pathways and associated adverse effects.

2.5.2 It is likely that both marine/intertidal and terrestrial habitat creation would be required including, but not limited to, intertidal mudflat, saltmarsh and mosaics of wet and dry grassland, scrub and wetland scrapes/ephemeral pools.

2.5.3 In order to progress the identification of potentially suitable land on which to create these habitats, a series of high-level principles have been developed, together with a number of potential constraints which could affect the feasibility of successfully establishing and maintaining high quality habitats. These are explained in further detail in the following paragraphs and will inform an initial assessment of site availability.

2.5.4 The approach to identifying suitable CME sites will also comply with the principles of relevant guidance, legislation and policy. The following principles will be employed wherever possible when identifying sites:

- CME areas will prioritise areas of existing low ecological value (e.g. agricultural / cropland). However, it is recognised that the availability of land suitable to create marine and intertidal habitats is likely to limit the search area and that this principle may be more challenging to achieve for marine habitats.
- Opportunities for habitat creation will be considered at a landscape-scale, with consideration given to various options, including extending and/or enhancing existing relevant designated sites or, alternatively, linking areas of semi-natural habitats which are currently fragmented. The intent is to build resilience into the ecological network of habitats present in the

landscape within which the proposed Project sits. In following this principle, the proposed Project will look to contribute to relevant local initiatives.

- ABP will consider the distance of the potential CME areas from the associated potential adverse effect when considering options which will be balanced against ecological effectiveness.
- The design of habitat creation at any given site will maintain current levels of flood protection to key areas of habitation and infrastructure.
- Opportunities for habitat creation will consider technically feasible and sustainable approaches, including managed realignment and beneficial re-use of dredged sediment. The design will seek to work with natural processes in the development of sustainable ecosystems.
- The design of any habitat creation site will seek to minimise any wider environmental impacts, notably relating to earthworks and the movement of material.

2.5.5 While not necessarily ruling out any particular location from consideration as part of the CME solution at this stage, the following potential constraints will be considered when assessing areas for their suitability to contribute towards CME requirements:

- Areas with existing environmental designations or with the potential to adversely affect the integrity of designated sites as a result of construction activities and/or habitat conversion carried out on them.
- Priority habitats listed in accordance with the requirements of Section 41 of the NERC Act 2006.
- Areas with potential for significant buried archaeology.
- Areas with significant utility constraints.
- Areas disconnected from the floodplain by features such as roads and railways.
- Landfill sites or areas with the potential for significant contamination.
- Inalienable land and land with complex ownership arrangements which would make reaching any form of agreement or acquisition difficult.
- Areas less than 5ha in size, unless those areas provide connectivity between other sites.

3 LEGISLATIVE AND REGULATORY REGIME

3.1 Introduction

3.1.1 This section presents a summary of key legislative and policy drivers that underpin and support the proposed Project and the consideration of it. A more detailed explanation of the relevant policy and legislation will be provided in any required Preliminary Environmental Impact Report (PEIR) and the ES. In these reports, specific legislation relevant to different topic areas will be provided in addition to an overarching summary.

3.2 National Legislation and Policy

The Planning Act 2008

3.2.1 The Planning Act 2008 is the primary legislation that established the legal framework for applying for, examining and determining applications for Nationally Significant Infrastructure Projects (NSIPs), based on the guidance provided in National Policy Statements (NPSs).

3.2.2 Section 104 of the Planning Act 2008 makes it clear that in deciding an application for an NSIP where a relevant NPS has effect, the relevant Secretary of State must have regard to, amongst other things, any relevant NPS and decide the application in accordance with any such national statement (subject to specified exceptions). For the purpose of SG2, the NPS for Ports (NPSfP) DfT, 2012) is currently relevant and has effect (albeit, as explained below, it is currently in the process of being reviewed). An outline of the key elements of the current NPSfP is provided below, and a more detailed explanation will be provided within the ES as appropriate (at which time a new NPSfP will most likely be in place).

National Policy Statement for Ports (2012)

3.2.3 The NPSfP provides the framework for decisions on new port development proposals. The NPSfP makes it clear that ports play an essential role in the UK economy, and that the UK ports sector is the largest in Europe. As indicated, the NPSfP is currently being updated and a *Proposal for a revised NPS for Ports* was published on 4th June 2025. Consultation on the revised NPSfP closed on 29th July 2025. The proposed publication date of the revised NPSfP is unknown but is likely to occur at some point during the pre-application process for the SG2 project. The summary that follows is based upon the current (2012) NPSfP.

3.2.4 In summary, the Government policy for ports – which is described as fundamental - is one which seeks to (paragraph 3.3.1):

- *"Encourage sustainable port development to cater for long term forecast growth in volumes of imports and exports by sea with a competitive and efficient port industry capable of meeting the needs of importers and exporters cost effectively and in a timely manner, thus contributing to long term economic growth and prosperity;*
- *Allow judgements about when and where new developments might be proposed to be made on the basis of commercial factors by the port industry or port developers operating within a free market environment; and*
- *Ensure all proposed developments satisfy the relevant legal, environmental and social constraints and objectives, [as set out in national regulations including those implementing the UK's international treaty obligations] including those in the relevant European Directives and corresponding national regulations".*

3.2.5 In addition, in order to help meet the requirements of the Government policies on sustainable development, new port infrastructure should also (paragraph 3.3.3):

- *"contribute to local employment, regeneration and development;*
- *ensure competition and security of supply;*
- *preserve, protect and where possible improve marine and terrestrial biodiversity;*
- *minimise emissions of greenhouse gases from port-related development;*
- *be well designed, functionally and environmentally;*
- *be adapted to the impacts of climate change;*
- *minimise use of greenfield land;*
- *provide high standards of protection for the natural environment;*
- *ensure that access to and condition of heritage assets are maintained and improved where necessary; and*
- *enhance access to ports and the jobs, services and social networks they create, including for the most disadvantaged".*

3.2.6 In terms of the need for new port infrastructure, the NPSfP makes it clear that the total need does not only depend on overall demand for port capacity, but also on the need to retain flexibility that ensures port capacity is located where it is required, and on the need to ensure effective competition and resilience in port operations (paragraph 3.4.1).

3.2.7 Section 4 of the NPSfP (Section 3 of the proposed revised NPSfP) sets out a series of 'Assessment principles' which decision makers should take account of in considering port developments. Section 5 (Section 4 of the proposed revised NPSfP) sets out policy in respect of a series of 'Generic impacts' to assist applicants and decision makers in assessing and determining proposed port developments. Regard will be had to this advice as necessary in the assessment of the proposed Project.

3.2.8 The NPSfP aligns with the UK's Industrial Strategy, the overarching aim of which is to boost productivity throughout the UK via investment in skills, industries and infrastructure.

UK Marine Policy Statement (March 2011)

3.2.9 The UK Marine Policy Statement (MPS) provides the framework for preparing marine plans. The MPS is an appropriate marine policy document which the Secretary of State must have regard to when deciding the development consent order application for the proposed Project (section 104(2)(aa) of the Planning Act 2008).

3.2.10 The UK vision for the marine environment is set out in the MPS as being *"clean, healthy, safe, productive and biologically diverse oceans and seas"* (paragraph 2.1.1). A series of high-level marine objectives are given which set out the broad outcomes sought in order for the marine area to achieve this vision.

3.2.11 Chapter 3 of the MPS sets out policy objectives for the key activities that take place in the marine environment, emphasising that these will be delivered through marine planning and decision-making.

3.2.12 The key activity of 'Ports and Shipping' is dealt with in Section 3.4 of the MPS. This highlights that ports and shipping are an essential part of the UK economy, providing the major conduit for the country's imports and exports. It is further recognised that ports provide key transport infrastructure between land and sea, and that ports and shipping are critical to the effective movement of cargo and people, both within the UK and in the context of the global economy (paragraph 3.4.1).

National Planning Policy Framework (2024)

3.2.13 At the outset, the National Planning Policy Framework (NPPF) makes clear that it does not contain specific policies for nationally significant infrastructure projects, but that its policies may be a matter that is relevant to the decision-making process on such projects in accordance with section 104(2)(d) of the Planning Act 2008.

3.2.14 The NPPF makes it clear (paragraph 7) that the purpose of the planning system is to contribute to the achievement of sustainable development. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways. Those objectives are (paragraph 8):

- *"an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;*
- *a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being;*
- *an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

3.2.15 In order that sustainable development is pursued in a positive way, at the heart of the NPPF is a presumption in favour of sustainable development (paragraph 10).

3.2.16 The importance of building a strong and competitive economy is a matter specifically highlighted in the NPPF. It is made clear that planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development (paragraph 85).

3.2.17 Planning policies and decisions should recognise and address the specific locational requirements of different sectors and should make provision for, amongst other things, storage and distribution operations at a variety of scales and in suitably accessible locations that allow for the efficient and reliable handling of goods, and the expansion or modernisation of other industries of local, regional or national importance to support economic growth and resilience (paragraph 87).

3.2.18 With regard to the promotion of sustainable transport, planning policies should provide for any large-scale transport facilities that need to be located in the area[2], and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so, they should take into account whether such development is likely to be an NSIP and any relevant NPS (paragraph 111(e)). The NPPF also notes (paragraph 116) that development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.

3.2.19 Planning policies and decisions should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, recognising the intrinsic value and beauty of the countryside, minimising impacts on, and providing net gains for, biodiversity (paragraph 187).

3.2.20 Further policy within the NPPF will be relevant to the proposed Project, and due regard will be had to such policy in the assessment.

3.3 Local Policy

3.3.1 The site of the proposed Project is located partly within New Forest District and partly within the New Forest National Park, within the County of Hampshire. A summary of aspects of local policy of relevance to the proposed Project and its likely significant effects is set out below. As with the NPPF, local policies do not set the tests for decision making on an NSIP under the Planning Act 2008, but local policies may be a matter that is relevant to the decision-making process on such projects in accordance with section 104(2)(d) of the Planning Act 2008.

3.3.2 Local policy will be taken account of as necessary within the various topic assessment chapters of the ES.

New Forest District Policy

3.3.3 The development plan for New Forest District comprises the New Forest District Local Plan First Alteration 2005, the Local Plan Part 1: Core Strategy 2009, the Local Plan Part 2: Sites and Development Management adopted in April 2014 and the Local Plan 2016-2036 Part 1: Planning Strategy adopted in July 2020. Most of the policies in the 2005 and 2009 plans have been replaced / superseded by those in the 2020 Plan.

[2] *On this point, the NPPF contains a footnote which specifically notes that policies for large scale facilities should, where necessary, be developed through collaboration between strategic policy-making authorities and other relevant bodies. Examples of such facilities are quoted as including ports, airports, interchanges for rail freight, public transport projects and roadside services.*

3.3.4 There will be a large number of policies and provisions in these plans which could be relevant to the proposed Project and its likely significant effects; however, the following policies relate specifically to ABP's SG2-related landholdings.

3.3.5 Policy ECON3 of the 2020 Planning Strategy safeguards land at Marchwood Port for port-related uses subject to a range of criteria related to the mitigation of any impacts anticipated to arise from any proposed development.

3.3.6 Policy ECON4 specifically relates to port development at Dibden Bay (the reclaimed part of ABP's Strategic Land Reserve and sets out the Council's position should consent be sought on this land for port operations through the Development Consent Order (DCO) process. It sets out how the Council will seek to achieve the best outcome for affected local communities and identifies the matters which will form the key themes of any Local Impact Report (LIR) the Council may produce as part of the DCO application process.

3.3.7 The key themes noted are:

- to improve local business and employment opportunities;
- to ensure the effective operation of the transport network;
- to avoid and mitigate harmful impacts on the environment;
- to avoid and mitigate harmful impacts on the local community and the amenity of residents in terms of health and safety, air pollution, noise, light or other disturbance from operational activity and road and freight movements; and,
- minimising and mitigating any adverse impacts on the wider countryside and landscape including the New Forest National Park.

New Forest National Park Policy

3.3.8 As with the NFDC policies, there will be a large number of policies and provisions in the New Forest National Park Local Plan DPD (adopted in 2019) covering a wide range of matters which are likely to be of some relevance to ABP's landholdings. The key aspects of local policy – found within the Local Plan 2016-2036 (adopted in August 2019) are considered to include those detailed below.

3.3.9 Within Chapter 4 of the Local Plan, dealing with 'Strategic Policies and Development Principles', there is a section titled 'Dibden Bay' (paragraphs 4.11 to 4.14). As this is a 'strategic site located immediately adjacent to the National Park, the New Forest National Park Authority indicates that it is appropriate to set out 'the range of factors to be considered should the site come forward for development'. The factors listed relate to the national policy and legislative tests

that would need to be met before development can occur in or adjacent to the National Park, or in or adjacent to a relevant European site.

Hampshire Minerals and Waste Policy

3.3.10 The Hampshire Minerals and Waste Local Plan was adopted in October 2013. The location of the proposed Project is the subject of policy 34, which is reproduced below:

"Policy 34: Safeguarding potential minerals and waste wharf and rail depot infrastructure".

The following areas are safeguarded, so that their appropriateness for use as a minerals or waste wharf or rail depot can be considered, if they become available or are released from their current uses:

- *land located to the north west of Hythe identified in the Port of Southampton Master Plan;*
- *land identified in the Southampton Core Strategy as operational port land; and*
- *Marchwood Military Port (also known as Marchwood Sea Mounting Centre); and*
- *land at HM Naval Base and commercial port as identified in the Portsmouth Core Strategy for port and employment uses; and*
- *existing and former railway siding and other land that could be rail linked.*

The locations identified for safeguarding are shown on the Policies Map."

Southampton City Policy

3.3.11 The proposed Project is not located within the city of Southampton City; however, the existing Port of Southampton is within the city. As the proposed Project will have a potential impact on the use of land within the existing operational port boundary, Southampton City Council policy is potentially relevant. The adopted development plan for the city of Southampton comprises a number of overlapping and inter-related documents.

3.3.12 The Core Strategy Partial Review (CSPR) was adopted in 2015 and updates the previously adopted 2010 Core Strategy.

3.3.13 Policy CS9 of the CSPR specifically focuses on the Port of Southampton and sets out the City Council's commitment to promote and facilitate the growth of the International Gateway Port of Southampton. To help facilitate this, the City Council

will refuse planning permission for non-port related development within the port. The policy also supports an increase in transhipments (ship to ship), rail freight to/from the port and appropriate road improvements leading to the port. The supporting text, amongst other things, notes that the longer-term ability for the port to grow will relate to land and sites outside the city's boundary.

3.3.14 This support for the Port is reflected in Policy CS18: Transport: Reduce-Manage-Invest, which also aims to support Southampton's role as an international gateway and regional transport hub by (inter alia) supporting fright movements to and from the Port of Southampton with a presumption in favour of rail freight and transhipment and resisting development which would prejudice access to the Port along key road corridors.

3.3.15 Southampton City Centre Action Plan (adopted in March 2015) includes Policy AP4, which sets out the City Council's support for the growth and overall competitiveness of the Port. It commits that the City Council will have regard to:

- the national significance of the port when considering the remodelling of the strategic and secondary road access to the port;
- development access arrangements directly affecting the strategic and secondary road access to the port;
- the design of development immediately adjacent to the port boundary on the safety and security of the port; and,
- the impact of other development proposals for the Royal Pier and elsewhere on operations within the port boundary.

3.3.16 When considering these points, the Council will permit such proposals if they are unlikely to impact negatively on the current or future port or its strategic / secondary access or they will bring beneficial effects to the city centre which outweigh any negative impacts on the port or its access.

Hythe and Dibden Neighbourhood Policy

3.3.17 Part of ABP's SLR is located within the Hythe and Dibden Parish Council area, which is the subject of the Hythe and Dibden Neighbourhood Development Plan 2018-2026 ('made' in December 2019). Part of the vision and aims section of the plan states, at paragraph 7.12, that "*in the event that major port development has occurred on the Dibden Bay reclaim, a multifunctional green buffer zone around the operational port land will be in place, assisting in the successful physical and social integration of the port into the surrounding area*".

3.3.18 This is repeated at 'Aim 9' of the Plan and incorporated in policies BZ1 to BZ3 of the plan. Policy BZ1 specifically "*seeks to ensure that the operational boundaries*

of the port are realistically defined to include sufficient land to meet reasonably anticipated future needs for future growth and ancillary port-related development commensurate with the very significant existing environmental constraints, in order to minimise future pressure for boundary extensions".

3.3.19 The Plan also includes aims and policies which seek to ensure the provision of new and improved public transport links to Southampton (Policy T1), to protect the existing rail route and track to Totton and identify suitable sites for P&R infrastructure, platform access and a potential railway halt in the parish (Policy T2) and to protect Hythe Pier and associated infrastructure in order to sustain the ferry link to Southampton.

South Inshore and South Offshore Marine Plan (July 2018)

3.3.20 The South Inshore and South Offshore Marine Plan (the South Marine Plan) was the second English marine plan to be adopted. The Plan is an appropriate marine policy document which the Secretary of State must have regard to when deciding the development consent order application for the proposed Project (section 104(2)(aa) of the Planning Act 2008).

3.3.21 The Plan covers an area of around 20,000km^2 of inshore and offshore waters across 1,000km of coastline from Folkestone to the river Dart. It includes one of the busiest shipping channels in the world, with significant numbers of freight and passenger transport, as well as military activity. This intense activity and shipping takes place alongside 60 Marine Protected Areas (MPA), including nine Marine Conservation Zones (MCZ) and a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site. It is one of the most complex and used areas of the English coastline.

3.3.22 The South Marine Plan aims to help ensure that the right activities happen in the right place and in the right way within the marine environment. It provides a framework intended to shape and inform decisions over how the areas' waters are developed, protected and improved over the next 20 years.

3.3.23 Through its vision for economic, environmental and social prosperity, the South Marine Plan intends to safeguard environments such as the UNESCO-recognised Jurassic coast, enable sustainable use of its shipping channels, encourage growth in local sectors such as tourism and protect and enhance essential natural defences against climate change and flooding. This will be achieved through its 12 objectives, the use of natural capital and supporting local policies, all of which have been developed in partnership with local and national organisations, representatives and users of the area.

3.4 EIA Legislation and Guidance

3.4.1 The process of EIA for projects falling under the Planning Act 2008 is governed by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'). The EIA Regulations implement EC Directive 2011/92/EU, as amended by Directive 2014/52/EU, domestically.

3.4.2 The EIA process will take account of guidance published by the Planning Inspectorate. Of particular relevance are the following Advice Notes:

- Advice on EIA Notification and Consultation (PINS, 2025c).
- Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements (PINS, 2025a).
- Advice Note Nine: Rochdale Envelope (PINS, 2025b).
- Advice on Habitats Regulations Assessment (PINS, 2025d).
- Advice on Transboundary Impacts and Process (PINS, 2025e).
- Advice on Cumulative Effects Assessment (PINS, 2025f).

3.4.3 There are several pieces of legislation at international, European and national levels that are likely to apply to the proposed Project. These are summarised in **Table 3.1**.

Table 3.1 Summary of relevant environmental legislation

Relevant Legislation	Key Elements
International and European	
The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	• Establish Ramsar sites to protect important areas for waterfowl (and other flora and fauna).
Water Framework Directive (WFD) (2000/60/EEC)	• Ensure a 'good ecological status' of inland, estuarine and groundwater bodies including coastal surface waters up to an offshore limit of one nautical mile.
Marine Strategy Framework Directive (MSFD) (2008/56/EC)	• Establish a framework within which Member States will take measures to maintain or achieve 'good environmental status' (GES) in the marine environment by 2020.
Habitats Directive 92/43/EEC	• Aims to conserve natural habitats of wild fauna and flora and is intended to protect biodiversity by

Relevant Legislation	Key Elements
	requiring Member States to take measures to maintain or restore natural habitats and wild species, including protection for specific habitats listed in Annex I and species listed in Annex II of the Directive.
Birds Directive (2009/147/EC)	• Provides a framework for the conservation and management of wild birds in Europe.
UK Legislation	
Marine Coastal and Access Act 2009	• Enables the designation of MCZs in England, Wales and UK offshore waters. • Includes provisions for the coastal environment, including improving access to the coast and undertaking Integrated Coastal Zone Management (ICZM).
The Wildlife and Countryside Act 1981	• Enables the designation of Sites of Special Scientific Interest (SSSI) to provide statutory protection to the best examples of flora, fauna, geological and physio-geological features. • Enables Statutory Nature Conservation Bodies (SNCB) to declare sites which are considered to be of national importance as National Nature Reserves (NNR). • Makes it an offence to intentionally kill, injure, or take wild birds and to take, damage or destroy the nest of any wild bird while that nest is in use or being built. • Makes it an offence to intentionally kill, injure or take any animal listed in Schedule 5 of the Act and protects occupied and unoccupied places used for shelter or protection. • Makes it an offence to intentionally pick, uproot or destroy any wild plant listed in Schedule 8 and to plant or otherwise cause to grow any non-native, invasive species listed under Schedule 9 of the Act.
The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations)	• Transposes the requirements of Habitats Directive and Birds Directive into UK law within 12 nautical miles.

Relevant Legislation	Key Elements
	• Makes it an offence to kill, injure, capture or disturb European protected species (EPS).
Countryside and Rights of Way Act 2000	• Provides for public access on foot to certain types of land, amends the law relating to public rights of way (PRoW), increases measures for the management and protection for SSSIs and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONB) (now referred to as National Landscapes).
The Protection of Badgers Act 1992	• Makes it an offence to willfully kill, injure or take, or attempt to kill, injure or take a badger; and to cruelly ill-treat a badger. • Makes it an offence to intentionally or recklessly damage, destroy or obstruct a badger sett, or to disturb a badger whilst in a sett.
Natural Environment and Rural Communities Act 2006 (NERC)	• Requires the relevant Secretary of State to compile a list of habitats and species of principal importance for the conservation of biodiversity.

4 EIA METHODOLOGY

4.1 Introduction

4.1.1 The EIA will consider all relevant topics covered under the three general areas of physical environment, biological environment and human environment for all elements of the proposed Project.

4.1.2 The EIA will identify and assess the likely significant effects predicted to be generated by the construction and operation of the proposed Project. The EIA process is shown in **Table 4.1**.

Table 4.1 The EIA process

Stage	Activity	Aim/Objective
EIA Scoping	Scoping	To confirm the scope, and level of detail, of the information to be provided in the environmental statement. and to set out the proposed approach to assessment for each technical topic area.
EIA	Consultation	Consult with statutory and non-statutory organisations and individuals with an interest in the area and the proposed Project.
	Primary data collection	To describe the existing (baseline) environment.
	PEIR	Preliminary assessment of likely significant effects. The PEIR should enables consultees to understand the likely environmental effects of the proposed Project and help to inform their consultation responses.
	Specialist studies	To support the impact assessment (e.g. by undertaking modelling studies).
	Impact assessment	To identify, evaluate and predict the significance of potential impacts in the context of the existing environment.
	Mitigation measures and residual impact assessment	To identify appropriate and practicable avoidance, mitigation measures, in addition to those measures that are ‘embedded’ in the design of the proposed Project and to assess the significance of residual (i.e. post-mitigation) impacts.
	ES	Production of the ES in accordance with EIA legislation and guidance.

4.1.3 This section provides an overview of the approach to be taken to the EIA for the proposed Project in order to meet the requirements of the relevant policy and legislation described in **Section 3**.

4.2 Approach to EIA Scoping

4.2.1 As noted in **Section 2.1**, the Scoping Boundary (illustrated in **Figure 2.1**) identifies the land that is required for the proposed Project EIA. The Scoping Boundary encompasses the land on which the proposed Project could have direct effects (noting the comments in **Section 2.5** explaining that the locations of off-site CME measures are not yet confirmed).

4.2.2 The scoping exercise is focused on identifying the potential for significant environmental effects within the Scoping Boundary, and also the potential for significant indirect effects beyond the Scoping Boundary. The study area therefore comprises the land within the Scoping Boundary and a wider area beyond the Scoping Boundary, which is defined on a topic by topic basis.

4.2.3 Each technical topic section presents a description of the existing environment. The nature of the data currently available varies across topics (as described in each topic section). In some cases, the description is based on historic surveys, published literature and previous historic assessments. For some topics, notably marine ecology, terrestrial ecology and ornithology, site-specific surveys have been undertaken in recent years, with further surveys planned as described in the relevant topic sections.

4.2.4 The EIA scoping exercise has been informed by the initial design process for the proposed Project. This work has determined the key elements of the proposed Project, as summarised in **Section 1** and described in further detail in **Section 2**. This work will continue in parallel with the EIA process and will define the parameters on which the EIA process will be based.

4.2.5 Recognising that the proposed Project parameters are not yet developed (as is set out in **Section 2** for the various elements of the proposed Project), the EIA scoping exercise has adopted a source-pathway-receptor approach to identifying the potential for significant environmental effects. This approach is considered conservative as it does not seek to scope out effect pathways from the EIA process (i.e. does not exclude pathways from further assessment).

4.3 Stakeholder Consultation

4.3.1 ABP proposes to adopt an Evidence Plan Process (EPP) to structure relevant technical stakeholder consultation. The EPP is a voluntary mechanism to help

agree the information to be provided to the Planning Inspectorate as part of a DCO application and ensure compliance with the Habitat Regulations and the EIA Regulations. Amongst other things, the EPP aims to give greater certainty to all parties on the amount and range of evidence the applicant should collect and present to support the DCO application.

4.3.2 Ongoing discussions will be minuted to log areas of agreement and disagreement on key aspects (including the HRA and Water Framework Directive (WFD) Compliance Assessment), such as data acquisition, survey methodologies and approach to assessment, data analysis results and impact assessment outcomes to ensure the assessments are as robust as possible. The approach provides increased certainty to stakeholders on the amount and range of evidence to be presented within the application, as well as enabling the applicant to address issues early in the pre-application stage.

4.3.3 The development of the design of the proposed Project and the EIA will also take account of the views and opinions expressed through the community consultation which will be undertaken and which will continue throughout the pre-application process.

4.4 Characterisation of the Existing Environment

4.4.1 The characterisation of the existing environment will be undertaken to determine the baseline conditions in the study area relevant to the proposed Project. This will involve the following steps:

- Definition of study areas for each receptor based on the receptor-specific characteristics (e.g. mobility or range) – together forming the overall study area.
- Review of available data sources.
- If further data are required to supplement existing information, undertake further data gathering, targeted at filling key data gaps.
- Identification of the potential impacts that might be expected to arise from the proposed Project and consideration of the area over which the impacts could extend.

4.4.2 In line with the requirements of the 2017 EIA Regulations, consideration will be given to the predicted evolution of the baseline environment in the absence of the proposed Project.

4.4.3 The approach to be taken to establishing a robust baseline is presented under each topic section within this EIA Scoping Report.

4.5 Assessment of Potential Impacts

4.5.1 In order to provide a consistent assessment framework for the EIA process, a matrix approach to the definition of the significance of a potential impact will be adopted.

4.5.2 For clarity, in the process of undertaking the impact assessment it is important to define the difference between an impact and an effect[3]:

- 'Impact' is used to describe a change resulting from an activity via the proposed Project, i.e. increased suspended sediments or increased noise. Within the EIA, 'Impacts' will be defined in terms of their magnitude (spatial extent, duration, frequency, etc.).
- 'Effect' is the consequence of an impact combining with a receptor, defined in terms of significance (significance being dependent on magnitude of impact x sensitivity/value/importance of receptor).

Identification of Impacts

4.5.3 The assessment will use the conceptual 'source-pathway-receptor' approach. The approach identifies potential impacts resulting from the proposed Project on the environment during the construction and operational phases. The components of this approach are defined as follows:

- Source – the origin of a potential impact (i.e. an activity such as dredging and a resultant effect, e.g. re-suspension of sediments).
- Pathway – the means by which the impact of the activity could affect a receptor (e.g. for the example above, re-suspended sediment could settle and smother the seabed).
- Receptor – the element of the receiving environment that is affected (this could either be a component of the physical, ecological or human environment such as water quality or benthic habitat, e.g. for the above example, species living on or in the seabed).

4.5.4 In general, the impact assessment for each topic will use this model when considering the potential impacts arising during the construction and operational phases of the proposed Project. In some cases, it is appropriate to use other models for assessment, for example for the navigation assessment, where a risk assessment approach is required.

[3] *https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/*

Receptor Sensitivity and Value

4.5.5 The characterisation of the existing environment helps to determine the receptor sensitivity in order to assess the potential impacts upon it.

4.5.6 The ability of a receptor to adapt to change, tolerate, and/or recover from potential impacts will be key in assessing its sensitivity to the impact under consideration. For ecological receptors, tolerance could relate to short-term changes in the physical environment. For human environment receptors, tolerance could relate to impacts upon socioeconomics or safety. The time required for recovery will be an important consideration in determining receptor sensitivity.

4.5.7 The overall receptor sensitivity is determined by considering a combination of adaptability, tolerance and recoverability. This is achieved through applying known research and information on the status and sensitivity of the feature under consideration coupled with professional judgement and past experience.

4.5.8 Expert judgement is particularly important when determining the sensitivity of receptors. Example definitions of the different sensitivity levels for a generic receptor are provided in **Table 4.2**.

Table 4.2 Example definitions of sensitivity levels

Sensitivity	Definition
High	Individual receptor has very limited or no capacity to avoid, adapt to, accommodate or recover from the anticipated impact.
Medium	Individual receptor has limited capacity to avoid, adapt to, accommodate or recover from the anticipated impact.
Low	Individual receptor has some tolerance to accommodate, adapt or recover from the anticipated impact.
Negligible	Individual receptor is generally tolerant to and can accommodate or recover from the anticipated impact.

4.5.9 Receptor value considers whether, for example, the receptor is rare, has protected or threatened status, importance at local, regional, national or international scale, and in the case of biological receptors whether the receptor has a key role in the ecosystem function. Example definitions of the value levels for a generic receptor are provided in **Table 4.3**.

Table 4.3 Example definitions of value

Value	Definition
High	Internationally / nationally important (for example internationally or nationally protected site)
Medium	Regionally important / regionally protected site
Low	Locally important / rare but with high potential for mitigation
Negligible	Not considered to be important (for example common or widespread)

4.5.10 The definitions of sensitivity and value are relevant to that particular EIA topic and will be clearly defined by the assessor within the context of that assessment and with reference to any topic-specific guidance.

4.5.11 The terms 'high value' and 'high sensitivity' are not necessarily linked within a particular impact and it is important not to inflate effect significance specifically because a feature is valued. For example, an Annex II species (under the Habitats Directive) would have a high inherent value, but may be tolerant to an impact or have high recoverability. In this case, sensitivity should reflect the adaptability, tolerance and recoverability of the species and not necessarily default to its protected status.

Magnitude of Impacts

4.5.12 In order to predict the significance of an effect, it is fundamental to establish the magnitude and probability of an impact occurring through consideration of:

- scale or spatial extent (small scale to large scale or most of the population or a few individuals);
- duration (short term to long term);
- likelihood of impact occurring;
- frequency; and,
- nature of change relative to the baseline.

4.5.13 Example definitions of the magnitude levels for a generic receptor are provided in **Table 4.4**.

Table 4.4 Example definitions of magnitude levels

Magnitude	Definition
High	Fundamental, permanent / irreversible changes, over the whole receptor, and / or fundamental alteration to key characteristics or features of the particular receptor's character or distinctiveness.

Magnitude	Definition
Medium	Considerable, permanent / irreversible changes, over the majority of the receptor, and / or discernible alteration to key characteristics or features of the particular receptor's character or distinctiveness.
Low	Discernible, temporary (throughout project duration) change, over a minority of the receptor, and / or limited but discernible alteration to key characteristics or features of the particular receptor's character or distinctiveness.
Negligible	Discernible, temporary (for part of the project duration) change, or barely discernible change for any length of time, over a small area of the receptor, and/or slight alteration to key characteristics or features of the particular receptor's character or distinctiveness.

4.5.14 Alternatively, for some topics (such as air quality or noise) magnitude may simply be defined by reference to standard thresholds.

4.5.15 The definitions of magnitude are relevant to that particular EIA topic and will be clearly defined by the assessor within the context of that assessment and with reference to any topic-specific guidance.

Evaluation of Significance

4.5.16 Subsequent to establishing the sensitivity of the receptor and magnitude of the impact, the effect significance is predicted by using quantitative or qualitative criteria, as appropriate, to ensure a robust assessment.

4.5.17 Wherever possible, the matrix presented in **Table 4.5** will be used to aid assessment of effect significance, based on expert judgement, to facilitate a consistent approach throughout the EIA. For each topic assessment, however, best practice methodology (based on the latest available guidance) should be followed and, when more appropriate, an alternative approach to the use of a matrix may be used. Where an alternative approach is used, this will be fully explained and justified within the relevant chapter.

4.5.18 To avoid several different approaches within an EIA, an alternative approach will only be used where the standard approach set out here is clearly not appropriate for the assessment being undertaken.

Table 4.5 Matrix to guide assessment of effect significance

		Adverse Magnitude				Beneficial Magnitude			
		High	Medium	Low	Negligible	Negligible	Low	Medium	High
Sensitivity	High	Major	Major	Moderate	Minor	Minor	Moderate	Major	Major
	Medium	Major	Moderate	Minor	Negligible	Negligible	Minor	Moderate	Major
	Low	Moderate	Minor	Minor	Negligible	Negligible	Minor	Minor	Moderate
	Negligible	Minor	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Minor

4.5.19 In addition 'no change' or 'no impact' will be used where there is no pathway for an impact, although such impacts would be typically scoped out before the full assessment is undertaken.

4.5.20 **Table 4.5** provides an indication of the significance of effects that will be used in the assessment process for the majority of topics. In general, effects which are of major or moderate significance are considered to be significant. It is possible that a moderate effect may not be considered significant; however, in these cases, a justification and rationale needs to be provided in the narrative.

Confidence

4.5.21 Once an assessment of the significance of a potential effect has been made, it is necessary to assign a confidence value to the assessment to assist in the understanding of the judgement.

4.5.22 This is undertaken on a simple scale of high-medium-low, where high confidence assessments are made on the basis of robust evidence, medium confidence assessment being based, for example, on academic or scientific studies / papers, with lower confidence assessments being based, for example, on extrapolation and use of proxies.

Mitigation and Residual Effects

4.5.23 The EIA Regulations require a description of the measures envisaged to avoid, prevent, reduce or (where possible) offset any significant adverse effects on the environment. This reflects the concept of the 'mitigation hierarchy' illustrated in **Figure 4.1**.

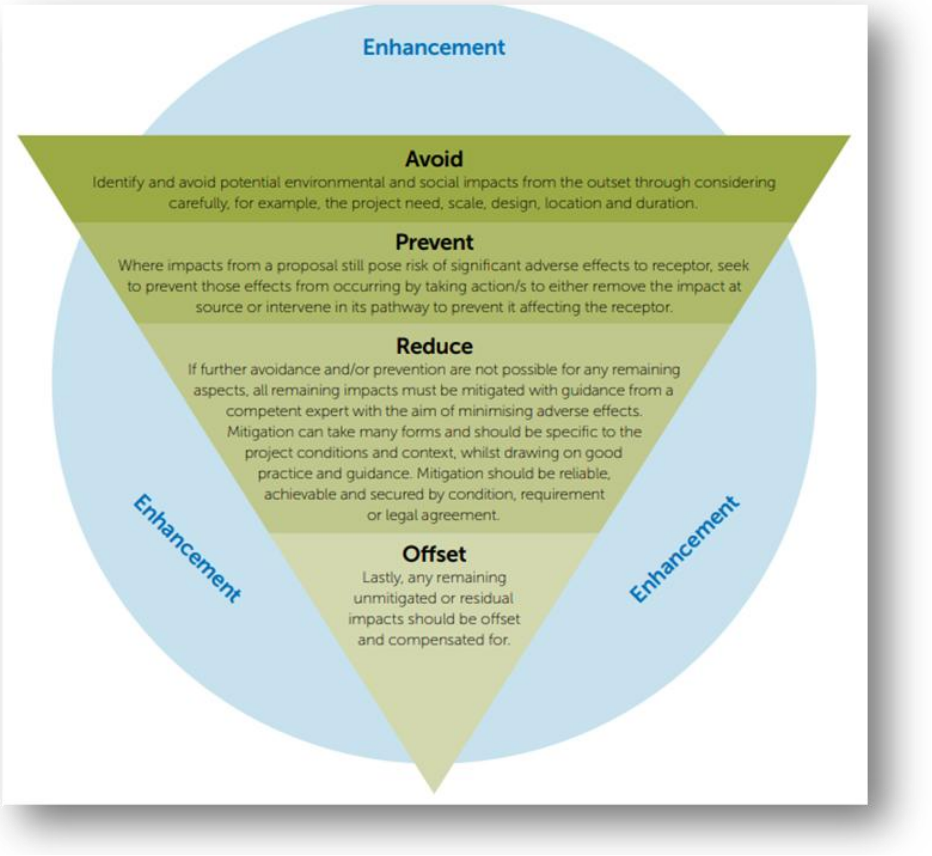


Figure 4.1 The Mitigation Hierarchy (IEMA, 2024)

4.5.24 Embedded mitigation (i.e. mitigation incorporated into the proposed Project design) and, if relevant to a particular topic, will be referenced and taken into account in the assessment. Additional mitigation will then be identified if necessary to reduce or eliminate significant potential effects.

4.5.25 Following identification of mitigation measures, the significance of the residual effects will be assessed.

Cumulative Effects Assessment

4.5.26 Cumulative Effects Assessment (CEA) forms part of the EIA process. The Planning Inspectorate's Advice Note 9 (PINS, 2025b) and Advice on CEA (PINS, 2025f) provide guidance on plans and projects that should be considered in CEA, including:

- Projects that are under construction.
- Permitted applications not yet implemented.
- Submitted applications not yet determined.
- Projects on the Planning Inspectorate's Programme of Projects.

- Development identified in relevant Development Plans, (and emerging Development Plans - with weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
- Sites identified in other policy documents as development reasonably likely to come forward.

4.5.27 Only projects which are reasonably well described and sufficiently advanced to provide information on which to base a meaningful and robust assessment will be included in the CEA (see **Section 27**). Projects which are sufficiently implemented will be considered to be part of the baseline, as long as they were active during baseline information collation.

4.5.28 The full list of plans or projects to be included in the CEA will be developed as part of on-going consultation with technical consultees and will be reported as part of the EIA.

Transboundary Effects

4.5.29 The EIA Regulations require that likely significant direct and indirect transboundary effects need to be assessed in the ES. Transboundary effects are defined in the EIA Regulations as significant effects on the environment in another European Economic Area (EEA) State. In the case of the proposed Project, the potential for significant transboundary effects is likely to be related to possible effects on certain species of seabirds, migratory fish and marine mammals which can have very extensive foraging ranges and which may have some dependency on habitats outside of the territory of another EEA State.

4.5.30 It is highly unlikely that the proposed Project could have any significant direct effect on the environment within another EEA State. The potential for any direct and indirect significant effects will, however, be assessed within the EIA process.

Draft Outline of the ES

4.5.31 The ES will document the EIA process and will describe the proposed Project and set out the relevant legislation, policy and guidance. Subject to the outcomes of the EIA scoping process, the ES will comprise the following:

- Introduction.
- Project Description.
- Need and Consideration of Alternatives.
- Policy and Legislative Context.

- EIA Methodology.

4.5.32 It is proposed that the ES will contain the following technical topic chapters, with each chapter structured to present the assessment of potential impacts during the construction and operation phases, proposed mitigation and assessment of residual impacts (i.e. following the implementation of mitigation):

- Coastal Processes and Geomorphology.
- Marine Water and Sediment Quality.
- Marine Ecology.
- Coastal Ornithology.
- Commercial and Recreational Navigation.
- Ground Conditions and Contamination.
- Terrestrial Ecology.
- Traffic and Transport.
- Noise and Vibration.
- Air Quality.
- Landscape, Seascape and Visual.
- Archaeology and Cultural Heritage.
- Water Resources and Flood Risk.
- Infrastructure and Other Users.
- Tourism and Recreation.
- Human Health.
- Socioeconomics and Population.
- Agriculture and Land Use.
- Climate Change.
- Waste.

4.5.33 For each technical topic chapter, it is proposed that the following structure will be adopted for the ES:

- Introduction.
- Consultation.
- Policy, Legislation and Guidance.
- Impact Assessment Methodology.
- Scope.
    - Study Area.
    - Data and Information Sources.
    - Assumption and Limitations.
- Existing Environment.

    - Existing Baseline.
    - Predicted Future Baseline.
- Assessment of Effects.
    - Potential Effects during Construction.
    - Potential Effects during Operation.
- Cumulative Effects Assessment.
    - Identification of other Plans, Projects and Activities.
    - Potential Cumulative Effects during Construction.
    - Potential Cumulative Effects during Operation.
- Assessment Summary.
- References.

4.5.34 For the reasons described in **Section 1.4**, the assessment of decommissioning effects is scoped out of the EIA process.

4.5.35 The potential for transboundary effects, and the assessment of potential impacts, will be covered in a separate chapter.

4.5.36 As described in this EIA Scoping Report, it is proposed that the following topic areas are scoped out of further assessment:

- Commercial and Recreational Fisheries.
- Major Accidents and Disasters.

4.5.37 A separate Non-Technical Summary will be produced.

4.5.38 Technical appendices will support the ES as required (e.g. presenting survey data and modelling reports). In addition, other technical assessments that are required in accordance with other legislation will be appended (e.g. WFD Compliance Assessment and information to support HRA).

4.5.39 The EIA Regulations require that the ES is prepared by competent experts and that a statement must accompany the ES outlining *"the relevant expertise or qualifications of such experts"*. This statement will, therefore, be provided as part of the ES.

5 COASTAL PROCESSES AND GEOMORPHOLOGY

5.1 Introduction

5.1.1 This section sets out the proposed scope of the ES chapter that will report the findings of the coastal processes and geomorphology assessment with regard to potential effects as a result of the proposed Project.

5.2 Relevant Policy, Legislation and Guidance

5.2.1 The assessment will be undertaken to meet the requirements set out in the National Policy Statement for Ports (NPSfP), including section 5.3.

5.2.2 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including the following:

- UK Marine Policy Statement as required by Section 44 of the Marine and Coastal Access Act 2009, including section 2.6.8 and paragraphs 2.6.8.4 and 2.6.8.6.
- The Marine and Coastal Access Act 2009 (MCAA).
- The Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations').
- The Water Environment (WFD) (England and Wales) Regulations 2017, known as the Water Framework Regulations.
- The Waste (England and Wales) Regulations 2011, which implement Directive 2008/98/EC on waste (WFD).
- South Inshore and South Offshore Marine Plan.
- UK Marine Strategy.
- New Forest District Policy.
- New Forest National Park Policy.

5.3 Study Area

5.3.1 The study area is the area over which potential direct and indirect effects of the proposed Project may occur during construction and operation. The direct effects on physical processes are those confined to within the footprint of the proposed Project (i.e. the jetty, dredge and disposal of dredge material). Indirect effects are those that may arise due to wider changes in the estuary flow and sedimentary regime and any change to the estuary morphology as a result of the proposed Project.

5.3.2 The coastal processes study area broadly covers the region of Southampton Water between Marchwood and Hythe and the area around the Nab Tower disposal site.

5.3.3 The physical processes chapter will, through further desk-based analysis and assessment, including numerical modelling, refine the study area for the purposes of the impact assessment.

5.4 Description of Existing Environment

Data Sources

5.4.1 The key data sources included in **Table 5.1** have been used to gather the baseline information on Coastal Processes and Geomorphology to inform the scoping study.

Table 5.1 Key data sources

Title	Date
Environmental Appraisal for Port of Southampton: Solent Gateway Marine Works. ABP Southampton. ABPmer Report No. R.4470. May 2024.	ABPmer, 2024
Environmental Appraisal for Port of Southampton: Western Docks Channel Widening. ABP Southampton. ABPmer Report No. R.4232. May 2023.	ABPmer, 2023a
Environmental Appraisal for Port of Southampton: Maintenance Dredging at Solent Gateway Port in Marchwood. Solent Gateway Ltd. ABPmer Report No. R.3443. July 2020.	ABPmer, 2020a
Southampton Maintenance Dredge Protocol Update: Baseline Document. ABP Southampton. ABPmer Report No. R.4792.	ABPmer, 2025a
Maintenance dredging data.	Dredging returns data provided by ABP (up to and including 2025 (ABP, 2025a))
Bathymetry data from ABP multibeam and ABPmer single beam surveys.	Bathymetry data collected from a range of surveys carried out by ABP and ABPmer (up to and including 2025)

Title	Date
Town Quay Southampton: Consolidated Environmental Statement. Volume 1: Main Technical Assessments. May 2024	Luken Beck, 2024
A Conceptual Model of Southampton Water. Prepared for the Estuary Guide as a case study supporting document.	ABPmer, 2007 and Environment Agency, 2008.
Environmental Statement for Port of Southampton: Main Channel Widening (Marchwood) Works. ABP Southampton. ABPmer Report No. R.1989. August 2012.	ABPmer, 2012a
Environmental Statement for Port of Southampton: Southampton Approach Channel Dredge Updated by Further Information. ABP Southampton. ABPmer Report No. R.2015. October 2012.	ABPmer, 2012b
Water Quality Monitoring Within Southampton Water. ABP Southampton. ABPmer Report No. R.2058. February 2013	ABPmer, 2013a
Associated British Ports (ABP) Southampton Approach Channel Dredge: Sediment Deposition Monitoring. ABP Southampton. ABPmer Report No. R.2407. November 2015	ABPmer, 2015a
Royal Pier Waterfront EIA: Estuarine Processes Appendix. RPW (Southampton) Ltd. ABPmer Report No. R.2465. August 2015.	ABPmer, 2015b
Oceanographic and water quality data from hydrodynamic and hydrographic surveys undertaken by ABPmer between 2018 and 2025.	ABPmer, 2018 to 2025
Water Quality Data Archive. Available at: https://environment.data.gov.uk/water-quality/view/landing (accessed May 2025).	Environment Agency, 2025a
Light Detection and Ranging (LiDAR) data from the Environment Agency (accessed June 2025).	Environment Agency, 2025b
National River Flow Archive Data. Available at: https://nrfa.ceh.ac.uk/ (accessed June 2025).	National River Flow Archive Data and UK Centre for Ecology & Hydrology, 2025

General Setting

5.4.2 The proposed Project is located between Solent Gateway (Marchwood Military Port) and Hythe Marina Village on the western shore of the River Test. The proposed Marine Facilities would be situated in an estuarine body of water

comprising the lower reaches of the River Test (between Redbridge and Dock Head) and Southampton Water (between Dock Head and Calshot). This estuarine body of water, or 'main estuary', is approximately 18km in length and its maximum width is around 2km at high water (HW). **Figure 1.1**, presented in **Section 1**, provides a general overview of the proposed Project location in relation to existing elements within Southampton Water and the wider region.

5.4.3 The estuary is part of the ancient Solent River system, which developed due to sea level fluctuations during the last Ice Age (Pleistocene). Following this period, the river system has been drowned, forming the Solent and Southampton Water, which is fed by the Rivers Test, Itchen and Hamble. Since the early 1900s, the natural estuary has been highly modified by a series of channel and berth deepenings (e.g. the main Southampton Approach Channel Dredge in 2014 and deepening and widening projects at Western Docks (2023) and Solent Gateway (2024)), reclamations (e.g. the Western Docks and Dibden Bay) and construction of jetties (e.g. Fawley Marine Terminal).

5.4.4 Today, the estuary is an artificially deepened channel situated between intertidal mud and sand flats. It is backed by low cliffs and the quay walls of the Port of Southampton on the east side and saltmarsh and mudflat on the west side alongside the existing infrastructure of SGL, Marchwood Military Port, Hythe Marina and the Exxon Fawley refinery.

5.4.5 The physical processes of the estuary are mainly dominated by the tidal regime, which is highly dynamic due to the 'unique' tidal shape, comprising a double high water and a half tide slowing (stand) of the rate of the rising tide, locally known as the 'Young Flood Stand'. These tidal processes, along with the variability in freshwater flow and wave activity, (particularly at HW) provide a complex set of physical processes that control the morphological and, in turn, ecological functioning of Southampton Water. These processes are described in more detail in the following sections.

Tides and Water Levels

5.4.6 The main estuary is a relatively narrow spit-enclosed, mesotidal estuary. The mean spring and neap tidal ranges at Southampton (Dock Head) are 4.0m and 1.9m respectively, with a maximum tidal range of 5.1m. The Highest Astronomical Tide (HAT) level is 5.0m above Chart Datum (CD) (2.26m above Ordnance Datum (ODN)) with recorded levels (including tidal surges) more than 5.6m above CD (2.86mODN) (ABPmer, 2012a).

5.4.7 The local phasing of the tidal constituents creates an elevated HW period of approximately 3 hours on spring tides (Double High Water) and a pause on the

rising tide (Young Flood Stand). This creates an asymmetric tidal curve, where a spring flood tide can last 9 hours compared to just 3.5 hours on the ebb. A typical tide curve for Southampton (Dock Head) is provided in **Figure 5.1**.

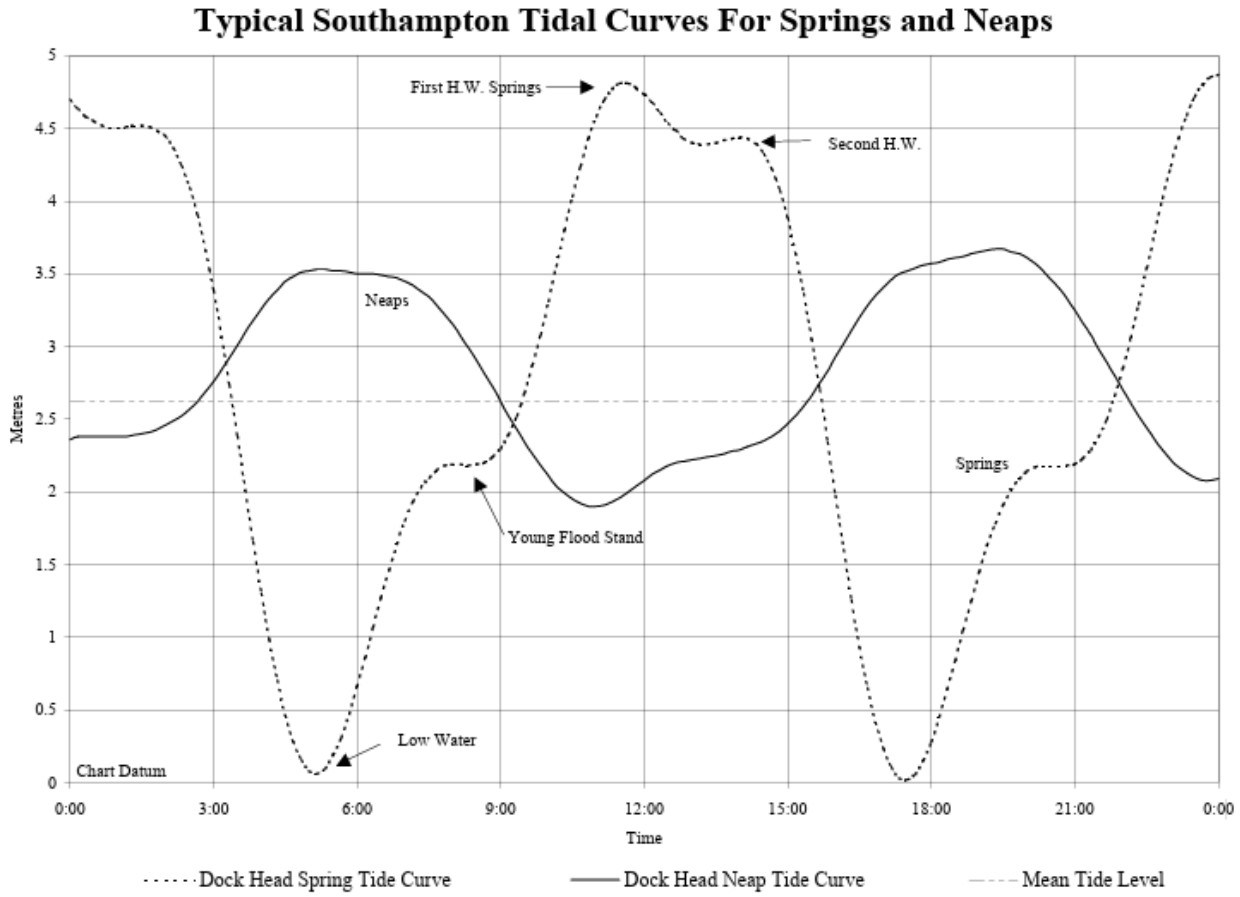


Figure 5.1 Typical tidal curve for Southampton (Dock Head) (Source: ABP Southampton VTS)

Flows

5.4.8 Flows in the main estuary are primarily influenced by the complex nature of the tide, the channel orientation and the 'hypsometry' (cross-sectional profile) relative to the tidal levels. Winds, waves, surge events and freshwater flows, resulting from meteorological influences have a secondary influence on flows.

5.4.9 On the flood tide and over HW, the tidal asymmetry creates a longer period of slower flows which allow sedimentation to take place within the estuary. The extended HW also allows a longer period for wave disturbance, when such forcing is present, to occur over the upper intertidal areas in particular, thus potentially counteracting the sedimentation and potentially causing localised erosion (particularly on the more exposed eastern shore).

5.4.10 On the ebb, the tidal flows dominate due to the higher rate of the falling tide. Peak ebb flows are in the order of 1m/s compared to about 0.7m/s on the flood tide. During the 'Young Flood Stand' flows can become slack for a period of time, and reversals in flow direction can occur over the intertidal and shallow subtidal areas. These complex flows are particularly evident on the western shore and in the vicinity of the proposed Project.

Freshwater Flows and Salinity

5.4.11 Freshwater input to the estuary is predominantly from the Rivers Test, Itchen and Hamble. The combined average flow rate is about 24m3/s, with two-thirds supplied from the River Test. These flows are small compared with the tidal discharge on spring tides (less than 0.1%). The estuary is generally well-mixed with respect to salinity, although there is potential for some limited stratification to occur at the time of extreme fluvial flows nearest the tidal limit at Redbridge.

5.4.12 In general, the estuary is considered marine in nature. Salinities at the water surface are near fully marine at Fawley, graduating to more estuarine above Town Quay.

Waves

5.4.13 The environmental conditions along the marine access channel into the Port of Southampton progressively change from open coastal waters to a more sheltered estuarine environment.

5.4.14 Waves in the Solent tend to have their main influence at the shoreline and help to develop physical features such as various shingle spits (e.g. Hurst Spit). The lower reaches of the River Test and Southampton Water, on the other hand, are subject to very limited wave action, particularly on the western side which is sheltered in the lee of the prevailing winds. This allows for vertical sedimentation to occur, which supports the presence of saltmarsh (see Marine Ecology (**Section 7**)) for more details on this habitat).

5.4.15 The saltmarsh is also influenced by 'local' fetch-limited wave activity (along with ship wash), which can cause the formation of cheniers (a shelly beach ridge), the erosion of the saltmarsh edge in the horizontal direction and disturbance of mudflat sediments into the tidal flows, particularly over the extended HW period.

5.4.16 Overall, however, the wave climate is considered to have a secondary influence (as compared to tidal forcing) on the morphology of the estuary and the nature and extent of intertidal habitat.

Sediments

5.4.17 The bed of the main estuary comprises a relatively thin mobile 'veneer' (less than 0.2m) of predominantly mud (silt and clay) and fine sand deposits, moving over relatively consolidated silt and clay material. The deepened marine access channel cuts through this layer into Holocene sands and the Pleistocene gravels in the outer part of the estuary.

5.4.18 Upstream of Fawley, the channel cuts into laminated silts, clays and fine to coarse sands of the Bracklesham Beds. These materials at the base of the channel are generally resistant to erosion and sediment transport under the present-day flow regime. The less consolidated intertidal sediments, contrastingly, have the potential to be eroded by a certain combination of tidal flows and wave forces.

5.4.19 The primary input of suspended sediment in the estuary is from marine sources (ABPmer, 2007 and 2024). Riverine sources are secondary and predominantly only influence the upper reaches of the tributary rivers. A proportion of the suspended sediment in the estuary also originates from intertidal, subtidal and cliff erosion.

Morphology

5.4.20 Complex interactions between natural and anthropogenic influences on the system influence estuarine processes and their morphological effects on the estuary.

5.4.21 The tidal excursion is predominantly ebb dominant, with respect to flow speed, but reduces in magnitude towards the head of the estuary. This ebb dominance indicates that there is a potential net movement of coarse material as bed load out of the estuary. Counteracting this export of material is a landward migration of finer sediments. Currently, the combined effect within the estuary is a slight net erosion of shallow subtidal and intertidal areas.

5.4.22 In order to maintain navigable depths, any additional sedimentation of the marine access channel is removed by ongoing maintenance dredging. The marine access channel is currently maintenance dredged to 13.2m below CD (-15.94 mODN) above Fawley and between 13.6m below CD and 14.4m below CD (-16.34 to -17.14 mODN) within the approaches to Southampton Water.

Future Baseline

5.4.23 The future baseline scenario assumes that land within ABP's ownership within the site of the proposed Project would continue to be held on a short-term tenancy

basis for agricultural use as part of an ongoing management process. There are, therefore, unlikely to be any short-term changes to coastal processes and geomorphology under this scenario.

5.4.24 Hydrodynamic and sedimentary processes will continue to be influenced by natural and human-induced variability, ongoing cyclic patterns and trends (e.g. future capital dredging, ongoing maintenance dredging and disposal). The future baseline will also be influenced by climate change and, in particular, sea level rise.

5.5 Potential Impacts

5.5.1 It is proposed that the methods adopted to understand potential changes to coastal processes and hydrodynamics for this assessment will be different to those adopted for other EIA topics. This is because the proposed Project has the potential to result in changes to or effects on hydrodynamic and sedimentary processes but, in themselves, these may not equate to 'impacts'. The impacts will, typically, be the consequence of these changes on other receptors, such as designated nature conservation sites, benthic invertebrates and fish ecology. For example, changes in the transport and deposition of sediment may 'impact' on the character of marine habitats (mudflats) and their associated species. Similarly, changes in hydrodynamic processes may alter the erosion and deposition patterns at the shoreline or at existing berths, changing the maintenance dredge regime.

5.5.2 This section, therefore, focuses on the potential for changes or effects on coastal processes and hydrodynamics resulting from the proposed Project, rather than potential impacts as a result of any such changes, which are identified in Marine Water and Sediment Quality (**Section 6**), Marine Ecology (**Section 7**), Coastal Ornithology (**Section 8**), Commercial and Recreational Fisheries (**Section 9**), Commercial and Recreational Navigation (**Section 10**), Archaeology and Cultural Heritage (**Section 17**) and Water Resource and Flood Risk (**Section 18**).

Potential Impacts During Construction

5.5.3 **Table 5.2** identifies the potential impacts on Coastal Processes and Geomorphology assessment related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 5.2 Potential impacts during construction and proposed scope of the EIA

Impact Pathway	Project Activity	Scoped into EIA	Justification
Changes to SSC and associated siltation	Capital dredging	Yes	The capital dredge works will disturb sediment from the bed into the water column. This has the potential to result in an increase in SSC, creating a sediment plume, along with subsequent siltation as the plume material settles back to the bed. Any plume would be dispersed by tidal currents and has the potential to affect other receptors. The extent and magnitude of the effect would vary according to the method and rate of dredging as well as the geotechnical character of the material to be dredged. This potential effect is, therefore, proposed to be scoped into the EIA and will be considered as part of the assessment of effects during the construction phase.
	Capital dredge disposal	Yes	Subject to no appropriate alternative uses being identified for the dredge material, it is anticipated that any requirement for disposal of dredged material at sea associated with the proposed Project would be fulfilled at the Nab Tower deposit ground. The disposal of capital dredge material is likely to create a sediment plume (and associated siltation) that is dispersed by tidal currents and could affect other receptors. The extent and magnitude of effect would vary according to the method and rate of disposal as well as the character of the material to be disposed. This potential effect is, therefore, proposed to be scoped into the EIA and will be considered as part of the assessment of effects during the construction phase.
	Piling	No	During the piling activity, sediment is likely to be disturbed near to the bed. This piling would occur through relatively dense sediments and in an area of reduced flows following the dredge. At worst, only millimetric sediment deposition is predicted, which will be restricted to within a few metres of the piles. This will be of a similar scale to that which occurs naturally. Any disturbance is, therefore, likely to be small and

Impact Pathway	Project Activity	Scoped into EIA	Justification
			predominantly confined to the piling site. The sediment disturbance resulting from the piling activity is predicted to be marginal in the context of the effects resulting from the capital dredging. This potential effect is, therefore, proposed to be scoped out of the EIA in isolation.

Potential Impacts During Operation

5.5.4 **Table 5.3** identifies the potential impacts on Coastal Processes and Geomorphology assessment related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 5.3 Potential impacts during operation and proposed scope of the EIA

Impact Pathway	Project Activity	Scoped into EIA	Justification
Changes to current speed and direction, changes to wave conditions	Bathymetric change due to capital dredge and blockage due to presence of piles and vessels	Yes	The capital dredge and construction of the Marine Facilities have the potential to result in changes to hydrodynamics (e.g. water levels, flow rates, changes to tidal prism). Any hydrodynamic changes that occur would happen slowly as the marine works progress, with the greatest effects occurring on completion of the works, once all elements are in place and the facility is operational. These are likely to cause a change in the local estuary geometry, both increasing the estuary tidal volume and tidal prism. These changes, along with the characteristics of the resulting seabed, have the potential to modify the way the tide propagates through the area. This could change the shape of the tidal curve, hence water levels and tidal range. The extent and magnitude of these effects could be magnified in response to climate change and sea level rise. These changes will be considered as part of the assessment of effects during the operation phase. Waves could be marginally increased within the area of the Marine Facilities and channel dredge locations, although the potential for wave-induced erosion is likely to be reduced given that the area would be deepened and changed to subtidal habitat. As above, any changes to waves are likely to happen slowly as the marine works

Impact Pathway	Project Activity	Scoped into EIA	Justification
			progress, with the greatest effects most likely occurring on completion of the works. These changes will be considered as part of the assessment of effects during the operation phase. Whilst the Marine Facilities have the potential to change local flow speeds and directions, vessels that are berthed during the operational phase could also locally constrain, or result in a blockage to, flow in the area. This potential effect is, therefore, proposed to be scoped into the EIA for further consideration.
Changes to wave conditions as a result of vessel-induced ship wash	Vessel transits/ operations	Yes	As a large vessel travels through water it can cause a number of ship wash effects. These are principally drawdown (the lowering of the water level over the length of the hull), wake (waves that spread outward from the stern) and return flow (flow of water from one end of the vessel to the other as it passes). The proposed Project may result in changes in ship wash that, in turn, result in potential bed and bank erosion and changes in the stability of shallow subtidal and intertidal habitat. The potential effects of ship wash are, therefore, proposed to be scoped into the EIA.
Changes to SSC and associated siltation	Maintenance dredging and disposal	Yes	Sedimentation within the dredge footprint is likely to create a volumetric change to present-day maintenance dredge requirements and potentially change the distribution of sedimentation and, in turn, the maintenance dredge requirement, elsewhere (even if the method of maintenance dredging remains the same as current maintenance dredge commitments).

Impact Pathway	Project Activity	Scoped into EIA	Justification
			These altered maintenance dredge requirements during the operation of the proposed Project have the potential to produce sediment plumes (and associated siltation) at intervals. These maintenance dredge requirements are likely to depend on the rate of sedimentation and use of the berths during operation. The sediment plumes generated by maintenance dredging have been scoped into the EIA for further consideration and will be assessed within the operational phase. The disposal of maintenance dredge material at the Nab Tower deposit ground is likely to create a sediment plume that is dispersed by tidal currents and could affect other receptors. The extent and magnitude of effect would vary according to the method and rate of disposal as well as the character of the material to be disposed. While this is not considered likely to represent significant effect due to the fact that the Nab Tower is an existing disposal site, this potential effect is proposed to be scoped into the EIA for further investigation.

5.6 Mitigation

5.6.1 The jetty structure will be positioned as close to the existing marine access channel as possible (subject to maintaining safe navigation of the existing channel) to minimise the capital dredging requirement and area of intertidal loss as much as possible.

5.6.2 The material types and volumes to be dredged have not yet been fully defined and, therefore, the dredging plant requirements cannot be confirmed. It is nevertheless proposed that any effects of dredging would be minimised by the development of a Dredging Environmental Management Plan (DEMP). This may include measures such as restricting dredger overflow.

5.7 Approach to Assessment and Data Gathering for ES

5.7.1 The baseline understanding of the physical processes of the existing estuary will be updated to take account of:

5.7.2 knowledge gained from monitoring the effects of previous developments, including the recent channel deepening works (Solent Gateway, Western Docks Widening and Southampton Approach Channel Dredge);

- analysis of field measurements undertaken since the last channel deepening, including bathymetry, water levels and flows, salinity, waves, bed and water column sediments;
- collation of latest available data to determine the range of natural variability and any ongoing trends; and,
- geotechnical understanding of the characteristics of the material to be dredged (including sediment sampling which will be carried out as part of the Marine Ground Investigation works).

5.7.3 Numerical modelling tools and conceptual analyses will be used to predict coastal processes, hydrodynamic and sedimentary effects by comparing the baseline and future environmental conditions as a result of the proposed Project. Assessed over a mean spring/neap tidal cycle, this will include predicting the changes to tidal water levels and currents, SSC and sediment erosion and accretion patterns. The models will also allow for the fate of sediment plumes arising from marine activities, such as capital and maintenance dredging and disposal, to be simulated.

5.7.4 Changes in hydrodynamic and sedimentary processes will need to be considered in the context of sea level rise over the design life of the proposed Project by

modelling the effects under future water level conditions. Existing rates of marsh retreat will also be considered as part of the conceptual analysis of the long-term geomorphological development of the estuary.

5.7.5 The Southampton Water model will be built using the Danish Hydraulic Institute (DHI) software package MIKE21FM (Flexible Mesh). The modelling system was developed by DHI for applications within oceanographic, coastal and estuarine environments. For this Project, the MIKE21 Hydrodynamic Model (HD) package will be used to simulate the variations in water level and two-dimensional flow within the study area and the Mud Transport (MT) module to simulate the transport of sediments. The baseline HD model will be calibrated against local survey data of water levels and flows. The baseline MT model will be calibrated against measured SSCs and validated against recent maintenance dredge volumes.

5.7.6 The models will build on existing models of Southampton Water and the Solent area. Updates and refinements will involve incorporating the latest available bathymetry collected in Spring 2025, along with recent channel surveys for Southampton Water and the Rivers Test, Itchen and Hamble. These data include a mosaic of multibeam and single beam bathymetric surveys and will be combined with the latest available LiDAR (collected in April 2025) and profile monitoring data of the intertidal foreshore. The baseline HD model will be calibrated against local survey data of water levels and flows. The baseline MT model will be calibrated against measured SSCs and validated against recent maintenance dredge volumes following the last main channel deepening in 2014 and subsequent capital works at Western Docks and Solent Gateway (in 2024/2025).

5.7.7 Following the refinement of the models to replicate the baseline conditions, the models will be updated to include a representation of the marine elements of the proposed Project, namely the Marine Facilities, the dredge footprint and the dredge disposal site. The models will also be updated to include a representation of any other coastal and marine developments that may overlap or interact with the proposed Project to allow the potential for cumulative effects to be assessed.

5.7.8 A gap analysis of all existing geotechnical information will be undertaken to determine the scope of any further geotechnical sampling and analysis. This analysis will provide information to optimise the dredging methods, minimise effects on the estuary during construction as far as practicably possible and provide the required input data for numerical models to simulate sediment plumes generated during construction.

5.7.9 A ship wash study will be undertaken to understand the effects of vessels associated with the proposed Project on the ship wave energies reaching the shore and shallow subtidal area in the context of existing shipping operations.

This will involve a numerical analysis and desk-based assessment of wind generated and ship generated waves within the estuary informed by Automatic Identification System (AIS) data. Newly collected (in 2025) field monitoring observations will be used to validate the ship wash assessment where possible.

6 MARINE WATER AND SEDIMENT QUALITY

6.1 Introduction

6.1.1 This section sets out the proposed scope of the ES chapter that will report the findings of the marine water and sediment quality assessment, with regards to potential effects as a result of the proposed Project.

6.1.2 A Water Framework Directive (WFD) compliance assessment will be completed to consider the potential implications of the proposed Project for the objectives of nearby water bodies.

6.2 Relevant Policy, Legislation and Guidance

6.2.1 The assessment will be undertaken to meet the requirements set out in the National Policy Statement for Ports (NPSfP), specifically section 5.6.

6.2.2 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including the following:

- UK Marine Policy Statement as required by Section 44 of the Marine and Coastal Access Act 2009, including section 2.6.4 and paragraph 2.6.4.3.
- The Marine and Coastal Access Act 2009 (MCAA).
- The Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations').
- The Water Environment (WFD) (England and Wales) Regulations 2017, known as the Water Framework Regulations.
- Bathing Water Regulations 2013 (as amended).
- Nitrates Directive (91/676/EEC).
- Urban Waste Water Treatment Directive (91/271/EEC).
- Shellfish Water Protected Areas (England and Wales) Directions 2016.
- Urban Waste Water Treatment (England and Wales) Regulations 1994.
- South Inshore and South Offshore Marine Plan.
- UK Marine Strategy.
- Planning Inspectorate Advice Note Eighteen: The Water Framework Directive.
- New Forest District Policy.
- New Forest National Park Policy.
- The Environment Agency's 'Clearing the Waters for All' guidance.

6.3 Study Area

6.3.1 The study area is the extent over which potential direct and indirect effects of the proposed Project may occur during construction and operation. The direct effects on water and sediment quality are those that may arise due to accidental releases and sediment disturbance during construction and operation. Indirect effects are those that may arise due to sediment that is disturbed into the water column during construction and operation resulting in changes in water quality through changes in the levels of dissolved oxygen or the release of sediment-bound contaminants.

6.3.2 The study area for the marine water and sediment quality topic is considered to be the Test and Itchen estuaries and Southampton Water, as well as the existing Nab Tower disposal site, and the adjacent South Wight coast.

6.3.3 The marine water and sediment quality ES chapter will, through further desk-based analysis and assessment, refine the study area for the purposes of the impact assessment.

6.4 Description of Existing Environment

Data Sources

6.4.1 The key data sources included in **Table 6.1** have been used to gather the baseline information on Marine Water and Sediment Quality to inform the scoping study.

Table 6.1 Key data sources

Title	Date
Southampton Maintenance Dredge Protocol Update, Baseline Document, ABPmer Report No. R.4792. A report produced by ABPmer for ABP Southampton, May 2025.	ABPmer, 2025a
Water Quality Monitoring Within Southampton Water. ABP Southampton. ABPmer Report No. R.2058. February 2013	ABPmer, 2013b
Dredged Material Disposal Site Monitoring Round the Coast of England: Results of Sampling	Centre for Environment, Fisheries and Aquaculture Science (Cefas), 2015; 2016; 2018
Urban waste water treatment: updated sensitive areas maps 2023	Department for Environment, Food

Title	Date
	and Rural Affairs (Defra), 2023
List of Shellfish Water Protected Areas in England	Defra, 2022a
Environment Agency's Water Quality Data Archive (https://environment.data.gov.uk/water-quality/view/landing)	Environment Agency, 2025a
Environment Agency's Catchment Data Explorer (https://environment.data.gov.uk/catchment-planning)	Environment Agency, 2025c
Environment Agency's Bathing Water Quality (https://environment.data.gov.uk/bwq/profiles)	Environment Agency, 2025d

Water Quality

6.4.2 Water quality standards and objectives are implemented through a range of legislation including the Water Environment (Water Framework Directive (WFD)) Regulations 2017 (as amended) (known as the Water Framework Environment Regulations), the Bathing Water Regulations 2013, and the UK Marine Strategy. The standards and objectives were established through the European Unions (EU's) WFD (2000/60/EC) which provided for holistic management of all water bodies including rivers, estuaries, groundwater, lakes, and coastal waters to 1 nm offshore.

6.4.3 Domestic legislation derived from the WFD integrates and requires protection of designated shellfish waters, through the Water Framework Environment Regulations; bathing waters, through the Bathing Water Regulations; nature conservation sites, through The Conservation of Habitats and Species Regulations 2017 (as amended); and eutrophication, through the Nitrate Pollution Prevention Regulations 2015 (as amended).

6.4.4 For chemical elements of the WFD (priority substances, priority hazardous substances and other pollutants), as well as specific pollutants (under ecological elements), environmental quality standards (EQS) have been derived and are consolidated within the WFD (Standards and Classification) Directions (England and Wales) 2015. The Environment Agency published updated River Basin Management Plans (RBMPs) for England in 2022 (Cycle 3). RBMPs set out measures through which compliance with WFD objectives will be achieved.

6.4.5 **Figure 6.1** and **Figure 6.2** show the WFD water bodies and WFD protected areas, respectively, in the vicinity of the proposed Project and the Nab Tower disposal site. The proposed dredge footprint and Marine Facilities overlap the Southampton Water transitional water body (ID: GB520704202800) within the

South East river basin district (Environment Agency, 2025c). The Southampton Water transitional water body is a heavily modified water body (HMWB) due to its use or modification for coastal protection, flood protection and navigation, ports and harbours. It is currently classified as moderate ecological potential and failing chemical status (Environment Agency, 2025c). Moderate ecological potential is due to the physico-chemical quality element 'Dissolved inorganic nitrogen' being classified as moderate, as well as the 'Mitigation measures assessment' being moderate or less. Chemical status, assessed in 2019 (it did not require assessment in 2022), is failing to achieve good status due to the priority hazardous substances 'Benzo(g-h-i)perylene', 'Mercury and its compounds', and 'Polybrominated diphenyl ethers (PBDE)'

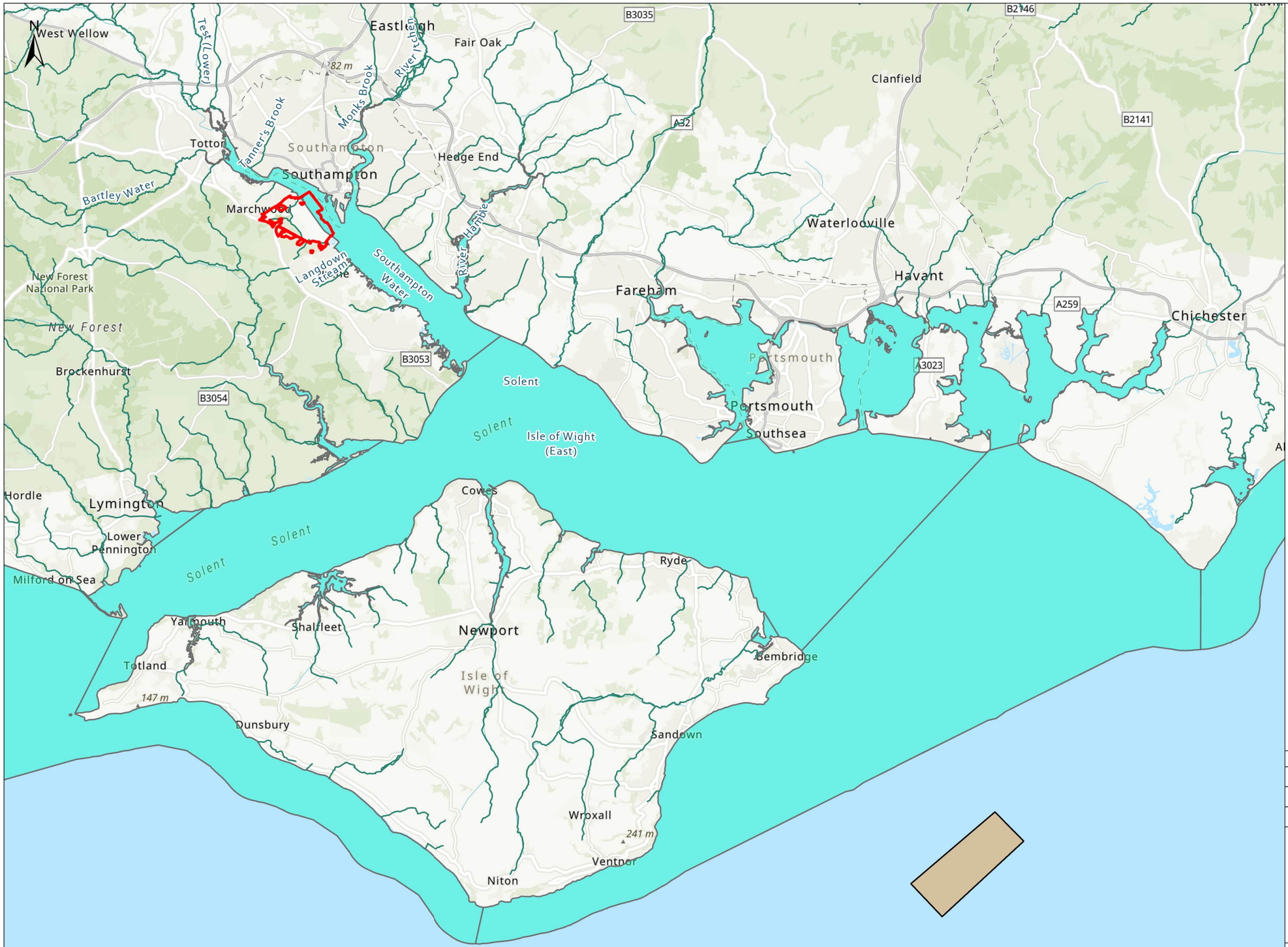
6.4.6 The following river water bodies flow into the Southampton Water transitional water body:

- Test (Lower) (ID: GB107042016840).
- Itchen (ID: GB107042022580).
- Monks Brook (ID: GB107042016310).
- Main River Hamble (ID: GB107042016250).
- Bartley Water (ID: GB107042016730).
- Langdown Stream (ID: GB107042011350).
- Tanner's Brook (ID: GB107042016620).

6.4.7 The Test (Lower) and Itchen river water bodies are currently at good ecological status, while the five other riverine water bodies are at moderate ecological status/potential (Environment Agency, 2025c).

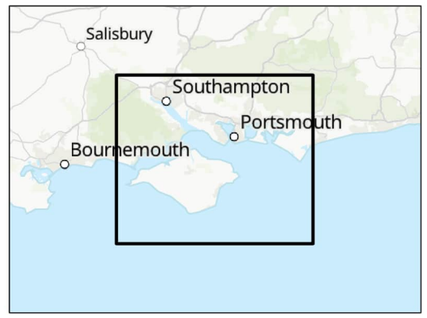
6.4.8 The Southampton Water transitional water body flows into the Solent coastal water body (ID: GB650705150000) to the south-east at Calshot. The Solent coastal water body is currently at moderate ecological potential due to the biological quality element 'Angiosperms' (saltmarsh), physico-chemical quality element 'Dissolved inorganic nitrogen'. Chemical status, as assessed by the EA in 2019 (the EA determined that it did not require assessment in 2022), is failing to achieve good status due to the priority hazardous substances 'Mercury and its compounds', and 'PBDE'.

6.4.9 The Nab Tower disposal site, which is currently assumed to be the disposal site used for the dredged arisings, is located outwith a WFD water body. The nearest water body is the Isle of Wight East coastal water body (ID: GB650705530000), located approximately 4km to the north-west of the Nab Tower disposal site, and is currently at good ecological potential, with a chemical status of fail (due to 'Mercury and its compounds', and 'PBDE').



Legend

- Scoping Boundary
- WFD River Water Bodies Cycle 1
- WFD Transitional and Coastal Waterbodies Cycle 2
- Nab Tower Disposal Site



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	23/10/2025	Initial Issue	NM	JO	AC	MSS

Scale @ A3 — Scale: 1:200,000 — DO NOT SCALE

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Project: SOLENT GATEWAY 2

Drawing Title: WFD WATER BODIES

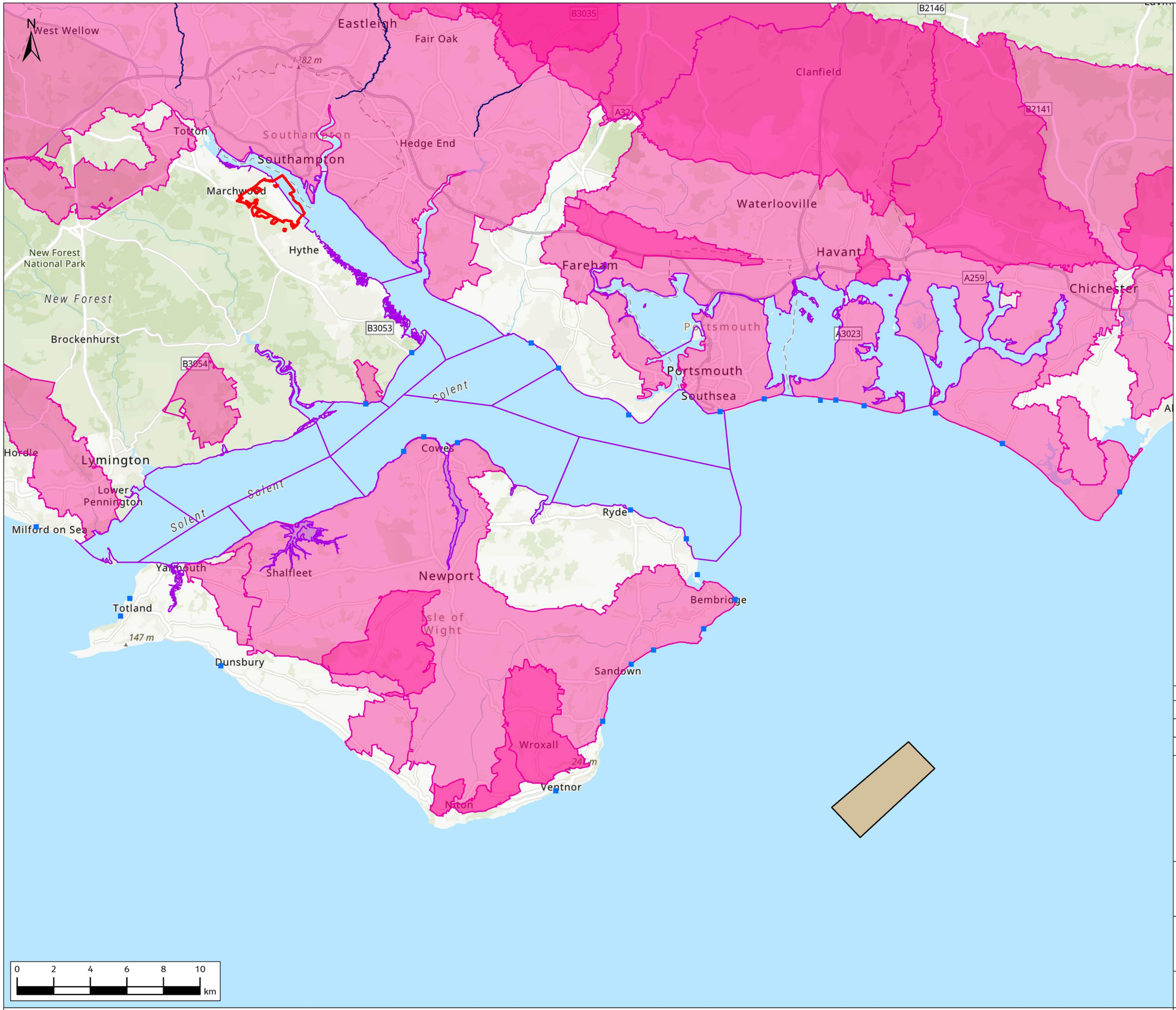
Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-010006

Drawing Status: FINAL

Figure 6.1

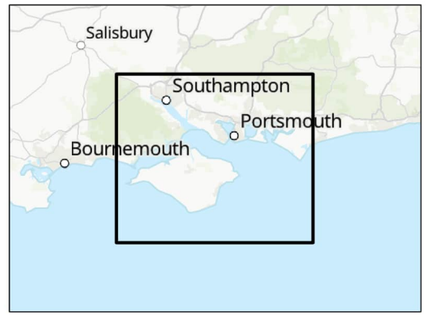
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Legend

- Scoping Boundary
- Bathing Waters
- Sensitive Areas - Eutrophic Rivers
- Nab Tower Disposal Site
- Nitrate Vulnerable Zones
- WFD Shellfish Water Protected Areas



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	23/10/2025	Initial Issue	NM	JO	AC	MSS

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Project

SOLENT GATEWAY 2

Drawing Title

WFD PROTECTED AREAS

Drawing No.

S6585-MDEC-ZZ-ZZ-DG-EC-010007

Drawing Status

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Figure 6.2

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6.4.10 The proposed dredge footprint and Marine Facilities overlap with the Southampton Water Shellfish Water Protected Area (Defra, 2022a), including the Eling classification zone located within the Southampton Water bivalve mollusc production area (Cefas, 2025a; 2025b). This classification zone is currently listed as a prohibited area for bivalve mollusc production (effective from 1 December 2024 to 30 November 2025) (Food Standards Agency, 2025a). Similarly, the Hythe classification zone, located immediately downstream, is currently listed as a prohibited area for bivalve mollusc production (Food Standards Agency, 2025a).

6.4.11 The Bird Pile classification zone is located further downstream of the proposed Project location and is currently classified as prohibited for the collection of shellfish from 1 December 2024 to 1 March 2025, and Class C from 1 March (subject to additional sampling results in February) for *Tapes spp*., *Cerastoderma edule* (cockles) and *Mercenaria mercenaria* (clams) (Food Standards Agency, 2025a). Class C molluscs must contain less than or equal to 46,000 *Escherichia coli* per 100 grams of flesh. Molluscs from Class C classification zones can go for human consumption only after relaying for at least two months in an approved Class B relaying area followed by treatment in an approved purification centre or relaying for at least two months in an approved Class A relaying area or a European Commission approved heat treatment process (Food Standards Agency, 2025b). The Nab Tower disposal site is located outwith a Shellfish Water Protected Area, with the Ryde Shellfish Water Protected Area the nearest at approximately 10km to the north-west.

6.4.12 Calshot and Hillhead designated bathing waters are located approximately 10km to the south-east of the proposed Project location (Environment Agency, 2025d). Calshot bathing water has been classified as ‘excellent’ from 2021 to 2024. Hillhead bathing water was assessed as having ‘good’ water quality in 2021 and 2023 and ‘excellent’ water quality in 2022 and 2024. A number of designated bathing waters are located on the south-east coast of the Isle of Wight, namely Ventnor, Shanklin, Sandown, Yaverland, Whitecliff Bay and Bembridge. In 2024, each of these designated bathing waters were classified as having ‘excellent’ water quality, with the exception of Bembridge and Sandown which was classified as ‘good’.

6.4.13 Dissolved oxygen is currently at high status for the Southampton Water transitional water body (Environment Agency, 2025c). It is frequently measured, along with oxygen saturation levels, at several Environment Agency monitoring stations near to the proposed dredge footprint and Marine Facilities.

6.4.14 The proposed Project does not directly overlap a Nitrate Vulnerable Zone (NVZ), as designated under the Nitrates Regulations (Environment Agency, 2025d). However, the Hamble Estuary NVZ is located on the opposite side of estuary to

the proposed Project location, covering the majority of the City of Southampton. Similarly, the River Hamble, Hamble Estuary, River Itchen (Hampshire) and River Test 'Eutrophic Sensitive Areas', as designated under the Urban Waste Water Treatment Regulations, are located in the vicinity of the proposed Project (Defra, 2023).

6.4.15 Water quality monitoring (turbidity and dissolved oxygen levels) was undertaken by ABP within the lower reaches of the River Test and Southampton Water between August 2009 and February 2013 (ABPmer, 2013b). The monitoring data indicate a clear pattern related to the spring / neap tidal cycle. There is also a seasonal pattern, with turbidity and dissolved oxygen in summer months generally lower than in winter months.

Sediment Quality

6.4.16 There are no formal quantitative EQSs for the concentration of contaminants in sediments, although the WFD has introduced optional standards for a small number of priority (hazardous) substances. Cefas has prepared a series of guideline Action Levels to assist in the assessment of dredged material (and its suitability for disposal to sea). In general, contaminant levels in dredged material below Action Level 1 (AL1) are of no concern and are unlikely to influence the licensing decision. However, dredged material with contaminant levels above Action Level 2 (AL2) is generally considered unsuitable for disposal at sea. Dredged material with contaminant levels between AL1 and AL2 requires further consideration before a decision can be made.

6.4.17 The Cefas Guideline Action Levels should not be viewed as pass / fail thresholds. However, these guidelines provide an appropriate context for consideration of contaminant levels in sediments and are used as part of a 'weight of evidence' approach to assessing dredged material.

6.4.18 Sediment analysis has routinely been undertaken throughout Southampton Water and the Rivers Test and Itchen in respect of capital and maintenance dredge activities, as reported in the Southampton Maintenance Dredge Protocol (MDP) Baseline Document (ABPmer, 2025a). A review of contamination levels (for the period 2001 to 2022), including areas close to or overlapping the proposed dredge footprint and Marine Facilities, indicate concentrations are typically below AL1 or slightly above AL1 for trace metals, organotins, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs) (ABPmer, 2025a). PBDEs and organochlorine pesticides (OCP) have not regularly been tested in sediment samples as part of the requirements for testing under the current maintenance dredging marine licence. However, evidence from sediment analysis undertaken

for the Southampton Container Terminal Berth Improvement Works and Berth Access Dredge project, found that all tested PBDEs and OCPs were low, mostly below the limit of detection (ABPmer, 2025a). There are no ALs for either PBDEs or OCPs.

6.4.19 Monitoring surveys of the Nab Tower deposit ground were conducted in 1993 and 1994 (Cefas, 1997). The surveys indicated that the sediments at the site and the surrounding area contained elevated concentrations of some metals (mercury and lead), while PCB levels were generally below detection limits over the study area. Bacterial indicators were also found indicating contamination from sewage sludge disposal, which ceased to take place in 1998, despite dredged material dominating deposits made in the area (Cefas, 1997). Between 1998 and 2004, the mean level of TBT at the Nab was close to the detection limits of 0.001mg/kg (Cefas, 2005).

6.4.20 Since these sediment contamination surveys were completed by Cefas, monitoring at the Nab Tower deposit ground has primarily focused on macrofaunal assemblages and acoustic bathymetry or backscatter data to assess the physical nature of the seabed resulting from large increases in disposal activity at the site. The Nab Tower deposit ground is the main licensed disposal site for both maintenance and capital material from ports, harbours, berths and navigational channels in Southampton, Portsmouth and the Isle of Wight (Cefas, 2015; 2016; 2018).

6.5 Future Baseline

6.5.1 It is assumed that land within ABP's ownership within the proposed Project site would continue to be held on a short-term tenancy basis for agricultural use as part of an ongoing management process. There are therefore unlikely to be any short-term changes in marine water and sediment quality in the absence of the proposed Project.

6.5.2 Marine water and sediment quality will continue to be influenced by natural and human-induced variability, ongoing cyclic patterns and trends (e.g. ongoing maintenance dredging and disposal, and existing discharge licences in the area). The future baseline will also be influenced by climate change, such as changes in sea temperature.

6.6 Potential Impacts

Potential Impacts During Construction

6.6.1 **Table 6.2** identifies the potential impacts on Marine Water and Sediment Quality related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 6.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Changes to dissolved oxygen concentrations as a result of increased SSCs	Capital dredging and dredge disposal	Yes	There is potential for sediment plumes to arise during construction, specifically as a result of capital dredging and the disposal of dredge material. An increase in chemical and biological oxygen demand is associated with elevated SSCs in the water column which can potentially reduce dissolved oxygen concentrations (LaSalle, 1990). This effect is primarily associated with organic-rich material, such as peat or alluvium. Further consideration of this potential change, scoped into the EIA, will be undertaken based on the properties of sediments within the dredge footprint and predicted increases in SSC, which will be informed by the Coastal Processes and Geomorphology assessment (**Section 5**).
WFD water bodies and WFD protected areas in the vicinity of the proposed Project	Changes to dissolved oxygen concentrations as a result of increased SSCs	Marine piling	No	During piling, physical disturbance of sediment has the potential to result in the localised resuspension of sediment. However, increases in SSCs from piling are likely to be highly localised and will be of a similar scale to that which regularly occurs naturally. Such negligible change is unlikely to cause a significant effect on

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				dissolved oxygen concentrations. This impact pathway has, therefore, been scoped out of the assessment.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Changes to chemical water quality as a result of potential sediment-bound contaminants	Capital dredging and dredge disposal	Yes	Capital dredging and the disposal of dredge material have the potential to disturb sediments. As sediment is re-distributed into the water column, any sediment-bound contaminants may be partitioned from the solid phase (i.e. bound to sediments or suspended matter), to the dissolved or aqueous phase (i.e. dissolved in pore water or overlying water) (Luoma, 1983). This has the potential to reduce water quality and compromise EQSs. Further consideration of this potential change (and its ecological consequences) is scoped into the EIA, and will be undertaken based on chemical analysis of sediments within the dredge footprint.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project	Changes to chemical water quality as a result of potential sediment-bound contaminants	Marine piling	No	During piling, physical disturbance of sediment has the potential to result in the localised resuspension of sediment. However, increases in SSCs from piling are likely to be highly localised and will be of a similar scale to that which regularly occurs naturally. Such negligible change is unlikely to cause a significant effect on water

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				quality through the potential release of sediment-bound contaminants. This impact pathway has, therefore, been scoped out of the assessment.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Redistribution of sediment-bound contaminants	Capital dredging and dredge disposal	Yes	The potential to impact the marine environment as a result of any sediment-bound contaminants arises primarily when the sediment that is released into the water column disperses and deposits elsewhere. Capital dredging and disposal activities have the potential to reduce sediment quality away from the proposed Project site. This impact pathway has, therefore, been scoped into the assessment.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project	Redistribution of sediment-bound contaminants	Marine piling	No	As noted above, sediment disturbance from piling is likely to be highly localised and increases in SSCs will be of a similar scale to that which regularly occurs naturally. Such negligible change is unlikely to affect sediment quality elsewhere through the redistribution of sediment-bound contaminants. This impact pathway has, therefore, been scoped out of the assessment.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project	Changes to levels of contaminants in water (including accidental spillages)	Marine works (jetty structure and capital	No	The proposed Project will not directly introduce contaminants to the marine environment and the potential risk of spillages will be minimised and mitigated through the application of environmental

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
and the Nab Tower disposal site		dredging and disposal)		good practice management measures; these constitute standard practice mitigation measures which will be embedded within the proposed Project design for legislative compliance. The measures will be secured through the Construction Environmental Management Plan (CEMP). The potential release of fuel and oil following a vessel accident, incident or spillage during construction will be considered further in the Commercial and Recreational Navigation assessment and the Navigational Risk Assessment (NRA).
WFD water bodies and WFD protected areas in the vicinity of the proposed Project	Potential changes to water quality associated with changes to freshwater and drainage discharges	Landside construction works	n/a	This impact pathway is covered in the Water Resource and Flood Risk assessment (**Section 18**)

Potential Impacts During Operation

6.6.2 **Table 6.3** identifies the potential impacts on Marine Water and Sediment Quality related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 6.3 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Changes to dissolved oxygen concentrations as a result of increased SSCs	Maintenance dredging and dredge disposal	Yes	Sediment plumes will arise during the operation of the proposed Project, specifically as a result of maintenance dredging and the disposal of dredged material. There is potential for an increase in biochemical oxygen demand associated with elevated SSC in the water column, which may reduce dissolved oxygen concentrations. Therefore, this potential change has been scoped into the assessment as further consideration may be required based on the properties of sediments within the dredge footprint and predicted increases in SSC, which will be informed by Coastal Processes and Geomorphology (**Section 5**).
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Changes to chemical water quality as a result of potential release of sediment-bound contaminants	Maintenance dredging and dredge disposal	Yes	Maintenance dredging and the disposal of dredge material has the potential to disturb, redistribute and release contaminated sediments into the water column. Therefore, further consideration of this potential impact will be undertaken based on the anticipated level of sediment contamination that is likely to accumulate within the dredge

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				footprint during operation. This potential impact is proposed to be scoped into the EIA.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Redistribution of sediment-bound contaminants	Maintenance dredging and dredge disposal	Yes	The potential to impact the marine environment as a result of any sediment-bound contaminants arises primarily when the sediment that is released into the water column disperses and deposits elsewhere. Maintenance dredging and disposal activities have the potential to reduce sediment quality away from the Project site. This impact pathway has, therefore, been scoped into the assessment.
WFD water bodies and WFD protected areas in the vicinity of the proposed Project and the Nab Tower disposal site	Changes to levels of contaminants in water (including accidental spillages)	Vessel operations and maintenance dredging and disposal	No	The proposed Project will not directly introduce contaminants to the marine environment and the potential risk of spillages will be minimised and mitigated through the application of environmental good practice management measures; these constitute standard practice mitigation measures which will be embedded in the proposed Project. The potential release of fuel and oil following a vessel accident, incident or spillage during operation will be considered further in the Commercial and Recreational Navigation assessment and the NRA.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
WFD water bodies and WFD protected areas in the vicinity of the proposed Project	Potential changes to water quality associated with changes to freshwater and drainage discharges	Planned and unplanned operational maintenance	n/a	This impact pathway is covered in Water Resource and Flood Risk (**Section 18**).

6.7 Mitigation

6.7.1 Through the ongoing project design process, the jetty structure will be positioned as close to the marine access channel as is safe to do so, to minimise the capital dredging requirement.

6.7.2 ABP will continue to operate its Oil Spill Contingency Plan to provide a timely, measured and effective response to pollution incidents during construction and operation (see **Section 10**). Additionally, the potential risk of accidental spillages will be minimised and mitigated through the application of environmental good practice management measures; these constitute standard practice mitigation measures which will be embedded in the proposed Project. A range of other mitigation measures may be required, depending on programme, to minimise effects on water and sediment quality, and other sensitive receptors.

6.8 Approach to Assessment and Data Gathering for ES

6.8.1 A desk-based review of the Environment Agency's Water Quality Data Archive, the Southampton MDP Baseline Document (ABPmer, 2025a), past and recent water quality monitoring undertaken by ABP (e.g. ABPmer, 2013b), and other historic developments and sample data will be undertaken to support a detailed understanding of water and sediment quality in the lower reaches of the River Test and Southampton Water. This will include a review of dissolved oxygen concentrations, nutrient concentrations and contaminant concentrations, both dissolved in water and sediment-bound.

6.8.2 Sediment sampling within the dredge footprint of the proposed Project will be carried out as part of the Marine Ground Investigation works to characterise the dredge material. A sampling plan has been developed in consultation with the Marine Management Organisation (MMO) and Cefas (Reference: SAM/2025/00041), which includes consideration of the need for sampling for a range of contaminants and particle size analysis (PSA) at the surface and at depth, taking account of available guidelines for the management of dredge material to be disposed at sea (OSPAR Commission, 2024).

6.8.3 Contaminant concentrations in sediment samples will be compared to Cefas guideline ALs to determine their suitability for disposal at sea. Contaminant concentrations in sediments will also inform the assessment of potential changes to dissolved concentrations in the water column and predicted redistribution of contaminants as a result of the proposed Project.

6.8.4 Model outputs of potential sediment plumes generated by the proposed Project will be used, as set out in Coastal Processes and Geomorphology (**Section 5**). Incremental changes to dissolved contaminant concentrations, in addition to background concentrations, will be compared to EQS values to consider potential ecological impacts, based on maximum allowable concentrations (MAC; short-term) and thresholds for annual averages (long-term). The model outputs for the dispersion of suspended sediments will also support an assessment of changes to dissolved oxygen concentration.

6.8.5 The assessment will also take into consideration the technical reports produced by the Environment Agency with regards to water quality patterns and monitoring in the upper Test and Itchen estuaries (Environment Agency, 2022 and 2024a). The marine ecology assessment will specifically consider potential water quality impacts on Atlantic salmon and other migratory fish.

6.8.6 A WFD compliance assessment will be completed to consider the potential implications of the proposed Project for the objectives of nearby water bodies. This will follow the Environment Agency's Clearing the Waters for All guidance (Environment Agency, 2016).

7 MARINE ECOLOGY

7.1 Introduction

7.1.1 This section sets out the proposed scope of the ES chapter that will report the findings of the marine ecology assessment, with regard to potential effects as a result of the proposed Project. Specifically, this includes consideration of potential effects on the following receptors:

- Benthic habitat and species (including non-native species).
- Fish species.
- Marine mammals.

7.1.2 While the marine ecology topic will consider potential ecological effects on fish species, potential impacts on commercial and recreational fisheries will be considered as part of the Commercial and Recreational Fisheries (**Section 9**) with the potential socioeconomic impacts on fishermen and businesses considered within Socioeconomics (**Section 22**).

7.1.3 The collection of commercial bivalve shellfish species including cockle *Cerastoderma edule*, oyster *Ostrea edulis* and clam species is prohibited in much of Southampton Water including the Dibden Bay area[4] (see **Section 9** for more information). Ecological effects on relevant shellfish species (such as cockles, clams or crabs) will be assessed where relevant within the benthic habitats and species assessment. However, potential effects on shellfish fisheries will be considered in **Section 9**, with the potential socioeconomic impacts on fishermen and businesses considered in **Section 22**.

7.1.4 National Site Network (NSN) sites (Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites) will be considered in more detail in the Habitats Regulations Assessment (HRA) Screening Report alongside the PEIR.

7.2 Relevant Policy, Legislation and Guidance

7.2.1 The assessment will be undertaken to meet the requirements set out in the National Policy Statement for Ports (NPSfP), including paragraphs 5.1.4, 5.1.5; 5.1.8 and 5.1.9.

7.2.2 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including the following:

[4] https://www.cefas.co.uk/data-and-publications/shellfish-classification-and-microbiological-monitoring/england-and-wales/classification-zone-maps/.

- UK Marine Policy Statement, including paragraphs 3.1.7 and 3.1.8.
- The Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations').
- The Water Environment (WFD) (England and Wales) Regulations 2017, known as the Water Framework Regulations.
- The Eels (England and Wales) Regulations (2009).
- The Wildlife and Countryside Act (WCA) 1981, as amended.
- The Natural Environment and Rural Communities (NERC) Act 2006.
- South Inshore and South Offshore Marine Plan.
- New Forest District Policy.
- New Forest National Park Policy.
- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (2018).

7.3 Study Area

7.3.1 The study area is the area over which potential effects of the proposed Project may occur during construction and operation and encompasses both direct effects (e.g. direct habitat loss or underwater noise due to construction activity) and indirect effects (e.g. changes to seabed habitats and species as a result of changes to hydrodynamic and sedimentary processes).

7.3.2 The study area for the marine ecology topic is focused on the central part of Southampton Water between Marchwood and Hythe and around the Nab Tower disposal site. However, fish and marine mammals are mobile species and the zone of influence of underwater noise is likely to occur over a wider area. Therefore, data for the wider Southampton Water and Solent region has been presented where relevant to provide contextual information and to ensure that mobile receptors are adequately characterised.

7.3.3 The marine ecology ES chapter will, through further analysis and assessment, refine the study area for the purposes of the impact assessment.

7.4 Description of Existing Environment

Data Sources

7.4.1 The key data sources set out in **Table 7.1** have been used to gather the baseline information on Marine Ecology (including benthic habitats and species, fish and

marine mammals) and to inform the scoping study. These data sources are described in more detail in this section.

Table 7.1 Key data sources

Title	Date
Natura 2000 standard data forms or information sheets for each designation: Information on the species and habitats listed in the original citations.	JNCC, 2025
National Biodiversity Network (NBN) records of protected marine species in the region.	NBN, 2025
Southampton Water Benthic Ecology Surveys: Baseline marine ecology surveys of Southampton Water including intertidal habitat mapping, intertidal invertebrate sampling and subtidal benthic sampling.	ABPmer, 2019
Natural England Solent Maritime SAC Intertidal Survey.	CMACS Ltd, 2012
The Solent State of Nature Report.	ABPmer, 2025b
Cefas Spawning and Nursery Grounds of Selected Fish Species in UK Waters.	Ellis et al., 2012.
Environment Agency fish monitoring reports for the Solent region.	Environment Agency, 2024b
Transitional and Coastal Waters (TraC) Fish Monitoring.	Environment Agency, 2025e
South coast bottlenose dolphin population study.	Corr et al., 2023
Wildlife Trust's Solent Seal Tagging Project.	Chesworth et al., 2010
Chichester Harbour Conservancy seal colony count data.	Chichester Harbour Conservancy, 2024
Harbour seals and grey seals in the Solent review.	Castles et al., 2021
Records of recent cetacean sightings in Southampton Water and the Solent Region on the Seawatch Foundation website.	Sea Watch Foundation, 2025

Nature Conservation

7.4.2 The main estuary, comprising the lower reaches of the River Test and Southampton Water, in which the proposed Project is located, and adjacent water bodies are subject to high levels of national and international nature conservation protection through a range of designations that support marine features

(**Figure 7.1** and **Figure 7.2**), including the Solent and Southampton Water SPA and Ramsar site as well as the Solent and Dorset Coast SPA which are considered further in Coastal Ornithology (**Section 8**).

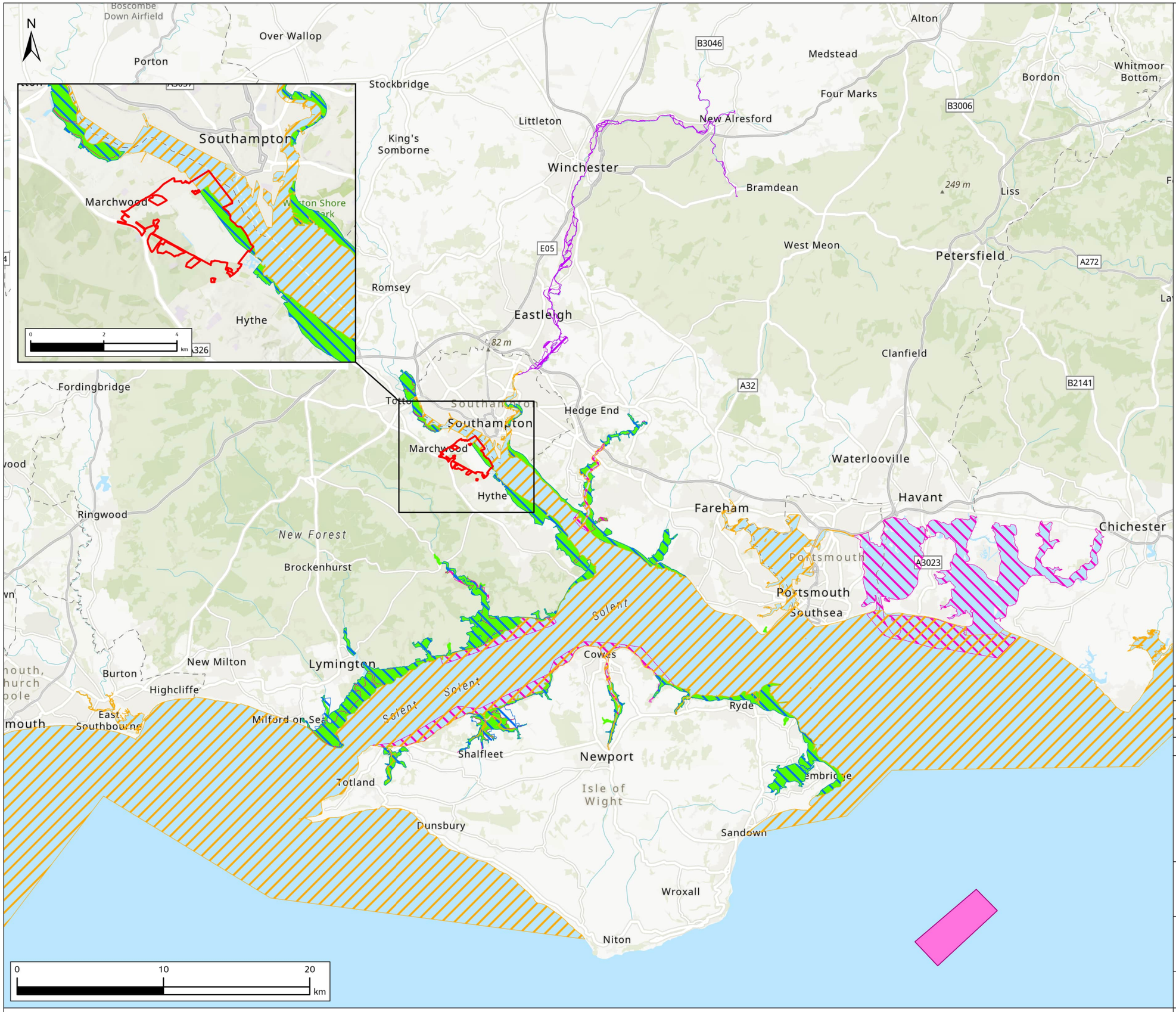
7.4.3 The Solent Maritime SAC is designated to protect a range of marine habitat features in the Solent and Southampton Water (**Figure 7.1** and **Table 7.2**). This SAC is located over 2km from the proposed dredge footprint and Marine Facilities.

Table 7.2 Qualifying marine features in the Solent Maritime SAC

Qualifying Marine Features in the Solent Maritime SAC
Annex I habitats that are a primary reason for selection of this site
Estuaries
Spartina swards (*Spartinion maritimae*)
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
Annex I habitats present as a qualifying feature for selection of this site
Sandbanks which are slightly covered by seawater all the time
Mudflats and sandflats not covered by seawater at low tide
Coastal lagoons
Annual vegetation of drift lines
Perennial vegetation of stony banks
Salicornia and other annuals colonising mud and sand
Shifting dunes along the shoreline with *Ammophila arenaria* (‘white dunes’)

7.4.4 The nearest internationally designated site to the Nab Tower disposal site is the South Wight Maritime SAC (located approximately 5km away, **Figure 7.1**). With respect to marine features, this SAC is designated for reefs and submerged or partially submerged sea caves.

7.4.5 The Solent Maritime SAC, Solent and Dorset Coast SPA and Solent and Southampton Water SPA, together with the Portsmouth Harbour SPA, and Chichester and Langstone Harbours SPA, are component sites of the Solent European Marine Site (EMS). EMSs (as defined by the Habitats Regulations) refer to the marine areas of SACs and SPAs which are protected under the EC Habitats and Birds Directives. An EMS can be an entire SAC or SPA, or only part of one (as the SAC or SPA may also include terrestrial areas). An EMS is not a statutory site designation and is essentially a management unit for parts of the National Site Network sites (which were formerly Natura 2000 sites) which extend beyond the boundaries of SSSIs in the UK.



Esri, Intermap, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	23/10/2025	Initial Issue	AH	AJP	AC	MSS

Scale @ A3 | Scale: 1:250,000 | DO NOT SCALE

Jacobs No. B2488100

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Project: SOLENT GATEWAY 2

Drawing Title: INTERNATIONALLY DESIGNATED SITES

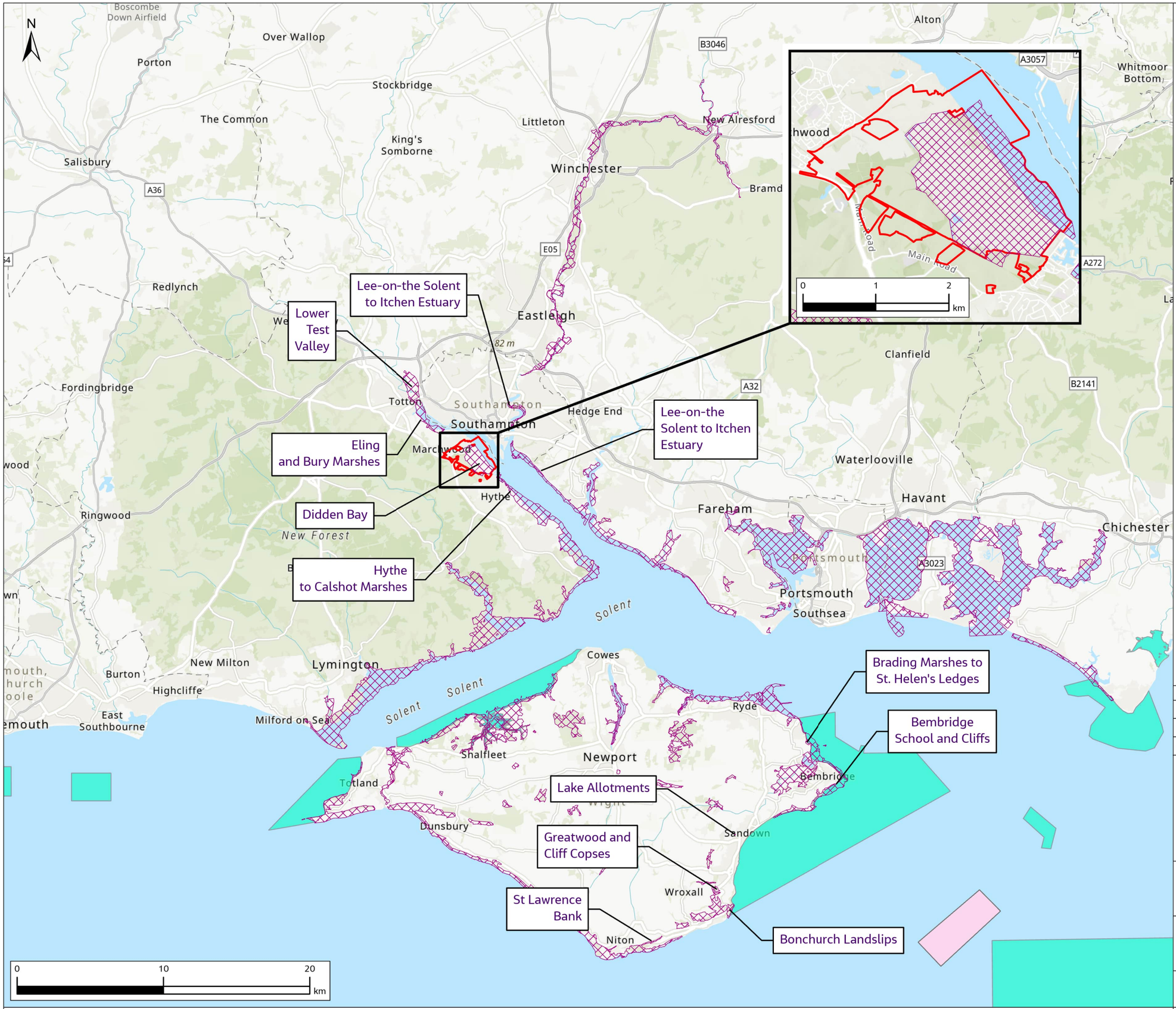
Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-010008

Drawing Status: FINAL

FIGURE 7.1

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0	23/10/2025	Initial Issue	AH	AJP	AC	MSS

Scale @ A3 — Scale: 1:250,000 — DO NOT SCALE

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Project: SOLENT GATEWAY 2

Drawing Title: NATIONALLY DESIGNATED SITES

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-010009

Drawing Status: FINAL

FIGURE 7.2

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7.4.6 The River Itchen SAC is designated for a range of freshwater habitat and species features including Atlantic salmon. This species migrates through Southampton Water.

7.4.7 With respect to nationally designated sites, the proposed dredge footprint and Marine Facilities overlap with the Hythe to Calshot Marshes SSSI along the foreshore. The site is notified for supporting extensive areas of saltmarsh and mudflats in Southampton Water (feeding and roosting grounds for waterbirds). There are a number of other SSSIs in the wider Southampton Water area that support marine features (**Figure 7.2**).

7.4.8 The nearest nationally designated sites to the Nab Tower disposal site are the Offshore Overfalls MCZ located approximately 0.8km away and the Utopia MCZ located approximately 6km away (**Figure 7.2**). These MCZs are designated for a range sedimentary habitat features, including high energy circalittoral rock and subtidal sand. Bembridge recommended MCZ is proposed to be designated for a number of habitats and species, including short-snouted seahorse *Hippocampus hippocampus* and maerl beds. This site is located approximately 7km away from the Nab Tower disposal site (**Figure 7.2**).

7.4.9 The designations relevant to coastal waterbirds are described in **Section 8.1.2**.

Protected species

7.4.10 The Wildlife and Countryside Act 1981 (as amended) (WCA) protects various animals, plants, habitats in the UK. Relevant protected WCA species recorded in the Solent region include:

- the tentacled lagoon worm *Alkmaria romijni*;
- the lagoon sand shrimp *Gammarus insensibilis*;
- spiny (long-snouted) seahorse *H. guttulatus* and short-snouted seahorse *H. hippocampus*;
- cetacean (whale and dolphin) species; and,
- all bird species.

7.4.11 Marine species are also protected from being killed, injured or disturbed both inside and outside designated sites under the provisions of the Habitats Directive. Of relevance to the Solent region are:

- harbour (common seal) *Phoca vitulina* and grey seal *Halichoerus grypus* (listed in Annex II and V);
- bottlenose dolphin *Tursiops truncatus* (listed in Annex II and IV);
- sea lamprey *Petromyzon marinus* (listed in Annex II) and river lamprey (listed in Annex II and V); and,

- Atlantic salmon *Salmo salar* (listed in Annex II and V).

7.4.12 Seals are also protected under the Conservation of Seals Act 1970.

7.4.13 All naturally occurring wild bird species, their eggs, nests and habitats are strictly protected under the Habitats Regulations.

7.4.14 In addition, some marine fauna and habitats are listed as priority species and habitats of principle importance in England, as required under Section 41 of the NERC Act. Species of principle importance which are of relevance to the Solent region include various species of waterbird, commercial fish (such as cod *Gadus morhua* and herring *Clupea harengus*), seahorses, migratory fish (such as lampreys, Atlantic salmon *Salmo salar* and European eel *Anguilla anguilla*).

7.4.15 Habitats of principal importance which are of relevance to Southampton Water include intertidal mudflats, coastal saltmarsh and saline lagoons. Based on the current geographic extent and location of habitats of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 that are publicly available on the MAGIC website (Natural England, 2025), the proximity of these coastal and intertidal habitats to the proposed Project is as follows:

- Mudflats: The proposed Project directly overlaps with this habitat.
- Coastal saltmarsh: The nearest saltmarsh habitat is located approximately 3km to the west of the marine elements of the proposed Project (Bury Marsh).
- Saline lagoons: The nearest coastal lagoon habitat within Southampton Water is located approximately 8km from the marine elements of the proposed Project.

7.4.16 European eels are also afforded protection as part of the Eels (England and Wales) Regulations 2009. The regulations, which apply to all freshwater and estuarine waters of England and Wales, give powers to statutory bodies to implement measures for the recovery of European eel stocks including improving access, habitat quality and easing fishing pressure.

Intertidal Benthic Habitats and Species

7.4.17 The main intertidal habitats that occur within the lower reaches of the River Test and Southampton Water are mudflats (consisting of a range of sediments including mud, sandy mud and mixed sediment), saltmarsh, sandflats and boulder habitats. Shingle habitat is also common on the upper shore. In addition, areas of artificial hard substrate (such as sea defences, quay walls and piers) are also

widespread throughout the area (CMACS LTD, 2012; ABPmer, 2019; ABPmer, 2023b).

7.4.18 Intertidal marine ecology surveys along the Dibden foreshore in 2018 found that much of the lower shore consisted of mudflat habitat comprising a mixture of sandy mud and sandy mud often with gravel, pebbles and a large amount of shell debris. Sedimentary habitats were colonised by a wide range of infaunal species including polychaetes (such as *Aphelochaeta spp*., *Tharyx spp*. and *Heteromastus filiformis*), oligochaetes (particularly *Tubificoides spp*.), the mudsnail Peringia ulvae, bivalves (such as furrow shells *Abra spp*. and cockles *Cerastoderma edule*), burrowing anemones and crustaceans (particularly amphipods). The slipper limpet *Crepidula fornicata* was also commonly recorded on the sediment surface. Large areas were highly disturbed with evidence of bait digging. Small patches of boulders were also recorded on the lower shore (ABPmer, 2019).

7.4.19 Areas of coarser intertidal sediment in less disturbed areas and boulders were colonised by green and red seaweeds, as well as wracks. Along some sections of the mid and upper shore were anthropogenic structures (such as rock groynes, sheet piles, rubble, wrecks and concrete debris). Epifaunal species recorded on coarser sediment and hard surfaces included barnacles, periwinkles (Littorina spp.), Pacific oyster *Magallana gigas*, sponges, limpets (*Patella spp.*) and anemones (such as beadlet anemone *Actinia equina*). Barren shingle beaches with large amounts of shell debris were also present on the upper shore (ABPmer, 2019).

Subtidal Benthic Habitats and Species

7.4.20 The subtidal sediments of the lower reaches of the River Test and Southampton Water are predominantly mud with patches of sandier sediments (Velegrakis, 2000; ABPmer, 2012). The subtidal zone beyond the marine access channel supports a relatively undisturbed habitat, whereas the area within the channel and berths is heavily modified due to frequent vessel movements and routine maintenance dredging.

7.4.21 Subtidal benthic samples collected adjacent to the Dibden Bay foreshore in 2018 comprised predominantly sandy mud sediment and was characterised by bivalves (such as the furrow shell *Abra nitida*, basket shell *Corbula gibba* and clam *Nucula nucleus*), and polychaetes (such as *Nephtys hombergii*, and Melinna palmata). Other species recorded included a range of echinoderm species (including the brittle stars Amphipholis squamata and *Ophiura ophiura)* and the common shore crab *Carcinus maenas* (ABPmer, 2019).

7.4.22 Subject to no appropriate alternative use being identified for the dredge material, it is anticipated that any requirement for disposal of dredge material at sea associated with the proposed Project would be fulfilled at the Nab Tower disposal site. The seabed at the Nab Tower disposal site consists predominantly of fine sand and gravel with finer sediments, probably the remains of deposited material. The area is situated approximately 40m below CD and is located adjacent to a number of existing aggregate dredging licence areas.

7.4.23 The Nab Tower disposal site has been used for many years for the disposal of dredged material without any significant reduction in depths being recorded, indicating the environment to be highly dispersive.

Non-Native Marine Species

7.4.24 Due to its history as a hub for shipping and trade, the Solent area, including Southampton Water, has been colonised by non-native species through the fouling of ships hulls or larvae in ballast water.

7.4.25 Non-native species that are well-established in the region include the Pacific oyster *Magallana gigas*, Asian date mussel *Arcuatula senhousia*, manila clam *Ruditapes philippinarum*, slipper limpet *Crepidula fornicata*, the trumpet tube worm *Ficopomatus enigmaticus*, Japanese wireweed *Sargassum muticum*, gammarid amphipod *Grandidierella japonica*, Darwin's barnacle *Austrominius modestus*, leathery sea squirt *Styela clava*, carpet sea squirt *Didemnum vexillum*, sea spider *Ammothea hilgendorfi*, poorly-ribbed cockle *Acanthocardia paucicostata*, Asian semele *Theora lubrica*, American piddock *Petricolaria pholadiformis*, brown bryozoan *Bugula neritina* and red ripple *bryozoan Watersipora subatra* (Wood et al., 2016; Wood et al., 2015; Watson et al., 2021; ABPmer, 2019; ABPmer, 2023b).

Fish

7.4.26 Southampton Water and its tributaries supports a wide range of commercial fish species including sea bass *Dicentrarchus labrax*, herring *Clupea harengus*, sole *Solea solea* and *plaice Pleuronectes platessa* as well other fish species such as gobies, sand smelt *Atherina presbyter*, sprat *Sprattus sprattus*, dab *Limanda limanda*, mullet (such as golden grey mullet *Liza aurata* and thin-lipped mullet *Liza ramada*), pouting *Trisopterus luscus* and flounder *Platichthys flesus*. Commonly occurring elasmobranchs include the small-spotted catshark *Scyliorhinus canicula* and starry smooth-hound *Mustelus asterias* (Fisheries Joint Data Group, 2001; Brown, 2013; Environment Agency, 2025e; Environment Agency, 2024b; Rogers et al., 1998).

7.4.27 The Solent region, which includes Southampton Water, provides a nursery ground for a number of species of fish, including the commercially important plaice, sole and bass as well as elasmobranchs (thornback ray *Raja clavata*, tope *Galeorhinus galeus* and undulate ray *Raja undulata*). The region also provides a spawning ground for a number of species of fish including cod *Gadus morhua*, sandeel *Ammodytes spp* and sole *Solea solea* (Ellis *et al*., 2012; Southern IFCA, 2021).

7.4.28 The nearest TraC monitoring sites to the marine elements of the proposed Project is Cracknore (upstream, within approximately 600m) and near Hythe Pier (downstream, within approximately 3km). The fish assemblage found in the Dibden Bay area would be expected to be broadly similar to that found at these nearby TraC sites. Seine netting techniques have been used at Cracknore Hard with otter trawling at Hythe Pier. In the last 5 years, a seine net survey was undertaken at Cracknore Hard in 2023 and otter trawling at Hythe Pier in 2023 and 2024.

7.4.29 Commonly recorded species in the Cracknore Hard surveys included gobies (particularly sand goby and common goby), sea bass, sand smelt and thick-lipped mullet. The Hythe Pier otter trawls recorded predominantly gobies (such as sand goby and transparent gobies), flatfish (Dover sole, solenette, plaice), spiny seahorse and sea bass. Other species recorded included short-snouted seahorse, black sea bream, ballan wrasse and elasmobranchs (such as small-spotted catshark, stary smooth hound and thornback ray (Environment Agency, 2025e).

7.4.30 In addition, a range of diadromous migratory species including Atlantic salmon *Salmo salar*, sea trout *Salmo trutta* and European eel *Anguilla anguilla* use Southampton Water during migration to and from rivers entering Southampton Water (Cefas, EA and NRW, 2024; Environment Agency, 2024b).

Marine Mammals

7.4.31 The central part of the English Channel, which incorporates the Solent region, hosts a relatively low diversity and density of cetaceans (McClellan *et al*., 2014; Gilles *et al*., 2023; Seawatch Foundation, 2025; NBN, 2025; ABPmer, 2025c).

7.4.32 The bottlenose dolphin *Tursiops truncatus* is the most spotted cetacean species in the region and is restricted mainly to coastal waters. Since the early 1990s, a small population resident to the coast of South West England has been documented (Brereton *et al*., 2018; Corr *et al*., 2023). This population is estimated to contain around 48 individuals and is a discrete interconnected group that does not seem to mix with conspecifics nearby or in other regions (Corr *et al*., 2023). They are mostly found to range between North Cornwall and Dorset; however,

increased sightings around Sussex combined with a coincidental decrease in Cornwall may indicate a shift in range or an expansion (Corr *et al*., 2023).

7.4.33 Harbour porpoise *Phocoena phocoena* and common dolphins *Delphinus delphis* have also been occasionally recorded within the central English Channel region and the Solent (Seawatch Foundation, 2025; NBN, 2025; Gilles *et al*., 2023; Heinänen and Skov, 2015).

7.4.34 Cetaceans (whales and dolphins) are rarely recorded in Southampton Water, although bottlenose dolphins are occasionally sighted.

7.4.35 The Solent region supports a population of approximately 60-80 harbour (common) seals *P. vitulina* with haul out sites located in both Langstone Harbour and Chichester Harbour (Castles et al., 2021; ABPmer, 2025b; Chichester Harbour Conservancy, 2024). The first two harbour seals were reported in Chichester Harbour in 1994, with the population continuing to increase since then. Grey seals *H. grypus* have also started to haul out in Chichester Harbour with approximately 30 seals recorded in recent years (Castles et al., 2021; ABPmer, 2025b). Both harbour and grey seals can also be spotted regularly hauling out in Newton Harbour (Isle of Wight), with numbers substantially increasing over the past ten years (ABPmer, 2025b; Chichester Harbour Conservancy, 2024).

7.4.36 Foraging harbour and grey seals are a relatively common occurrence in Southampton Water with both species recorded during the ongoing coastal waterbird surveys in the Dibden Bay area (see **Section 8**).

7.5 Future Baseline

7.5.1 In the absence of the proposed Project, there are unlikely to be any significant short-term changes in baseline conditions (i.e. within approximately <5 years) for marine ecology receptors, namely benthic habitats and species, fish and marine mammals in the study area, as environmental conditions (such as marine physical processes, water quality and sea temperature) are likely to remain broadly comparable to the current baseline.

7.5.2 In the longer-term (5-10 years+), the future baseline for marine ecology receptors will be increasingly influenced by ongoing climate change effects and potential increases in non-native species. These could lead to changes in distribution, abundance, health and reproduction in marine species, potentially affecting future populations. The future baseline could also be influenced by potential developments in the region and changes in other human activities in the marine environment.

7.6 Potential Impacts

Potential Impacts During Construction

7.6.1 **Table 7.3** identifies the potential impacts on Marine Ecology related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA

Table 7.3 Potential impacts during construction and proposed scope of the ES

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Benthic habitats and species	Direct loss of intertidal and subtidal habitats and species	Capital dredging and piling	Yes	Capital dredging has the potential to cause the direct loss of intertidal habitat which will be changed to subtidal habitat as a result of the deepening. Marine piling would result in a small loss of subtidal and intertidal habitat. This impact pathway has, therefore, been scoped into the assessment.
	Direct loss of intertidal and subtidal habitats and species	Capital dredging and dredge disposal	Yes	Capital dredging causes the direct physical removal of marine sediments from the dredge footprint, resulting in the modification of existing marine habitats. The impacts to benthic fauna associated with the dredged material include changes to abundance and distribution through damage, mortality or relocation to a disposal site. Capital dredging and dredge disposal will also result in the deposition of sediments which has the potential to result in localised physical disturbance and smothering of seabed habitats and species (where the sediment settles out of suspension back onto the seabed). This impact pathway has, therefore, been scoped into the assessment.
		Marine piling	No	During piling, physical disturbance of sediment has the potential to result in the highly localised

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				resuspension of sediment which could result in sedimentation (sediment deposition) where the sediment settles out of suspension back onto the seabed. At worst, only millimetric sediment deposition is predicted which will be restricted to within a few metres of the piles. This will be of a similar scale to that which regularly occurs naturally. Such negligible change is likely to be immeasurable against pre-work baseline conditions. Sediment deposition on this scale is also not predicted to be of a magnitude that will cause any smothering effects to benthic species (Ashley *et al.,* 2023). This impact pathway has, therefore, been scoped out of the assessment.
	Changes in water and sediment quality	Marine piling	No	The disturbed sediment during piling will only result in slightly elevated SSC which will be restricted to the immediate vicinity of the piles and will be well within the range that regularly occurs naturally in Southampton Water. Any small plume created will also be temporary and expected to be immeasurable against background conditions within a few hours with benthic communities considered tolerant to the magnitude of change (Ashley *et al.,* 2023).

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Capital dredge and dredge disposal	Yes	Changes in water quality during capital dredging and dredge disposal could impact benthic habitats and species through an increase in SSC and the release of toxic contaminants bound in sediments. This impact pathway has, therefore, been scoped into the assessment.
		Surface water drainage	No	Standard measures to control surface water run-off during construction will be embedded within the proposed Project design for legislative compliance, and therefore it is very unlikely that contaminated run-off would enter Southampton Water. The measures will be secured through the Construction Environmental Management Plan (CEMP). This impact pathway has, therefore, been scoped out of the assessment.
	Underwater noise	Marine construction activities generating underwater noise (i.e. marine piling, capital dredging and disposal, vessel movements)	Yes	Underwater noise generated by marine construction activities such as marine piling, dredging and vessel movements, has the potential to affect benthic species. This will require further assessment and has, therefore, been scoped in.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	The potential introduction and spread of non-native species	Construction of marine infrastructure; capital dredge and disposal	Yes	Non-native species have the potential to be transported into the local area as a result of construction activity and on the hulls of dredging vessels. Non-native invasive species also have the potential to be transported via vessel ballast water. This impact pathway has, therefore, been scoped into the assessment.
	Degradation of sensitive habitats as a result of changes in air quality	Road traffic emissions	No	The effects of road traffic emissions are limited to the area within 200m of the affected road network (Holman *et al*., 2020). The benthic habitats within 200m of the major road network are limited to saltmarsh and mudflats. Mudflats are intertidal habitats which are repeatedly flushed with saline or brackish water, therefore these habitats are not considered to be sensitive to changes in air quality resulting from vehicle emissions. Saltmarsh is also regularly inundated by the tide. According to APIS (2025), nitrogen deposition is considered to be of low importance for saltmarsh ecosystems, as atmospheric inputs are minor compared to the nutrient loadings from fluvial and tidal sources. Therefore, regardless of the predicted changes in vehicle emissions as a result of the construction phase, the benthic habitats present are not

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				considered likely to be affected given the regular inundation by the tide. This impact pathway has, therefore, been scoped out of the assessment.
		Construction vessel emissions	No	The increase in the number of vessels during the construction phase is temporary and very small in the context of baseline annual vessel movements in Southampton Water. The benthic habitats that are in the vicinity of the works and navigational route for vessels are mudflats, with the closest saltmarsh approximately 3km north at Bury Marsh and 4km south at Hythe. Mudflats are not considered to be sensitive to changes in air quality given they are repeatedly flushed with saline or brackish water. According to APIS (2025), nitrogen deposition is considered to be of low importance for saltmarsh ecosystems, as atmospheric inputs are minor compared to the nutrient loadings from fluvial and tidal sources. Therefore, regardless of any predicted changes in vessel emissions as a result of the construction phase, intertidal mudflat and saltmarsh habitats are subject to regular tidal flushing and any additional nitrogen deposition is unlikely to result in significant ecological effects. This impact pathway

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				has, therefore, been scoped out of the assessment.
Fish	Direct loss or changes to fish populations and habitat	Marine piling	No	There is the potential for impacts to fish as a result of habitat loss due to installation of piles and the footprint of the Project's marine infrastructure. However, the direct footprint of the marine piling only covers a highly localised area with the mobile nature of fish allowing them to utilise nearby areas. During piling, physical disturbance of sediment has the potential to result in the localised resuspension of sediment which could result in sedimentation (sediment deposition) where the sediment settles out of suspension back onto the seabed. At worst, only millimetric sediment deposition is predicted which will be restricted to within a few metres of the piles. This will be of a similar scale to that which regularly occurs naturally. Such negligible change is likely to be immeasurable against pre-work baseline conditions. Sediment deposition on this scale would only be expected to cause negligible impacts on fish populations. This impact pathway has, therefore, been scoped out of the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Capital dredge and dredge disposal	Yes	Dredging can directly remove fish and fish eggs from the marine environment. In addition, capital dredging and dredge disposal has the potential to result in seabed disturbance and smothering of seabed habitats and species. These changes have the potential to impact on fish species through potential changes in prey resources and the quality of foraging, nursery and spawning habitats. This impact pathway has, therefore, been scoped into the assessment.
	Changes in water and sediment quality	Marine piling	No	The disturbed sediment during piling will only result in slightly elevated SSC which will be restricted to the immediate vicinity of the piles and will be well within the range that regularly occurs naturally in Southampton Water. Any small plume created will also be temporary and expected to be immeasurable against background conditions within a few hours. Water quality effects of this magnitude will not cause any effects to fish (including migratory species) with predicted SSC well within the range that fish frequently encounter naturally. Fish will also be able to move away from any highly localised plumes. Related changes in sediment-bound contaminants and dissolved oxygen associated with seabed

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				disturbance during construction is considered unlikely to produce lethal and sub-lethal effects in any marine species given the limited, localised and highly temporary re-mobilisation of sediment and plumes that are predicted to occur. The potential for accidental spillages will also be negligible during construction through following established industry guidance and protocols. This impact pathway has, therefore, been scoped out of the assessment.
		Capital dredge and dredge disposal	Yes	Changes in water quality during capital dredging and dredge disposal could impact fish species through an increase in SSC and the release of toxic contaminants bound in sediments. This impact pathway has, therefore, been scoped into the assessment.
	Underwater noise	Marine construction activities generating underwater noise (i.e. marine piling, capital dredging and disposal,	Yes	During marine piling, there is the potential for noise disturbance to fish. Percussive (impact) and vibro marine piling will produce underwater noise above background conditions and at a level that may cause a risk of injury and behavioural changes to fish in the vicinity of the proposed Project. This impact pathway has, therefore, been scoped into the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		vessel movements)		Elevated underwater noise and vibration levels caused by the action of the dredger as well as vessel movements could potentially affect fish. This impact pathway has, therefore, been scoped into the assessment.
Marine mammals	Direct loss or changes in marine mammal foraging habitat	Construction (marine piling, capital dredge and dredge disposal)	No	There is the potential for impacts to marine mammals as a result of changes to marine mammal foraging habitat and prey resources. However, the area around the proposed Project is not known to be critical habitat for marine mammals in terms of nursery, breeding or feeding habitat that forms part of a localised core range where species are likely to be encountered persistently. Based on the available data for the region, it is considered possible that seals species could be recorded foraging in, and around, the footprint of the proposed Project, although no established haul out sites (including those used for breeding) are found in Southampton Water. Cetaceans such as bottlenose dolphins are only recorded very rarely in Southampton Water. Furthermore, there is no evidence to suggest these marine mammal species are reliant on a particular habitat or prey species within the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				proposed Project footprint. The development footprint also represents a very small area in the context of the known foraging ranges of marine mammals (typically in the range of hundreds to thousands of nautical miles (nm)). This impact pathway has, therefore, been scoped out of the assessment.
	Changes in water and sediment quality	Marine piling	No	The negligible, highly localised and temporary changes in suspended sediment levels and related changes in sediment bound contaminants and dissolved oxygen associated with bed disturbance during marine piling, is considered highly unlikely to produce adverse effects in any marine mammal species. The potential for accidental spillages will also be negligible during construction through following established industry guidance and protocols. This impact pathway has, therefore, been scoped out of the assessment.
		Capital dredge and dredge disposal	No	The plumes resulting from dredging are expected to have a relatively minimal and local effect on SSC in the vicinity of the proposed Project. Marine mammals are well adapted to turbid conditions and, therefore, not sensitive to the scale of changes in SSC predicted during capital dredging (Todd *et al.,* 2015). Given the limited extent of

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				sediment dispersal significant elevations in water column contamination are unlikely. This will be confirmed following analysis of the uplift in contaminant concentrations in the water column once sediment sampling and analysis has been carried out.
	Collision risk with vessels	Construction, dredging and dredge disposal	No	Vessels involved in construction and dredging/dredge disposal will be mainly stationary or travelling at low speeds (2-6 knots), making the risk of collision very low. Although all types of vessels may collide with marine mammals, vessels traveling at speeds over 10 knots are considered to have a much higher probability of causing lethal injury (Schoeman *et al.,* 2020). Furthermore, the region is already characterised by heavy shipping traffic. The additional movements due to construction activity (including capital dredging) will only constitute a small increase in vessel traffic in the area which will also be temporary in nature. In general, incidents of mortality or injury of marine mammals caused by vessels remain a relatively rare occurrence in UK waters (ABP Research, 1999; CSIP, 2020)). For example, out of 144 post mortem examinations carried out on cetaceans in 2018, only two (1.4 %) were attributed to boat

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				collision with the biggest causes of mortality including starvation and by-catch, although some incidents are likely to remain unreported (CSIP, 2020). In addition, marine mammals foraging within the Southampton Water region will routinely need to avoid collision with vessels and are, therefore, considered adapted to living in an environment with high levels of vessel activity. This impact pathway has, therefore, been scoped out of the assessment.
	Underwater noise	Marine construction activities generating underwater noise (i.e. marine piling, capital dredging and disposal, vessel movements)	Yes	Percussive (impact) and vibro marine piling will produce underwater noise above background conditions and at a level that may cause a risk of injury and behavioural changes to marine mammals in the vicinity of the Project. This impact pathway has, therefore, been scoped into the assessment. Elevated noise and vibration levels caused by the action of the dredger as well as vessel movements could potentially affect marine mammals by inducing adverse behavioural reactions. This impact pathway has, therefore, been scoped into the assessment.

Potential Impacts During Operation

7.6.2 **Table 7.4** identifies the potential impacts on Marine Ecology related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 7.4 Potential impacts during operation and proposed scope of the ES

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Benthic habitats and species	Direct changes to benthic habitats and species beneath marine infrastructure due to shading	Presence of marine infrastructure	Yes	Changes in sunlight levels as a result of shading due to marine infrastructure has the potential to cause changes to the benthic community occurring in an area. This impact pathway has, therefore, been scoped into the assessment.
	Direct changes to seabed habitats and species	Maintenance dredging and dredge disposal	Yes	Maintenance dredging causes the direct physical removal of marine sediments from the dredge footprint, resulting in the modification of existing marine habitats. The impacts to benthic fauna associated with the dredged material include changes to abundance and distribution through potential damage, mortality or relocation to a disposal site. Maintenance dredge and dredge disposal will also result in the periodic deposition of sediments which has the potential to cause localised physical disturbance and smothering of seabed habitats (where the sediment settles out of suspension back onto the seabed). Given that the dredge footprint has not previously been subject to any maintenance dredging, this impact

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				pathway has, therefore, been scoped into the assessment.
	Indirect changes to seabed habitats and species as a result of changes to hydrodynamic and sedimentary processes	Marine works (jetty structure and capital dredging); capital dredge disposal	Yes	The jetty structure and morphological/bathymetric changes to the seabed following capital dredge deepening have the potential to result in alterations to hydrodynamic and sedimentary processes (e.g. flow rates, accretion and erosion patterns). The disposal of dredged material at the marine disposal site also has the potential to result in changes to hydrodynamic and sedimentary processes (e.g. water levels, flow rates, changes to tidal prism, accretion and erosion patterns). Marine invertebrates inhabiting sand and mud habitat show different tolerance ranges to physiological stresses caused by tidal exposure and tidal elevation and, therefore, hydrodynamic and bathymetric changes caused by the dredging could affect the quality of marine habitats and change the distribution of marine species. This impact pathway has, therefore, been scoped into the assessment.
		Maintenance dredging and disposal	Yes	Maintenance dredging has the potential to result in ongoing changes to hydrodynamic and sedimentary processes (e.g. water levels, flow

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				rates, changes to tidal prism, accretion and erosion patterns). Marine invertebrates inhabiting sand and mud habitat show different tolerance ranges to physiological stresses caused by tidal exposure and tidal elevation and, therefore, hydrodynamic and bathymetric changes caused by the dredging could affect the quality of marine habitats and change the distribution of marine species. This impact pathway has, therefore, been scoped into the assessment.
	Changes in water and sediment quality	Maintenance dredge and dredge disposal	Yes	Changes in water quality during maintenance dredging and dredge disposal could impact benthic habitats and species through a temporary and relatively localised increase in SSC and the release of toxic contaminants bound in sediments. This impact pathway has, therefore, been scoped into the assessment.
		Surface water drainage	No	Standard measures to control surface water run-off during operation are embedded within the Project design for legislative compliance, and therefore there would be no potential for pollution to Southampton Water. The measures will be secured through the Operation Environmental Management Plan (OEMP). This impact pathway

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				has, therefore, been scoped out of the assessment.
	Changes in water and sediment quality	Maintenance dredge and dredge disposal	Yes	Changes in water quality during maintenance dredging and dredge disposal could impact benthic habitats and species through a temporary and relatively localised increase in SSC and the release of toxic contaminants bound in sediments. This impact pathway has, therefore, been scoped into the assessment.
	Underwater noise	Maintenance dredge and dredge disposal; vessel operations	Yes	Underwater noise generated by maintenance dredging and disposal as well as vessel movements, has the potential to affect benthic species. This will require further assessment and has, therefore, been scoped in.
	Non-native species transfer during vessel operations	Vessel operations	Yes	Non-native species have the potential to be transported into the local area on the hulls of vessels during operation. Non-native invasive species also have the potential to be transported via vessel ballast water. This impact pathway has, therefore, been scoped into the assessment.
	Degradation of sensitive habitats as a result of	Road traffic emissions	No	The effects of road traffic emissions are limited to the area within 200m of the affected road network (Holman *et al.,* 2020). The benthic

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	changes in air quality.			habitats within 200m of the major road network are limited to saltmarsh and mudflats. Mudflats are intertidal habitats which are repeatedly flushed with saline or brackish water, therefore these habitats are not considered to be sensitive to changes in air quality resulting from vehicle emissions. Saltmarsh is also regularly inundated by the tide. According to APIS (2025), nitrogen deposition is considered to be of low importance for saltmarsh ecosystems, as atmospheric inputs are minor compared to the nutrient loadings from fluvial and tidal sources. Therefore, regardless of the predicted changes in vehicle emissions as a result of the operational phase, the benthic habitats present are not considered likely to be affected given the regular inundation by the tide. This impact pathway has, therefore, been scoped out of the assessment.
		Marine vessel emissions and landside plant emissions	No	Exhaust emissions from marine vessels and landside plant during the operational phase have the potential to impact on local air quality. The increase in the number of vessel movements during operation is likely to be small when considered in the context of the baseline vessel movements in Southampton Water. The benthic

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				habitats that are in the vicinity of the proposed Project and navigational route for vessels are mudflats, with the closest saltmarsh approximately 3km north at Bury Marsh and 4km south at Hythe.
Fish	Changes to fish populations and habitat	Marine works (jetty structure and capital dredging); capital dredge disposal	Yes	The jetty structure and morphological/bathymetric changes to the seabed following capital dredge deepening have the potential to result in alterations to hydrodynamic and sedimentary processes (e.g. flow rates, accretion and erosion patterns). The disposal of dredged material at the marine disposal site also has the potential to result in changes to hydrodynamic and sedimentary processes (e.g. water levels, flow rates, changes to tidal prism, accretion and erosion patterns). These changes have the potential to impact on fish species through potential changes in prey resources and the quality of foraging, nursery and spawning habitats. This impact pathway has, therefore, been scoped into the assessment.
		Maintenance dredge and dredge disposal	Yes	Dredging can directly remove fish and fish eggs from the marine environment. In addition, maintenance dredging and dredge disposal has the potential to result in seabed disturbance and

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				smothering of seabed habitats and species. Maintenance dredging also has the potential to result in ongoing changes to hydrodynamic and sedimentary processes (e.g. water levels, flow rates, changes to tidal prism, accretion and erosion patterns). These changes have the potential to impact on fish species through potential changes in prey resources and the quality of foraging, nursery and spawning habitats. This impact pathway has, therefore, been scoped into the assessment.
	Changes in water and sediment quality	Maintenance dredge and dredge disposal	Yes	Changes in water quality during maintenance dredging and dredge disposal could impact fish species through a temporary and relatively localised increase in SSC and the release of toxic contaminants bound in sediments. This impact pathway has, therefore, been scoped into the assessment.
	Underwater noise	Maintenance dredge and dredge disposal	Yes	Elevated underwater noise and vibration levels caused by the action of the dredger could potentially affect fish. This impact pathway has, therefore, been scoped into the assessment.
		Vessel operations	Yes	Elevated underwater noise and vibration levels caused by operational vessel movements could

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				potentially affect fish. This impact pathway has, therefore, been scoped into the assessment.
	Lighting	Vessel operations	No	The jetty decking will be lit for safety and operational purposes. Lighting design will be optimised to avoid any unnecessary light spill on the water or foreshore habitats and will be secured through the OEMP. For any shoaling fish near the surface, the proposed Project will potentially only cause minor changes in behaviour such as increased shoaling in the vicinity of the light source. Such responses could increase the risk of predation but could also have positive effects such as enhancing feeding efficiency. The low levels of lighting would not cause disruption or blocking of migratory routes. The potential effect has been scoped out of more detailed assessment.
Marine mammals	Underwater noise	Maintenance dredge and dredge disposal	Yes	Elevated noise and vibration levels caused by the action of the dredger could potentially affect marine mammals by inducing adverse behavioural reactions. This impact pathway has, therefore, been scoped into the assessment.
		Vessel operations	Yes	During the operational phase there is the potential for noise disturbance to marine mammal species as a result of vessel

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				movements. This impact pathway has, therefore, been scoped into the assessment.
	Collision risk with vessels	Vessel operations	No	Vessels using the berths during operation will be typically approaching at slow speeds (2-4 knots) and maintenance dredging/dredge disposal will be mainly stationary or travelling at low speeds (2-6 knots), making the risk of collision very low. Although all types of vessels may collide with marine mammals, it is vessels that are traveling at speeds over 10 knots which are considered to have a higher probability of causing lethal injury (Schoeman *et al*., 2020). Furthermore, the region is already characterised by heavy shipping traffic. The additional movements due to operational activity are anticipated to only constitute a small increase in vessel traffic in the area. In general, incidents of mortality or injury of marine mammals caused by vessels remain a relatively rare occurrence in UK waters (ABP Research 1999; CSIP, 2020). For example, out of 144 post mortem examinations carried out on cetaceans in 2018, only two (1.4%) were attributed to boat collision with the biggest causes of mortality including starvation and by-

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				catch, although some incidents are likely to remain unreported (CSIP, 2020). In addition, marine mammals foraging within the Southampton Water region will routinely need to avoid collision with vessels and are, therefore, considered adapted to living in an environment with high levels of vessel activity. This impact pathway has, therefore, been scoped out of the assessment.

7.7 Mitigation

7.7.1 Through the ongoing project design process, the jetty structure will be positioned as close to the marine access channel as is safe to do so, to minimise both the capital dredging requirement and area of intertidal loss.

7.7.2 Available pollution prevention guidance (Defra and Environment Agency, 2016) would be adhered to through a CEMP and waste management plan (for the construction phase) and a pollution prevention plan and incidence response plan for the operation phase. In order to manage any potential risks of introducing non-native species during construction and operation, a risk-based approach in the form of a biosecurity plan would also be prepared.

7.7.3 Depending on the outcomes of the EIA, a range of other mitigation may be required to minimise significant adverse impacts on marine ecology receptors.

7.8 Approach to Assessment and Data Gathering for ES

7.8.1 The assessment will be undertaken following the principles of the CIEEM latest guidelines for ecological impact assessment (EcIA) in the UK and Ireland (which consolidates advice for terrestrial, freshwater and coastal environments) (CIEEM, 2018). In accordance with guidance, the assessment will include a detailed evaluation of impact magnitude, the sensitivity of relevant marine ecology receptors at the proposed Project and the importance/value, as well as details of proposed mitigation measures to avoid or reduce any significant adverse effects. The assessments will also take into consideration all phases and elements of the proposed Project, including construction works and operational marine activities.

7.8.2 The benthic ecology assessment will be informed by the following key existing sources of data:

- Southampton Water Benthic Ecology Surveys: Baseline marine ecology surveys of Southampton Water undertaken in 2018 including an intertidal Phase 1 habitat mapping survey, intertidal invertebrate sampling at 40 stations using a 0.01 m² hand-held corer and subtidal benthic sampling at 40 stations using a 0.1 m² Day Grab (ABPmer, 2019).
- Town Quay Marine Ecology Surveys: Baseline marine ecology surveys in the Town Quay area of Southampton Water undertaken in 2022 including an intertidal Phase 1 habitat mapping survey, drop down video surveys and subtidal benthic sampling (ABPmer, 2023b).
- Natural England Solent Maritime SAC Intertidal Survey: Feature condition monitoring on intertidal features within the Solent Maritime SAC which

encompassed Chichester Harbour, Langstone Harbour, Southampton Water, West Solent and the northern coast of the Isle of Wight. The surveys involved habitat mapping and macrofaunal sampling (using a core) undertaken in 2012 based on a transect based approach (CMACS LTD, 2012).

- Hampshire Biodiversity Information Centre (HBIC) databases containing information on habitats, species and designated sites across Hampshire.
- National Biodiversity Network (NBN) records of invasive, nationally rare or protected benthic species in Southampton Water and the Solent (NBN, 2025).
- Hampshire and Isle of Wight Wildlife Trust Inventory of Eelgrass Beds: Seagrass distribution data collected as part of the Solent Seagrass Project.
- Offshore Overfalls MCZ Survey, 2012: JNCC and Cefas survey of the Offshore Overfalls MCZ. Video, images, acoustic data and grab samples were collected across the site.

7.8.3 In addition, the following project-specific surveys were carried out in summer 2025 and will be used to inform the assessment:

- Subtidal Benthic Sampling: The survey involved in the collection of benthic samples from 40 stations between Bury Marsh and Fawley. The survey approach was based on the previous characterisation study undertaken in 2018 (ABPmer, 2019). The locations of the survey stations are shown in **Figure 7.3**. At each station, a single grab sample was collected for macrofauna analysis (faunal composition, abundance and biomass). An additional sample was also taken at each station for determination of PSA and Total Organic Carbon (TOC). The samples were sent to an accredited National Marine Biological Analytical Quality Control (NMBAQC) laboratory for analysis.
- Intertidal Benthic Sampling: In order to characterise the intertidal benthic communities, an intertidal sampling survey was undertaken using a dedicated two-person hovercraft to access the shoreline safely. The survey approach was based on the previous characterisation study undertaken in 2018 (ABPmer, 2019). In total, 40 stations were sampled between Bury Marsh and Hythe (**Figure 7.4**). At each of these stations, a sample was collected using a 0.01 m² hand-held corer (to a depth of approximately 15 cm) and analysed for macrofaunal analysis (faunal composition, abundance and biomass). An additional sample was also

collected at each station for PSA and TOC. The samples were sent to an accredited NMBAQC laboratory for analysis.

- Phase 1 Intertidal Habitat Survey: The intertidal habitat mapping survey of the foreshore extended between Bury Marsh and Hythe. The survey area was the same as previous intertidal habitat mapping undertaken in 2018 (ABPmer, 2019). A map of the extent of the survey area is shown in **Figure 7.4**. Habitats in the area were mapped as polygons using the Marine Habitat Classification for Britain & Ireland (MHCBI) v22.04 to biotope class Levels 4 or 5 where possible (Conner *et al.,* 2004).

7.8.4 The following key data sources will be used to inform the assessment with respect to fish:

- Transitional and Coastal Waters (TraC) Fish Monitoring: The Environment Agency has carried out TraC fish surveys in Southampton Water for the purposes of classifying ecological status of estuaries under the WFD since 2007. It is proposed that the most recent five years of data for the monitoring sites nearest to the proposed Project (seine netting at Cracknore Hard and otter trawls near Hythe Pier) will be analysed (Environment Agency, 2025e).
- Cefas Spawning and Nursery Grounds of Selected Fish Species in UK Waters: Distribution maps of the main spawning and nursery grounds for 14 commercially important species (cod, haddock, whiting, saithe, Norway pout, blue whiting, mackerel, herring, sprat, sandeels, plaice, lemon sole, sole and Norway lobster) (Ellis *et al*., 2012).
- Fawley Power Station Fish Monitoring: Records of the species composition and numbers of fish retained on the intake screens of Fawley Power Station (Reay and Culley, 1980 and updated by Fisheries Joint Data Group, 2001).
- Solent Bass Survey: The Solent Bass Surveys undertaken by Cefas since 1981, twice a year at around 35 station positions including five tows in Southampton Water (up to Dock Head). Although aimed at monitoring the abundance of pre-recruit (2–5-year-old) bass, the survey catches a wide range of demersal and pelagic finfish species. Monitoring undertaken in 2013 (the most recent available year) has been analysed (Brown, 2013).
- Young Fish Surveys in Southampton Water: The Young Fish Surveys were undertaken by Cefas and were conducted up until 1997 along the south and east coasts of England, including Southampton Water. Two fishing gears were used during these surveys (beam trawl and push net). Both of these techniques are widely used during surveys of juvenile fish

populations in inshore waters up to the low tide mark (Rogers *et al*., 1998).

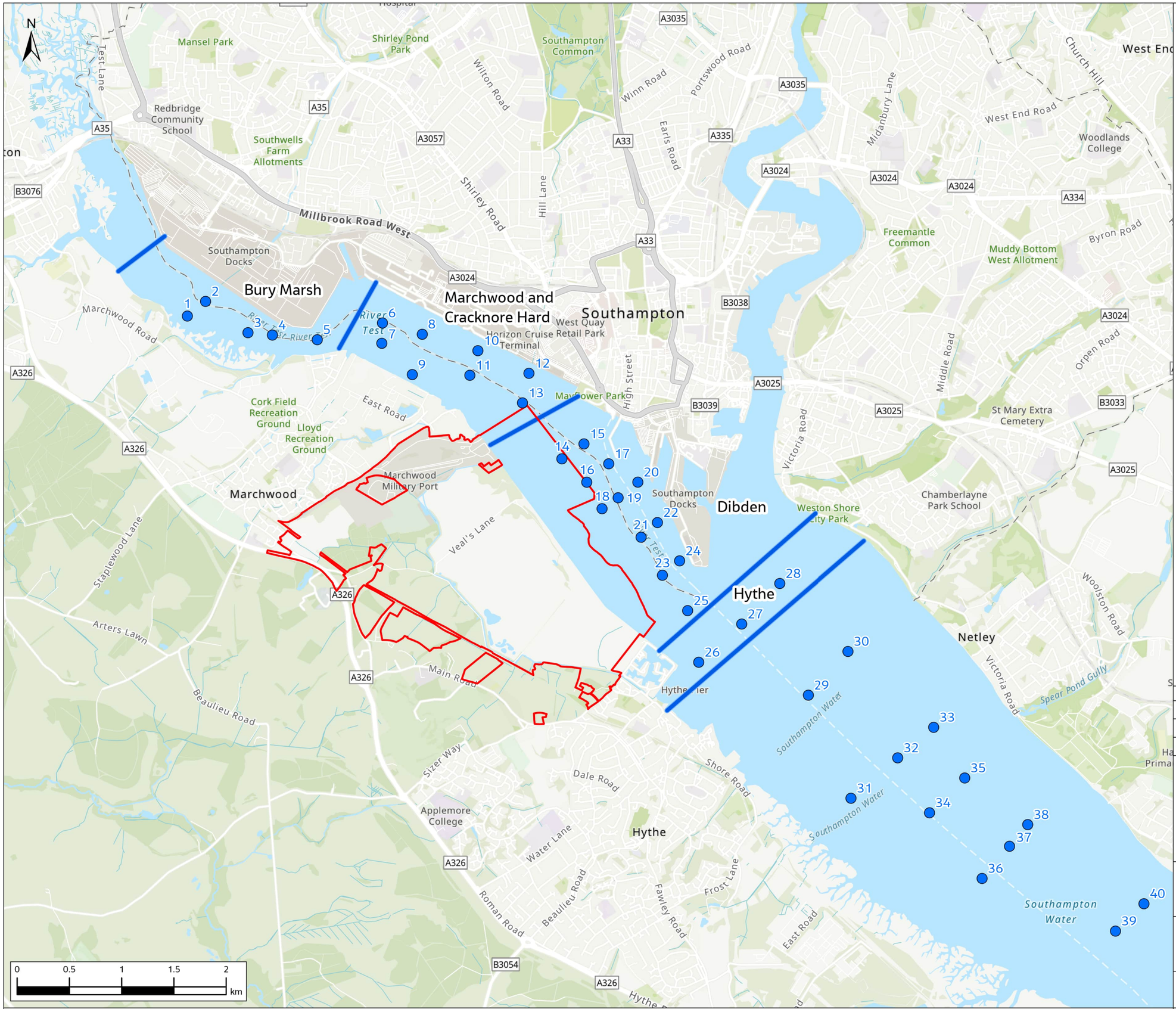
- Salmon Stocks and Fisheries in England And Wales, 2023: Data from the electronic fish counters on the Test and Itchen to provide estimates of the upstream run of adult salmon and sea trout (Cefas, EA and NRW, 2024).
- Solent and South Downs (SSD) Annual Fish Monitoring Report, 2024: The results of fish monitoring carried out on the Test and Itchen as well as TRaC monitoring in Southampton Water (Environment Agency, 2024b).

7.8.5 In addition, a site-specific otter trawl survey will be undertaken to provide further baseline fish data. The survey will be focused on subtidal areas within and near to the proposed Project location. No other site-specific coastal fish surveys are proposed given that two established Environment Agency TraC fish survey sampling sites are located in close proximity to the Dibden foreshore. These survey datasets along with the other baseline sources described above provide a detailed description of fish assemblages of the local area.

7.8.6 Specifically in relation to potential water quality impacts on Atlantic salmon and other migratory fish the assessment will also take into consideration the technical reports produced by the Environment Agency with regard to water quality patterns and monitoring in the upper Test and Itchen estuaries (Environment Agency, 2022 and 2024c).

7.8.7 The following key data sources will be used to inform the assessment with respect to marine mammals:

- ABP Dibden Bay Daylight Waterbird Surveys (monthly high and low water counts during winter 2016/17 and 2017/18 and ongoing since June 2018): Records of marine mammals collected as part of the surveys in Southampton Water.
- Harbour Seals and Grey Seals in the Solent Review: A study that investigated seal population trends in Chichester and Langstone Harbours using a 20-year dataset and photographic identification data (Castles *et al.,* 2021).
- Wildlife Trust's Solent Seal Tagging Project: Project to monitor and survey seal populations within the Solent, including visual counts at haul-out sites, public sightings, photo identification and telemetry studies (Chesworth *et al.,* 2010).
- Chichester Harbour Conservancy Seal Data: Recent annual counts of seals at the main seal colony in the region (Chichester Harbour Conservancy, 2024).



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Project: SOLENT GATEWAY 2

Drawing Title: SUBTIDAL BENTHIC SAMPLING LOCATIONS

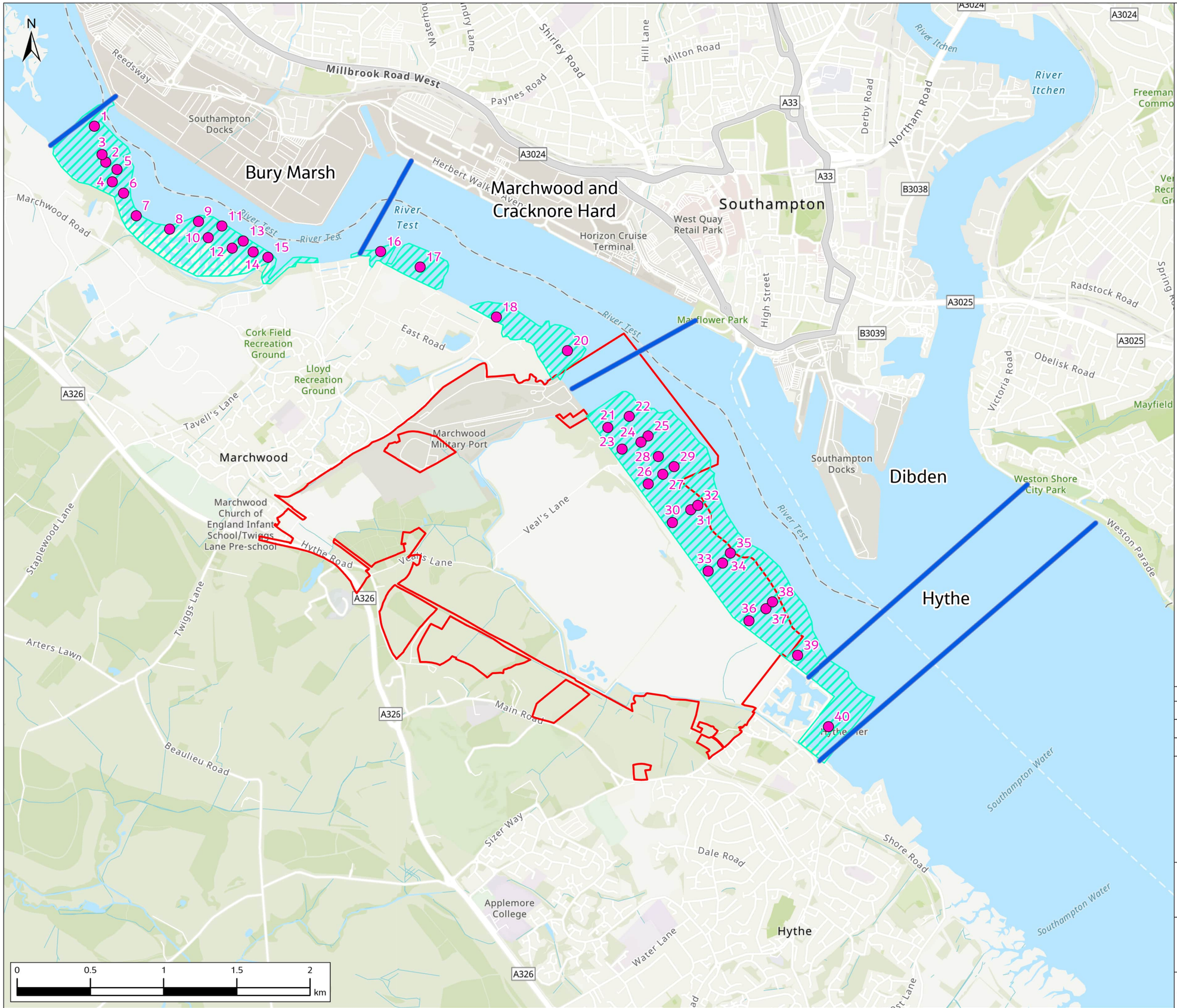
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FIGURE 7.3

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Project

SOLENT GATEWAY 2

Drawing Title

PHASE 1 INTERTIDAL HABITAT SURVEY AREA AND INTERTIDAL BENTHIC SAMPLING LOCATIONS

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100011

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FIGURE 7.4

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- The Solent State of Nature Report: This report presents an overview of the current status of coastal and marine wildlife in the region including marine mammals (ABPmer, 2025b).
- At-sea Distribution Data for Grey and Harbour Seals: The latest habitat-based predictions of at-sea distribution for grey and harbour seals in the British Isles (including the Southampton Water region) estimated using data from animal-borne telemetry tags by the Sea Mammal Research Unit (SMRU) (Carter *et al.,* 2020).
- The Identification of Discrete and Persistent Areas of Relatively High Harbour Porpoise Density in the Wider UK Marine Area: The report presents the results of 18 years of survey data in the Joint Cetacean Protocol (JCP) undertaken to inform the identification of discrete and persistent areas of relatively high harbour porpoise density in the UK marine area. This identification is needed for the fulfilment of obligations required by the EU Habitats Directive (Heinänen and Skov, 2015).
- South Coast Bottlenose Dolphin Population Estimates: Study focused on the population structure of bottlenose dolphins inhabiting the coastal waters of southern England, as well as potential environmental pressures on this population (Corr *et al.,* 2023).
- Population structure, mobility and conservation of common bottlenose dolphin off south-west England: Study using photo-identification data to better understand movements, population structure and abundance of common bottlenose dolphin Tursiops truncatus in south-west England and surrounding waters based on data collected between March 2007 and January 2014 (Brereton *et al.,* 2018).
- NBN Atlas: Sightings of cetaceans in the region on the NBN Atlas website (NBN, 2025).
- Small Cetaceans in European Atlantic Waters and the North Sea (SCANS) IV: Cetacean surveys to estimate the abundance of cetacean species in shelf and oceanic waters of the European Atlantic undertaken in 2022. Teams of observers using vessel and aerial methods searched along 75,000 km of transect lines, recording thousands of groups of cetaceans from 17 different species. The survey (SCANS-IV) is the fourth in a series that began in 1994 (SCANS) and continued in 2005 (SCANS-II) and 2016 (SCANS-III) (Gilles *et al.,* 2023).
- Sea Watch Foundation (2025): Recent cetacean sightings data for Southern England (Sea Watch Foundation, 2025).

- Special Committee on Seals Annual Report: Information on the status of seals around the UK coast is reported annually by the Special Committee on Seals (SCOS) (SCOS, 2023).

7.8.8 Given that records of marine mammals are recorded as part of the ABP Dibden Bay Daylight Waterbird Surveys, dedicated marine mammal surveys are not considered necessary.

7.8.9 The data sources described above will provide a good understanding of the current baseline for each receptor at Dibden Bay as well as more widely in Southampton Water. This data will be used to understand the scale of potential direct effects arising from the proposed Project including habitat loss and/or change as well as disturbance.

7.8.10 Underwater noise modelling will be undertaken to assess the potential effects of underwater noise associated with the proposed Project, namely piling, dredging and vessel movements. Information on the sound pressure source levels for each of these activities will be collated from relevant published studies.

7.8.11 In accordance with good practice guidance (NPL, 2014), a spreading model represented by a logarithmic equation and incorporating factors for noise attenuation and absorption losses based on empirical data from the Test Estuary and Southampton Water will be used to predict the propagation of sound pressure with range from the various sources of noise. The advantage of this model is that it is simple to use and quick to provide first order calculations of the received sound pressure levels with distance from the source due to geometric spreading. The use of this model is an established approach in EIAs that has been widely accepted by UK regulators for recent port and waterfront developments. This includes a number of nearby recent developments, such as the Town Quay Redevelopment (ABPmer, 2023c) and the Solent Gateway Marine Project (ABPmer, 2024a).

7.8.12 A range of well-established published criteria will be used to assess the potential physiological and behavioural effects of underwater noise on key sensitive receptors that occur in the study area (e.g. Popper *et al.,* 2014; Hawkins *et al.,* 2014; NOAA, 2018; Southall *et al.,* 2019). There are no known published injury or behavioural thresholds for benthic invertebrates and no behavioural thresholds for marine mammals that have been accepted by the scientific community. A review of the observed responses of these receptors to underwater noise from published sources and case studies will be undertaken to determine the likelihood and significance of impacts. A review of the latest available published evidence of vibration (particle motion) effects on benthic invertebrates and fish will also be undertaken to support the assessment.

7.8.13 The potential significance of underwater noise effects on key sensitive receptors will then be assessed in the context of the physical nature of the site of the proposed Project (i.e. the constrained nature of Southampton Water and potential screening effects of existing infrastructure). In addition, the spatiotemporal variability of underwater noise generated by the proposed Project and the individual sensitivities and importance of receptors (e.g. level of protection, functional use, seasonality and population dynamics) will be taken account of in the assessment.

7.8.14 There are important linkages between the Marine Ecology topic and other topics. For example, the assessment of indirect impacts arising from potential changes to marine physical processes will be informed by the results of hydrodynamic modelling studies (**Section 5**) and the inherent links between the benthic invertebrates within the study area and the ornithological interest features which feed on them means that the results of the benthic ecology survey will also be relevant for the assessment of impacts on Coastal Ornithology (**Section 8**).

7.8.15 The final scope and approach to the assessment and associated data collection will be confirmed by the formal Scoping Opinion.

8 COASTAL ORNITHOLOGY

8.1 Introduction

8.1.1 This section sets out the proposed scope of the ES chapter that will report the findings of the coastal ornithology assessment with regard to potential effects as a result of the proposed Project. Specifically, this includes consideration of potential effects on waders, waterfowl (ducks, geese and swans) and other species of coastal waterbird (i.e. any bird that is ecologically dependent on coastal and marine aquatic habitats for a proportion of their life history) using the intertidal and other marine habitats as well as associated functionally linked terrestrial coastal habitats for feeding, roosting and breeding.

8.1.2 Terrestrial bird species are considered in the Terrestrial Ecology topic (**Section 12**).

8.1.3 NSN sites (SPA, SAC and Ramsar sites) will be considered in more detail in the HRA Screening Report alongside the PEIR.

8.2 Relevant Policy, Legislation and Guidance

8.2.1 The assessment will be undertaken to meet the requirements set out in the National Policy Statement for Ports (NPSfP), including paragraphs 5.1.4, 5.1.5; 5.1.8 and 5.1.9.

8.2.2 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including the following:

- UK Marine Policy Statement including paragraphs 3.1.7 and 3.1.8.
- The Conservation of Habitats and Species Regulations 2017 (as amended) ('the Habitats Regulations').
- The Wildlife and Countryside Act (WCA) 1981, as amended.
- The Natural Environment and Rural Communities (NERC) Act 2006.
- National Planning Policy Framework including paragraph 176.
- South Inshore and South Offshore Marine Plan.
- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (2018).

8.3 Study Area

8.3.1 The study area is the area over which potential effects of the proposed Project may occur during construction and operation and encompasses both direct effects (e.g. direct habitat loss or airborne noise due to construction activity) and indirect effects (e.g. changes to intertidal waterbird habitat as a result of changes to hydrodynamic and sedimentary processes).

8.3.2 The study area for the coastal ornithology topic is focused on the central part of Southampton Water between Marchwood and Hythe. However, data for the wider Southampton Water and Solent region has been presented where relevant to provide contextual information and to ensure that coastal waterbirds which are mobile receptors are adequately characterised.

8.3.3 The coastal ornithology ES chapter will, through further analysis and assessment, refine the study area for the purposes of the impact assessment.

8.4 Description of Existing Environment

Data Sources

8.4.1 The key data sources in **Table 8.1** have been used to gather the baseline information on Coastal Ornithology and inform the scoping study (specifically, this considers waders, waterfowl (ducks, geese and swans) and other species of coastal waterbirds using intertidal and marine habitats and associated functionally linked coastal habitats for feeding, roosting and breeding). Further information on these data sources is provided in **Section 8.4**.

Table 8.1 Key data sources

Title	Date
ABP Dibden Bay Daylight Waterbird Surveys: Daylight coastal bird surveys covering sectors extending from Marchwood to Hythe (including the Dibden foreshore and land within and adjacent to the footprint of the proposed Project, an area often referred to locally as the Dibden reclaim) were undertaken during 2016/17 and 2017/18 have been ongoing on a monthly basis since 2018. The results of the most recent 5-years of data (i.e. between 2020/2021and 2024/25) has been used to inform the scoping baseline.	ABPmer, 2025c

Title	Date
ABP Dibden Bay Pre-Dawn (Nocturnal) Waterbird Surveys: ABP commissioned pre-dawn (nocturnal) surveys have been undertaken during winter periods since 2017/18. The results of the most recent 5-years of data (i.e. between 2020/2021and 2024/25) has been used to inform the scoping baseline.	ABPmer, 2025c
Southampton Water Coastal Waterbird Tagging Study: Telemetry-based tracking study of coastal waterbird movements within Southampton Water.	ABPmer, 2020b
British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) Core Count Data for Southampton Water: Information on the abundances of key species in Southampton Water for the most recent five year period available (2019/20 to 2023/24).	Calbrade et al., 2025
WeBS Low Tide Counts data for Southampton Water with the most recent full counts for key sites undertaken in 2018/19.	Calbrade et al., 2025
Solent Waders and Brent Goose Strategy	Whitfield et al., 2020
Breeding Lapwing Survey: Breeding bird surveys on the Dibden Bay fields in 2019.	ABPmer, 2019
The Solent State of Nature Report	ABPmer, 2025c
Port of Southampton Terrestrial Breeding Bird Survey Report: Breeding bird surveys on the Dibden Bay fields in 2016 and 2018.	Peter Brett Associates LLP, 2019

Nature Conservation Designations

8.4.2 The Solent and Southampton Water SPA and Ramsar site support passage and wintering bird populations of European and international importance (**Figure 8.1**). **Table 8.2** and **Table 8.3** show the qualifying marine and ornithology interest features of the Solent and Southampton SPA and Ramsar site respectively.

Table 8.2 Qualifying bird species in the Solent and Southampton Water SPA

Qualifying Bird Species in the Solent and Southampton Water SPA	
Internationally Important Populations of Regularly Occurring Annex 1 Species	
Species	**Breeding Population**
Mediterranean gull	2 pairs (15.4 % of British population) (1994 to 1998)
Sandwich tern	231 pairs (1.7 % of British population) (1993 to 1997)
Common tern	267 pairs (2.2 % of British population) (1993 to 1997)
Little tern	49 pairs (2 % of British population) (1993 to 1997)
Roseate tern	2 pairs (3.3 % of British population) (1993 to 1997)
Internationally Important Populations of Regularly Occurring Migratory Species	
Species	Wintering Population (5-year Peak Mean 1992/93 to 1996/97)
Dark-bellied brent goose	7,506 individual birds (2.5 % of Western Siberian / Western European population)
Eurasian teal	4,400 individual birds (1.1 % of Northwest European population)
Ringed plover	552 individual birds (1.1 % of European / Northwest African population)
Black-tailed godwit	1,125 individual birds (1.6 % of Icelandic breeding population)
Internationally Important Assemblage of Waterfowl	
Importance	Wintering Population
Wintering waterfowl assemblage	51,361 individual birds (21,401 wildfowl, 29,960 waders) including dark-bellied brent goose, Eurasian teal, ringed plover and black-tailed godwit.

Table 8.3 Qualifying bird species in the Solent and Southampton Water Ramsar site

Qualifying Bird Species in the Solent and Southampton Water SPA	
Ramsar Criterion 1 – Wetlands that represent rare, or unique examples of natural or near natural wetlands	
Ramsar Criterion 5 – Assemblages of international importance	
Wintering waterfowl assemblage - 51,343 waterfowl (5 year peak mean 1998/99 to 2002/03)	
Species	Peak counts in spring / autumn (5 year peak mean 1998/9 to 2002/3)
Ringed plover	397 individual birds (1.2 % of the GB population)
Species	Peak counts in winter (5-year peak mean 1998/9 to 2002/3)
Dark-bellied brent goose	6,546 individual birds (3 % of the population)
Eurasian Teal	5,514 individual birds (1.3 % of Northwest European population)
Black-tailed godwit	1,240 individual birds (3.5 % of the population)

8.4.3 The Solent and Dorset Coast SPA was classified in January 2020 to increase the protection given to foraging terns breeding in the region. The qualifying features of the Solent and Dorset Coast SPA are included in **Table 8.4**.

Table 8.4 Qualifying bird species in the Solent and Dorset Coast SPA

Internationally Important Populations of Regularly Occurring Annex 1 Species	
Species	**Breeding Population**
Sandwich tern	441 pairs (4.0% of British breeding population) (2008 to 2014)
Common tern	492 pairs (4.8% of British breeding population) (2008 to 2014)
Little tern	63 pairs (3.3% of British population) (2008 to 2014)

8.4.4 The location of the capital dredge footprint and Marine Facilities are likely to directly overlap with the above SPAs and Ramsar site.

8.4.5 Alongside the SPAs and Ramsar site that are specifically designated to protect bird populations within Southampton Water, the Solent Maritime SAC is designated to protect a range of marine habitat features (see **Section 7**).

8.4.6 With respect to nationally designated sites, the dredge footprint and Marine Facilities are anticipated to overlap with the Hythe to Calshot Marshes SSSI along

the foreshore. As set out in Marine Ecology (**Section 7**), the site is notified for supporting extensive areas of saltmarsh and mudflats in Southampton Water. The site is also notified for providing a large proportion of the feeding and roosting grounds for birds in Southampton Water.

8.4.7 The proposed location of the Landside Terminal is within a part of the Dibden Bay SSSI. With respect to coastal waterbirds, this SSSI is notified for breeding lapwing. The site has also been known to support low numbers of other breeding waterbirds (including oystercatcher and redshank) and during the winter, numerous waterfowl, particularly at night, including Eurasian wigeon, Eurasian teal, pintail and mallard, as well as flocks of curlew and lapwing.

Estuary Overview

8.4.8 Southampton Water and its tributaries regularly support over 10,000 waterbirds and are considered important both nationally and in an international context (Calbrade et al., 2025). This importance is reflected in its designation as part of a SPA and a Ramsar site for wintering, passage and breeding birds.

8.4.9 Southampton Water supports nationally important numbers of dark-bellied brent goose as well as large numbers of Eurasian wigeon (WeBS estuary-wide 5-year mean peaks of 1,655 and 2,037 birds respectively). Other commonly occurring waterfowl species included the Eurasian teal and Canada goose (WeBS 5-year mean peaks of 1,121and 1,155 birds respectively). Overwintering dunlin, lapwing and oystercatcher are typically the most abundant wading bird species (estuary-wide 5-year mean peaks average peaks of 1,397, 1,028 and 934 birds respectively) with other commonly recorded species including black-tailed godwit, curlew and redshank.

8.4.10 Southampton Water also supports populations of gulls (such as black-headed gull, herring gull and Mediterranean gull) and can be important for foraging terns during the summer months that nest at colonies in the wider area (Calbrade et al., 2025; ABPmer, 2025c).

The Dibden Bay Area

8.4.11 The results of the most recent five years of data from the ABP Dibden Bay long-term waterbird monitoring survey programme (i.e. between 2020/21 and 2024/25) is summarised below (ABPmer, 2025c). The daylight surveys cover the Dibden Bay foreshore (S1 to S6), Dibden Bay fields (reclaim) (G1 to G3a) and the adjacent West Cliff Marsh (G3b) as shown in **Figure 8.1**. The pre-dawn surveys were undertaken over the area shown in **Figure 8.2**. Further details of these surveys are provided in **Section 8.4**.

8.4.12 Information on the abundance and distribution of waterbirds on the Dibden Bay foreshore is presented in **paragraphs 8.4.13 to 8.4.19** with data on roosting birds on the Dibden Bay fields (reclaim) and West Cliff Marsh presented in **paragraphs 8.4.20 to 8.4.28**. In order to provide context, abundances in these areas have also been compared against estuary-wide WeBS Core Count 5-year mean peak counts (2019/20 to 2023/24) for Southampton Water referred to as 'estuary-wide population numbers' (Calbrade et al., 2025). Data on breeding coastal waterbirds on the Dibden Bay fields (reclaim) is summarised in **paragraphs 8.4.29 to 8.4.30**.

Waterbird populations along the Dibden Bay foreshore

8.4.13 In total, over 40 waterbird species have been recorded on the Dibden Bay foreshore (**Figure 8.1**) during the ABP Dibden Bay surveys undertaken between 2020/21 and 2024/25. This included over 20 species which were regularly recorded utilising the intertidal habitats for foraging and loafing during the non-breeding season (i.e. winter and passage months). In general, the largest numbers of waterbirds were recorded on the northern end of the Dibden foreshore towards Marchwood where mudflat extent is greatest and mudflat is exposed for the longest period of time during most tides.

8.4.14 The most abundant species using the foreshore were dunlin (with 5-year mean peak counts of 504 birds which represents 36% of estuary-wide population numbers). Dunlin were typically recorded feeding in large flocks near the water line on both the flooding and ebbing tide, often showing a scattered distribution. Other commonly recorded wading birds included oystercatcher (5-year mean peak counts of 110 birds), grey plover (5-year mean peak counts of 39 birds) and curlew (5-year mean peak counts of 63 birds) which represent approximately between 10% and 40% of estuary-wide population numbers.

8.4.15 These species were typically recorded in the greatest numbers on the northern half of the Dibden Bay foreshore with birds following the dropping (ebbing) tide towards low water and the flooding tide back up the foreshore. However, roosting during high water periods on or directly above the Dibden foreshore was limited (except for a few oystercatchers and redshank). Ringing and tagging data suggests that species such as oystercatchers and curlew are highly site faithful, returning to feed in the Dibden Bay area annually in winter and typically utilise a relatively localised wintering range within Southampton Water (ABPmer, 2020b). Smaller numbers of a variety of other waders were also regularly recorded on the foreshore including redshank, black-tailed godwit and turnstone.



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

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Project

SOLENT GATEWAY 2

Drawing Title

DIBDEN BAY COASTAL WATERBIRD DAYLIGHT SURVEY SECTORS

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FIGURE 8.1

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Legend

- Scoping Boundary
- Pre-dawn survey sectors



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Project: SOLENT GATEWAY 2

Drawing Title: DIBDEN BAY COASTAL WATERBIRD PRE-DAWN SURVEY SECTORS

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FIGURE 8.2

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8.4.16 With respect to wildfowl, dark-bellied Brent geese was the species recorded in greatest numbers on the foreshore during the monitoring period (with a 5-year mean peak of 269 birds, representing 16% of estuary-wide population numbers). Low numbers of other wildfowl were also recorded on the foreshore or floating near the foreshore. This included shelduck, mallard and mute swan.

8.4.17 Black-headed gull and herring gull and lower numbers of other gull species are also frequently recorded on the foreshore.

8.4.18 Sandwich tern and common tern have both been recorded foraging offshore from Dibden Bay during passage and summer months (peak counts of 50 and 12 birds respectively). These plunge diving seabirds are typically seen in lower numbers near the Dibden foreshore than the larger feeding aggregations that are recorded feeding in the channel between Hythe and Dock Head.

8.4.19 In summary, the Dibden Bay foreshore provides habitat for important populations of foraging wintering waterbirds and is a key intertidal feeding area within Southampton Water.

Feeding and roosting birds on the Dibden Bay fields (reclaim) and West Cliff Marsh

8.4.20 The Dibden Bay fields consist of extensive areas of wet and dry grassland which is grazed by cattle. The land is poorly drained, and parts flood during the winter to form temporary seasonal pools during the wetter winter months. Areas of reedbed and scrub habitat are also present. West Cliff Marsh, which is next to Dibden Bay, consists of reedbeds, ponds and grassland subject to seasonal flooding.

8.4.21 During daylight hours, over 10 species of waterbird have been regularly recorded using the Dibden Bay fields and West Cliff Marsh with over 30 species of waterbird recorded from the ABP Dibden Bay surveys. These areas are used by the largest numbers of waterbirds in the non-breeding season (winter and passage months) for feeding and loafing with much lower numbers recorded during the breeding season.

8.4.22 Eurasian teal and dark-bellied Brent geese were the most numerous species of wildfowl recorded in the daylight ABP Dibden Bay surveys (with 5-year mean peaks of 568 birds and 332 birds which represents 51% and 20% respectively of estuary-wide population numbers). Eurasian teal (and lower numbers of other dabbling duck species such as northern shoveler, Eurasian wigeon, mallard and northern pintail) are typically recorded feeding and roosting in association with seasonal pools and other areas of standing water. Dark-bellied Brent geese have

been primarily recorded feeding on grassland habitat near the foreshore. Greylag geese, Canada geese and shelduck are also commonly recorded on the seasonal ponds and grassland habitat.

8.4.23 Lapwing and curlew were the most numerous species of wading birds recorded in the daylight ABP Dibden Bay surveys (with 5-year mean peaks of 505 and 106 birds which represent 49% and 29% respectively of estuary-wide wide population numbers). Lapwing were recorded feeding widely across the Dibden Bay fields during winter with numbers highly variable within and between overwintering seasons. Curlew were also recorded feeding widely in areas of wet grassland and on the edge of areas of standing water with this species typically feeding on the fields in high water periods when foraging on nearby areas of foreshore is no longer possible (ABPmer, 2020b). Other wading birds recorded on the Dibden Bay fields include oystercatcher and black-tailed godwit.

8.4.24 The Dibden Bay fields and West Cliff Marsh are also extensively used by waterbirds in nocturnal periods. Wigeon were the most abundant species recorded nocturnally (5-year mean peaks of 1,753 birds which represents 86% of estuary-wide population numbers). This species is known to feed at night on the wet grassland habitat of the Dibden Bay fields, with flocks widespread over the fields, particularly in central and southern areas. These birds then typically disperse at dawn to spend the day feeding in Southampton Water and potentially other wetlands in the Test Valley and New Forest (ABPmer, 2020b).

8.4.25 Teal were also regularly recorded during the nocturnal surveys (5-year mean peaks of 315 birds which represents 28% of estuary-wide population numbers). The largest teal aggregations were typically recorded within and around shallow pools. Unlike Wigeon which mainly disperse to other areas away from the Dibden Bay fields, teal flocks often remain in the area after dawn on the pools in the fields and at West Cliff Marsh.

8.4.26 Waders including curlew, lapwing, black-tailed godwit, oystercatcher are also recorded nocturnally feeding and roosting in numbers typically similar or lower than observed during the day. However, numbers of snipe were much larger than recorded during daylight surveys which would be expected given this species is often most active during twilight periods (5-year mean peak of 93 birds which represents 24% of estuary-wide population numbers).

8.4.27 Other wildfowl recorded include mallard (5-year mean peak of 110 birds) and greylag geese (5-year mean peak of 135 birds). These numbers represent 30% and 94% respectively of estuary-wide population numbers.

8.4.28 In summary, given the high use of the area and the large populations recorded (which for some species represent a significant proportion of the overall population numbers in Southampton Water), the Dibden Bay fields and West Cliff Marsh are recognised as providing important supporting coastal habitat for birds in the region.

Breeding coastal waterbirds on the Dibden Bay Fields (reclaim)

8.4.29 Breeding lapwing is a notified feature of the Dibden Bay SSSI. Around the time of designation (2001), the site supported approximately 30 pairs. However, over the last 20 years the numbers of lapwing breeding at the site have shown a large decline. Breeding bird surveys in 2016 and 2018 recorded an estimated maximum of eight and 12 pairs respectively (with confirmed nesting by only two pairs in both years (Peter Brett Associates LLP, 2019). In 2019, an estimated five breeding pairs were recorded with no chicks observed from a suspected two nests (ABPmer, 2019).

8.4.30 Single pairs of gadwall and redshank and low numbers of mallard and Canada geese have also been recorded breeding at the site (Peter Brett Associates LLP, 2019).

8.5 Future Baseline

8.5.1 In the absence of the proposed Project, there are unlikely to be any significant short-term changes in baseline conditions (i.e. within approximately <5 years) for coastal ornithology receptors as environmental conditions (such as coastal physical processes) are likely to remain broadly comparable to the current baseline. In addition, land within ABP's ownership would continue to be held on a short-term tenancy basis for agricultural use as part of an ongoing management. However, in the longer-term (5-10 years+) the future baseline for coastal ornithology receptors will be increasingly influenced by ongoing climate change effects and potential increases in non-native species. These could lead to changes in distribution, abundance, health and reproduction in bird species, potentially affecting future populations. The future baseline could also be influenced by potential developments in the region and changes in other marine-related human activities.

8.6 Potential Impacts

Potential Impacts During Construction

8.6.1 **Table 8.2** identifies the potential impacts on Coastal Ornithology related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 8.5 Potential impacts during construction and proposed scope of the ES

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Coastal waterbirds	Direct loss of intertidal coastal waterbird habitat	Footprint of jetty structure and capital dredge	Yes	Capital dredging has the potential to result in the direct loss of intertidal habitat used by feeding and roosting coastal waterbirds. The footprint of marine piles would also result in the small loss of intertidal habitat.
	Changes to the prey resources of seabirds and other diving birds caused by potential impacts to seabed habitats	Capital dredge and dredge disposal	Yes	Capital dredging and dredge disposal at sea has the potential to cause impacts to seabed habitats which could cause changes to the prey resources available for seabirds and other diving birds. This impact pathway has, therefore, been scoped into the assessment.
	Changes in water quality on seabirds and other diving birds	Capital dredge and dredge disposal	Yes	Changes in water quality during capital dredging and dredge disposal could impact seabirds and other diving bird species through an increase in SSC and the potential release of toxic contaminants should they be bound in sediments may affect prey species. This impact pathway has, therefore, been scoped into the assessment.
	Noise and visual disturbance	Marine construction activity (including capital dredging)	Yes	During construction of the marine elements of the proposed Project, there is the potential for airborne noise and visual disturbance to affect coastal waterbirds. Underwater noise effects as a result of piling also have the potential to cause disturbance to diving birds foraging in the area. This impact pathway has, therefore, been scoped into the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Airborne noise and visual disturbance	Landside construction activity	Yes	During landside construction, there is the potential for airborne noise and visual disturbance to affect coastal waterbirds using terrestrial habitats near the proposed Landside Terminal. This impact pathway has, therefore, been scoped into the assessment.
	Lighting	Marine and landside construction activity	Yes	Lighting during construction has the potential to cause behavioral reactions in coastal waterbirds. This impact pathway has, therefore, been scoped into the assessment.

Potential Impacts During Operation

8.6.2 **Table 8.6** identifies the potential impacts on Coastal Ornithology related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA. In summary, no impact pathways are proposed to be scoped out for Coastal Ornithology receptors during operation.

Table 8.6 Potential impacts during operation and proposed scope of the ES

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Coastal waterbirds	Direct loss of terrestrial coastal waterbird habitat	Landside Terminal	Yes	The proposed Landside Terminal will cause a loss of terrestrial habitats (such as wet grassland and ponds) which support foraging and roosting coastal waterbirds during the non-breeding season. The proposed Landside Terminal also has the potential to cause a loss of terrestrial habitats which support breeding coastal waterbirds. This impact pathway has, therefore, been scoped into the assessment.
	Direct changes to intertidal foraging and roosting habitat as a result of marine infrastructure	Marine infrastructure	Yes	Marine infrastructure associated with the Project (such as the jetty structure) could potentially cause reduced functionality to waterbird feeding and roosting habitat due to birds avoiding being under or near such infrastructure as well as due to the disruption of sightlines. It should be noted that this pathway relates to potential changes to foraging and roosting habitat as a result of the physical presence of marine infrastructure rather than the direct loss of intertidal mudflat habitat due to the infrastructure (i.e. the piles) which would be assessed in the construction phase. It should also be noted that this pathway specifically relates to the structures themselves rather than human activity on the infrastructure which is assessed in the disturbance pathway below. However, it is acknowledged that such effects are likely to be

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				interrelated to some extent. This impact pathway has, therefore, been scoped into the assessment.
	Indirect loss of intertidal coastal waterbird habitat	Marine works (jetty structure and capital dredging)	Yes	The jetty structure and morphological/bathymetric changes to the seabed following capital dredge deepening have the potential to result in alterations to hydrodynamic and sedimentary processes (e.g. flow rates, accretion and erosion patterns) which could cause a potential loss of intertidal feeding and roosting habitat. This impact pathway has, therefore, been scoped into the assessment.
	The disruption of flight paths and potential collision of coastal waterbirds with landside and marine infrastructure	Landside and marine infrastructure	Yes	Marine infrastructure and landside buildings have the potential to disrupt flight paths and cause a potential collision risk to coastal waterbirds. This impact pathway has, therefore, been scoped into the assessment.
	Noise and visual disturbance to coastal waterbirds	Berth operations	Yes	During berth operations as well as any maintenance of the Marine Facilities, there is the potential for airborne noise and visual disturbance to affect coastal waterbirds. This impact pathway has, therefore, been scoped into the assessment.
		Landside operations	Yes	During operation, there is the potential for airborne noise and visual disturbance to affect coastal waterbirds using terrestrial habitats near the proposed Landside terminal (including during any maintenance of the facilities). This impact pathway has, therefore, been scoped into the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Lighting	Marine and landside operations	Yes	Lighting required during the operational phase has the potential to cause behavioral reactions in coastal waterbirds. This impact pathway has, therefore, been scoped into the assessment.

Mitigation

8.6.3 Through the ongoing project design process, the jetty structure will be positioned as close to the marine access channel as is safe to do so, to minimise both the capital dredging requirement and area of intertidal loss.

8.6.4 As the proposed Project has the potential to result in adverse impacts on the features of European sites (including both direct and indirect changes to protected habitats and site functioning, as well as disturbance to protected waterbird species), a compensation, mitigation and enhancement package is being developed. The principles of this package are set out in **Section 2.5**.

Approach to Assessment and Data Gathering for ES

8.6.5 The assessment will be undertaken following the principles of CIEEM's latest guidelines for EcIA in the UK and Ireland (which consolidates advice for terrestrial, freshwater and coastal environments) (CIEEM, 2018). In accordance with guidance, the assessment will include a detailed evaluation of impact magnitude, the sensitivity of relevant ornithology receptors at the site and the importance/value, as well as details of proposed mitigation measures to avoid or reduce any significant adverse effects. The assessments will also take into consideration all elements of the proposed Project, including both construction and operational activities.

8.6.6 The coastal ornithology assessment will be based upon the following key sources of data:

Dibden Bay Daylight Waterbird Surveys: As mentioned above, overwintering surveys were undertaken during 2016/17 and 2017/18 and have been undertaken on a monthly basis since June 2018. The daylight coastal waterbird surveys cover sectors extending from Marchwood (Cracknore Hard) to Langdown Marsh (including the Dibden foreshore and terrestrial land on the Dibden Bay fields and the adjacent West Cliff March. The individual count sectors are shown in **Figure 8.1**. Each month, one survey is undertaken around low water and one around high water (ABPmer, 2025c). These surveys will continue on a monthly basis for the foreseeable future.

- Dibden Bay Pre-dawn Waterbird Surveys: Pre-dawn (nocturnal) surveys of the Dibden Bay fields and West Cliff Marsh have been undertaken during the core winter months (November-February) since 2017/18 with methods consistent with previous pre-dawn monitoring undertaken for Natural England (ABPmer, 2025c). During the surveys, waterbirds leaving

the site around dawn are recorded. In addition, a thermal imaging scope is also used. The survey area is broadly divided into two sectors - Dibden Bay South and Dibden Bay North (**Figure 8.2**). These surveys will be continued in winter 2025/26.

- Dibden Bay Breeding Waterbird Surveys: Breeding coastal waterbird surveys will be undertaken in 2026 to complement the 2016, 2018 and 2019 data in order to appropriately and accurately determine the current population size of breeding waders (particularly lapwing). This survey will follow established methods that were used in the previous breeding bird surveys with visits undertaken from early April to July. The site will be sub-divided into multiple compartments to aid with identification of important areas. All lapwing and other waders will be recorded directly onto maps with associated behaviour. Nests will be actively looked for (if females are seen sitting), and if any are found, their positions recorded using GPS.
- Dibden Bay Wigeon Dropping Surveys: In order to better understand the distribution of wigeon on the fields at Dibden Bay a wigeon dropping survey will be undertaken in winter 2025/26 based on the same approach as undertaken in 1999 on the Dibden Bay fields. Areas used by wigeon would be mapped using GPS and sample transects will be recorded across selected feeding areas to record dropping density and relate this to vegetation structure.
- Southampton Water Coastal Waterbird Tagging Study: A telemetry-based tracking study of coastal waterbird movements within Southampton Water using GPS tagging technology. Coastal waterbirds were captured and tagged as part of the study in 2019 and 2020 including 15 curlew, five dark-bellied Brent geese, seven oystercatcher, 13 wigeon and one teal (ABPmer, 2020b).
- WeBS Core Count Data: The most recent 5 years of data for Southampton Water will be analysed to provide contemporary information on population numbers. These co-ordinated monthly counts are typically undertaken around high water (Calbrade et al., 2025).
- WeBS Low Tide Counts Data: This survey programme involves coordinated counts approximately every six years in to provide information on the numbers of waterbirds feeding on subdivisions of the intertidal habitat within designated SPA site boundaries. These counts are typically undertaken on a monthly basis from November to February during the two hours either side of low tide. The most recent full counts for

key sites were undertaken in 2018/19 for Southampton Water (Calbrade et al., 2025).

- The Solent State of Nature Report: This report presents an overview of the current status of coastal and marine wildlife in the region including coastal waterbirds (ABPmer, 2025c).
- Solent Waders and Brent Goose Strategy: The Solent Waders and Brent Goose Strategy is a conservation partnership project, which aims to conserve the internationally important Brent Goose and wading bird populations within and around the SPA and Ramsar wetlands of the Solent coast. The first Strategy was published in 2002 and focused on Brent Geese in the eastern Solent harbours. In 2010, a new Solent-wide Strategy was published, covering both wading birds and dark-bellied Brent geese. The latest strategy (the Solent Waders & Brent Goose Strategy 2020) focuses on understanding bird movements from the SPA areas to inland sites and between inland sites (Whitfield et al., 2020).
- Population Trends for Species in the Solent region: Information on long-term trends in the population status of waterbirds in the Solent region is available for the period up to 2021/2022 from the latest WeBS 'Alerts Report' (Caulfield et al., 2025). This is an information source describing waterbird numbers on protected areas and has an 'alert system' where species that have undergone major declines in numbers are identified.
- Natural England Designated Sites View: Information of the status and ecology of relevant bird species from SPAs in the region (Natural England, 2025).
- Going Birding Hants Sighting Records: Sightings records of seabirds in the region on the Going Birding website (Going Birding, 2025).

8.6.7 The data sources described above provide a good understanding of the current abundance and spatial distribution of waterbirds at Dibden Bay (both on the foreshore and the fields on the reclaim/West Cliff Marsh as well as more widely in Southampton Water. This data will be used to understand the scale of potential direct effects arising from the proposed Project including habitat loss and/or change as well as disturbance.

8.6.8 The proposed benthic ecology surveys will provide important information on the potential prey resource for coastal waterbirds (**Section 7.5**).

8.6.9 There are important linkages between the Coastal Ornithology topic and other topics. For example, the assessment of indirect impacts arising from potential changes to marine physical processes will be informed by the results of hydrodynamic modelling studies and, given the inherent links between the benthic

invertebrates within the study area and the ornithological features which feed on them, the results of the benthic ecology survey will be relevant for the assessment of impacts on ornithology. Accordingly, reference will be made to relevant findings from other topic assessments.

9 COMMERCIAL AND RECREATIONAL FISHERIES

9.1 Introduction

9.1.1 This section sets out the proposed scope of the ES chapter that will report the findings of the commercial and recreational fisheries assessment, with regard to potential effects as a result of the proposed Project.

9.1.2 The ES chapter will consider potential impacts on commercial and recreational fisheries, including shellfish fisheries. Potential ecological effects on fish and shellfish (such as cockles, clams or crabs) species and relevant fish stocks will be considered as part of the Marine Ecology assessment (**Section 7**; fish assessment and benthic habitats and species assessment, respectively).

9.2 Relevant Policy, Legislation, and Guidance

9.2.1 The assessment will be undertaken to meet the requirements set out in the NPSfP.

9.2.2 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including the following:

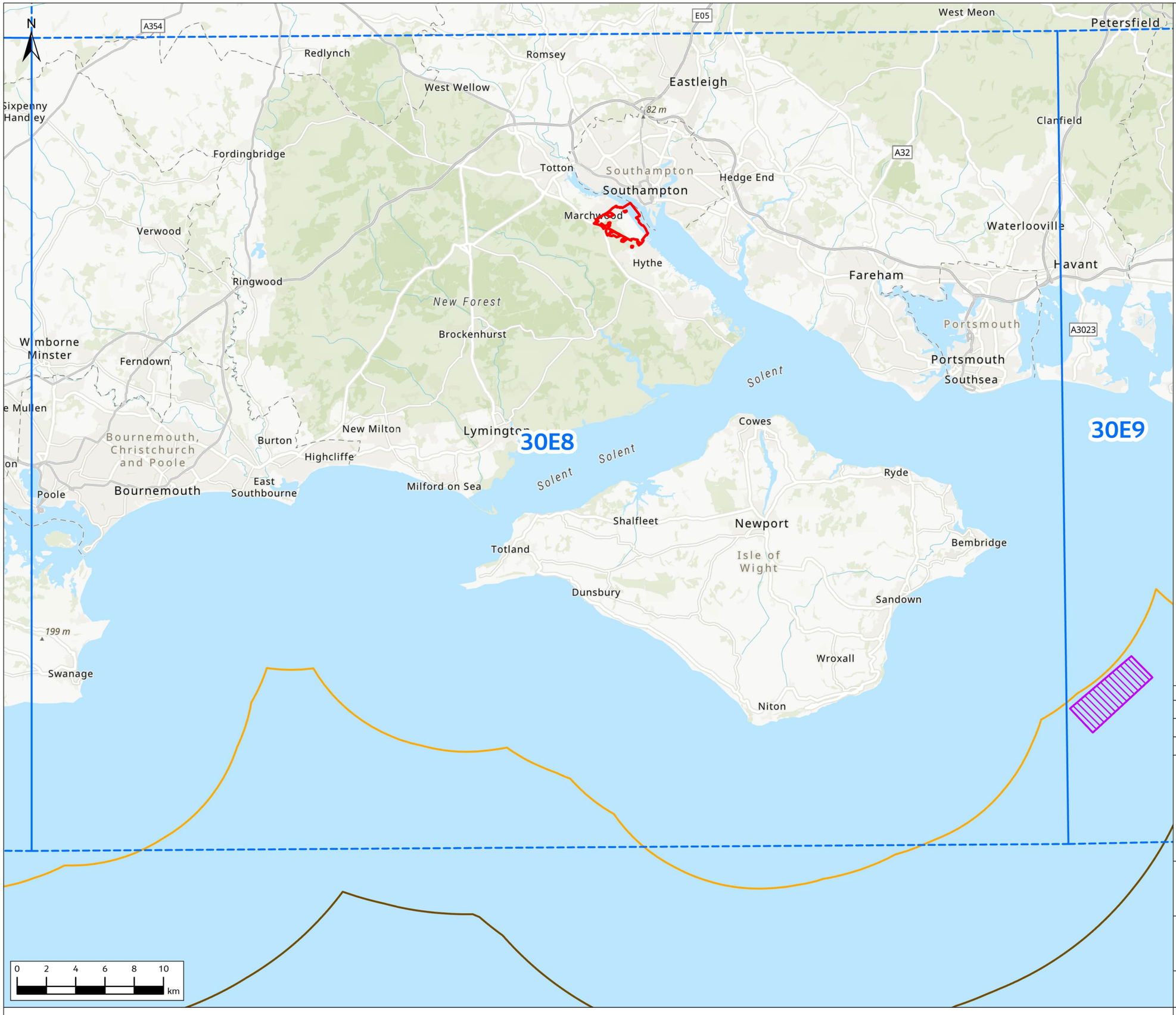
- UK Marine Policy Statement.
- The Marine and Coastal Access Act 2009 (MCAA).
- The Water Environment Regulations.
- UK Fisheries Act 2020.
- Joint Fisheries Statement 2021.
- Species-specific Fisheries Management Plans.
- UK Marine Strategy.
- South Inshore and South Offshore Marine Plan.
- New Forest District Policy.
- New Forest National Park Policy.

9.3 Study Area

9.3.1 The proposed Project lies within International Council for the Exploration of the Seas (ICES) rectangle 30E8 (**Figure 9.1**). The proposed dredged material disposal site, Nab Tower, is located just to the east of ICES rectangle 30E8, within ICES rectangle 30E9. Both of these ICES rectangles cover large areas in relation to the proposed Project and the Nab Tower disposal site, including offshore waters (beyond 6 nm). ICES rectangle 30E8 covers waters from Swanage in the south-west to Portsmouth in the south-east, whilst ICES rectangle 30E9 covers

waters from Portsmouth in the south-west to the east of Brighton in the south-east. Given the proximity of the Nab Tower disposal site to ICES rectangle 30E8, it is considered proportionate to include quantitative information from rectangle 30E8 only for the purposes of this EIA Scoping Report, with spatial data for both rectangles shown in figures where possible.

9.3.2 The most recent data available on fishing activity is only available at an ICES rectangle level, which covers a large area in relation to the proposed Project, including offshore waters (beyond 6nm) to the south-east and south-west of the Isle of Wight. As far as possible, this Marine Management Organisation (MMO) landings data by ICES rectangle has been supplemented with Vessel Monitoring Systems (VMS) activity, Automatic Identification System (AIS) activity and MMO sightings to provide a more comprehensive analysis of fishing activity in the area.



Legend

- Scoping Boundary
- Nab Tower Disposal Site
- ICES Statistical Rectangles
- 6 Nautical Mile Buffer
- 12 Nautical Mile Buffer



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	22/10/2025	Initial Issue	HCH	JP	AC	MSS

Scale @ A3 — Scale: 1:250,000 — DO NOT SCALE

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ABP | ASSOCIATED BRITISH PORTS

Project

SOLENT GATEWAY 2

Drawing Title

LOCATION OF THE PROJECT AND NAB TOWER, RELEVANT ICES RECTANGLES AND MANAGEMENT BOUNDARIES

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100014

Drawing Status FINAL

Figure 9.1

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9.4 Description of Existing Environment

Data Sources

9.4.1 The data sources in **Table 9.1** will be used to gather the baseline information on Commercial and Recreational Fisheries and inform the scoping study.

Table 9.1 Key data sources

Title	Date
Solent oyster restoration project: Management Plan. Available online at: https://www.bluemarinefoundation.com/wp-content/uploads/2015/11/20160525_Solent-Oyster-Restoration-Project_Management-Plan_Final-version.pdf (Accessed 09/05/2025).	Solent oyster restoration project: Management Plan. Available online at:
National Statistics: UK sea fisheries annual statistics report 2023: Available online at: https://www.gov.uk/government/statistics/uk-sea-fisheries-annual-statistics-report-2017 (Accessed 09/05/2025).	MMO, 2023
UK fishing vessel lists: Details of registered and licensed fishing vessels over 10 metres and 10 metres and under. Available at: https://www.gov.uk/government/collections/uk-vessel-lists (Accessed 09/05/2025).	MMO, 2025
A valuation of the provisioning ecosystem services provided by shellfish for priority shellfish waters in the Solent.	New Economics Foundation, 2018
HRA – South Wight Maritime SAC - Potting	Southern IFCA, 2016
Southampton Water: Bivalve stock survey	Southern IFCA, 2017
The Solent dredge permit byelaw	Southern IFCA, 2018a
Solent oyster management plan	Southern IFCA, 2018b
Southampton Water: Bivalve Stock Survey	Southern IFCA, 2019
Manilla clam species profile	Southern IFCA, 2021
Southern IFCA byelaw booklet	Southern IFCA, 2023

Title	Date
Solent Dredge Fisheries ongoing reviews	Southern IFCA, 2025a
Southern IFCA Angling: Recreational angling webpage	Southern IFCA, 2025b
Solent Forum commercial fishing	Solent Forum, 2021
Solent Gateway Marine Project, Environmental Appraisal	ABPmer, 2024b
Classification zone maps	Cefas, 2025a
Offshore Overfalls Marine Conservation Zone	Defra, 2016

Commercial Fisheries

Overview

9.4.2 Information on the spatial distribution, intensity and value of commercial fishing activity in inshore waters within Southampton Water and the wider Solent is not readily available. Some information regarding the fishing fleet (number of vessels) and the value of landings from the wider area (which provide an indication of the importance of the area to the sector) is available and this is presented below. As far as possible, MMO landings data by ICES rectangle has been supplemented with VMS activity, AIS activity and MMO sightings to provide a more comprehensive analysis of fishing activity in the area.

9.4.3 In summary, commercial fishing activity takes place in Southampton Water and the Solent region, as well as in and around the Nab Tower disposal site. However, MMO sightings, AIS and VMS data as well as ABP Harbour Master's Vessel Traffic Services (VTS) observations indicate that there is no fishing activity within the expected location of the proposed Project dredge pocket and associated marine infrastructure area. Further detail is presented in the following sections.

Locally registered vessels

9.4.4 **Table 9.2** shows the number of commercial fishing vessels registered at home ports around the Solent, based on the MMO UK fishing vessel lists. It should be noted that even if there are no vessels registered to a home port, fishing vessels may still operate out of, and land to, these ports.

Landings activity

9.4.5 **Figure 9.2** shows the average annual value of landings from ICES rectangle 30E8 from all gear types by UK vessels.

Table 9.2 Commercial fishing vessels registered at ports in Southampton Water and the Solent in May 2025 (MMO, 2025).

Port	Under 10m vessels	Over 10m vessels
Southampton	9	1
Hamble	2	-
Cowes	3	-
Isle of Wight	11	-
Bembridge	1	1
Langstone	1	1
Portsmouth	40	3
Lymington	9	1
Keyhaven	1	-
Christchurch	12	-
Poole	71	1
Selsey	11	2
Bognor Regis	3	-
Swanage	5	-
- indicates that no vessels were registered to these ports as 'home ports'. However, vessels may still operate out of, or land into, these ports.		

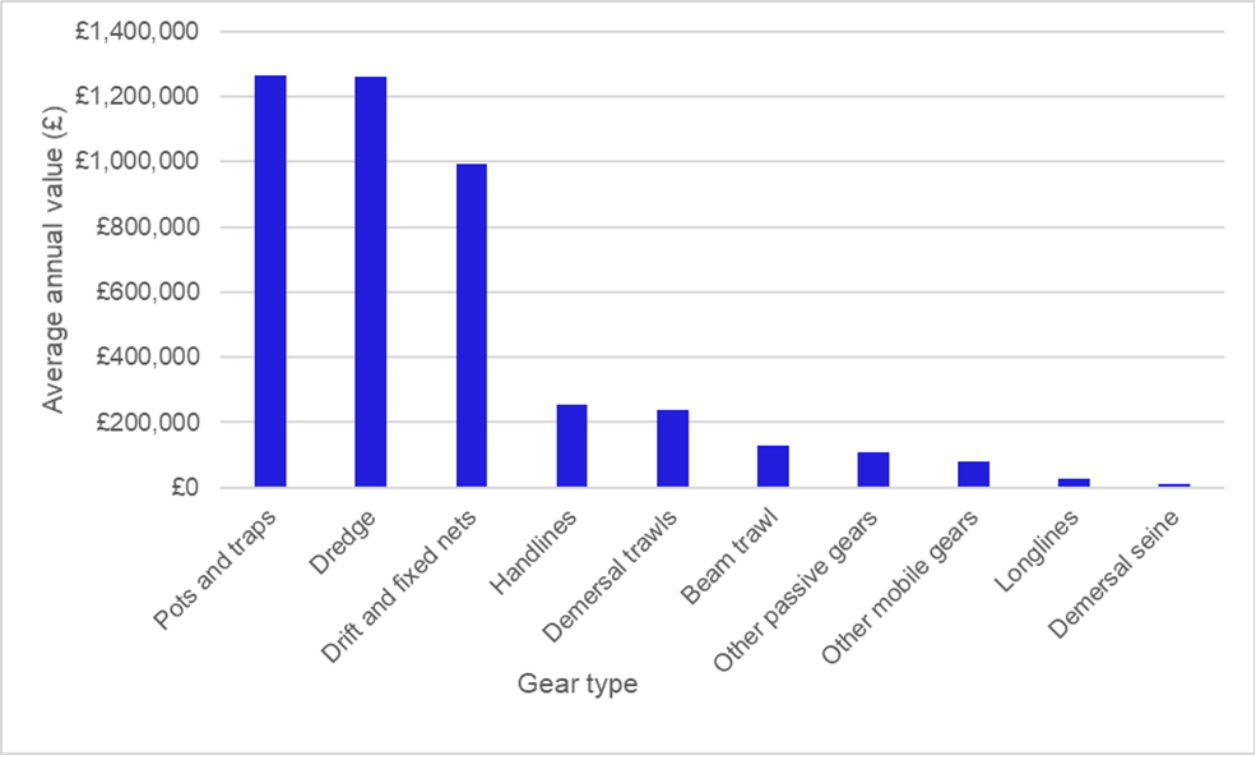


Figure 9.2 Average annual value of landings (£) between 2019 and 2023 from ICES rectangle 30E8 from all gear types by UK vessels

9.4.6 The commercial fisheries in Southampton Water and the Solent are mixed in terms of species targeted and the fishing methods used. Inspection of the value of landings from ICES rectangle 30E8 by UK vessels provides an indication of the value of the fisheries in the wider study area (**Table 9.3**), the range of fishing gear types used in the wider study area (**Figure 9.2**) and the species targeted (**Table 9.4** and **Table 9.5**).

9.4.7 As previously noted, ICES rectangle 30E8 covers a large area in relation to the proposed Project, including offshore waters (beyond 6nm) to the south-east and south-west of the Isle of Wight. Furthermore, there are a number of limitations with using these data to characterise fishing activity in the vicinity of the proposed Project. For example, not all landings or sales by under-10m vessels are recorded and, therefore, actual landings value may be under-represented in the data. It should also be noted that a Southern Inshore Fisheries and Conservation Authority (IFCA) byelaw restricts inshore fishing (i.e. within 6nm) to vessels 12m in length and under.

9.4.8 **Table 9.3** shows that the average annual value of landings (between 2019 and 2023) from ICES rectangle 30E8 was £4,365,479, with £3,679,798 million for the under-10m vessels sector and £685,680 million for the over-10m vessels. Hence these data indicate the importance of the area for under-10m vessels. The Southern IFCA confirmed that nearly all vessels fishing within 6nm in the IFCA District (from the Devon/Dorset border in the West to the Hampshire/Sussex border in the East) are under 10m in length.

Table 9.3 Average value of landings (GBP) (2019 to 2023) from ICES rectangle 30E8 from all gear types by UK vessels (source: MMO, 2023)

Sector	2019	2020	2021	2022	2023	Average
Under-10m vessels	£3,584,768	£2,975,477	£3,570,582	£3,710,346	£4,557,819	£3,679,798
Over-10m vessels	£409,183	£625,239	£711,714	£638,121	£1,044,145	£685,680
Total (all vessels)	£3,993,951	£3,600,716	£4,282,295	£4,348,467	£5,601,965	£4,365,479

9.4.9 **Figure 9.2** shows the average annual value of landings, between 2019 and 2023, by gear type. The highest value of landings was from pots and traps (average annual value of £1.265 million), closely followed by dredge gear (£1.260 million) which has been increasing in value since 2019. Other fishing gears used by the

under-10m vessels included drift and fixed nets (highest value species landed sole and bass), dredges scallops, cockles and clams), gears using hooks (bass) and demersal trawls or seines (sole). Other fishing gears used by over-10m vessels included beam trawls (highest value species landed sole), dredges (scallops), gears using hooks (bass), demersal trawls or seines (sole) and drift and fixed nets (sole).

Landings by species

9.4.10 **Table 9.4** and **Table 9.5** show the top ten finfish and shellfish species by value which were landed from ICES rectangle 30E8 (to all ports) by UK vessels. This provides an indication of the high value species targeted in the wider area. The most valuable species landed by under 10m vessels were Manilla clam (annual average of £1 million landings), sole (annual average of £0.65 million landings), bass (annual average of £0.35 million landings), whelk (annual average of £0.35 million landings) and lobster (annual average of £0.3 million landings).

Table 9.4 Top ten finfish species landed from ICES rectangle 30E8 (to any port) by UK vessels (MMO, 2023)

Sector	2019	2020	2021	2022	2023	Average
Sole	£619,186	£648,383	£802,277	£962,093	£1,144,095	£835,207
Bass	£370,085	£300,182	£333,080	£375,569	£398,745	£355,532
Plaice	£72,864	£91,701	£96,528	£118,860	£133,863	£102,763
Mullet - Other	£69,656	£49,515	£63,401	£84,777	£123,911	£78,252
Sea breams	£12,725	£23,294	£49,272	£59,499	£48,898	£38,738
Thornback ray	£25,810	£23,366	£34,033	£32,639	£52,972	£33,764
Turbot	£19,393	£22,908	£27,347	£34,089	£46,594	£30,066
Brill	£15,910	£21,839	£20,179	£28,845	£33,854	£24,125
Blonde ray	£11,133	£12,702	£15,754	£15,846	£19,182	£14,923
Small-eyed ray	£3,377	£8,280	£8,946	£12,005	£16,664	£9,854

Table 9.5 Top ten shellfish species landed from ICES rectangle 30E8 (to any ports) by UK vessels (source: MMO, 2023)

Sector	2019	2020	2021	2022	2023	Average
Manilla clam	£811,168	£877,554	£1,236,863	£962,351	£1,334,846	£1,044,556
Whelks	£641,011	£614,261	£507,010	£221,799	£685,975	£534,011
Crabs *Cancer pagurus*. (Mixed sexes)	£460,212	£269,893	£246,287	£240,572	£130,578	£269,508
Scallops	£43,578	£131,388	£173,401	£378,042	£475,506	£240,383
Cuttlefish	£171,209	£171,877	£116,456	£206,905	£376,304	£208,550
Mixed clams	£128,603	£3,925	£3,903	£56,794	£139,422	£66,529
Cockles	£47,857	£12,018	£78,218	£57,041	£52,526	£49,532
Clams *M. mercenaria*	£46,745	£3,001	£33,034	£33,583	£40,097	£31,292
Clams *Venerupis decussata*	£30,548	£0	£0	£0	£0	£30,548

9.4.11 While the data in **Table 9.5** provides information on the gears used and species targeted in ICES rectangle 30E8, as noted above these data include landings from areas beyond Southampton Water and the Solent and are also likely to underestimate the value of landings from smaller (under-10m) vessels.

9.4.12 Commercial fishing does not take place in the Southampton Water main navigation channel and the area around the location of the proposed Project. The area of the proposed Project is under visual supervision by ABP Harbour Master's VTS team. The Southampton VTS service operates 24-hours a day and provides a comprehensive traffic picture through Radar, AIS, Closed-Circuit Television (CCTV), Very High Frequency (VHF) radio and marine planning tools.

9.4.13 VTS observations indicate that occasional clam and eel fishing takes place in the area between Hythe and the Gymp (subject to bivalve production restrictions due to Escherichia coli), but there is no fishing activity in the area of the proposed dredge and marine infrastructure. Low levels of dredge fishing for bivalves, net fishing, hand gathering of shellfish and rod and line fishing occur in the wider area within Southampton Water (ABPmer, 2024b).

9.4.14 Dredge fishing in Southampton Water and the Solent is managed under the Solent Dredge Permit Byelaw (Southern IFCA, 2025a). The area of the proposed Project falls within one of the Bivalve Management Areas under this byelaw, specifically Area 4 – Southampton Water (Southern IFCA, 2018a). The conditions attached to the permit create closed seasons, temporal restrictions, restrictions on gear and a need for catch reporting. In 2021, 95 tonnes of scallop were harvested from the Solent and approximately 35 tonnes of manila clams were harvested from Southampton Water, based on data received by Southern IFCA from the MMO in 2022 (Southern IFCA, 2024b).

Inshore shellfisheries

9.4.15 Some information regarding inshore shellfisheries, including in Southampton Water, is provided by evidence reports from the Southern IFCA, which is responsible for managing fisheries within inshore waters (inside 6nm) along the south coast[5].

9.4.16 Clam dredging takes place extensively throughout intertidal and subtidal sections of the Solent (including Southampton Water), predominantly from under 10m vessels, often operating in very shallow waters which span both the eastern and western sides of the marine access channel (Southern IFCA, 2018a). The main species targeted is the Manila clam *Ruditapes philippinarium*. Other species caught include the American hard-shelled clam *Mercenaria mercenaria* (Southern IFCA, 2021).

9.4.17 The main clam fisheries take place in Southampton Water and Poole Harbour where dredgers are used to harvest the clams from the seabed[6]. In Southampton Water, a toothed box dredge is typically used and towed from the stern of the boat, with one or two dredges used per vessel. This activity only takes place on small vessels 10m or less in length.

9.4.18 One bivalve bed, surveyed in 2019, included an area referred to as 'Hythe and the Gymp' which is in the immediate vicinity of the proposed Project (Southern IFCA, 2019). Southern IFCA (2018a) report that the levels of this fishing activity in the area of Southampton Water have varied greatly over time. Sightings of fishing vessels compiled by the IFCA show that clam dredging occurred predominantly in Southampton Water between 2005 and 2011 across a number of areas including Hythe, Bird Pile, Ashlett Creek and adjacent to the entrance to the River Hamble (Gravestock, 2016, cited in Southern IFCA, 2017). However, data showed a decline in activity in the upper reaches of Southampton Water

[5] *The Southern IFCA District covers the entire Dorset, Hampshire and Isle of Wight coastline out to 6 nautical miles*
[6] *Manila-clam-Species-Profile.pdf*

between 2012 and 2015 corresponding to a change in shellfish harvesting area classifications prohibiting the fishing for shellfish.

9.4.19 ABP Harbour Master's VTS team report occasional clam dredging taking place in the area between Hythe and the Gymp, though this area is currently classified as prohibited for bivalve mollusc production and must not be subject to production or be harvested (further details on current shellfish area classifications are provided in the following paragraphs).

9.4.20 Since 1st September 2018, the Itchen River (above Itchen Bridge), Hythe, Netley and Weston Shelf have been classified as prohibited areas from which shellfish must not be harvested, although the Southern IFCA noted that further to sewage treatment improvements in the area, there is interest in these beds being re-opened further to the harvesting areas meeting statutory classification standards. Sampling for this process has been started. Furthermore, there is currently no classification data that enables harvesting of common cockles in Southampton Water.

9.4.21 The clam fishery in the Solent (Southampton Water, Portsmouth Harbour and Langstone Harbour) is currently regulated under the Solent Dredge Fishing Byelaw 2016. A permit scheme was introduced for dredging in the Solent in 2021. Regulations set a fishing season for dredging for clams and cockles. The fishing season takes place between 1st November to end of February (inclusive) in Southampton Water, Langstone Harbour and Portsmouth Harbour. This, along with other measures under the regulations, ensure that the fisheries are compatible with conservation requirements. Commercial hand gathering for Manila clams also takes place in Poole Harbour and the Solent where clams are hand-gathered from the sediment at low tide.

9.4.22 The following Southampton Water Bivalve Mollusc Production Areas for shellfish are currently classified as prohibited and must not be subject to production or be harvested (Cefas, 2025a):

- Oyster *Ostrea edulis* and Manila clam *Tapes spp*. between Eling and Hythe, the Itchen River (above Itchen Bridge), Weston Shelf and near Netley.
- American hard-shelled clam *M. mercenaria* between Eling and Hythe, and the Itchen River.
- Pacific oyster *Crassostrea gigas* between Eling and Hythe, and the Itchen River.
- Common cockle *Cerastoderma edule* between Eling and Marchwood, the Itchen River, Weston shelf and near Netley.

9.4.23 **Table 9.6** shows the estimated landing volumes of clams from the two designated shellfish waters closest to the location of the proposed Project (Southampton Water and Approaches to Southampton Water) between 2015 and 2017.

Table 9.6 Landings of shellfish species by volume (tonnes) from Southampton Water and Approaches to Southampton Shellfish Waters (2015-2017).

Shellfish Water	Year	Landings by species (tonnes)			
		Manila clam	**Hard-shell clam**	**Cockle**	**Native oyster**
Southampton Water	2015	0	0	0	0
	2016	8.78	0.77	0	0
	2017	7.57	3.36	0	0
Approaches to Southampton Water	2015	158.85	19.67	0.26	0
	2016	47.62	2.87	1.22	0
	2017	8.93	3.36	0.28	0
Source: Reproduced from New Economics Foundation, 2018[7]					

9.4.24 Historically, the most significant shellfishery in the wider study area was the Solent native oyster fishery, fished using oyster dredges. However, the oyster population has been in continual decline since the 1980s, with a sharp decline observed in 2007. This dramatic reduction has continued with the fishery, in parts being temporarily restricted since 2013 (Southern IFCA, 2018b). Byelaws for oyster fishing currently include a seasonal closure from 1st day of March to the 31st day of October[8]; dredge size restrictions[9] and minimum landing sizes to protect juveniles[10].

9.4.25 **Figure 9.3** shows the locations of native oyster beds in the Solent in 2009 and **Figure 9.4** shows areas in the Solent that are closed to bottom towed fishing gear under the Southern IFCA bottom towed fishing gear byelaw (2016). A Solent Oyster Restoration Project, initiated in 2014, aims to restore native oyster beds in the Solent (Blue Marine Foundation, 2016).

[7] *The report notes several caveats for this data and states that the data should be noted with caution. For further information on the limitations of this data, refer to New Economics Foundation (2018).*
[8] *Oysters-Close-Season-FINAL.pdf*
[9] *Oyster-Dredges.pdf*
[10] *Oysters.pdf*

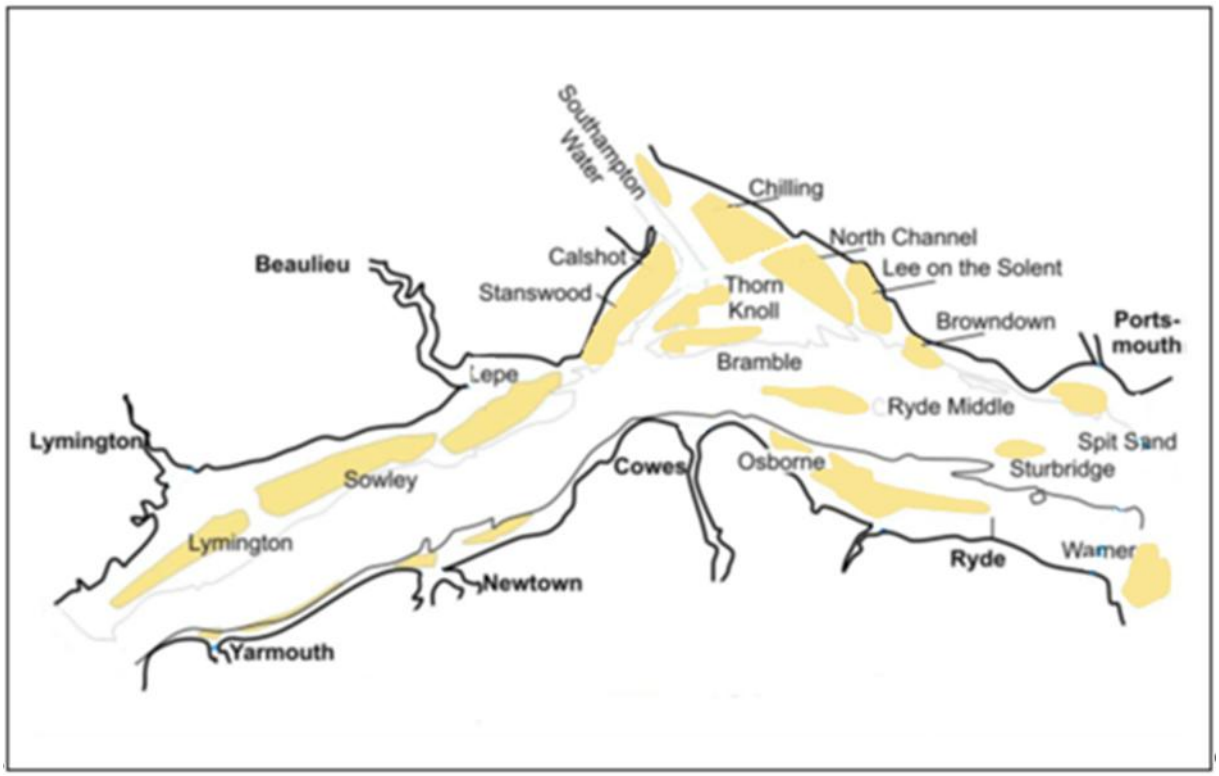
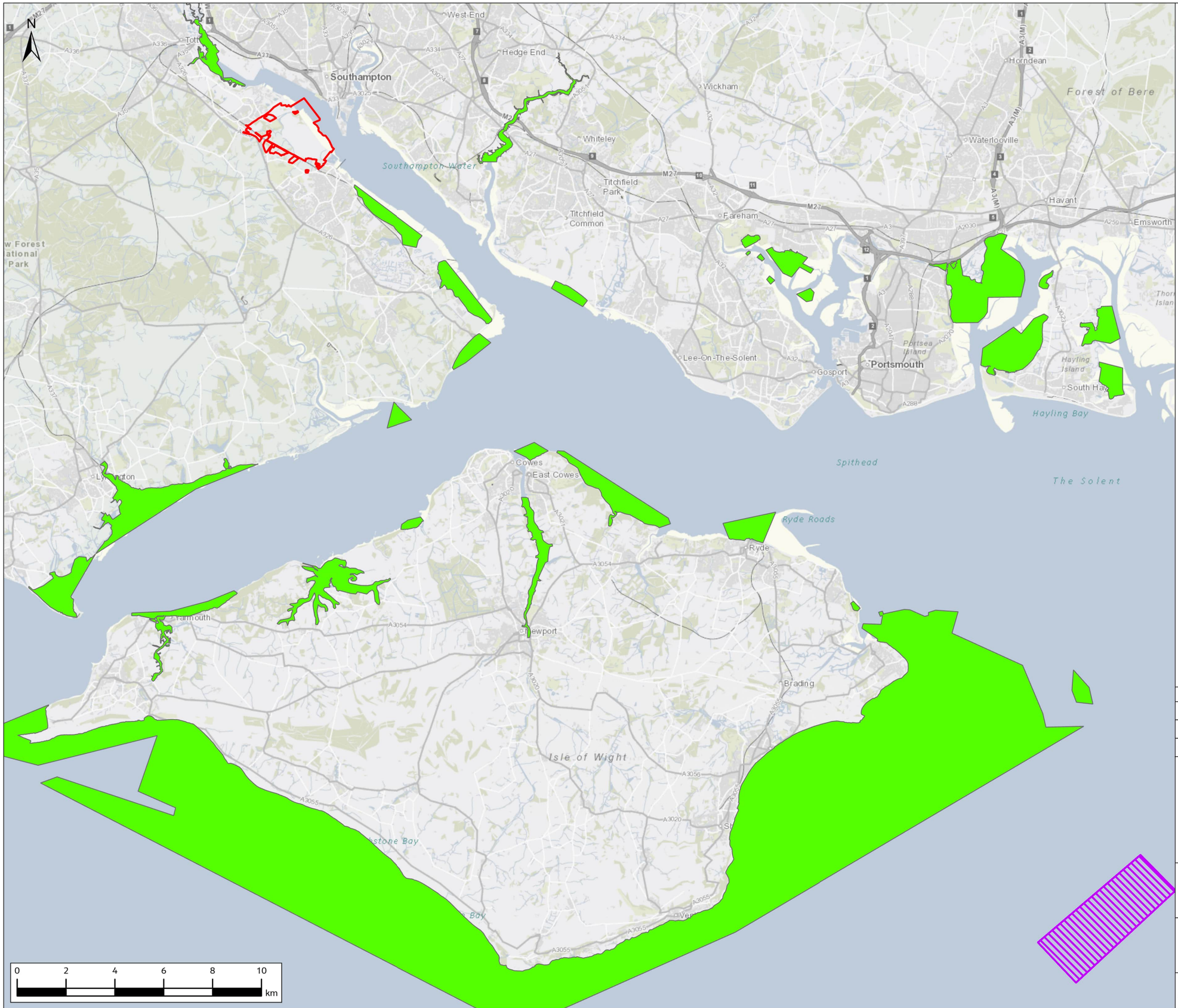
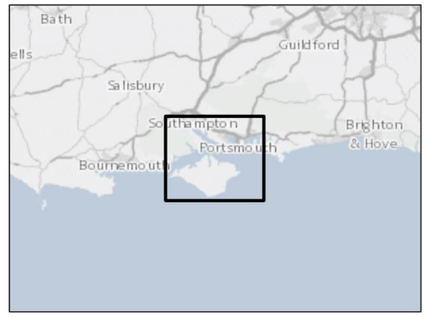


Figure 9.3 Native oyster beds located in the Solent in 2009, as assessed by the annual Cefas stock survey (Reproduced from IFCA, 2018b).



Legend

- Scoping Boundary
- Nab Tower Disposal Site
- Bottom Towed Gear Prohibited Area



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Project

SOLENT GATEWAY 2

Drawing Title

BOTTOM TOWED FISHING GEAR CLOSED AREAS IN THE SOLENT UNDER THE SOUTHERN IFCA BOTTOM TOWER FISHING GEAR BYELAW, 2016

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100015

Drawing Status FINAL

Figure 9.4

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9.4.26 Further information regarding commercial fishing activity in inshore areas in the vicinity of the proposed Project is less recent. Some information is provided by the National Inshore Fisheries Datalayer (Cefas, 2010), which shows broad-scale relative differences in fishing activity in inshore waters, based on data from 2007 to 2009. More recent information is available from the Southern IFCA Fisheries Review (Southern IFCA, 2013), which obtained information on the gears used and species caught within the IFCA District through sending fishermen questionnaires in 2013, although responses were only received from 25% of the fleet. This data layer (not shown) indicated a range of gears being used in the vicinity of Southampton Water including potting, dredging, trawling and netting.

Fishing Activity Around Nab Tower

9.4.27 Some limited fishing is known to take place around the Isle of Wight (Southern IFCA, 2016). Whilst there is limited available data to show the landings of species caught specifically in the Nab Tower disposal site area, there is information for the Offshore Overfalls Marine Conservation Zone (MCZ), about 0.8 km east. Commercial species that inhabit the Offshore Overfalls MCZ include bass, turbot, brill, cod, rays, tope, brown crab and sandeels (Defra, 2016).

9.4.28 There are a number of fishing gear types commonly used across the Southern IFCA District. The most common forms of fishing in the area of the Nab Tower disposal site are whelk and cuttle potting in the south-eastern areas of the Isle of Wight and netting to the east of the Isle of Wight (Solent Forum, 2021).

9.4.29 There have previously been unsubstantiated anecdotal reports from local fishers that levels of suspended sediments have increased following increased dredge disposal at the Nab Tower disposal site, leading to a decline in crustacean catches over key fishing areas including Bembridge Ledges and to the west of the Isle of Wight. The Nab Tower disposal site has received highly variable volumes of material since records began in 1984. Records indicate this site received >6 million cubic metres in 1997, >4 million cubic metres in 1996 and in 2014, and >2 million cubic metres in 2017. The available disposal at sea (DAS) records indicate that there is no particular trend and that there has not been an increase in the use of this site over time. It is recognised that wider environmental, cyclical, or climatic changes could be playing a role in the decline in the local crustacean fishery and it is not possible to substantiate the claim of the fishers (ABPmer 2024b).

MMO Sightings Data, AIS and VMS

9.4.30 The sightings data provided by the MMO for the years 2017-2024 (ICES rectangle 30E8), presented in **Figure 9.5**, confirms insights gained from the MMO landings

data. There are a variety of different gear types responsible for fishing activity in the region, including trawling, netting, potting, dredging and rod and line fishing. None of the sightings have been recorded close to the proposed Project site, but this may be due to lack of MMO presence in that area rather than lack of fishing activity. It is important to note that surveillance data does not record all fishing activity and that aerial surveillance sightings are only conducted during daylight hours.

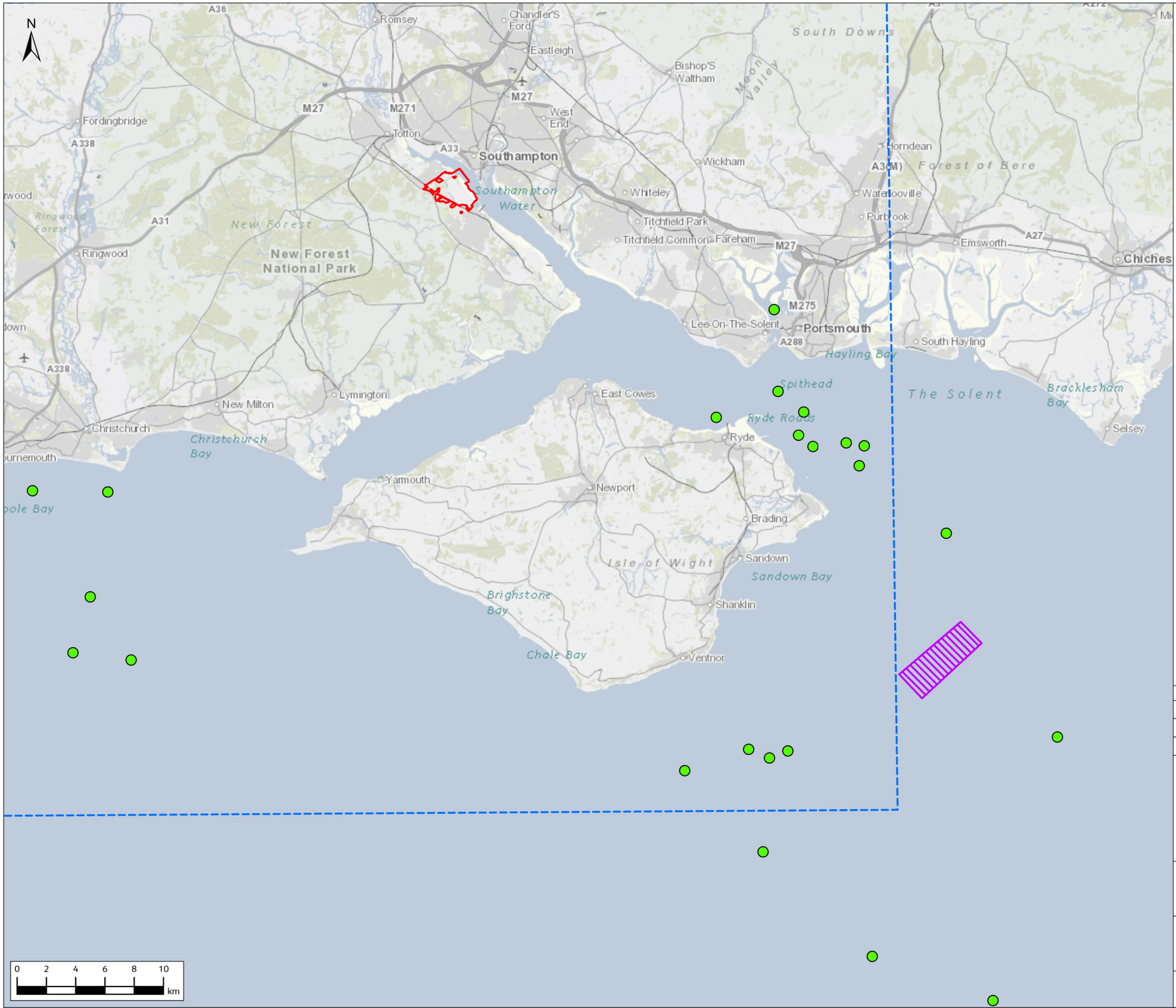
9.4.31 To compensate for aerial surveillance sightings only being conducted during daylight hours, AIS and VMS can further track fishing activity.

9.4.32 AIS data from 2024/2025 (**Figure 9.6**) indicates that vessels are present travelling through Southampton Water and close to the location of the proposed Project, but no tracks are recorded within the Scoping Boundary itself. Vessels are able to turn AIS off at any time, so lack of tracks in the Scoping Boundary may not fully confirm lack of vessel presence.

9.4.33 **Table 9.7** shows the number of vessels by gear type recorded using VMS within ICES rectangle 30E8, categorised by size. A total of 11,321 pings were recorded between 2017 and 2023, of which 52% were between 12 – 15 m in length and 33% were 20-29.99 m in length. **Figure 9.7** shows the location of the VMS pings in ICES rectangle 30E8 (for the Scoping Boundary) and 30E9 (for the Nab Tower disposal site).

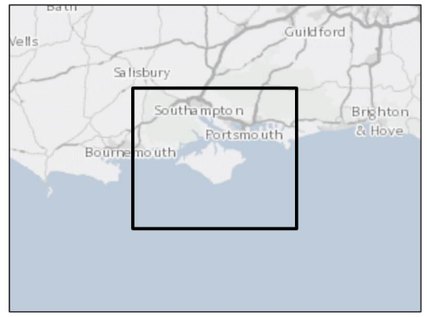
9.4.34 Vessels have been recorded in Southampton Water but not in the immediate vicinity of the proposed Project site. Vessels have been recorded both within the Nab Tower disposal site as well as in the surrounding area with a variety of fishing gears used. Vessels less than 12m in length do not currently use VMS and so are not included in this data set.

9.4.35 Across all vessels size categories >15m, the most prominent gear types were dredge and pots. Vessels between 12 – 15 m were most often potters.



Legend

- Scoping Boundary
- Nab Tower Disposal Site
- MMO Sightings (2017 - 2024)
- ICES Statistical Rectangle 30E8



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SOLENT GATEWAY 2

Drawing Title

MMO SIGHTINGS DATA FOR ICES RECTANGLE 30E8 (2017 - 2024)

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100016

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Figure 9.5

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Table 9.7 Number of observations that relate to vessel activity and size within ICES rectangle 30E8 between 2020 and 2023 from vessel monitoring system (VMS) data

Gear type	Number of vessel pings
12 to 14.99m length	**5,894**
Pots (FPO)	4,169
Dredge (DRB)	892
Bottom otter trawl (OTB)	348
Unknown	269
Beam trawl (TBB)	206
Otter twin trawls (OTT)	10
15 to 19.99m length	**1,340**
Dredge (DRB)	384
Unknown	279
Set Gillnet (GNS)	234
Pots (FPO)	197
Bottom otter trawl (OTB)	174
Otter twin trawls (OTT)	47
Beam trawl (TBB)	24
20 to 29.99m length	**3,771**
Dredge (DRB)	2,981
Bottom otter trawl (OTB)	219
Beam trawl (TBB)	208
Unknown	202
Other (NK)	121
Scottish seine (fly dragging) (SSC)	22
Pots (FPO)	9
Gillnet (GN)	3
Set Gillnet (GNS)	3
Otter twin trawls (OTT)	2
Danish anchor seine (SDN)	1
30+ m length	**316**
Dredge (DRB)	171
Beam trawl (TBB)	45
Mid-water otter trawl (OTM)	39
Unknown	22
Mid-water pair trawl (PTM)	21
Bottom otter trawl (OTB)	11
Scottish seine (fly dragging) (SSC)	5

Gear type	Number of vessel pings
Other (NK)	1
Danish anchor seine (SDN)	1
Otter twin trawls (OTT)	47
Scottish seine (fly dragging) (SSC)	5
Other (NK)	1
Danish anchor seine (SDN)	1

9.4.36 In summary, commercial fishing activity takes place in Southampton Water and the Solent region, as well as in and around the Nab Tower disposal site. However, there is no fishing activity within the expected location of the proposed Project dredge footprint and associated marine infrastructure area, as confirmed by MMO sightings, AIS and VMS data as well as VTS observations.

9.4.37 Occasional fishing for clams and eels is reported by VTS in the Hythe to Gymp area located immediately downstream of the expected location of the proposed dredge pocket. However, shellfish harvesting area classifications currently prohibit commercial bivalve collection in this area as well as in much of Southampton Water, with restrictions impacting this activity for more than 10 years.

N

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Legend

Scoping Boundary

Vessel Transits by Ship Type

Fishing



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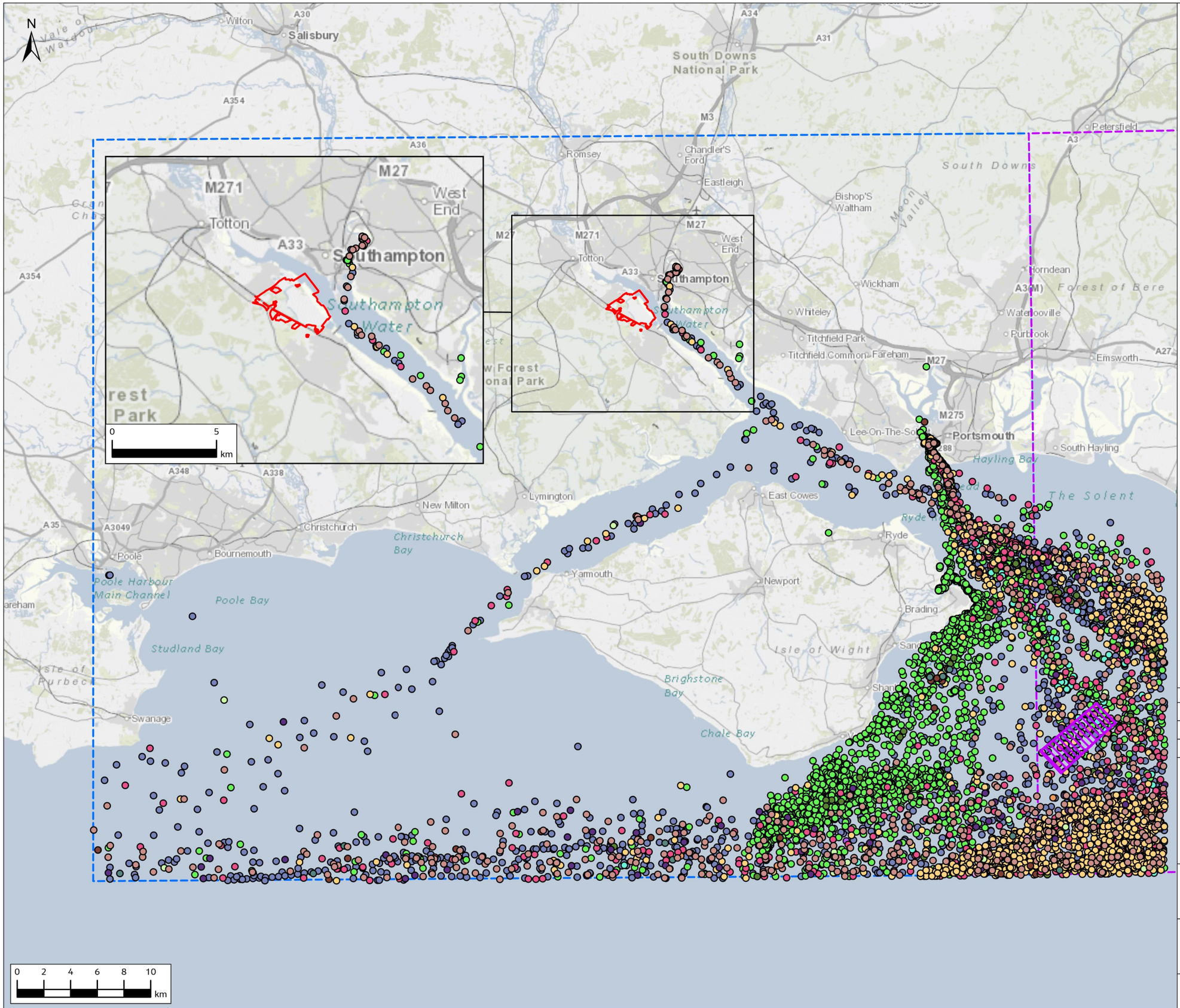
FISHING VESSEL AIS TRACKS
01/08/24 TO 31/07/25

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100017

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Figure 9.6

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SOLENT GATEWAY 2

Drawing Title

MMO VMS DATA FOR ICES RECTANGLES 30E8 AND 30E9 (PARTIALLY SHOWN) (2017 - 2023)

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100018

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Figure 9.7

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Bait Digging

9.4.38 Bait digging involves the removal of worms, mainly ragworms and lugworms, from the foreshore to be used as fishing bait. The practice takes place recreationally and commercially in many estuaries throughout the UK. Given the public right to fish, anyone can dig for worms as long as they make use of the bait themselves. To undertake commercial bait digging, permission from the land owner must be gained.

9.4.39 Anecdotal evidence from bird surveys since 2016 indicates that two to 15 bait diggers are observed regularly on the Dibden foreshore at lower states of the tide. The presence of bait diggers has been recorded during most monthly bird surveys over the last few years, but they could be active even more frequently depending on the season and tide.

9.4.40 The actual tonnage of bait removed from the foreshore or information regarding the level of actual effort are not available. However, it should be noted that ABP is the land owner of the foreshore and no permission has been granted for commercial or recreational bait digging, with clear signage indicating that no public access is permitted.

Recreational Fisheries

9.4.41 The Southern IFCA District is a nationally significant area for recreational sea angling. In 2018, the Southern IFCA (2018b) estimated that there were 150 craft operating as angling or diving charter vessels in the District, in addition to high numbers of privately-owned craft. Onshore recreational angling occurs all along the coastline in the District from piers, marinas, cliffs, harbour walls and beaches (Southern IFCA, 2025b). In 2014, Southern IFCA published its Sea Angling Strategy, indicating the importance of recreational fishing to the region.

9.4.42 Spatially, recreational sea angling activities occur mainly inshore or much further offshore (EMU, 2012). The main species of interest to recreational anglers include bass, mackerel, sea bream, rays, conger, shark, tope, smoothhound and spurdog, with cod and plaice available during winter and spring respectively (EMU, 2012).

9.4.43 Anecdotal evidence from monthly bird surveys since 2016 indicates that recreational rod and line fishing takes place very rarely from the Dibden foreshore. As with bait digging, it should be noted that ABP is the land owner of the foreshore and no permission has been granted for recreational fishing access, with clear signage indicating that no public access is permitted.

Summary of Receptors

9.4.44 Based on the review of baseline data, the following potential receptors have been identified:

- Commercial fishing (including bait digging, potting, trawling, and clam dredging).
- Recreational fishing (from shore, including bait digging, and by boat).

9.5 Future Baseline

9.5.1 It is assumed that land within the ABP's ownership would continue to be held on a short-term tenancy basis for agricultural use as part of an ongoing management process. There are, therefore, unlikely to be any short-term changes to commercial and recreational fisheries, which will continue to be influenced by natural and human-induced variability (e.g. vessel movements).

9.5.2 The future baseline will also be influenced by climate change, ocean acidification and increases in non-native species. These could lead to changes in distribution, abundance, health and reproduction in target finfish and shellfish species, potentially affecting stocks.

9.6 Potential Impacts

Potential Impacts During Construction

9.6.1 **Table 9.8** identifies the potential impacts on Commercial and Recreational Fisheries related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 9.8 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Commercial fishing (including bait digging, potting, trawling, and clam dredging). Recreational fishing (from shore, including bait digging, and by boat).	Loss or restricted access to fishing grounds	Marine works (jetty structure and capital dredging); dredge disposal; vessel operations	No	There is no potential for construction of the proposed Project (including capital dredging and disposal) to result in restricted access to, or loss of, fishing grounds in the vicinity of the proposed Project and the Nab Tower disposal site. There is no fishing activity within the expected location of the proposed Project dredge footprint and associated marine infrastructure area, as confirmed by MMO sightings, AIS and VMS data as well as VTS observations. Occasional fishing for clams and eels is reported by VTS in the Hythe to Gymp area immediately downstream of the expected location of the proposed dredge footprint; however, this area would not be impacted by construction works. Any access to this area during construction would only be temporarily impacted (if at all) over the course of months, whilst dredging is undertaken. It should also be noted that shellfish

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				harvesting area classifications currently prohibit commercial bivalve collection in this area as well as in much of Southampton Water, with restrictions impacting this activity for more than 10 years. Bait diggers are observed regularly on the Dibden foreshore at lower states of the tide. ABP is the land owner of the foreshore and no permission has been granted for commercial or recreational bait digging, with clear signage indicating that no public access is permitted. Therefore, the potential impact of the proposed Project on bait digging activity on the Dibden foreshore has not been considered further. No fishing takes place in the Southampton Water main navigation channel. Fishing activities in the area of the Nab Tower disposal site take place against a background of heavy commercial vessel traffic and regular disposal operations. Furthermore, it is anticipated that the movement of dredgers and commercial

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				vessels during capital dredging and disposal will be confined within the already maintained navigation channel and, therefore, no risk to fishing gear is predicted as a result of the proposed disposal activities. The temporary increase in the movement of vessels during construction to and from the disposal site during capital dredging is also unlikely to cause a significant disruption given the amount of available space for manoeuvre. This impact pathway has, therefore, been scoped out of the assessment.
	Interference with fishing activities due to construction vessel movements disrupting or obstructing fishing activities	Marine works (jetty structure and capital dredging); Dredge disposal; Vessel movements	No	There is no fishing activity within the expected location of the proposed Project dredge footprint and associated marine infrastructure area, as confirmed by MMO sightings, AIS and VMS data as well as VTS observations. Occasional fishing for clams and eels is reported by VTS in the Hythe to Gymp area immediately downstream of the expected location of the proposed dredge footprint; however, this

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				area would not be impacted by construction works. Any access to this area during construction would only be temporarily impacted (if at all) over the course of months, whilst dredging is undertaken. It should also be noted that shellfish harvesting area classifications currently prohibit commercial bivalve collection in this area as well as in much of Southampton Water, with restrictions impacting this activity for more than 10 years. Recreational rod and line fishing takes place very rarely from the Dibden foreshore. As with bait digging, it should be noted that ABP is the land owner of the foreshore and no permission has been granted for recreational fishing access, with clear signage indicating that no public access is permitted. Therefore, the potential impact of the proposed Project on recreational fishing activity on the Dibden foreshore has not been considered further.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				There is no potential for construction vessel movements (including between the location of the proposed Project and the Nab Tower disposal site) to obstruct fishing vessels as they undertake fishing activities, noting (as above) that construction vessels are likely to use the established marine access channel. No fishing takes place in the Southampton Water main navigation channel. Fishing activities in the area of the Nab Tower disposal site take place against a background of heavy commercial vessel traffic and regular disposal operations. Furthermore, it is anticipated that the movement of dredgers and commercial vessels during dredging and disposal will be confined within the already maintained navigation channel and, therefore, no risk to fishing gear is predicted as a result of the proposed disposal activities. The temporary increase in the movement of vessels to and from the disposal sites during capital dredging is also unlikely to cause a

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				significant disruption given the amount of available space for manoeuvring. This impact pathway has, therefore, been scoped out of the assessment. Any potential vessel movement conflicts that have an impact in relation to safety will be addressed as part of the Commercial and Recreational Navigation assessment (**Section 10**).
	Potential impacts on stocks of target finfish and shellfish species as a result of increased suspended sediment concentrations or increased sediment deposition and changes in water and sediment quality	Marine works (jetty structure and capital dredging); dredge disposal	n/a	The potential exists for indirect effects on commercial or recreational fish (finfish or shellfish) stocks arising from any impacts of the construction phase of the proposed Project on the ecology of fish and shellfish species present in the wider study area (e.g. as a result of increased suspended sediment concentrations or increased sediment deposition and changes in water and sediment quality in the vicinity of the proposed Project as well as the Nab Tower disposal site). The potential effects on fish populations from an ecological perspective will be assessed as part of the marine ecology

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				assessment (**Section 7**). The socio-economic implications of these indirect impacts on commercial fishermen and businesses will be considered within the socio-economic assessment (**Section 22**).

Potential Impacts During Operation

9.6.2 **Table 9.9** identifies the potential impacts on Commercial and Recreational Fisheries related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 9.9 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Commercial fishing (including bait digging, potting, trawling, and clam dredging). Recreational fishing (from shore, including bait digging, and by boat).	Loss or restricted access to fishing grounds	Operations; maintenance dredge; dredge disposal	No	There is no potential for operations of the proposed Project (including maintenance dredging and disposal) to result in restricted access to, or loss of, fishing grounds in the vicinity of the proposed Project and the Nab Tower disposal site. There is no fishing activity within the expected location of the proposed Project dredge footprint and associated marine infrastructure area, as confirmed by MMO sightings, AIS and VMS data as well as VTS observations. Occasional fishing for clams and eels is reported by VTS in the Hythe to Gymp area immediately downstream of the expected location of the proposed dredge pocket; however, this area would not be impacted by operations or maintenance dredging. Any access to this area during operation would only be temporarily impacted (if at all) over the course of months, whilst maintenance dredging is undertaken. It should also be

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				noted that shellfish harvesting area classifications currently prohibit commercial bivalve collection in this area as well as in much of Southampton Water, with restrictions impacting this activity for more than 10 years. Bait diggers are observed regularly on the Dibden foreshore at lower states of the tide. ABP is the land owner of the majority of the foreshore and no permission has been granted for commercial or recreational bait digging, with clear signage indicating that no public access is permitted. Therefore, the potential impact of the proposed Project on bait digging activity on the Dibden foreshore has not been considered further. No fishing takes place in the Southampton Water main navigation channel. Fishing activities in the area of the Nab Tower disposal site take place against a background of heavy commercial vessel traffic and regular disposal operations. Furthermore, it is anticipated that the movement of commercial vessels and

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				dredgers during operations as well as maintenance dredging and disposal will be confined within the already maintained navigation channel. Therefore, no risk to fishing gear is predicted as a result of the proposed operations, maintenance dredging and disposal activities. The temporary increase in the movement of vessels to and from the disposal sites during maintenance dredging is also unlikely to cause a significant disruption given the amount of available space for manoeuvring. This impact pathway has, therefore, been scoped out of the assessment.
	Interference with fishing activities due to operational vessel movements obstructing navigation routes to fishing grounds vessel movements obstructing navigation routes to fishing grounds	Operations; maintenance dredge; dredge disposal dredge; dredge disposal	No	MMO sightings, AIS and VMS data as well as VTS observations indicate that there are no fishing vessels navigating through the proposed Project area to access fishing grounds. There is no potential for vessel movements between the proposed Project location and the Nab Tower disposal site as well as vessels using the new Marine Facilities to

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				obstruct fishing vessels as they navigate to their fishing grounds, noting that vessels will most likely use the established marine access channel. The small increase in operational vessel movements (including dredgers) represents a very small percentage of the overall vessel traffic in the study area. The anticipated increase in vessel traffic is not considered to be of a scale to create disturbance effects that may impact fishing vessels using the navigation routes between the proposed Project and disposal site. It is anticipated that all vessels will be subject to Harbour control and managed through a Notice to Mariners. Furthermore, fishing activity within Southampton Water takes place against a background of heavy shipping movements. Fishing boats will be able to easily avoid and work around the operational vessels, which will display the appropriate markings and lights. This impact pathway has, therefore, been scoped out of the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				Any potential vessel movement conflicts that have an impact in relation to safety will be addressed as part of the Commercial and Recreational Navigation assessment (**Section 10**).
	Interference with fishing activities due to operational vessel movements disrupting or obstructing fishing activities	Operations; maintenance dredge; dredge disposal	No	There is no fishing activity within the expected location of the proposed Project dredge footprint and associated marine infrastructure area, as confirmed by MMO sightings, AIS and VMS data as well as VTS observations. Occasional fishing for clams and eels is reported by VTS in the Hythe to Gymp area immediately downstream of the expected location of the proposed dredge pocket; however, this area would not be impacted by operations or maintenance dredging. Any access to this area during construction would only be temporarily impacted (if at all) over the course of months, whilst dredging is undertaken. It should also be noted that shellfish harvesting area classifications currently prohibit commercial bivalve collection in this area as well as in much of

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				Southampton Water, with restrictions impacting this activity for more than 10 years. Recreational rod and line fishing takes place very rarely from the Dibden foreshore. As with bait digging, it should be noted that ABP is the land owner of the foreshore and no permission has been granted for recreational fishing access, with clear signage indicating that no public access is permitted. Therefore, the potential impact of the proposed Project on recreational fishing activity on the Dibden foreshore has not been considered further. There is no potential for vessel movements between the proposed Project location and the Nab Tower disposal site as well as vessels using the new Marine Facilities to obstruct fishing vessels as they undertake fishing activities, noting (as above) that dredgers are likely to use the established marine access channel. No fishing takes place in Southampton Water main navigation channel. Fishing

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				activities in the area of the Nab Tower disposal site take place against a background of heavy commercial vessel traffic and regular disposal operations. Furthermore, it is anticipated that the movement of commercial vessels and dredgers during operations as well as maintenance dredging and disposal will be confined within the already maintained navigation channel. Therefore, no risk to fishing gear is predicted as a result of the proposed operations, maintenance dredging and disposal activities. The temporary increase in the movement of vessels to and from the disposal sites during capital dredging is also unlikely to cause a significant disruption given the amount of available space for manoeuvring. This impact pathway has, therefore, been scoped out of the assessment.
	Potential impacts on stocks of target finfish and shellfish species as a result of increased suspended sediment	Operations; maintenance dredge; dredge disposal	n/a	The potential also exists for indirect effects on commercial or recreational fish (finfish or shellfish) stocks arising from any impacts of the operational phase (maintenance

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	concentrations or increased sediment deposition and changes in water and sediment quality			dredging) of the proposed Project on the ecology of fish and shellfish species present in the wider study area (e.g. as a result of increased suspended sediment concentrations or increased sediment deposition and changes in water and sediment quality in the vicinity of the proposed Project as well as the Nab Tower disposal site). The potential effects on fish populations from an ecological perspective will be assessed as part of the marine ecology assessment (**Section 7**). The socio-economic implications of these indirect impacts on commercial fishermen and businesses will be considered within the socio-economic assessment (**Section 22**).

9.7 Mitigation

9.7.1 As detailed in **Table 9.8** and **Table 9.9** it is not anticipated that construction and operation of the proposed Project will result in potential for likely significant effects on commercial and recreational fisheries, through either loss/ restricted access to fishing grounds or interference with fishing activities due to construction or operational vessel movements obstructing navigation routes to fishing grounds or disrupting/ obstructing fishing activities. Therefore, no measures to mitigate the above potential impacts are considered necessary.

9.7.2 Potential impacts on target finfish and shellfish species and their stocks will be assessed as part of the marine ecology assessment (ecological impacts) and the socio-economic assessment (economic impact on fishers). Potential mitigation measures will be identified within these assessments.

9.8 Approach to Assessment and Data Gathering for ES

9.8.1 A detailed desk-based review has already been presented in this section, including MMO sightings, VMS and AIS data, as well as VTS observations, providing a good understanding of any fishing activity in the vicinity of the proposed Project and the Nab Tower disposal site.

9.8.2 As detailed in **Table 9.8** and **Table 9.9** it is not anticipated that construction and operation of the proposed Project will result in potential for likely significant effects on commercial and recreational fisheries, with all potential impact pathways having been scoped out of further assessment.

9.8.3 Potential impacts on commercial fish and shellfish species and their stocks will be considered within the marine ecology assessment. The socio-economic implications of these indirect impacts (including loss or change to fishing grounds due to impacts on stocks) on commercial fishermen and businesses considered within the socio-economic assessment.

9.8.4 Early engagement has been undertaken with Southern IFCA which has agreed with the impact pathways scoped in and out of the EIA and the data sources used. Additional data has been requested from Southern IFCA, specifically fishing effort data that it holds for vessels operating in Southampton Water; this will be reviewed upon receipt. However, it should be noted it is not anticipated that this additional data will change the conclusions presented in this section of the scoping report. MMO sightings data, VMS data and AIS already indicate no presence of fishing activity within the Scoping Boundary, and it is anticipated that the additional data

supplied by the IFCA will be of a similar resolution to that already examined and will not change these conclusions.

9.8.5 Key fisheries stakeholders and local fishers will be consulted with as part of stakeholder consultation for the proposed Project to ensure any specific concerns are addressed.

10 COMMERCIAL AND RECREATIONAL NAVIGATION

10.1 Introduction

10.1.1 This section sets out the proposed scope of of the ES chapter that will report the findings of the commercial and recreational navigation assessment and associated appendices (including a Navigational Risk Assessment (NRA)), with regard to potential effects as a result of the proposed Project.

10.1.2 The focus of the commercial and recreational navigation assessment is navigational safety with respect to the proposed Project.

10.1.3 Commercial vessels include those operating under compulsory pilotage direction, commercial vessels that are operating with a Pilotage Exemption Certificate (PEC) and shipping that does not meet the threshold for compulsory pilotage. All commercial vessels operate in the study area in compliance with Southampton Vessel Traffic Service (VTS) direction and guidance.

10.1.4 Recreational vessels include all types of recreational vessels operating as part of organised events, operated individually whether navigated or afloat for recreational purposes in the study area. Recreational vessels also operate under Southampton VTS guidance, including the ABP Marine Leisure Guide.

10.2 Relevant Policy, Legislation and Guidance

10.2.1 The assessment will be undertaken to meet the requirements set out in the National Policy Statement for Ports (NPSfP), specifically section 5.4.

10.2.2 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including the following:

- UK Marine Policy Statement as required by Section 44 of the Marine and Coastal Access Act 2009.
- South Inshore and South Offshore Marine Plan.
- Ports & Marine Facilities Safety Code (Department for Transport (DfT), 2025).
- The Ports & Marine Facilities Safety Code's (PMSC) 'A Guide to Good Practice on Port Marine Facilities' (Maritime and Coastguard Agency (MCA), 2025).

- International Maritime Organization (IMO) Revised Guidelines for Formal Safety Assessment (FSA) for use in the IMO rule making process (IMO,2018).

10.3 Study Area

10.3.1 The study area is the extent over which potential direct and indirect effects of the proposed Project may occur during construction and operation.

10.3.2 Direct and indirect effects will be assessed with regard to the four receptors set out in the Ports & Marine Facilities Safety Code (DfT, 2025a), as follows:

- Life.
- The environment.
- Port and port user operations (business, reputation, etc.).
- Port and shipping infrastructure (damage).

10.3.3 The study area for the commercial and recreational navigation assessment is considered to be the Statutory Harbour Area (SHA) of ABP Southampton comprising the Test and Itchen estuaries and Southampton Water.

10.3.4 The NRA and ES chapter will, through further desk-based analysis and assessment, refine the study area for the purposes of the impact assessment.

10.4 Description of Existing Environment

10.4.1 The key data sources included in **Table 10.1** have been used to gather the baseline information on Commercial and Recreational Navigation to inform the scoping study.

Table 10.1 Key data sources

Title	Date
ABP Marine Policy 2025-2028	ABP, 2025b
ABP Southampton Port Users Information and Navigation Guidelines (SPUNG)	ABP, 2025c
ABP Southampton Marine Navigation Information System (MARNIS) database	ABP, 2025d
ABP Southampton Ports and Vessel Information System (PAVIS) database	ABP, 2025e
ABP Southampton General Directions (GD)	ABP, 2025f
ABP Southampton Pilotage Directions	ABP, 2022
ABP Southampton Oil Spill Contingency Plan	ABP, 2021

Title	Date
ABP Southampton Port of Southampton Off-Site Reactor Emergency Plan 'SOTONSAFE	SCC, 2012
ABP Southampton Marine Safety Management System (MSMS)	ABP, 2025f
Solent Maritime Framework Agreement	Various, 2022
Maritime and Coastguard Agency (MCA) MGN 401 (M+F) Amendment 3 Navigation: Vessel Traffic Services (VTS) and Local Port Services (LPS) in the UK	MCA, 2022
Department for Transport (DfT) Ports & Marine Facilities safety Code (PMSC)	DfT, 2025a
MCA A Guide to Good Practice on Port and Marine Facilities (GtGP)	MCA, 2025

10.4.2 The navigation channels used by deep draughted vessels accessing the Port of Southampton extends for 25 nautical miles, from the Nab Channel to the south-east of the Isle of Wight to the most northern berth of the Container Terminal in the tidal River Test. Some vessels can access via the navigation channels in the Western Solent.

10.4.3 Large commercial vessels are constrained by their draught so are restricted to using the marine access channel, which is marked by buoyage. Smaller commercial and recreational vessels can navigate outside of the access channel dependent on the depth of available water.

10.4.4 Navigational aids include buoys marking fairways, channels and Port entry points to basins, docks and jetties, along with fixed navigation lights used to mark prominent points in accordance with 'The International Organization for Marine Aids to Navigation' (IALA) standards. Leading lines are located at strategic points to provide reference tracks and to act as turning marks for berths.

Recreational Activity

10.4.5 The ABP Southampton SHA has a large recreational community covering a range of powered and unpowered vessels.

10.4.6 Yachting covers a variety of boating activities including but not limited to motor boating, keelboat cruising and racing. A number of marinas, yacht and sailing clubs are based in and around Southampton Water. These include the following:

- Southampton Water Activities Centre (located close south of the Itchen Toll Bridge).
- Hamble marinas.

- Cracknore Hard Sailing Club.
- Eling Sailing Club.
- Marchwood Yacht Club.
- Royal Southampton Yacht Club.
- Southampton Sailing Club (located at the east bank of the entrance to the River Itchen).
- Weston Sailing Club.
- Ocean Village located at the western bank of the entrance to the River Itchen.
- Town Quay Marina.
- Hythe Marina Village.
- Netley Sailing Club.

10.4.7 There are numerous launching areas throughout the study area, some of which are public slips, others include foreshore areas where launching can be undertaken for smaller manual powered craft.

10.4.8 Recreational activity takes place all year round, with increased intensity from March through to October with June to September representing the peak seasonal period. Recreational sailing is heavily biased towards weekends to the extent that it is estimated that approximately twice as many recreational craft are in use at the weekend than on weekdays.

10.4.9 Dinghy sailing is popular in Southampton Water with a number of the clubs running racing programs throughout the year. The area is also used by sail training schools, as well as a number of youth organisations from across the region who are all regularly involved in dinghy sailing as well as other water-based activities (e.g. the Sea Scouts, Sea Cadets).

10.4.10 Other watersports which take place within the study area include kayaking, waterskiing, windsurfing, rowing and jet skiing. It is common for these activities to be carried out informally from the shore in addition to the organised clubs. The Hythe to Eling foreshore is a popular transit route for small craft avoiding the busier commercial areas making up the Eastern and Western docks. Waterskiing is particularly popular at Redbridge where the Eling Waterski area is designated. A further waterski area is designated at Calshot. Jet skiing is easily accessible in the River Test and Southampton Water and focused around slipway launch points.

10.4.11 Suitable launch slipways are located at several places, including Hythe Marina Village, Eling, Cracknore Hard, Priory, Old Mill Quay, Belvedere Wharf, Cross House, Nuns Walk, Itchen Ferry Victoria Road and Weston Point.

Commercial Shipping Activity

10.4.12 There are a range of commercial terminals and berths in the Port of Southampton operated by ABP and other companies. These include:

- Southampton Water (Esso Fawley and BP Hamble Marine Terminals).
- River Itchen (Eastern Docks, wharfs at Northam and moorings in the tidal River Itchen).
- River Test (Ocean Dock, Town Quay, Marchwood Military Port (Solent Gateway) and Western Docks and Marchwood).

10.4.13 These terminals, docks and berths handle a large range of cargo including:

- automotive;
- hydrocarbon fuels;
- containerised cargo;
- bulk commodities;
- unitised cargo;
- specialised and project cargo; and,
- military cargo.

10.4.14 Passenger vessel activity accounts for a large proportion of the commercial vessel movements within the study area.

10.4.15 Vessel movements are recorded on ABP's Ports and Vessel Information System (PAVIS) vessel movement database. **Table 10.2** details commercial vessel arrivals, departures and movements within the Harbour Area for the Port of Southampton from 2015 to 2024 inclusive. It should be noted that the total movements is greater than the sum of piloted vessels and vessels holding a Pilotage Exemption Certificate (PEC). This is because some vessels which are below the threshold for compulsory pilotage or the threshold that would require a PEC to transit, are still recorded in PAVIS data as arrivals, departures or movements through the area.

Table 10.2 Number of commercial vessel arrivals, departures and movements between 2015 and 2024

Year	Arrivals	Departures	Movements	Total	Piloted	PEC
2015	20,195	20,908	22,836	63,939	10,211	20,195
2016	20,271	21,011	24,248	65,530	9,992	51,092
2017	20,593	21,292	20,900	62,785	10,313	44,276
2018	20,692	21,380	22,744	64,816	9,918	46,960
2019	21,221	21,807	23,713	66,741	9,558	53,794

Year	Arrivals	Departures	Movements	Total	Piloted	PEC
2020	13,891	13,891	15,154	42,936	7,166	32,601
2021	15,353	15,868	14,022	45,243	7,985	32,344
2022	18,280	18,280	17,953	54,513	8,592	40,823
2023	18,464	18,962	17,583	55,009	7,991	40,737
2024	17,961	18,702	15,993	52,656	8,736	39,030

10.4.16 **Table 10.2** shows that there were on average 57,500 commercial vessel movements annually over the 10 year period to 2024. It is of note that the average was approximately 64,000 prior to a decrease to approximately 44,000 recorded during the Covid 19 period (2020-2021). Since 2022, the average has increased to approximately 54,000.

10.4.17 The majority of commercial vessel movements are conducted by a Master or *bona fide* Deck Officer with a PEC, the high proportion of movements with a PEC being primarily Southampton to Isle of Wight ferries and bunkering vessels. The percentage of total moves with a PEC holder is on average 75.1%, by contrast, the average percentage of piloted vessels is 15.75% of the total commercial vessel moves. Pilots and PEC holders have detailed knowledge of the Harbour Area and undertake training and examinations before they are authorised to control vessels by the Harbour Master on behalf of the Competent Harbour Authority (CHA).

Management Procedures

10.4.18 ABP is the Statutory Harbour Authority for the Port of Southampton, benefiting from a set of powers and having a number of duties as a result of national and local (enabling) legislation. ABP is also the Local Lighthouse Authority (LLA) for the SHA, as well as the CHA with respect to Pilotage and publishes pilotage directions, requiring vessels to employ a pilot or obtain a PEC dependent on a combination of factors that include the vessel size, the amount of passengers carried and the type of cargo being carried.

10.4.19 ABP, acting in its capacity as Statutory Harbour Authority and CHA, does so independently of its function as commercial port operator and developer. ABP is a statutory body corporate created by the Transport Act 1981. ABP was conferred CHA status by virtue of the Pilotage Act 1987. ABP recognises this distinction in Section 32 of the ABP Standard Terms and Conditions of Trade.

10.4.20 ABP is publicly committed to meeting the requirements of the Ports & Marine Facilities Safety Code (PMSC) (DfT, 2025a). Risk tolerability thresholds for marine risks are determined by the ABP Harbour Authority Safety Board (HASB). The risk

tolerability threshold defines the area of risk that the principle of reducing risk to a point that is 'as low as reasonably practicable' (ALARP) is applied through risk assessment and subsequent application of controls for marine hazards in the harbour area.

10.4.21 The ABP HASB is collectively and singularly identified as the ABP Duty Holder under the PMSC. The HASB (Duty Holder) has defined duties and responsibilities in respect to port marine safety within its statutory limits.

10.4.22 The Southampton Port Users Information and Navigation Guidelines (SPUNG) have been established by, and agreed between, the Harbour Master Southampton (hereafter referred to as the Harbour Master), CHA Pilots and members of the Southampton Port Marine Users Group (SPUNG). The SPUNG includes contact details, requirements for vessels in the SHA and safety information to aid passage planning.

10.4.23 The Harbour Master is responsible for complying with local rules and national legislation as well as for safely regulating commercial traffic movements within the SHA limits of the Port of Southampton, which can be broadly defined as The Central Solent, Southampton Water and Rivers Itchen and Test.

10.4.24 Section 52 of the Harbours, Docks and Piers Clauses Act 1847, incorporated within the British Transport Docks Act 1969, sets out the powers of a Harbour Master. The Harbour Master may give direction for the following purposes:

- Regulating in time and manner the entry and exit of vessels from a harbour and mooring and positioning whilst therein.
- Regulating the position in which a vessel shall take and discharge cargo, passengers or ballast.
- Regulating the manner in which any vessel shall be dismantled.
- Removing unserviceable vessels and other obstructions.

10.4.25 Section 5 of 'The Port of Southampton Harbour Revision Order 2025' states:

"(1) The Harbour Master may make general directions (GD):

(a) for—
(i) the ease, convenience or safety of navigation;
(ii) the safety of persons;
(iii) the amelioration of environmental harm;
(iv) the ease, convenience or safety of harbour operations(1) ashore;
(v) regulating the loading or discharging of cargo, fuel, water or ships' stores or the embarking or landing of persons;
within the Port, or

(b) to require the preparation and provision of information from any person using or proposing to use the Port.

(2) A direction under this article or section 52 of the 1847 Act (powers of harbour, dock, or pier master) may apply—

(a) to all vessels or a class or type of vessels,
(b) to all vehicles or to a class of vehicle,
(c) to all persons designated in the direction,
(d) to the whole of the Port or to a part, or
(e) at all times or at certain times or at certain states of the tide,
and every direction must specify the extent of its application including its geographical extent in relation to the matters referred to in sub-paragraphs (a), (b), (c), (d) and (e).

(3) The Harbour Master may amend or revoke a general direction given under paragraph (1)".

10.4.26 ABP has developed a set of formal marine risk assessments covering marine operations at the Port of Southampton, which have been used to inform a Marine Safety Management System (MSMS), as detailed within the PMSC (DfT, 2025a) and its GtGP (MCA, 2025). The MSMS describes how ABP complies with its statutory duties and responsibilities, as well as describing procedures for marine operations.

10.4.27 ABP has consulted upon and published a set of Pilotage Directions (PD) in line with section 7 of The Pilotage Act 1987 (as amended by the Marine Navigation Act 2013). Pilotage in the Southampton Pilotage Area is compulsory for the following vessels:

- All vessels greater than or equal to 61m length overall (LOA).
- Vessels carrying more than 12 passengers greater than or equal to 20m LOA.

10.4.28 ABP provides a permanent Hydrographic Surveying and Charting Service to monitor the seabed topography. This is achieved by regular hydrographic survey with the results published. Maintenance dredging is carried out based on the results of survey to maintain water depths.

10.4.29 Safety related information is disseminated to port users by the issue of Local Notices to Mariners (LNtM), published via the ABP Port of Southampton website.

Vessel Traffic Services

10.4.30 The Harbour Master monitors, co-ordinates and controls shipping movements through the establishment and operation of an IALA compliant VTS, known as Southampton VTS. Southampton VTS is defined by the principles set out in MGN 401 (M+F) Amendment 3 Navigation: Vessel Traffic Services (VTS) and Local Port Services (LPS) in the UK (MCA 2022). Southampton VTS covers the Port of Southampton, The Solent, a part of the Dockyard Port of Portsmouth and a part of the Territorial Sea. Coverage outside the SHA is provided under an agreement with the King's Harbour Master Portsmouth and the MCA.

10.4.31 VTS procedures have been established following consultation with stakeholders concerned to ensure continuity of communications and co-ordination of shipping movements.

10.4.32 VTS comprises a surveillance and communications system designed to provide vessels operating within its area of coverage with direction, advice and guidance on matters of navigational safety and to expedite the safe and efficient flow of traffic. It can provide vessels with information regarding their own movement and that of other traffic in the area. VTS also provides radar, AIS vessel monitoring, Closed Circuit Television (CCTV) and Very High Frequency (VHF) radio coverage across the region. The VTS centre is manned on a 24-hour basis.

10.4.33 VTS advice covers the approach of vessels from south of the Nab Tower in the Eastern Solent inbound through the Central Solent to the Port of Southampton. This includes the narrows in the vicinity of the Warner Buoy, the confluence of channels adjacent to the entrance to Portsmouth Harbour, which in turn includes the high volume Isle of Wight cross-Solent services.

10.4.34 All vessels over 20m LOA are required to report and identify themselves to VTS at designated positions within the VTS area. The vessel is identified, tagged and logged on the radar and its progress monitored. The vessel can then be advised of other vessels in the vicinity or of potential conflicts and dangers. Vessels navigating in the Harbour Authority's jurisdiction become subject to the Harbour Master's Powers of Direction. Under certain circumstances the vessel can, if required, be directed to take particular actions.

Emergency Response

10.4.35 ABP Port of Southampton operates a number of emergency, contingency and risk prevention plans, which are subject to regular exercises and drills, as follows:

- SOTONSAFE: a plan required under the Radiation (Emergency Preparedness and Public Information) Regulations 2001, which provides an automatic and pre-planned response to mitigate the consequences of an accident involving a nuclear-powered vessel within the Port of Southampton (in conjunction with the Ministry of Defence, MOD).
- Solent Maritime Framework Agreement: a contingency plan developed to deal with any marine emergency occurring within the Ports of Portsmouth or Southampton, Southampton Water, Spithead and the Solent (in association with other plans held by emergency services, local authorities and commercial facilities).
- Oil Spill Contingency Plan (OSCP): a contingency plan developed to conform to the Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998', to provide a timely, measured and effective response to pollution incidents. The OSCP details the response to different levels of pollution incidents, equipment provided and exercises and is approved and audited by the MCA.

10.4.36 HM Coastguard is responsible for the initiation and coordination of all civilian maritime search and rescue within UK. The Port of Southampton falls within the jurisdiction of the National Maritime Operations Centre (NMOC) based in Fareham.

10.4.37 There are two lifeboat stations which operate within the SHA, with three available lifeboats. The Calshot Royal National Lifeboat Institution (RNLI) has a manned voluntary crew operating at all times, with two lifeboats (both inshore vessels) within the Solent and Southampton Water. The voluntary Hamble Lifeboat focuses on local inshore areas and covers the central Solent, Southampton Water and the tidal Rivers Test, Itchen and Hamble.

Marine Incidents and Near Miss Reports

10.4.38 Marine incident reports have been compiled from the Marine Navigation Information System (MARNIS) database for the 10-year period from 2015 to 2024. The data covers the SHA. This data is detailed in **Table 10.3** and includes commercial and recreational reports.

Table 10.3 Marine Incident Reports from 2015 to 2024 ABP MARNIS

Incident	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Collision ship to-ship	3	1	0	2	2	2	2	4	0	1	17
Equipment failure (port)	0	1	1	0	0	3	2	0	0	2	9
Equipment failure (vessel)	22	24	11	10	5	11	10	8	3	3	113
Fire / Explosion	1	2	2	1	3	2	2	2	1	4	20
Grounding / Stranding	2	1	0	2	2	0	2	2	0	1	12
Impact with Structure	5	5	11	4	4	7	7	7	5	4	59
Ranging	1	1	0	0	0	3	1	1	0	1	8
Sinking and capsizing	1	0	0	0	0	0	1	3	3	1	9
Striking with Floating Object	3	2	1	0	0	3	1	1	0	2	13
Striking with ship1 (moored)	1	0	0	0	0	0	0	0	0	0	1
Other nautical safety	3	3	24	6	1	12	7	7	2	4	69
Total	**43**	**40**	**50**	**25**	**17**	**43**	**35**	**34**	**15**	**22**	**324**

10.4.39 The data shows that there have been 324 incidents over the 10-year period within the SHA, with 'Equipment failure (vessel)' comprising the most frequent incident (35%). This type of incident ranges from the failure of a vessel's main propulsion systems to defects with navigational equipment.

10.4.40 Of the more serious incidents ('Ship-to-ship collision', 'Groundings', 'Fire / explosion', 'Striking moored ship' and 'Sinking / capsize'), there is an average of 5.9 occurrences per year. When comparing this to the level of vessel traffic, this frequency is relatively low.

10.5 Future Baseline

10.5.1 It is assumed that the ABP Port of Southampton will continue to operate under the same management procedures and MSMS procedures and processes, informed by the outputs of the NRA.

10.5.2 The future baseline will also be influenced by global macroeconomic factors and economies of scale which will continue to influence the number of vessels calls, the tonnage carried as cargo and passenger numbers.

10.6 Potential Impacts

10.6.1 Section 5 of the PMSC (DfT 2025) states that risks and the impact of identified outcomes are typically assessed against four outcome-criteria, with consequence to:

- Life.
- The environment.
- Port and port user operations (business, reputation, etc.).
- Port and shipping infrastructure (damage).

10.6.2 The potential impacts during both construction and operation set out in this section will therefore be assessed against the four outcome criteria in the NRA, a process described further in **Section 10.8**.

Potential Impacts During Construction

10.6.3 **Table 10.4** identifies the potential impacts on Commercial and Recreational Navigation related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 10.4 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Life. The environment. Port and port user operations (business, reputation, etc.). Port and shipping infrastructure (damage).	Interaction between commercial vessels and the marine works.	Marine construction works and capital dredging	Yes	The proposed dredge footprint and Marine Facilities will be located close to the marine access channel, which means that there is potential for commercial vessels to be involved in an impact with the marine works or in a collision with construction plant and vessels. This has the potential to occur for vessels navigating past the location of the proposed Project to berths in the Port. This impact pathway has, therefore, been scoped into the assessment.
	Incidents involving dredgers or barges transiting to or from the proposed Project.	Marine construction works; capital dredging and dredge disposal	Yes	When dredgers or barges are transiting to or from the location of the proposed Project to the Nab Tower disposal site, there will be potential for incidents, in particular those related to interactions with other vessels. The potential for this impact to occur depends on the number of vessels transiting the area and the frequency of transits. This impact pathway has, therefore, been scoped into the assessment.
	Interaction between recreational vessels and the marine works	Marine works (jetty structure and capital dredging); dredge	Yes	Construction plant and vessels will be operating in close proximity to the marine works and other vessels associated with the construction of the proposed Project. The potential exists, therefore,

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		disposal; vessel movements		for incidents to occur, including impacts with the marine works and collisions with other vessels. This impact pathway has, therefore, been scoped into the assessment.
	Incidents involving dredgers and transport of construction materials by sea	Marine works (jetty structure and capital dredging); dredge disposal	Yes	By virtue of their operation, dredging plant is constrained in its ability to manoeuvre and may be constrained by the plant's draught and consequently there is the potential for incidents, including grounding and damage to the dredge equipment. If construction materials are transported to the location of the proposed Project by sea, it is likely that towed barges would be used. These vessels would be restricted in their ability to manoeuvre and there is potential for incidents to occur, namely collisions with other vessels, grounding during transit and impacts with fixed or floating objects. This impact pathway has, therefore, been scoped into the assessment.
	Displacement of recreational vessels	Marine works (jetty structure and capital dredging); dredge disposal	Yes	Recreational vessels transiting close to the shore in the vicinity of the proposed Project are likely to be displaced into deeper water where there is potential for interactions with commercial vessels. This means there is potential for incidents to occur. This

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				impact pathway has, therefore, been scoped into the assessment.

Potential Impacts During Operation

10.6.4 **Table 10.5** identifies the potential impacts on Commercial and Recreational Navigation related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 10.5 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Life. The environment. Port and port user operations (business, reputation, etc.). Port and shipping infrastructure (damage).	Changes in number of commercial vessels transiting to or from the proposed Project.	Operations	Yes	The proposed Project would result in a change in vessel numbers and headings which in turn has the potential to change the interactions between vessels transiting within the SHA. Interactions between vessels have the potential to result in incidents including collisions, groundings and impacts with fixed or floating objects. This impact pathway has, therefore, been scoped into the assessment.
	Displacement of recreational vessels.	Operations	Yes	Recreational vessels that currently transit the area adjacent to the proposed Project have the potential to be displaced into deeper water where there is potential for interactions with commercial vessels. This means there is potential for incidents to occur. This impact pathway has, therefore, been scoped into the assessment.
	Changes to the current flows in the area.	Operations	Yes	There is potential for a change in local flows as a result of the proposed Marine Facilities to affect vessels navigating in the area. Unexpected currents have the potential to lead to an incident. This impact pathway has, therefore, been scoped into the assessment.
	Vessels ranging on the proposed Project berths.	Operations	Yes	The mooring configurations and environmental conditions at the proposed Marine Facilities have the potential to lead to vessel movement which may lead to damage to the vessel and/or jetty. There is the potential for moorings to

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				fail leading to a breakout. This impact pathway has, therefore, been scoped into the assessment.
	Ranging of vessels on the proposed Project berths from passing vessels.	Operations	Yes	Wake caused by vessels passing the Marine Facilities may cause movement of vessels at the berths. There is the potential for moorings to fail which may lead to damage to the vessel and/or jetty. This impact pathway has, therefore, been scoped into the assessment.

10.7 Mitigation

10.7.1 Where impacts on commercial and recreational navigation are identified as a result of the proposed Project, mitigation measures will be identified through the NRA process and would be adopted by the Statutory Harbour Authority and incorporated into its MSMS as appropriate.

10.7.2 ABP will continue to operate its MSMS which includes information dissemination via SPUNG and Notices to Mariners. Contingency plans such as the Oil Spill Contingency Plan. Regulation via VTS, and directions such as General Directions, Harbour Master (Special) Directions and Pilotage Directions.

10.8 Approach to Assessment and Data Gathering for ES

10.8.1 Data gathering and the identification of the increase in the number of vessels during construction and operational phases will be informed by the NRA process.

10.8.2 The NRA will be undertaken to assess the marine risks associated with the proposed Project. The NRA process follows the requirements from the PMSC (DfT, 2025a) and the guidance from the associated GtGP (MCA, 2025). The NRA will be an appendix to, and will inform, the commercial and recreational navigation chapter of the ES.

10.8.3 The following identifies the stages used in the NRA process, as defined in the GtGP, Section 5:

- Data gathering: the NRA will be informed by data and vessel traffic analysis. The following will be used:
  - AIS vessel movement data for the Port of Southampton.
  - Radar data from the Port of Southampton.
  - Marine accident / incident information from the Port of Southampton MARNIS database, the Royal National Lifeboat Institute database and the Marine Accident Investigation Branch databases.
  - Royal Yachting Association coastal atlas of recreational boating.
  - UK Hydrographic Office navigational charts.
- Hazard identification (HAZID): identification of potential marine hazard scenarios, describing hazard descriptions and outcomes, will be carried out as a HAZID workshop with stakeholders.
- Risk analysis: will be undertaken to determine the frequency and consequence for each hazard scenario as well as the overall assessment of risk outcomes and determining their prioritisation.

10.8.4 Assessment of risk controls will include consideration of current controls, which either reduce the frequency or mitigate the consequence (severity) or both, followed by consideration of potential future controls, which are not currently in place (or may be in place but are not currently used to their full effect).

11 GROUND CONDITIONS AND CONTAMINATION

11.1 Introduction

11.1.1 This section describes the current baseline for ground conditions and contamination. The baseline conditions have been described from a high-level desk-based review of publicly available information and historical reports relevant to the location of the proposed Project.

11.1.2 This section details the scope of assessment for the effects that onshore ground conditions and contamination may have on the proposed Project, specifically considering onshore human health, controlled waters, environmental, mineral resources and built environment receptors.

11.1.3 Relevant policy, Legislation and Guidance

11.1.4 The assessment will be undertaken to meet the requirements set out in the NPSfP, specifically sections 4.11, 5.1 and 5.13.

11.1.5 The assessment will also consider the following policies:

- The National Planning Policy Framework (2024).
- New Forest District Council Local Plan 2016 - 2036 Part One: Planning Strategy (2020).
- New Forest District Council Local Plan Part 2: Sites and Development Management (2014): Policy DM2 Nature conservation, biodiversity and geodiversity.
- Hampshire Minerals and Waste Plan (2013).

11.2 Study Area

11.2.1 The ground conditions and contamination study area will be defined based on the distance over which impacts may occur and by the location of potential receptors that may be affected by those potential impacts. This will be established using professional judgement and will be supported by a geo-environmental desk study and preliminary risk assessment (PRA). The PRA will form an appendix to the ground conditions and contamination chapter of the ES.

11.2.2 The study area will comprise a 250m buffer around the onshore elements of the proposed Project, with the buffer extended to 1km for assessing the presence of groundwater abstraction wells (due to their higher sensitivity). Industrial installations beyond 250m are unlikely to have an impact on receptors related to ground conditions and contamination.

11.3 Data sources

11.3.1 The key data sources set out in **Table 11.1** have been used to gather the baseline information on Ground Conditions and Contamination and inform the scoping study.

Table 11.1 Key data sources

Title	Date
Site Information	ABP Preliminary Sources Study Report, 2025g.
Existing ground investigation and contaminated land assessment reports	ABP 83-1, Site Investigation Report, Bund Wall Dibden Bay, Hythe, Southampton, 1983. ABP 96-5 and 96-6, Dibden Bay, Hampshire, Factual Report on Ground Investigation, 1996a. ABP 96-2 Dibden Bay Access Road, Factual Report on Ground Investigation, 1996b. ABP 97-5 Dibden Bay, Hampshire, Factual Report on Contamination Survey, 1997a. ABP 97-6 Dibden Bay, Hampshire, Review of Contamination Studies, 1997b. ABP 97-7 Dibden Bay, Hampshire Factual Report on additional Ground Investigation (South), 1997c. RSK Geosciences, Project Azul, ABP Southampton, Geotechnical Investigation, 2024.
Historic landfill sites	Environment Agency Online data set, 2025
Permitted waste sites - authorised landfill site boundaries	
Groundwater source protection zones (SPZ)	
Solid geology	British Geological Survey (BGS) Sheet 315, Southampton, Solid and Drift, 1:50,000, 1987. BGS Sheet SU30NE, Solid and Drift, 1:10,000, 1982a. BGS Sheet SU31SE, Solid and Drift, 1:10,000, 1983a.BGS Sheet SU40NW, Solid and Drift, 1:10,000, 1983b. BGS Sheet SU41SW, Solid and Drift, 1:10,000, 1982b.Geo Index onshore viewer accessed June 2025
Superficial geology	
Borehole records	

Title	Date
SSSIs, Ramsar sites, National Nature Reserves, SACs, SPAs	Defra Magic Map Online viewer, 2025
Groundwater vulnerability	
Aquifer designations – superficial and bedrock	
Mineral Safeguarding Areas, Mineral and Waste Consultation Areas	Hampshire Minerals and Waste Plan, October 2013

Geology

11.3.2 A summary of the onshore geological conditions at the location of the proposed Project is presented in **Table 11.2** and presented in a bedrock geology map (**Figure 11.1**) and superficial geology map (**Figure 11.2**).

Table 11.2 Summary of geological conditions

Stratum	Unit	Description
Artificial Ground	Made Ground	The Dibden Bay reclaim covering much of the east of the Scoping Boundary is shown as artificial ground on geological mapping and recorded as a historical landfill site in Environment Agency records. The Made Ground is indicated on the 1:10,000 geological mapping (sheet SU40NW) to be comprised of mud and sand from pumping and dredging activities.
Superficial Deposits	Tidal Flat Deposits	Located across much of the east of the Scoping Boundary. Normally comprised of silts and clays.
	River Terrace Deposits	Located in the north of the Scoping Boundary and adjacent to the south-eastern boundary, comprised of sands and gravels.
Bedrock Geology	Barton Clay Formation	Located across the majority of the Scoping Boundary. Comprised of grey and greenish grey clay.
	Selsey Sand Formation	Located in the northern-most onshore section of the Scoping Boundary. Comprised of sand, silt and clay.

N

0 0.5 1 1.5 2 km

Legend

- Scoping Boundary

1:50,000 Bedrock Geology

- BAC-C: Barton Clay Formation - Clay
- CHMS-XSZC: Chama Sand Formation - Sand, Silt and Clay
- EA-XSZC: Earnley Sand Formation - Sand, Silt and Clay
- HE-XSZC: Headon Formation - Clay, Silt and Sand
- LC-XSZC: London Clay Formation - Clay, Silt and Sand
- PORT-S: Portsmouth Sand Member - Sand
- SLSY-XSZC: Selsey Sand Formation - Sand, Silt and Clay
- WTT-XSZC: Wittering Formation - Sand, Silt and Clay



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Project: SOLENT GATEWAY 2

Drawing Title: BEDROCK GEOLOGY

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100019

Drawing Status: FINAL

FIGURE 11. 1

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L:

N

A35
A326
A3024
A3025

River Test
River Test
River Test
River Test

Hounsdown School
Marchwood
Cork Field Recreation
Marchwood
Staplewood Lane
Arters Lawn
Beaulieu Road
Main Road
Sizer Way
Dale Road
Applemore College
Victoria Road
Shore
Southampton Water
Pier
Lane
Crofts

0 0.5 1 1.5 2 km

Legend

Scoping Boundary

1:50,000 Superficial Deposits

ALV-XCZSV: Alluvium - Clay, Silt, Sand and Gravel

RTD-XSV: River Terrace Deposits, 2 - Sand and Gravel

TFD-XCZ: Tidal Flat Deposits - Clay and Silt



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Project: SOLENT GATEWAY 2

Drawing Title: SUPERFICIAL GEOLOGY

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FIGURE 11. 2

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Hydrogeology

11.3.3 The Environment Agency's online groundwater data and Defra Magic maps indicate that the majority of the Scoping Boundary area is underlain by unproductive strata (Tidal Flat Deposits and Barton Clay Formation). A Secondary A Aquifer, associated with superficial deposits (River Terrace Deposits, permeable strata which may support river base flows and public water supply at a local scale), is present to the north (beneath Marchwood) of the Scoping Boundary shown on **Figure 11.3**. This stratum may also extend further beneath the Scoping Boundary at depth. The bedrock geology to the north and south is also designated as a Secondary A Aquifer within 500m of the Scoping Boundary (the Chama Sand Formation and the Selsey Sand Formation).

11.3.4 There are no source protection zones (SPZs) within 1km of the Scoping Boundary. Although not recorded on the information reviewed, private groundwater or surface water abstractions may be present within or in proximity to the Scoping Boundary. Data relating to these features – if any are discovered - will be requested from the Environment Agency and Local Authorities and reviewed as part of the EIA process.

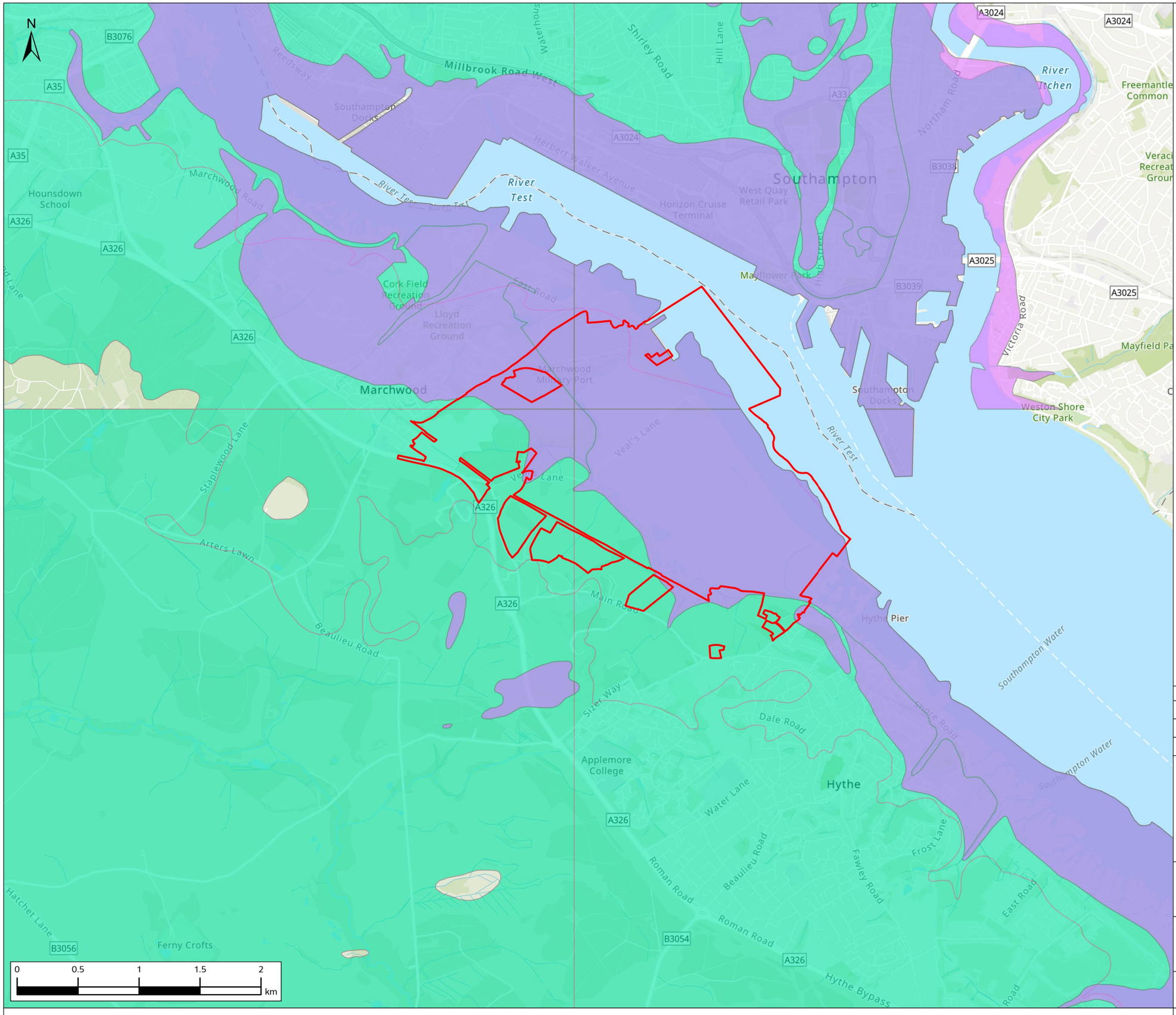
Hydrology

11.3.5 The surface water conditions at the site are described in detail in the Water Resource and Flood Risk topic section of this report (**Section 18**).

Sensitive Land Uses and Environment

11.3.6 The onshore portion of the proposed Project is partly located within the Dibden Bay SSSI. The intertidal area falls within the Hythe to Calshot Marshes SSSI, Solent and Southampton Water SPA and Ramsar site. The New Forest National Park overlaps south and western parts of the Scoping Boundary.

11.3.7 There are no SSSIs of geological interest located within 1km of the Scoping Boundary. The review of the available information did not identify any Local Geological Sites (LGS) or Regionally Important Geological Sites (RIGS) within 1km of the Scoping Boundary.



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Project: SOLENT GATEWAY 2

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Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100021

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FIGURE 11. 3

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Mineral Resources

11.3.8 A review of the available mineral resource plans contained within the Hampshire Minerals and Waste Plan, 2013 has been undertaken. The review identified two Mineral and Waste Consultation Areas (MWCA) within Scoping Boundary, one in the north in the area around Marchwood and one in the south in the area around Shore Field. Both areas relate to sand and gravel deposits associated with the River Terrace superficial deposits (**Figure 11.2**). Dibden Bay is recorded as a Mineral Safeguarding Area (MSA); however, this is related to the potential of the site to be used for minerals and waste wharf purposes rather than any associated mineral deposits.

Built Environment

11.3.9 Existing buildings and structures are present within the Scoping Boundary. These are predominately located in the north of the site within the Marchwood Military Port area.

Contamination

11.3.10 Information regarding the potential for contamination has been drawn from the Dibden Terminal Environmental Statement (ABP, 2000) (including the ground quality impact assessments), historic ground investigation reports and Environment Agency records.

11.3.11 Between 1996 and 1997, four intrusive investigations were undertaken which included a number of exploratory holes positioned at <300m centres across the SLR. Soil and groundwater samples were recovered for laboratory analysis of a suite of analytes. At the time, the Interdepartmental Committee on the Redevelopment of Contaminated Land (ICRCL, 1990) and Dutch soil standards were utilised as trigger values for the assessment. In addition to the sampling, analysis and assessment of soils and groundwater, ground gas monitoring was incorporated into the investigations.

11.3.12 It is noted that some of the analytical testing methods used previously are now out of date and the assessment criteria utilised have been withdrawn and new criteria developed. The analytical testing suite also excluded some potential contaminants of concern (i.e. volatile organic compounds (VOC), semi volatile organic compounds (SVOC), asbestos) and did not provide any justification for the analytical suite chosen. Where still relevant, the findings of these investigations will be assessed using up to date guidance and used to inform the baseline assessment as part of the EIA process.

11.3.13 According to Environment Agency records, the SLR is within an Historic Landfill Site – the Dibden Bay Reclamation Site, Veals Lane, Marchwood (**Figure 11.4**). The site was operated in the 1980s by the Westminster Dredging Company Limited; however, reclamation activities have taken place since the 1940's.

11.4 Future Impacts

Do-nothing

11.4.1 The 'do nothing' scenario assumes that land within ABP's ownership would continue to be held on a short-term tenancy basis for agricultural use as part of an ongoing management process. There are, therefore, unlikely to be any significant changes with regard to ground conditions and contamination.

11.5 Potential Impacts

Potential Impacts During Construction

11.5.1 **Table 11.3** identifies the potential impacts on ground condition and contamination related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

N

B3076
A35
A326
A3024
A33
B3038
A3025
B3039
B3056
B3054

Millbrook Road West
Shirley Road
Hill Lane
Northam Road
Herbert Walker Avenue
Marchwood Road
Staplewood Lane
Arters Lawn
Beaulieu Road
Main Road
Sizer Way
Dale Road
Shore Road
Water Lane
Roman Road
Fawley Road
Frost Lane
East Road
Victoria Road
High Street
Middle Road
Veals Lane

River Test
River Itchen
Southampton Water

Southampton
West Quay Retail Park
Horizon Cruise Terminal
Mayflower Park
Southampton Docks
Freemantle Common
Veracity Recreation Ground
Mayfield Park
Hounsdown School
Lloyd Recreation Ground
Marchwood
Marchwood Military Port
Hythe
Hythe Pier
Applemore College
Ferny Crofts

0 0.5 1 1.5 2 km

Legend

- Scoping Boundary
- Historic Landfill Sites



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Project: SOLENT GATEWAY 2

Drawing Title: HISTORICAL LANDFILLS

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100022

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FIGURE 11. 4

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Table 11.3 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Human health (construction workers, neighbouring site users during construction).	Potentially harmful contaminants could impact the identified receptors through dermal contact, inhalation or ingestion.	Onshore construction activities.	Yes	Construction workers could be affected by exposure to contaminated soils, groundwater and ground gas during earthworks.
Controlled waters (groundwater)	Construction activities have the potential to mobilise contamination, allowing it to migrate to underlying groundwater bodies.	Onshore construction activities, in particular piling.	Yes	The disturbance of contamination, if present, has the potential to result in pollution of controlled waters (surface water and aquifers). Construction activities, in particular piling, could create preferential pathways which have the potential to result in the migration of contamination to underlying groundwater bodies. It is, therefore, proposed that these potential effects are scoped into the assessment.
Controlled waters (surface water)	Disturbance of potentially contaminated soil leading to surface run-off or the migration of	Onshore construction activities.	Yes	There is the potential for impacts on surface waters to occur as a result of sediment run-off, disturbance of contaminated soils/shallow groundwater and subsequent migration to surface waters. It is, therefore, proposed that these effects are scoped into the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	potentially contaminated groundwater.			
Sensitive Land Uses and Environment	Disturbance of potentially contaminated soil.	Onshore construction activities.	Yes	There is the potential for impacts on the identified designated sites as a result of sediment run-off, disturbance of contaminated soils/shallow groundwater and subsequent migration to surface waters. It is, therefore, proposed that these effects are scoped into the assessment.
SSSI of geological interest, LGS or RIGS.	Destruction of feature. Disturbance of potentially contaminated soil.	Onshore construction activities.	No	No SSSI of geological interest, LGS or RIGS have been identified within 250m of the Scoping Boundary and, therefore, there is no risk to these receptors and no further assessment is required.
Mineral Resources	Sterilisation of mineral resources as a result of onshore construction activities.	Onshore construction activities.	Yes	The development has the potential to sterilise sand and gravel resources identified in the north and south of the proposed Project. For this reason, it is, therefore, proposed that this is scoped into the assessment.
Built Environment (existing buildings and utilities)	Disturbance of potential contamination,	Onshore construction activities.	Yes	If present, potential sources of contamination could be mobilised during construction activities, posing a risk to existing buildings

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	migration and accumulation of ground gas.			within the Scoping Boundary. Risks include aggressive ground conditions that may have a detrimental effect on concrete or foundations, sources of contamination permeating into water pipes (if present) and the accumulation of ground gas in confined spaces. It is, therefore, proposed that these effects are scoped into the assessment to be considered only in areas where existing buildings and utilities are present.

11.6 Potential Impacts During Operation

11.6.1 **Table 11.4** identifies the potential impacts on Ground Conditions and Contamination related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 11.4 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Human Health future site users	Potentially harmful contaminants could impact the identified receptors through dermal contact, inhalation or ingestion.	Landside Operations	No	It is assumed that design and mitigation measures that are implemented during the construction phase with the aim of preventing risk to future site users will also remove the risk during the operational phase. In addition to this, much of the site is proposed to be covered with hardstanding, which is likely to break the exposure pathway between ground contamination and site users.
Human health, ground and maintenance workers	Potentially harmful contaminants could impact the identified receptors through dermal contact, inhalation or ingestion.	Landside Operations	Yes	There is the potential for impacts on human health as a result of the disturbance of residual ground contamination and ground gas during any on-site maintenance works. It is, therefore, proposed to scope this into the assessment.
Groundwater	Continued mobilisation of contamination, allowing it to migrate to underlying groundwater	Landside Operations	Yes	The disturbance of contamination, if present, has the potential to result in pollution of groundwater. It is, therefore,

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	bodies. Spills associated with operational maintenance work.			proposed that these potential effects are scoped into the assessment.
Surface water	Continued disturbance of potentially contaminated soil leading to surface run-off or the migration of potentially contaminated groundwater.	Landside Operations	Yes	There is the potential for impacts on surface waters to occur as a result of sediment run-off, disturbance of contaminated soils/shallow groundwater and subsequent migration to surface waters. It is, therefore, proposed that these effects are scoped into the assessment.
Sensitive Land Uses and Environment	Disturbance of potentially contaminated soil.	Landside Operations	No	The proposed Project would create areas of hardstanding incorporating a surface water drainage system, which is likely to minimise infiltration of precipitation and, consequently, the potential for continued mobilisation of contamination.
SSSI of geological interest, LGS or RIGS.	Destruction of feature. Disturbance of potentially contaminated soil.	Landside Operations	No	The review of available information did not identify any SSSI of geological interest, LGS or RIGS within 1km of the Scoping Boundary. These effects are, therefore, scoped out of the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Built Environment (existing and future buildings and utilities)	Disturbance of potential contamination, migration and accumulation of ground gas.	Landside Operations	No	Although buildings and utilities will be present as part of the proposed Project, it is assumed that the mitigation measures that will be employed during construction would adequately ensure that this receptor is not affected during the operational phase. It is, therefore, proposed that these effects are scoped out of the assessment.
Mineral resources	Sterilisation of mineral resources as a result of onshore construction activities.	Landside Operations	No	The implementation of mitigation measures in the construction phase to address impacts on mineral resources would also address ongoing potential impacts during the operational phase. In general, therefore, it is proposed that operational phase effects are scoped out of the assessment.

11.7 Mitigation

11.7.1 At this stage it is not possible to determine what mitigation measures may be required. However, the proposed Project will be progressed in line with best practice and will adopt the principles of mitigation by design, wherever possible.

11.7.2 Where the assessment process identifies unacceptable impacts, a remedial strategy would be developed, agreed with the regulators and implemented to mitigate the predicted impact. The approach to remediation will follow the approach outlined in the Land Contamination Risk Guidance (LCRM) (Environment Agency, 2025).

11.8 Approach to Assessment and Data Gathering for ES

11.8.1 The baseline for Ground Conditions and Contamination will be established following current guidance which advocates a phased risk-based approach. A Preliminary Risk Assessment (PRA) will be undertaken to develop an understanding of the ground conditions from a contamination perspective. The desk-based study forms the initial step in the assessment of ground conditions and precedes intrusive ground investigation.

11.8.2 The PRA utilises existing information to develop a Preliminary Conceptual Site Model (PCSM) enabling an initial understanding of the key contaminant sources, pathways and receptors that may exist at the site. In addition, the PCSM provides valuable information for the design of intrusive ground investigation works that are being planned to inform the EIA process.

11.8.3 The PRA will be progressed based on data obtained from an Envirocheck report which incorporates historical maps, site sensitivity data, and regulatory information, and which will be supplemented with information from the following sources:

- Site walkover.
- Local authority liaison.
- Environment Agency data.
- BGS online portal – maps and borehole logs (Onshore Geoindex).
- Magic.gov.uk natural environment GIS mapping service.
- Historical ground investigation site reports.

11.8.4 A walkover survey will be undertaken to further develop an understanding of the site setting and to determine if there are any site-specific observations that may suggest potential contamination issues or the presence of geological features.

11.8.5 A programme of landside intrusive ground investigation works is currently being planned to inform the EIA process.

11.8.6 The findings of the desk-based PRA and the results of the intrusive ground investigation will be presented in standalone reports which will incorporate all relevant supporting information and will be included as technical appendices to the ES.

12 TERRESTRIAL ECOLOGY

12.1 Introduction

12.1.1 This section describes the terrestrial ecological resource of relevance to the proposed Project. Marine ecological receptors including intertidal habitats (i.e. those habitats which are underwater at high tide) are described in **Section 7**, and coastal waterbirds (any bird that is ecologically dependent on coastal and marine aquatic habitats for a proportion of their life history, including species of waders, wildfowl (ducks, geese and swans) and seabirds) are considered in **Section 8**. Terrestrial bird species are covered in this section.

12.1.2 National Site Network (NSN) sites (SPA, SAC and Ramsar sites) will be considered in more detail in the HRA Screening Report alongside the PEIR.

12.2 Relevant Policy, Legislation and Guidance

12.2.1 The assessment will be undertaken to meet the requirements set out in the NPSfP, specifically paragraphs 4.8.1, and 5.1.1 – 5.1.25.

12.2.2 The assessment will also have regard to the following policies:

- The National Planning Policy Framework (2024).
- Biodiversity Action Plan for Hampshire (Volume 1 and 2) (1998).
- Local Nature Recovery Strategy for Hampshire.
- New Forest District Council Local Plan 2016 - 2036 Part One: Planning Strategy (2020).
- New Forest District Council Local Plan Part 2: Sites and Development Management (2014): Policy DM2 Nature conservation, biodiversity and geodiversity.
- New Forest District Council Local Plan Part 2: Sites and Development Management (2014): Policy DM3 Mitigation of impacts on European nature conservation sites.
- New Forest District Council: The Local Plan Part 1: Core Strategy 2009.
- New Forest National Park Local Plan 2016 – 2036 (2019).

12.2.3 There are several pieces of legislation at international, European and national levels that are likely to apply to terrestrial ecology receptors for the proposed Project, as follows:

- Environment Act 2001.
- The Conservation of Habitats and Species Regulations 2017.

- Wildlife and Countryside Act 1981.
- Natural Environment and Rural Communities Act 2006.
- Countryside and Rights of Way Act 2000.
- Protection of Badgers Act 1992.
- Animal Welfare Act 2006.
- The Hedgerow Regulations 1997.
- The Invasive Alien Species (Enforcement and Permitting) Order 2019.

12.3 Study Area

12.3.1 The study area will vary for different ecological receptors depending on their sensitivity to an environmental change in line with best practice guidance (CIEEM 2024). The criteria used to identify terrestrial ecology resources that could be affected by the proposed Project are as follows (these criteria will also be applied when identifying resources potentially affected by the implementation of any CME sites):

- NSN sites where the proposed Project meets one or more of the following criteria:
  - Is within 2km of a Ramsar site, SPA or SAC, or functionally linked land (land occurring outside a designated site which is considered to be critical to, or necessary for, the ecological or behavioural functions in a relevant season of a qualifying feature for which the site has been designated).
  - Is within 30km of a SAC, where bats are noted as one of the qualifying interests.
  - Crosses or lies adjacent to, upstream of, or downstream of, a watercourse which is designated in part or wholly as a site within the national site network.
  - Has a potential hydrological or hydrogeological linkage to a Ramsar site, SPA or SAC containing a ground water dependent terrestrial ecosystem (GWDTE).
  - Has potential air quality impacts where an NSN is within 200m of the Affected Road Network (ARN).
- SSSIs and National Nature Reserves within 2km of the proposed Project or within 200m of the ARN, or SSSI which have hydrological connectivity to the proposed Project.
- Local Nature Reserves, non statutory designated sites, notable habitats such as ancient woodland and ground water dependent terrestrial ecosystems within 1km of the proposed Project and 200m of the ARN.

- Protected and notable species records within 2km of the proposed Project.

12.3.2 At the time of authoring the EIA Scoping Report, not all project information is available (for example; traffic models to identify roads where the proposed Project might generate more traffic (the ARN) which could lead to changes in air quality, and locations of CME sites) and, therefore, the baseline will be updated as additional information becomes available, with additional receptors scoped into the assessment, if appropriate.

12.4 Description of Existing Environment

Data Sources

12.4.1 The following key data sources have been used to gather the baseline information on Terrestrial Ecology and inform the scoping study:

- Multi-Agency Geographic Information for the Countryside (Defra (2025) [accessed June 2025].
- Local Nature Recovery Strategy for Hampshire (Draft) (Hampshire County Council (2025a)) [accessed June 2025].
- Hampshire Biological Records Centre – SINC data, protected & notable species records [accessed August 2025].
- Dibden Terminal Environmental Statement (ABP, 2000a).
- Common Standards Invertebrate Assemblage survey data 2016.
- Botanical survey data 2018 and 2019.
- Terrestrial invertebrate survey data 2018 and 2019.
- Saproxylic invertebrate survey data 2019.
- Dormouse survey data 2018, 2024 and 2025.
- Water vole survey data 2018 and 2024/25.
- Badger survey data 2018 and 2024/25.
- Otter survey data 2018 and 2024/25.
- Reptile survey data 2018 and 2024/25.
- Breeding bird survey data 2018 and 2025.
- Lichen survey data 2019.
- Great crested newt survey data 2018 and 2025.
- Bat survey data 2018, 2020.
- Breeding wader survey data 2025.
- Woodland survey data 2025.
- Hazel Dormouse (Mammal Society Website) [accessed August 2025].

- Hazel dormice range and distribution in the UK (People's Trust for Endangered Species Website) [accessed August 2025].
- Hazel Dormouse (National Biodiversity Network) [accessed August 2025].

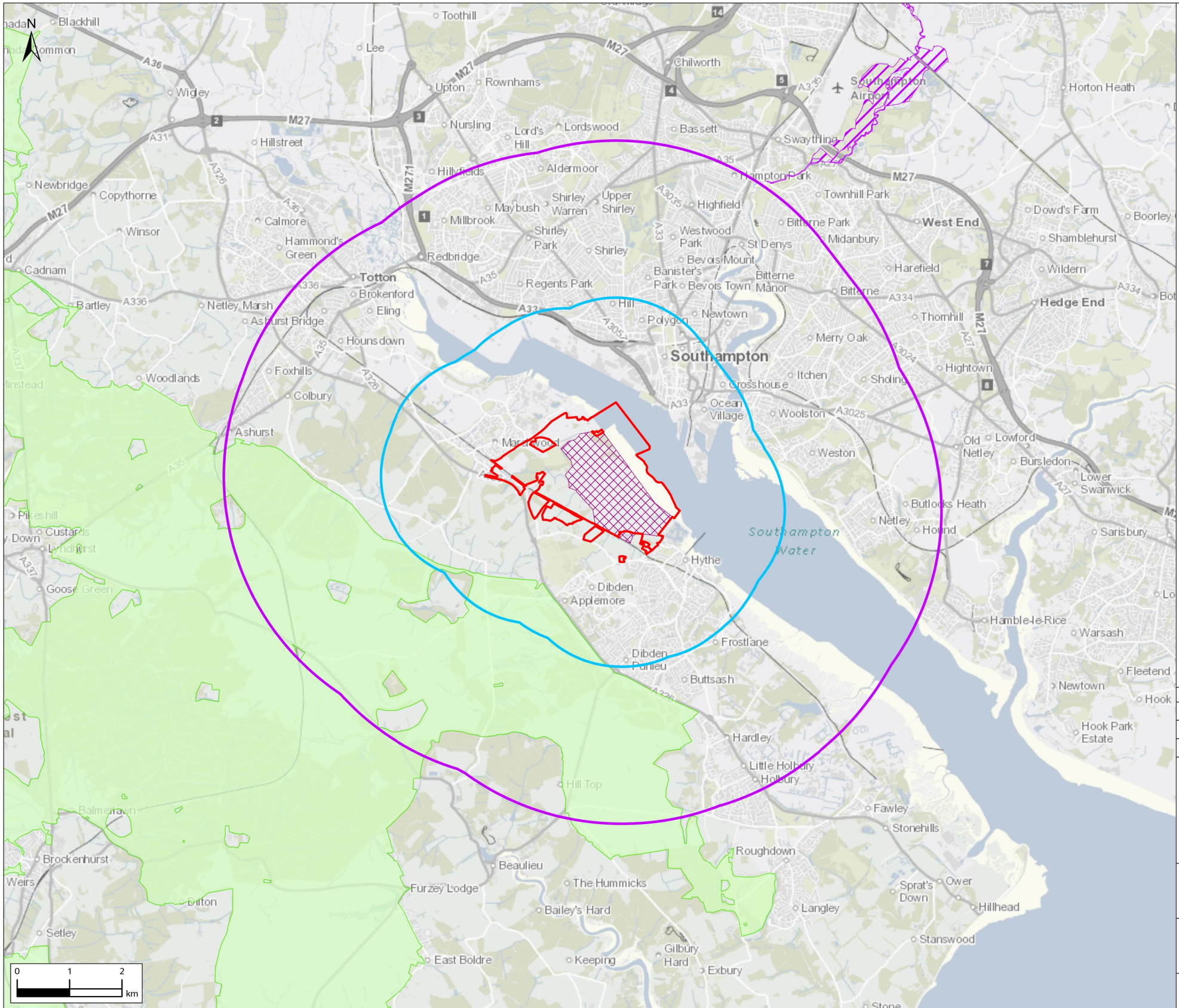
12.4.2 At the time of writing, the field data collected in the most recent surveys is unpublished; this will be made available to stakeholders at a later date.

Designated Sites

12.4.3 The designated sites within 2km of the Scoping Boundary are shown on **Figure 12.1** and **Figure 12.2**.

NSN sites

12.4.4 **Table 12.1** illustrates the proximity of the NSN sites designated for terrestrial habitats and species to the Scoping Boundary; these sites are shown on **Figure 12.1**.





Legend

- Scoping Boundary
- Scoping Boundary - 2km Buffer
- Scoping Boundary - 5km Buffer
- River Itchen (SAC)
- Dibden Bay Site of Special Scientific Interest (SSSI)
- New Forest SAC / SPA / Ramsar Site / SSSI

For the Solent and Southampton Water SPA / Ramsar, Solent Maritime SAC and Solent and Dorset Coast SPA please refer to Figure 7.1'

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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	23/10/2025	Initial Issue	RM	AJ	IP	MSS

Scale @ A3	Scale: 1:70,000 DO NOT SCALE
Jacobs No.	B2488100

ASSOCIATED BRITISH PORTS

Project: SOLENT GATEWAY 2

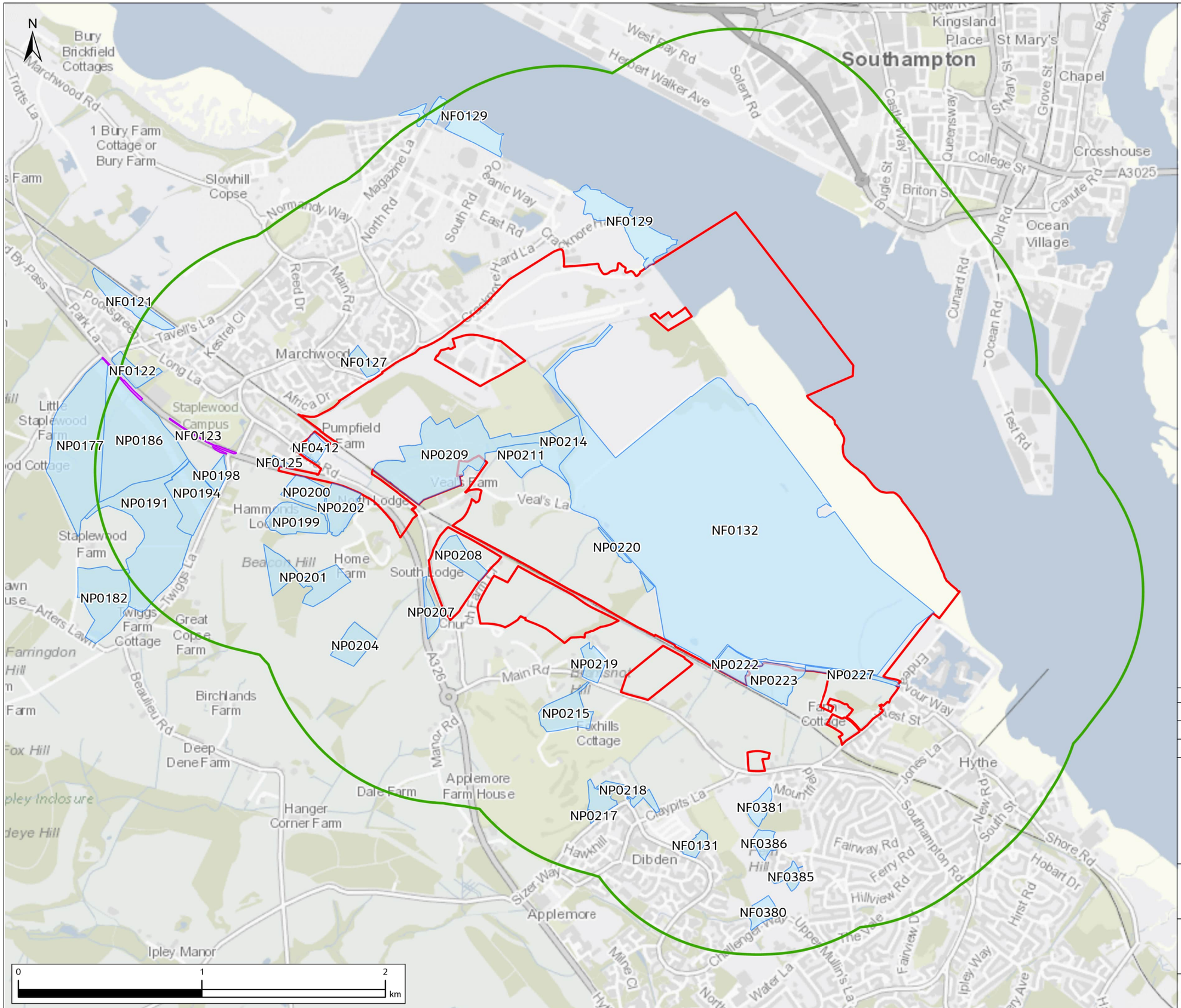
Drawing Title: INTERNATIONALLY AND NATIONALLY DESIGNATED SITES

Drawing No.	Drawing Status
S6585-MDEC-ZZ-ZZ-DG-EC-0100023	FINAL

Figure 12.1

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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Scale @ A3 | Scale: 1:20,000 | DO NOT SCALE

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Project
SOLENT GATEWAY 2

Drawing Title
NON STATUTORY DESIGNATED SITES

Drawing No.
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Drawing Status
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Figure 12.2

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Table 12.1 NSN sites within and adjacent to the Scoping Boundary

Site Approximate distance from Scoping Boundary	Criteria met	Reason for designation
New Forest SAC 1.1 km southwest	Within 2km	Primary reason for selection – priority feature 91D0 Bog woodland 91E0 Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-padion*, *Alnion incanae*, *Salicion albae*) Primary reason for selection 3100 Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) 3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea* 4010 Northern Atlantic wet heaths with *Erica tetralix* 4030 European dry heaths 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) 7150 Depressions on peat substrates of the *Rhynchosporion* 9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*) 9130 *Asperulo-Fagetum* beech forests 9190 Old acidophilous oak woods with *Quercus robur* on sandy plains 1044 Southern damselfly *Coenagrion mercuriale* 1083 Stag beetle *Lucanus cervus* Secondary reason for selection 7140 Transition mires and quaking bogs 7230 Alkaline fens 1166 Great crested newt *Triturus cristatus*
New Forest SPA 1.1 km southwest	Within 2km	Breeding A224 Nightjar *Caprimulgus* A099 Hobby *Falco subbuteo*

Site Approximate distance from Scoping Boundary	Criteria met	Reason for designation
		A246 Woodlark *Lullula arborea* A072 Honey buzzard *Pernis apivorus* A314 Wood warbler *Phylloscopus sibilatrix* Dartford Warbler *Sylvia undata* Over-wintering Hen harrier *Circus cyaneus*
New Forest Ramsar site 1.1 km southwest	Within 2km	Valley mire and wet heath complex which supports a diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate. The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scarce wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.
River Itchen SAC 8.5 km northeast (measured via River Itchen)	Hydrological connection via Southampton Water	1355 Otter (Refer to Marine Ecology (**Section 7**) for other relevant qualifying features).
Mottisfont Bats SAC 17.5 km north	Within 30km	1308 Barbastelle *Barbastella barbastellus*

Sites of Special Scientific Interest

12.4.5 The proximity of SSSIs designated for terrestrial habitats and species to the Scoping Boundary are illustrated on **Figure 12.1**. The SSSIs within 2km of the Scoping Boundary are set out in **Table 12.2**.

Table 12.2 SSSI sites within and adjacent to the Scoping Boundary

Site Approximate distance from Scoping Boundary	Reason for designation
Dibden Bay SSSI Overlapped by the Scoping Boundary	Nationally important assemblage of invertebrates (including beetles, bees, wasps and flies) and is one of the richest sites around the Solent for nationally-rare and nationally-scarce species. The site is also notified for breeding lapwing *Vanellus vanellus* only two sites having more nesting pairs in south Hampshire, Isle of Wight and Poole Bay. The Scoping Boundary encompasses most of the Dibden Bay SSSI which is predominantly reclaimed land. As described in the citation for the SSSI, with the exception of a small area known as Westcliff Marsh, the SSSI was formed between the 1930s and the 1970s by the deposition of marine dredgings over a complex of coastal habitats. This infilled area (often referred to as the Reclaim) was allowed to colonise naturally with plants, and now supports wet and dry grassland together with saltmarsh vegetation, saltpans, swamp, reedbed, scrub and open water. The SSSI is divided into two units of 4.58ha (2% of the SSSI) and 224.83ha (98% of the SSSI). Recent assessments by Natural England in 2022 and 2021 respectively determined the smaller unit was in 'favourable' condition and the larger unit was in 'unfavourable' condition. This assessment was reflected by the National Vegetation Classification (NVC) survey undertaken in 2015 (Peter Brett Associates, 2015) which identified that the nature of the SSSI is changing, with less saline influence and a reduction in floristic diversity. The extent of any change that has occurred since 2015 is not currently known. Three rare plant species are known to be present within the SSSI (divided sedge *Carex divisa*, sea barley *Hordeum marinum* and annual beard grass *Polypogon monspeliensis*) and the 2015 NVC survey indicates their distribution to be as follows:

Site Approximate distance from Scoping Boundary	Reason for designation
	• Divided sedge – scattered clonal clumps in the northeast of the central area of the Scoping Boundary. • Sea barley– one plant in the centre of the central section of the Scoping Boundary. • Annual beard-grass– still frequent along saline seepages on the seaward edge of the central section of the Scoping Boundary, very rare and scattered within inland areas of the SSSI.
New Forest SSSI 1.1 km south	The New Forest SSSI comprises a complex mosaic of habitats which in turn support an exceptional variety of flora and fauna. This includes the richest moss and lichen flora in lowland Europe, and scarce flowering plants such as chamomile *Chamaemelum nobile*, pennyroyal *Mentha pulegium*, slender cotton-grass *Eriophorum gracile*, small fleabane *Pulicaria vulgaris*, and wild gladiolus *Gladiolus illyricus*. The SSSI also supports an outstanding community of invertebrates who depend upon the ancient woodland trees, the dead wood resource, the watercourses and waterbodies, and other grazed habitats, as well as supporting the largest number of Dartford warbler *Sylvia undata* in Britain and internationally important populations of nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea*. Older trees within the SSSI provide roost sites for several species of bat including the very rare Bechstein's bat *Myotis bechsteinii*, and otter *Lutra lutra* can be found utilising some of the streams within the site. The less acidic ponds within the SSSI also support important populations of amphibian, including the great crested newt *Triturus cristatus*.

Other statutory designated sites

12.4.6 There are no National Nature Reserves or Local Nature Reserves within 2km and 1km of the Scoping Boundary respectively. Other designated sites with features of relevance to terrestrial ecology are summarised in **Table 12.3** and are shown on **Figure 12.1**. Where a site supports a mixture of terrestrial and marine species only terrestrial features of those sites are considered within this section.

Site of Importance for Nature Conservation (SINC)

12.4.7 Sites of Importance of Nature Conservation (SINCs) are designated under a number of criteria as set out in the Criteria for the Selection of Sites of Importance of Nature Conservation in Hampshire (Hampshire Biodiversity Information Centre, 2021). **Table 12.3** provides a summary of the SINCs within 1km of the Scoping Boundary and the criteria met (refer to the key at the bottom of the table for a detailed explanation of the criteria).

Table 12.3 SINCs within 1km of the Scoping Boundary

Site Name	Distance from Scoping Boundary	Criteria met and broad reason for designation (refer to key for detailed criteria)	Notable species supported
Church Farm Fields (East) (NP0220)	Within Scoping Boundary	2B (grassland), 6A (notable species)	-
Dibden Bay (NF0132)	Within Scoping Boundary	4A (coastal and estuarine habitat), 6A, 6B and 6C (notable species) (refer to Marine Ecology **Section 7**)	Sea barley *Hordeum marinum*, Borrer's saltmarsh grass *Puccinellia fasciculata*, slender spike rush *Eleocharis uniglumis*, divided sedge *Carex divisa*, brackish water crowfoot *Ranunculus baudotii*, annual beard grass *Polypogon monspeliensis*, stiff saltmarsh grass *Puccinellia rupestris*, oak-leaved goosefoot *Chenopodium glaucum*, and beaked tasselweed *Ruppia maritima*

Site Name	Distance from Scoping Boundary	Criteria met and broad reason for designation (refer to key for detailed criteria)	Notable species supported
Post/ Horseclose Copses/ The Plantation (NP0209)	Within Scoping Boundary	1B (woodland)	*Pertusaria amara* (a lichen)
Smither's Copse (NP0208)	Within Scoping Boundary	1A (woodland)	-
Veal's Row Meadows (East) (NP0214)	Within Scoping Boundary	2B (grassland), 5B (fens/flushes)	-
Veal's Row Meadows (West) (NP0211)	Within Scoping Boundary	2B (grassland)	Veal's Row Meadows (West) (NP0211)
West Cliff Marsh (West) (NP0222)	Within Scoping Boundary	4A (coastal and estuarine habitat) 6A (notable species) (refer to **Section 7** Marine Ecology),	Brackish water crowfoot *Ranunculus baudotii* and beaked tasselweed *Ruppia maritima*
West Cliff Marshes Extension (NP0227)	Within Scoping Boundary	4A (coastal and estuarine habitat) (refer to Marine Ecology **Section 7**)	-
Cracknore Hard & Marchwood Mudflats (NF0129)	Within Scoping Boundary	4A (coastal and estuarine habitat) (refer to Marine Ecology **Section 7**)	-

Site Name	Distance from Scoping Boundary	Criteria met and broad reason for designation (refer to key for detailed criteria)	Notable species supported
Hythe Road Meadow North (NF0412)	Within Scoping Boundary	2B (grassland), 5B (fens/flushes)	-
Warwick's Copse (NP0202)	Within Scoping Boundary	1A (woodland)	-
West Cliff Marsh (East) (NP0223)	Within Scoping Boundary	4A (coastal and estuarine habitat), 6A (notable species) (refer to Marine Ecology **Section 7**)	Meadow brome *Bromus commutatus*, Borrer's saltmarsh-grass *Puccinellia fasciculata*, and divided sedge *Carex divisa*
Marchwood School Field (NF0125)	Within Scoping Boundary	2B (grassland)	-
Warwick's Copse Meadow (NP0200)	Adjacent to Scoping Boundary	2B (grassland)	-
Crookedhays Copse (NF0127)	16m northwest	1A (woodland)	-
South Lodge Field (NP0207)	25m west	2B (grassland)	-
Lock's Copse (NP0219)	40m southeast	1A (woodland)	-
Depedene Meadow (NF0381)	90m south	2Ai (grassland), 5Biii (purple moor grass rush pasture)	-
Hammonds Copse (NP0199)	150m south	1A (woodland)	-
Great Copse, Hythe and	180m west	1A (woodland)	-

Site Name	Distance from Scoping Boundary	Criteria met and broad reason for designation (refer to key for detailed criteria)	Notable species supported
Dibden (NP0215)			
A326 Marchwood Bypass, Marchwood 3 (Part) (NF0123)	250m west	2B (grassland), 6A (notable species)	French oat-grass *Gaudinia fragilis*
Nutcher's Copse Field (NP0198)	280m west	1B (woodland), 2A (grassland)	-
Tamar Grove Meadow (NF0386)	320m south	2Ai (grassland), 5Biii (purple moor grass rush pasture)	-
Nutcher's Copse (NP0194)	360m west	1A (woodland)	-
Perryhayes Copse & Fir Copse (NP0201)	360m southwest	1A (woodland)	-
Beaby's Copse (NP0204)	400m southwest	1A (woodland)	-
Drapers Copse (NF0131)	410m southwest	1A (woodland)	-
Roy's Copse (NP0218)	480m south	1A (woodland)	-
Brown's Copse (NP0191)	490m west	1A & 1B (woodland), 2A (grassland)	-
Hammer's & Rudes Copse (NP0186)	500m west	1A (woodland)	-

Site Name	Distance from Scoping Boundary	Criteria met and broad reason for designation (refer to key for detailed criteria)	Notable species supported
Tamar Grove (NF0385)	515m south	1Cii (woodland)	-
Roy's Copse Meadow (NP0217)	660m south	2B (grassland)	-
Mullin's Lane Meadow (NF0380)	680m south	5Biii (purple moor grass rush pasture)	-
Staplewood Lane Copse (NF0122)	770m west	1A (woodland)	-
Meadow South-East of Spragg's Copse (NF0121)	820m northwest	2B (grassland), 5A and 5B (freshwater)	-
Reeds and Barrows Orchard Copse (NP0177)	960m west	1A (woodland), 2A (grassland)	-
Downgrove Copse (NP0182)	980m southwest	1A & 1B (woodland)	-

Key for criteria under which the SINCs are designated:

1A (Ancient Semi Natural Woodland); 1B (Other woodland where there is a significant element of ancient semi-natural woodland surviving); 2A (Agriculturally unimproved grasslands not of recent origin); 2Ai (Lowland meadow (neutral grassland)); 2B (Semi-improved or impoverished grasslands retaining a significant element of unimproved grassland); 4A (Semi-natural coastal and estuarine habitats (including saltmarsh, intertidal mudflats, sand dunes, brackish ponds, saline lagoons, inundation grasslands of the coastal plain, maritime cliffs and maritime grasslands)); 5A Areas of open freshwater (e.g. lakes, ponds, canals, rivers, streams and ditches); 5B (Fens, flushes, seepages, springs and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent)); 5Biii (Purple moor-grass and rush-pasture); 6A (Support one or more Hampshire Notable Species); 6B (Regularly support a significant population of a Hampshire Notable Species, but which are used seasonally or for only one part of a species life-cycle); and 6C (Support an outstanding assemblage of species).

Road Verges of Ecological Importance (RVEIs)

12.4.8 **Table 12.4** summarises the Road Verges of Ecological Importance (RVEIs) within 1km of the Scoping Boundary. These sites support either a notable species and/or a species-rich semi-natural habitat and are selected by Hampshire Biological Record Centre as part of an annual survey programme.

Habitats

12.4.9 Field surveys recorded the following habitats within the Scoping Boundary:

- Acid, neutral and modified grassland.
- Woodland.
- Scrub.
- Hedgerows.
- Wetland.
- Urban.
- Standing open water.
- Coastal saltmarsh.

12.4.10 Of particular significance are the Annex 1 habitats Atlantic salt meadows (also a Habitats of Principal Importance (HoPI), coastal saltmarsh) and Lagoons (also a HoPI, saline lagoon). In addition, other valuable habitats present on site comprise other HoPI, lowland dry acid grassland, wet woodland, lowland mixed deciduous woodland, hedgerows, reedbeds, coastal grazing marsh and mesotrophic lakes.

12.4.11 At the time of notification, the Dibden Bay SSSI supported important habitats and rare plants, including upper saltmarsh (SM16) and saltpan (SM23) communities - equivalent to HoPIs, such as coastal saltmarsh, saline lagoons and coastal and floodplain grazing marsh (Hampshire BAP).

12.4.12 The site is now dominated by wet grasslands (MG11a, MG12a, MG13), with shallow areas forming a mosaic that retains remnants of saltmarsh vegetation. Definable saltmarsh remains occur near the shoreline and towards the south of the SSSI. Brackish pools with swamp communities and freshwater ditches previously formed mosaics in discreet areas, including the main drainage ditch that forms the SSSI's landward (western) boundary.

Table 12.4 Road Verges of Ecological Importance within 1km of the Scoping Boundary.

RVEI Name	Grid Reference	Description	Highest other Designation	Interest Type	Interest Features	Length (m)
A326 Marchwood Bypass, Marchwood 2	SU38220970	South side of the road, west of junction with Twiggs Lane	SINC	Lowland meadow / marsh flora	Relic herb-rich grassland, with four indicator species	90
A326 Marchwood Bypass, Marchwood 3	SU37940989	North side of the road, west of junction with Twiggs Lane	SINC	Lowland meadow / marsh flora	Herb-rich grassland with five indicator species	390
A326 Marchwood Bypass, Marchwood 7	SU37691009	South side of the road, west of junction with Twiggs Lane	N/A	Lowland meadow / marsh flora	Four indicator species, corky-fruited water-dropwort *Oenanthe pimpinelloides* (nHR), devil's bit scabious *Succisa pratensis*, saw wort *Serratula tinctoria.*	318

12.4.13 NVC communities recorded within the Dibden Bay SSSI include upper saltmarsh (SM16e, SM18, SM24), saltpans and saline lagoons (SM23, SM20), wet grasslands / grazing marsh (MG11a, MG12b, MG13), swamp and aquatic (S4a, S21, S20, A12) and other grasslands (MG6b).

12.4.14 The habitat outwith Dibden Bay SSSI is drier, consisting mainly of tall, species-poor grassland. However, some areas support species-rich grasslands indicative of wet, acidic conditions. Scrub, and swamp communities are also present.

12.4.15 Extensive areas of broadleaved semi-natural woodland occur within the Scoping Boundary. The presence of ancient woodland indicator (AWI) species in some woodlands suggest a long-standing origin.

12.4.16 Forty-eight ancient / veteran / transition veteran pedunculate oak trees are present within the Scoping Boundary, outside the Dibden Bay SSSI.

Species

Amphibians

12.4.17 HBIC returned records of great crested newt (GCN) *Triturus cristatus* within 2km of the Scoping Boundary and common toad Bufo bufo from within the Scoping Boundary.

12.4.18 Suitable aquatic and terrestrial habitat for amphibians is present within the Scoping Boundary, comprising ponds, wet ditches, hedgerows and scrub and grassland habitats.

12.4.19 GCN environmental DNA (eDNA) surveys in 2018 and 2025 returned negative results. Overall, the site is considered unlikely to support GCN.

12.4.20 The presence of both common toads (Species of Principal Importance (SoPI)) and common frogs *Rana temporaria* was noted during the eDNA assessments.

Badgers

12.4.21 HBIC returned two records of badgers from within the Scoping Boundary, located within the woodland at the northern corner. The most recent record is from 2013.

12.4.22 Badger surveys undertaken between December 2024 and October 2025 identified a total of six badger setts including one active main sett and four active outlier setts. A further one, long disused/historic sett, was also recorded.

Bats

12.4.23 HBIC returned records of 15 bat species within 2km of the Scoping Boundary.

12.4.24 Field surveys in 2018/19 recorded at least ten species of bat within the survey area during walked transect surveys, automated static detector surveys and harp and mist net surveys:

- Barbastelle *Barbastella barbastellus*.
- Common pipistrelle *Pipistrellus pipistrellus*.
- Leisler's bat *Nyctalus leisleri*.
- *Myotis sp*..
- Nathusius' pipistrelle *Pipistrellus nathusii*.
- Noctule *Nyctalus noctule*.
- *Plecotus sp*..
- Serotine *Eptesicus serotinus*.
- Soprano pipistrelle *Pipistrellus pygmaeus*.
- Bechstein's bat *Myotis bectsteinii.*

12.4.25 Of particular note, a barbastelle was recorded 15 minutes after sunset near Smither's Copse during a transect survey, indicating that a roost may be present within this woodland. The barbastelle is considered to be rare in Britain, and only sparsely distributed through its range in Europe (Altringham, 2003). This species tends to forage in woodland where its summer roost sites are usually associated with splits and cracks in trees or behind raised bark (Dietz *et al.,* 2009).

12.4.26 Heat maps of bat transect surveys data indicate that the areas that support the highest levels of bat activity within the survey area include:

- All woodland parcels.
- The tree-lined/wooded/hedgerow lined access track bisecting the southern/western section of the site from north to south.
- The rail corridor in the south/south-west.
- To a lesser extent, the banks of the River Test in the north-east of the survey area.

12.4.27 Activity levels varied across the automated static detectors deployed within the Scoping Boundary. Activity was highest to the south, in an area of mature woodland, and lowest within an extensive parcel of mature, established woodland (the Plantation/Horseclose Copse).

12.4.28 Automated static detectors recorded a total of 103 barbastelle bat calls (0.18% of all calls), the majority of which were recorded within Smither's Copse and in proximity to Duell's farmyard.

12.4.29 Field surveys in 2018 and 2019 identified three buildings which provided moderate suitability, and five buildings which provided low suitability for roosting bats. One of the buildings was also assessed as providing moderate suitability to act as a hibernation resource for bats. However, internal inspections in 2020 yielded no signs of use by hibernating bats, and no data indicating the internal use of the building as a hibernation resource was recorded during the static detector monitoring period.

12.4.30 Old bat droppings were recorded during internal and external inspections of building B1 in 2018 and were considered characteristic of Plecotus (long-eared) bats, and evidence of previous use as a likely feeding perch.

12.4.31 Twelve roosts (one building and eleven tree or likely tree roosts) were located during radiotracking surveys of bats captured within the Scoping Boundary during June and August 2019. Two of these roosts were for Bechstein's bat, identified within woodlands within the Scoping Boundary. The remaining roosts were outside of the Scoping Boundary.

12.4.32 Further surveys to update the preliminary bat roost assessments of buildings were undertaken in 2025. Emergence surveys have also been completed. The results of these surveys will inform the ES.

12.4.33 Surveys of trees for potential to support roosting bats have not yet been completed but this data would be gathered to inform the ES (see **Section 12.8**).

Breeding birds

12.4.34 HBIC returned 2,132 entries of terrestrial birds, totalling more than 10,000 recordings within 2km of the Scoping Boundary, comprising 66 bird species. Dibden Bay SSSI is partly notified for its population of breeding lapwing *Vanellus vanellus*. The site citation from 2001 estimates 30 breeding pairs; however, 2025 survey data indicates a maximum of four pairs of lapwing may have bred or attempted to breed within the SSSI. This suggests a decline from 2016, when an upper estimate of 12 pairs was recorded.

12.4.35 The Scoping Boundary supports a diverse assemblage of other species of breeding birds, with 56 species recorded (including nine 'red list' and eleven 'amber' birds) in 2018 as confirmed, probable, or possible breeders. Of these, 49 species of birds are of relevance to this section (refer to **Section 8** for coastal waterbirds).

12.4.36 Cetti's warbler *Cettia cetti* was the only species present in sufficient numbers to meet county SINC criteria.

12.4.37 A further 30 non-breeding species were recorded using or flying over the site, 13 of which are terrestrial birds. Non-breeding Schedule 1 species included barn owl *Tyto alba*, hobby *Falco subbuteo* and peregrine *Falco peregrinus*, with suitable nesting habitat present.

12.4.38 Overall, the habitats within the Scoping Boundary supports a diverse assemblage of breeding bird species. This is likely to reflect both the large size of the area and presence of mixed habitats, including open pasture, mature and semi-mature woodland, dense and scattered scrub, wetland and hedgerows, as well as some buildings and other structures that provide opportunities for a variety of species exploiting different niches.

Dormice

12.4.39 The Scoping Boundary sits within the hazel dormouse *Muscardinus avellanarius* UK distribution range (Mammal Society, 2024) and dormice are considered to occur frequently in the county of Hampshire (PTES, 2018). However, no records of hazel dormice were provided by HBIC within 2km of the Scoping Boundary. Furthermore, there are no records of hazel dormice on NBN Atlas within 5km of the Scoping Boundary. The closest records are from 1976, in habitat with poor connectivity to the Scoping Boundary due to the presence of the River Test and several A-roads acting as a significant barrier between the Scoping Boundary and the location of these records.

12.4.40 Habitat suitable to support hazel dormice is present throughout the Scoping Boundary in the form of woodland, established hedgerows and scrub. However, pools of standing water form within woodland habitats during the winter months which would reduce the suitability of the site to support dormice during this time of year when they hibernate at ground level.

12.4.41 No evidence of dormice was recorded during presence/absence surveys undertaken in 2018 or 2024/25 and, therefore, it is concluded dormice are absent from the Scoping Boundary.

Invertebrates

12.4.42 A total of 1,692 invertebrate species were recorded across the Scoping Boundary between March 2018 and November 2019. Of these, 809 were recorded within Dibden Bay SSSI and 1,271 were recorded outside of the SSSI.

12.4.43 A total of 165 Key Species (9.8% of the species assemblage) were recorded across the Scoping Boundary. These are defined as taxa with a nature conservation status. These included one species of rove beetle *Brundinia kraneana*, 31 species of Rare Key Species and five SoPI.

12.4.44 Of the five SoPI, three species were recorded within the SSSI (small heath *Coenonympha pamphilus*, *Meioneta mollis* (a money-spider) and *Bembidion quadripustulatum* (a ground beetle). Four species were recorded within compartments outside of the SSSI (*M. mollis*, small heath, *Phortica variegata* (a sap-fly) and goat moth *Cossus cossus*).

12.4.45 Barkflies (*Psocoptera*) are a group of epiphytic insects which browse on the micro-flora of the bark and wood surfaces. A total of 22 species were recorded across the Scoping Boundary in 2019 and, of these, *Peripsocus parvulus* is the key discovery. This species has only been reported from five other sites across the south-west and west Midlands in Britain in the last 130 years.

Lichen

12.4.46 HBIC returned records of five species of lichen within 2km of the Scoping Boundary. The majority are located within the New Forest SSSI; however, one record was provided from within the Scoping Boundary, located within the woodland at the north-west of the Scoping Boundary. The most recent record is from 2016.

12.4.47 Lichen are considered in terms of individual species of note and as assemblages within the various habitats on site.

Lichen species

12.4.48 The main concentrations of lichen interest recorded during field survey in 2019 were found in the following locations:

- The woodland north of Veal's Farm, with associated interest in the boundary hedge of the grazing marsh to the south within Compartment 3.
- Veteran trees and associated habitats along the old lane leading down to the former grazing marsh from Church Farm and also trees on and near adjacent field and marsh boundaries.
- Veteran trees in former parkland around West Cliff Hall.

12.4.49 Species of interest recorded within the survey area include:

- *Teloschistes chrysophthalmus* (Critically Endangered, Nationally Rare (NR)) – first record for Southampton Water Marshes despite recent colonisation along the south coast.
- *Lecanora strobilina* (Vulnerable, NR) – first record for the County, although it has since been recorded within the New Forest.
- *Agonimia octospora* (Near Threatened, NS/IR/S41) – abundant in the New Forest but rare beyond southern England.

- *Agonimia flabelliformis* (Formally NR) – this species is not regarded as a notable species as it is an under-recorded/ ruderal species.
- *Arthonia arthonioides* (Nationally Scarce (NS)) – first record for Hampshire.
- *Caloplaca asserigena* (NS) – rare in the Solent area.
- *Chaenotheca hispidula* (NS) – widespread within the New Forest.
- *Chaenothecopsis nigra* (NS) – widespread nationally and within the New Forest.
- *Cliostomum flavidulum* (NS) – frequent in the New Forest, but rare in Hampshire and beyond the County.
- *Cresponea premnea* (Internationally rare (IR)) - abundant in the New Forest, but rare in the rest of Europe and is designated an International Responsibility Species.
- *Inoderma subabietinum* (IR) – widespread in the New Forest and other parts of south-west England, it is an International Responsibility Species .
- *Lecanora sinuosa* (NR) –under-recorded species which is probably locally very common.
- *Micarea doliiformis* (NS) – frequent within the New Forest.
- *Milospium graphideorum* (NS) – frequent within the New Forest.
- *Opegrapha xerica* (NS) –recorded locally within the New Forest.
- *Porina byssophila* (NS) – widespread locally and likely frequent within the New Forest.
- *Protoparmelia oleagina* (NS) – scarce within the New Forest.
- *Rinodina biloculata* (NR / DD) – confined to the south-west of England and Wales, and this record is new to Hampshire.
- *Snippocia nivea* (IR) – widely recorded in the New Forest and widespread in the south of England; however, it is only otherwise recorded in Brittany.
- *Stenocybe septate* (IR) – very common in the New Forest.
- *Strigula taylorii* (NS / IR) – under-recorded, but is known to be widespread in the New Forest.

Assemblages of lichen

12.4.50 The woodland lichen assemblage within the Scoping Boundary is a limited subset of species found in the nearby New Forest SAC.

12.4.51 Lichen assemblages recorded on the landward side of the reclaim support two habitats of interest, ancient woodland and ancient dry bark assemblage on veteran field trees.

12.4.52 The ancient woodland, derived from coppice, includes veteran trees hosting conservation-interest lichens like *Agonimia octospora* and other mobile ancient woodland species. Though less diverse than New Forest pastures, some areas are richer than typical ex-coppice sites in Hampshire, likely due to colonisation from nearby woods.

12.4.53 The Ancient Dry Bark Community, of high conservation value, is found on dry sides of ancient oaks and associated lignum, confined to farmland north-east of Church Farm and former parkland at West Cliff Hall.

12.4.54 The most important areas recorded on site for lichen of conservation interest are trees and bushes in the least intensively managed grass swards, including areas of unimproved grassland. However, this habitat falls short of SSSI criteria.

Otter

12.4.55 HBIC returned seven records of otter within 2km of the Scoping Boundary. Three records were provided from within the Scoping Boundary, located at the south-east corner. The most recent record is from 2023. In 2025, a trail camera within Marchwood Military Port to the north recorded otter using a pond.

12.4.56 The location of the proposed Project supports woodland, scrub, wet grassland and coastal grazing marsh. Given its coastal location and the habitats present, the location provides otter with opportunities for foraging, providing food sources in the way of amphibians, small mammals and waterfowl. These habitats also have potential for otter resting and holt creation; however, no holts or couches were identified during the 2018 and 2024/25 field surveys.

12.4.57 Additionally, there is a series of eight watercourses within and adjacent to the Scoping Boundary. The watercourses do not support a significant population of fish that could provide otters with a good quality foraging resource, though it is possible that otters could use the watercourses for commuting when moving through the local landscape. However, field surveys which included the use of trail cameras did not record any evidence of otter across the survey area.

Reptiles

12.4.58 HBIC returned records of five species of reptile within 2km of Scoping Boundary, comprising adder *Vipera berus*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica*, smooth snake *Coronella austriaca* and slow worm *Anguis fragilis*, although no records were provided from within the Scoping Boundary. The most recent record is from 2024.

12.4.59 A walkover survey and desk-based assessment identified various areas of habitat with the potential to provide a foraging and sheltering resource for reptiles,

including margins of open grassland areas, mosaics of scrub and less managed grassland, as well as 'edge' habitat.

12.4.60 Grass snake and slow worm were recorded during the targeted species survey in 2018, and 2024/25.

12.4.61 Over 10 visits, a total of 27 grass snakes (including 18 adults) were recorded. The peak count was five adults on visit 8, indicating a 'good population' under key reptile site criteria (Froglife, 1999). Over 10 visits, a total of 235 slow worms were recorded, 201 of which were adults. The peak count was 51 adults on visit 5, indicating an 'exceptional population' under the same criteria.

12.4.62 Grass snakes were mostly found near the main ditch system along the southern SSSI edge and on the two access tracks to the north-east. They are likely to use the wider drainage ditch network as key foraging areas. Slow worms were recorded from a variety of locations across the survey area, with individuals present in most areas of suitable habitat sampled.

Vascular plants

12.4.63 HBIC returned records for 142 vascular plant species within 2km of the Scoping Boundary. Many records were provided from within the Scoping Boundary, located throughout the site.

12.4.64 A total of 254 vascular plant species have been recorded during grassland habitat surveys, comprising grasses, sedges, rushes, aquatic plants, forbs, trees/shrubs and ferns/horsetails.

12.4.65 A total of 99 vascular plant species have been recorded during woodland habitat surveys across the site including 19 Hampshire Ancient Woodland Indicator species.

12.4.66 The 2018/2019 surveys identified seven notable plant species on the site: divided sedge *Carex divisa*, annual beard-grass *Polypogon monspeliensis*, Borrer's saltmarsh-grass *Puccinella fasciculata*, strawberry clover *Trifolium fragiferum*, wild celery *Apium graveolens*, slender spiked rush *Eleocharis uniglumis* and curved hard-grass *Parapholis incurve*. The population of divided sedge is considered to be the most significant, and Hampshire supports an important population in a national context. Additionally, the population of annual beard-grass *Polypogon monspeliensis* is believed to be the largest in Britain.

12.4.67 As part of the botanical survey, attention was paid to record the presence of previously recorded notable plant species (sea barley *Hordeum marinum* and stiff saltmarsh-grass *Puccinella rupestris*) which are mentioned in the Dibden Bay

SSSI citation. However, these species were not found to be present on site upon the completion of the botanical surveys.

12.4.68 Forty Hampshire axiophyte ('worthy') species were recorded over the 2018/ 2019 surveys, which were predominantly those species restricted to saline coastal habitats or wetland species. Additionally, two Near Threatened plant species (tormentil *Potentilla erecta* and marsh ragwort *Jacobaea aquatica*), and two Nationally Scarce plants (French oat grass *Gaudinia fragilis* and curved hard grass *Parapholis incurva*) were recorded on site.

Water vole

12.4.69 HBIC returned two records of water vole within 2km of the Scoping Boundary. The most recent record is from 1989, and due to the accuracy of the gird references for the records it is not possible to confirm whether they fall within the Scoping Boundary.

12.4.70 Although streams, wet ditches, small pools of water within grazed fields and ponds provide suitable water vole habitat, no evidence of water vole activity was recorded within the survey areas during the 2018 or 2024/25 surveys.

12.4.71 The lack of desktop records of water vole in the wider area within connected watercourses makes the natural recolonisation of the site unlikely. There are no citations of any post-2018 reintroduction programmes within connected watercourses or within the local area. The closest reintroduction found was from 2022 on the River Avon, south of Ringwood, but with no connectivity to watercourses within the survey area.

12.4.72 Although water vole was thought to be present on all of the main river catchments in Hampshire in the 1990s (Jordan, 1998), population decline since has resulted in water vole being rare in Hampshire.

12.4.73 Water vole are therefore considered to be absent within the Scoping Boundary and the zone of influence.

Wintering birds

12.4.74 Habitats within the site have potential to support overwintering farmland birds and birds of prey. Further data will be collected to determine the baseline for wintering birds.

Importance

12.4.75 The importance of receptors is detailed within **Table 12.5**. Importance has been determined in accordance with the criteria defined within the assessment

methodology (see **Table 12.9**) and would be updated at later stages of the assessment as appropriate to reflect any additional baseline data collected. For those species and habitats which are qualifying species of designated sites, their importance is captured within the valuation of designated sites.

12.4.76 The importance of receptors is detailed within **Table 12.5**. Importance has been determined in accordance with the criteria defined within the assessment methodology (see **Table 12.9**) and would be updated at later stages of the assessment as appropriate to reflect any additional baseline data collected. For those species and habitats which are qualifying species of designated sites, their importance is captured within the valuation of designated sites.

Table 12.5 Preliminary valuation of importance of terrestrial ecology receptors

Receptor	Importance of receptor
NSN sites: • Mottisfont Bats SAC • New Forest SAC • New Forest SPA • New Forest Ramsar site • River Itchen SAC (otter only)	**International importance** Sites selected as internationally important through expert consensus according to European criteria.
SSSIs: • Dibden Bay SSSI • New Forest SSSI	**National importance** Sites selected as nationally important through expert consensus according to national criteria.
Non statutory designated nature conservation sites: • SINCs (**Table 12.3**) • RVEIs (**Table 12.4**)	**County importance** Sites selected for county designation by consensus according to SINC / RVEI criteria.
Ancient woodland, ancient and veteran trees	**National importance** Irreplaceable habitats due to the time taken for this habitat to mature.
Annex 1 habitat: 1330 Atlantic salt meadows (also HoPI coastal saltmarsh)	**County importance** Habitat does not form part of the reason for designation of the SSSI. Joint Nature Conservation Committee (JNCC) data confirms there is 2026.9ha of this habitat within the SACs in Hampshire and the Isle of Wight. Survey compartments 14 and 11 in which the habitat were recorded total no more than 16ha and so even if this habitat

Receptor	Importance of receptor
	dominated both compartments, its total area would not contribute significantly to the county resource.
Habitats of Principal Importance: Wet woodland, lowland mixed deciduous woodland, coastal and floodplain grazing marsh, lowland dry acid grassland, reedbeds, coastal saltmarsh and mesotrophic lakes, saline lagoon	**Local importance** The area and extent of these habitats within the Scoping Boundary are considered important at a Local level.
Habitats of Principal Importance: Hedgerows	**Local importance** Although an HoPI, hedgerows are a common and widespread habitat and so hedgerows on site are considered to be of local importance.
Other habitats	**Local importance** Habitats which are not of particular value in their own right, but which provide important habitat for wildlife at a Local habitat.
Badgers	**Local importance** Not a species of conservation concern. The population within the Scoping Boundary is likely to make a very limited contribution to the species' conservation status.
Bats	**Local importance** Surveys have not identified regular breeding / hibernating populations of any bat species listed on the Hampshire Notable mammals list in Table 7 of the SINC criteria. Therefore, based on information collated to date, the value of bat populations on the site is assessed as being of Local importance. This valuation would be reassessed following completion of bat surveys.
Cetti's warbler	**County importance** Cetti's warbler was recorded in sufficient numbers to meet County SINC criteria for with numbers of territories (based on upper

Receptor	Importance of receptor
	estimates), representing around 7% of the county population.
Other breeding birds	**Local importance** Survey data did not identify any other species assemblages which would meet County SINC criteria.
Common toad	**Local importance** Widespread and relatively abundant in the county. The populations within the Scoping Boundary are likely to make a very limited contribution to the species' conservation status.
Lichen species: *Lecanora strobilina, Agonimia octospora, Arthonia arthonioides, Caloplaca asserigena, Cliostomum flavidulum, Cresponea premnea, Inoderma subabietinum, Protoparmelia oleagina, Rinodina biloculata, Snippocia nivea*	**County importance** Lichen which are rare within the County, or lichen which are frequent within the County, but are rare beyond the County (for example rare in the south of England (*Agonimia octospora*) or within Europe (*Cresponea premnea, Inoderma subabietinum*)).
Lichen species: *Teloschistes chrysophthalmus, Chaenotheca hispidula, Chaenothecopsis nigra, Lecanora sinuosa, Micarea doliiformis, Milospium graphideorum, Opegrapha xerica, Porina byssophila, Stenocybe septate, Strigula taylorii*	**Local importance** Lichen species which are frequent or widespread in the New Forest.
Lichen assemblages: ancient woodland assemblage and ancient dry bark lichen assemblage on landward side of the reclaim, and trees and bushes in the least intensively managed grass swards.	**County importance** Assemblages fail to meet SSSI criteria but are considered to be of County importance due to the assemblages of species supported.
Otter	**Local importance** No holts/resting places within the Scoping Boundary, and no other field signs in historic and recent (2024/25) surveys. Otters may occasionally pass through the

Receptor	Importance of receptor
	site as evidenced by desktop records, and so are valued as of local importance.
Reptiles	**Local importance** While the site does not meet SSSI criteria for reptiles, it does meet SINC criteria due to the population of slow worms. However, as the County is a stronghold for reptiles, with the New Forest area supporting all six reptile species, the site is not considered of County importance as it only supports two common reptile species. This is consistent with the details for Didben Bay SINC which does not recognise reptiles as a qualifying criteria for designation of the SINC. Reptiles are, therefore, assessed as being of local importance.
Wintering birds	**County importance or below** Because wintering birds do not form part of the SSSI designation, it is considered likely that the site is of County importance or below. This assessment would be refined for the ES following further data review.
Great crested newt, dormice, water vole	N/A – absent from the Scoping Boundary in historic and most recent (2024/25) surveys

12.5 Future Baseline

12.5.1 A large proportion of the land within the Scoping Boundary is either designated as SSSI, SINC or Ancient Woodland. When considering the future baseline, it has been assumed that the area would continue to be held on a short-term tenancy basis for agricultural use as part of an ongoing management review, this would prevent succession of the grassland into woodland habitat.

12.5.2 The area is gradually decreasing in salinity over time and naturally progressing to a drier community type. The site would continue to provide habitat for a range of protected species although the assemblages of groups such as invertebrates would be expected to change, with those dependent on wet and saline habitats declining in number and diversity. This may result in a negative change in the context of the SSSI, although it is possible alternative, but equally valuable,

species suited to drier habitats would replace them, maintaining the overall diversity of invertebrates on site.

12.6 Potential Impacts

Potential Impacts During Construction

12.6.1 **Table 12.6** identifies the potential impacts on Terrestrial Ecology related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 12.6 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Otter within the River Itchen SAC	Loss/gain, fragmentation or modification of habitat supporting otter	Site clearance for temporary and permanent works areas.	No	There is no overlap between the Scoping Boundary and the SAC boundary and therefore there is no potential of loss/ fragmentation/ modification of habitats within the designated site. Habitats within the Scoping Boundary are not considered to be functionally linked to the SAC due to the distance from the SAC and limited use of the site by otters as determined from desktop and field surveys (2018 and 2024/25).
	Mortality and injury of otter which comprise part of the SAC population	Clearance of habitats within the Scoping Boundary.	No	Otter has not been recorded within the Scoping Boundary and so there is no potential for mortality or injury of animals which form part of the SAC population.
	Disturbance (underwater and airborne noise and vibration)	Construction of landward and marine components of the scheme, including piling will increase airborne	No	Due to the distance between the SAC and the Scoping Boundary, and considering the habitats within the site are not assessed to be functionally linked to the SAC, it is considered any increase in airborne and underwater

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		and underwater noise and vibration.		noise and vibration would not disturb the qualifying otter populations of the SAC.
	Air quality changes leading to degradation of qualifying habitats or habitats supporting otters	Movement of vehicles within, and to/from the site during construction.	No	Due to the location of the SAC (considering the distance and direction of the site, and its proximity to Southampton), the ARN for the proposed Project would be unlikely to fall within 200m of the SAC. In addition, any changes in air quality would be unlikely to result in degradation of habitat to the extent that otters would be impacted.
	Changes in water quality (resulting in mortality of otter and/or impacts to otter prey species such as fish)	Construction activities within habitats which have hydrological connectivity to the SAC.	No	River Itchen SAC is upstream of the proposed Project and so would be unaffected by hydrological changes downstream.
	Introduction and spread of invasive non-native species (INNS) (resulting in loss/modification of qualifying habitats)	Movement of vehicles during construction.	No	There would be no construction within the boundary of the SAC and therefore there is no potential for transfer of INNS to the designated site.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
New Forest SAC, SPA, Ramsar and SSSI	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	No	There is no overlap between the Scoping Boundary and the SAC / SPA / Ramsar site / SSSI boundary and therefore there is no potential for loss/fragmentation/ modification of habitats within the designated sites.
	Mortality and injury of fauna which comprise part of the SAC / SPA / Ramsar site / SSSI populations (southern damselfly, stag beetle, great crested newt, nightjar, hen harrier, hobby, woodlark, honey buzzard, wood warbler, Dartford warbler)	Clearance of, and changes to, habitats within the Scoping Boundary supporting fauna which comprise part of the SAC / SPA / Ramsar site / SSSI populations of qualifying species.	No	There is no overlap between the Scoping Boundary and the SAC / SPA / Ramsar site / SSSI boundary and therefore there is no potential for mortality of fauna within the designated sites due to direct impacts. Due to the distance between the designated sites and proposed Project, the proposed Project would be unlikely to support functionally linked land for the less mobile qualifying species (southern damselfly, stag beetle and great crested newt). Baseline surveys in 2018 recorded only individual non-breeding hobby and nightjar on single occasions, and therefore it is concluded the proposed Project does not support

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				functionally linked land for qualifying bird species.
	Disturbance (airborne noise and vibration) of qualifying birds (nightjar, hen harrier, hobby, woodlark, honey buzzard, wood warbler, Dartford warbler)	Construction activities within the Scoping Boundary including piling.	No	Due to the distance (1.1km) between the Scoping Boundary and the SAC / SPA / Ramsar site / SSSI boundary there is no potential for disturbance impacts.
	Air quality changes leading to degradation of qualifying habitats or habitats supporting qualifying features	Movement of vehicles within, and to/from the site during construction.	Yes	Habitats within the SAC / SPA / Ramsar Site / SSSI are sensitive to nitrogen deposition. Nitrogen deposition could increase as a result of increased traffic during construction. Further assessment may be required once the ARN is defined.
	Hydrological changes to surface and groundwater, resulting in mortality of qualifying species, and/or impacts to their prey species, and/or loss/modification of qualifying habitats or	Construction activities within the Scoping Boundary including piling.	No	There is no hydrological connectivity between the SAC / SPA / Ramsar site / SSSI and the proposed Project from surface or ground water which could lead to hydrological changes within the boundary of the designated sites. As detailed above (see 'mortality and injury of fauna') it is concluded the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	habitats supporting qualifying species			proposed Project does not support functionally linked land for qualifying species of the designated sites, and so there is no pathway to effect due to hydrological changes within functionally linked land.
	Introduction and spread of INNS (resulting in loss/modification of qualifying habitats)	Movement of vehicles during construction.	No	There would be no construction within the boundary of the SAC / SPA / Ramsar site / SSSI and therefore there is no potential for transfer of INNS to the designated sites.
Mottisfont Bats SAC	Indirect effects on bats	Construction activities	No	The proposed Project is 17.5km from the SAC, well beyond the distance of the core sustenance zone for the population of barbastelle bats (7.5km), for which the SAC is designated.
Dibden Bay SSSI	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	Yes	Construction would lead to the loss of habitat from within the SSSI leading to adverse effects.
	Mortality and injury of species (lapwing)	Site clearance for temporary and permanent works areas.	Yes	Construction could result in the mortality or injury of breeding lapwing resulting in an adverse effect.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Species disturbance (from changes to airborne noise, vibration, visual and light stimuli)	Construction within terrestrial habitats.	Yes	Construction could lead to disturbance of lapwing and invertebrates through increased airborne noise, vibration, visual and light stimuli resulting in adverse effects.
	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles within, and to/from the site during construction.	Yes	Habitats within the SSSI are sensitive to nitrogen deposition. Nitrogen deposition could increase as a result of increased traffic during construction. Further assessment may be required once the ARN is defined.
	Hydrological changes to surface and groundwater (resulting in mortality/injury of species, and/or habitat loss/modification, and/or impacts to prey species)	Construction within habitats with hydrological connectivity to the SSSI.	Yes	Construction has the potential to result in hydrological changes in retained habitats within the SSSI which could lead to further loss or modification of these habitats, resulting in adverse effects.
	Introduction and spread of INNS (resulting in habitat loss/modification)	Movement of construction machinery to/from and within the site leading to spread of INNS to the SSSI.	Yes	Construction machinery moving within the Scoping Boundary could lead to spread of INNS within retained habitats in the SSSI, leading to loss or modification of habitats, resulting in adverse effects.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
SINC within the Scoping Boundary (Church Farm Fields (East), Dibden Bay, Post / Horseclose Copses / The Plantation, Smither's Copse, Veal's Row Meadows (East), Veal's Row Meadows (West), West Cliff Marshes Extension	Habitat loss/gain, fragmentation or modification and loss of notable flora	Site clearance for temporary and permanent works areas.	Yes	Loss or modification of habitats through site clearance, air quality changes and hydrological changes could result in adverse effects on habitats and species within the SINC.
	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles within, and to/from the site during construction.		
	Hydrological changes to surface and groundwater (resulting in habitat loss/modification, and/or loss of notable flora)	Construction within habitats with hydrological connectivity to the SINC.		
SINC outside the Scoping Boundary (refer to **Table 12.4**) and RVEIs	Habitat loss/gain, fragmentation or modification and loss of notable flora	Site clearance for temporary and permanent works areas.	No	There is no overlap between the Scoping Boundary and these SINCs and therefore there is no potential for loss/fragmentation/ modification of habitats within these designated sites.
	SINC with hydrological connectivity to the Scoping Boundary may be impacted through hydrological changes to surface and groundwater	Construction within habitats with hydrological connectivity to the SINC.	Yes	Hydrological changes could result in adverse effects on habitats within the SINC.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	(resulting in habitat loss/modification and/or loss of notable flora)			
	Introduction and spread of INNS (resulting in loss/modification of habitats)	Movement of vehicles during construction.	No	There would be no construction within the boundary of these SINCs and therefore there is no potential for transfer of INNS to these designated sites.
Habitats within the Scoping Boundary	Habitat loss/gain, fragmentation or modification and loss of notable flora	Site clearance for temporary and permanent works areas.	Yes – where the importance of the habitat is County value or greater No - where the importance of the habitat is of local value	Habitats of local value are scoped out of further assessment as any impact to the habitats would not result in a significant effect as defined by CIEEM (2024), as these habitats are common and widespread. Loss of habitat, air quality changes, hydrological changes and introduction of INNS could result in significant adverse effects on habitats of County value or greater and therefore these are scoped into further assessment.
	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles within, and to/from the site during construction.		
	Hydrological changes to surface and groundwater (resulting in habitat loss/modification, and/or loss of notable flora)	Construction within habitats with hydrological connectivity.		
	Introduction and spread of INNS (resulting in habitat loss/modification and/or loss of notable flora)	Movement of construction machinery to/from and within the site		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		leading to spread of INNS.		
Bats Invertebrates Lapwing Cetti's warbler Wintering birds	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	Yes	Site clearance could result in loss of bat roosting, foraging and commuting habitat, and invertebrate habitat leading to adverse effects. If fauna is present within these habitats during clearance adverse effects could occur through mortality or injury. Airborne noise, vibration, visual stimuli and lighting could lead to disturbance of fauna in adjacent habitats.
	Mortality and injury of species	Clearance of habitats supporting bat roosts, Cetti's warbler or lapwing nests, wintering birds and invertebrates.	Yes	
	Species disturbance (from changes to airborne noise, vibration, visual stimuli and lighting)	Noise generated from all aspects of construction, vibration from piling, visual disturbance from movement of machinery and personnel, nighttime lighting.	Yes	

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Lichen	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	Yes – lichens of County value No – lichens of local value	Lichens of local value are scoped out of further assessment as any impact to these lichens would not result in a significant effect as defined by CIEEM (2024), as these lichens are common and widespread. Loss of habitat and air quality changes could result in significant adverse effects on lichens of County value or greater and therefore these are scoped into further assessment.
	Air quality changes leading to nitrogen deposition (resulting in habitat loss/modification)	Movement of vehicles within, and to/from the site during construction.		
Amphibians	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	No	The site is only likely to support small numbers of common toad which are only important at a local level. Great crested newts are considered absent from the Scoping Boundary and habitats within the ZoI based on 2018 and 2025 survey data. Therefore, no significant effects are predicted for amphibians which are scoped out of further assessment.
	Mortality and injury of species	Clearance of habitats supporting amphibians, entrapment in excavations during construction, and movement of construction vehicles.		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Hydrological changes to surface and groundwater (resulting in habitat loss/modification, and/or mortality of amphibians, and/or loss of prey species)	Construction within habitats with hydrological connectivity to aquatic habitats supporting amphibians.		
Badgers	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	No	The site supports a small number of outlier setts. Badgers are not a species of conservation concern and the population is considered important at a local level only. Therefore, no significant effects are predicted for badgers which are scoped out of further assessment. There is a legal compliance risk due to the Protection of Badgers Act 1981. Additional evidence may be collected to support a derogation licence application if required, and to ensure legal compliance during construction of the proposed Project.
	Mortality and injury of species	Clearance of habitats supporting setts, entrapment in excavations during construction, movement of construction vehicles.		
	Species disturbance (from changes to airborne noise and vibration)	Noise generated from all aspects of construction where in proximity to setts.		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Other breeding birds assemblages, otters and reptiles	Habitat loss/gain, fragmentation or modification	Site clearance for temporary and permanent works areas.	No	As these receptors are valued as being of local importance, potential pathways to effect would not result in significant effects, and so these receptors are scoped out. Mitigation would be implemented to ensure legal compliance (see **Section 12.7**).
	Mortality and injury of species	Clearance of habitats supporting bird nests / reptiles, entrapment of reptiles in excavations during construction, movement of construction vehicles in areas supporting nests / reptiles.		
	Species disturbance (from changes to airborne noise, vibration, lighting and visual stimuli)	Noise generated from all aspects of construction, vibration from piling, visual disturbance from movement of machinery and		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		personnel, night time lighting.		
Dormice and water voles	N/A	N/A	No	No dormice or water vole have been recorded during surveys in 2018 and 2024/25, and so these species are considered absent from the Scoping Boundary and habitats within the ZoI. Therefore, dormice and water vole are scoped out of further assessment.

Potential Impacts During Operation

12.6.2 **Table 12.7** identifies the potential impacts on Terrestrial Ecology related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 12.7 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
River Itchen SAC	Mortality and injury of otter which comprise part of the SAC population	Increased movements of vessels within Southampton Water leading to increased collision with otters.	No	Although operation would result in higher numbers of vessels in Southampton Water, it is assessed there would be no effect on otters within the SAC as they are 8.5km upstream.
	Disturbance from underwater noise	Increased movements of vessels within Southampton Water leading to increased disturbance of otters.	No	Although the higher numbers of vessels would result in increased underwater noise, due to the distance of the SAC (8.5km) it is assessed there would be no effect on otters within the SAC.
	Air quality changes leading to degradation of qualifying habitats or habitats supporting otters	Movement of vehicles to/from proposed Project.	No	Due to the location of the SAC (considering the distance and direction of the site, and its proximity to Southampton), the operational ARN for the proposed Project would be unlikely to fall within 200m of the SAC.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				Therefore, it is unlikely there would be any change in air quality at the SAC. In addition, should there be any changes in air quality, this would be unlikely to result in degradation of habitat to the extent that otters would be impacted.
	Changes in water quality (resulting in mortality of species and/or impacts to prey species)	Accidental pollution events resulting in degradation of otter habitat within the SAC	No	The SAC is upstream of Southampton Water and so would be unaffected in the event of an accidental pollution event.
New Forest SAC, SPA, Ramsar and SSSI	Mortality and injury of fauna which comprise part of the SAC / SPA Ramsar site / SSSI populations (southern damselfly, stag beetle, great crested newt, nightjar, hen harrier, hobby, woodlark, honey buzzard, wood warbler, Dartford warbler)	Increased vehicle movements within the local road network resulting in an increase in road traffic collisions for bird species.	Yes	Operation of the proposed Project would lead to an increase in road traffic. Further assessment of the potential for effects is required to assess whether the increased number of vehicles would lead to an increase in mortality of qualifying bird species should that traffic pass through the road network within or adjacent to the designated sites.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Airborne noise disturbance from increased vehicle movements resulting in a reduction in the suitability of bird nesting habitat for qualifying bird species.	Movement of vehicles to/from the proposed Project.	No	Whilst operation of the proposed Project could lead to an increase in traffic, potentially on roads within or adjacent to the designated sites, the proportion of habitat impacted would be very low compared to the total available habitat and therefore effects are not anticipated.
	Air quality changes leading to degradation of qualifying habitats or habitats supporting qualifying features	Movement of vehicles to/from proposed Project.	Yes	Qualifying habitats within the SAC / Ramsar site / SSSI are sensitive to nitrogen deposition. Nitrogen deposition could increase as a result of increased traffic during operation. Further assessment may be required once the ARN is defined.
	Hydrological changes to surface and groundwater (resulting in mortality of qualifying species, and/or impacts to their prey species, and/or loss/modification of qualifying habitats,	Maintenance of watercourses, increased surface water run off and accidental pollution.	No	There is no hydrological connectivity between the SAC / SPA / Ramsar site / SSSI and the proposed Project due to surface or ground water which could lead to hydrological changes within the boundary of the designated sites. As detailed above (see **Table 12.7** 'mortality and injury of fauna') it is concluded the proposed Project does

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	or habitats supporting qualifying species)			not support functionally linked land for qualifying species of the designated sites.
	Introduction and spread of INNS (resulting in loss/modification of qualifying habitats)	Movement of vehicles to/from the proposed Project.	No	Movement of vehicles to/from the proposed Project would not result in spread of INNS. The SAC / SPA / Ramsar site and SSSI are not connected to marine habitat which could be impacted by the spread of INNS through movement of vessels within Southampton Water and beyond.
Mottisfont Bats SAC	Indirect effects on bats	N/A	No	The proposed Project is 17.5km from the SAC, well beyond the distance of the core sustenance zone (7.5km) for the population of barbastelle bats for which the site is designated.
Dibden Bay SSSI	Degradation of habitat	Increased recreational pressure	Yes	Operation of the proposed Project may result in increased use of the SSSI for leisure due to improvements in access and increased presence of people nearby. This may lead to increased disturbance of the ground which may reduce the suitability of habitat for fauna and flora.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Mortality and injury of species	Increased recreational pressure	Yes – lapwing No – invertebrates	Operation of the proposed Project may result in increased use of the SSSI for leisure due to improvements in access and increased presence of people nearby. This could result in trampling of nests and mortality and injury of species (lapwing). Invertebrates would be less susceptible to mortality / injury from increased use of the site by people as the impact of loss of small numbers of individuals would be insignificant at a local population scale due to the size of insect colonies.
	Species disturbance (from changes to airborne noise, vibration, and visual stimuli)	Increased recreational pressure	Yes – lapwing No – invertebrates	Operation of the proposed Project may result in increased use of the SSSI for leisure due to improvements in access and increased presence of people nearby leading to increased visual, noise and vibration disturbance of nesting lapwing. Invertebrates are not sensitive to visual and noise disturbance at the levels which would be generated by members of the public using the SSSI for leisure.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles to/from the proposed Project.	Yes	Habitats within the SSSI are sensitive to nitrogen deposition. Nitrogen deposition could increase as a result of increased traffic during operation. Further assessment may be required once the ARN is defined.
	Hydrological changes to surface and groundwater (resulting in mortality/injury of species and/or habitat loss/modification and/or impacts to prey species)	Maintenance of watercourses, increased surface water run off and accidental pollution.	Yes	Operation of the proposed Project has the potential to result in changes in the movement and quality of surface water which could impact habitats within the SSSI which have hydrological connectivity.
	Introduction and spread of INNS (resulting in habitat loss/modification)	N/A	No	Operation of the proposed Project would not result in movement of vehicles within the SSSI, therefore there is no pathway for potential effects through spread of INNS.
SINC within the Scoping Boundary (- Church Farm Fields (East), Dibden Bay, Post / Horseclose	Degradation of habitat	Increased recreational pressure	Yes – Dibden Bay SINC, Post / Horseclose Copses / The Plantation,	Operation of the proposed Project may result in increased use of the Dibden Bay SINC, Post / Horseclose Copses / The Plantation SINC, Veal's Row Meadows (West) SINC, Veal's Row

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Copses / The Plantation, Smither's Copse, Veal's Row Meadows (East), Veal's Row Meadows (West), West Cliff Marsh West, West Cliff Marshes Extension			Veal's Row Meadows (West), Veal's Row Meadows (East), Church Farm Fields (East) No – Smither's Copse, West Cliff Marsh West, West Cliff Marshes Extension	Meadows (East) SINC, Church Farm Fields (East) SINC for leisure due to improvements in access and increased presence of people nearby. This may lead to increased disturbance of the ground which may reduce the suitability of habitat for fauna and flora. Increased access to other SINC (Smither's Copse, West Cliff Marsh West, West Cliff Marshes Extension) is not proposed as part of enhancements for the public and so there is no potential pathway to impact.
	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles to/from the proposed Project.	Yes	Habitats within the SINC may be sensitive to nitrogen deposition. Nitrogen deposition could increase as a result of increased traffic during operation. Further assessment may be required once the ARN is defined.
	Hydrological changes to surface and groundwater (resulting in habitat	Maintenance of watercourses, increased surface water run off and	Yes	Operation of the proposed Project has the potential to result in changes in the movement and quality of surface water which could impact habitats within the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	loss/modification and/or loss of notable flora)	accidental pollution.		SINCs which have hydrological connectivity.
	Introduction and spread of INNS (resulting in habitat loss/modification and/or loss of notable flora)	Movement of vessels within Southampton Water.	No	Operation of the proposed Project would not result in movement of vehicles within retained habitats within the SINCs, therefore there is no pathway for potential effects through spread of INNS.
SINC and RVEIs outside the Scoping Boundary	Hydrological changes to surface and groundwater	Maintenance of watercourses, increased surface water run off and accidental pollution.	Yes	Operation of the proposed Project has the potential to result in changes in the movement and quality of surface and ground water which could impact SINCs which have hydrological connectivity, resulting in habitat loss/modification and/or loss of notable flora.
	Air quality changes	Movement of vehicles to/from the proposed Project.	Yes	SINC within 200m of the operational ARN may be impacted through air quality changes resulting in habitat loss/modification. Further assessment may be required once the ARN is defined.
	Introduction and spread of INNS (resulting in loss/modification of habitats)	Movement of vessels within Southampton Water.	Yes – Cracknore Hard and	Cracknore Hard and Marchwood Mudflats SINC is adjacent to Southampton Water and so there is potential for spread of INNS via

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
			Marchwood Mudflats SINC	movement of vessels during operation of the proposed Project. Refer to Marine Ecology (**Section 8**) for assessment of the habitats within the SINC. All other SINCs lie outside of the Scoping Boundary and are not adjacent to Southampton Water and therefore, there is no potential for transfer of INNS to these designated sites through movement of vehicles/vessels.
Habitats within the Scoping Boundary	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles to/from the proposed Project.	Yes – where the importance of the habitat is County value or greater No - where the importance of the habitat is local value	Habitats of local value are scoped out of further assessment as any impact to the habitats would not result in a significant effect as defined by CIEEM (2024), as these habitats are common and widespread. Habitats most likely to be impacted by the spread of INNS from movement of vessels in Southampton Water would be those closer to the shoreline. Refer to Marine Ecology (**Section 8**) for intertidal habitats. No pathway to effect is anticipated from movement of vehicles on roads and
	Hydrological changes to surface and groundwater (resulting in habitat loss/modification and/or loss of notable flora)	Maintenance of watercourses, increased surface water runoff and accidental pollution.		
	Introduction and spread of INNS (resulting in habitat	N/A		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	loss/modification and/or loss of notable flora)			areas of hardstanding within the Scoping Boundary during operation of the proposed Project due to the physical separation from any retained ecologically valuable habitats.
Bats Cetti's warbler Wintering birds	Mortality and injury of species	Movement of vehicles/ trains to/from the proposed Project.	Yes	Increased road and rail traffic could lead to increased mortality of bats, Cetti's warbler and wintering birds due to increased collisions with vehicles.
	Species disturbance (from changes to airborne noise)	Movement of vehicles/ trains to/from the proposed Project.	Yes	Noise generated from operation of the site, including noise from vehicle engines and trains would reduce the suitability of immediately adjacent habitats for use by fauna, including bats and birds.
Lichen	Air quality changes (resulting in habitat loss/modification)	Movement of vehicles to/from the proposed Project during operation.	Yes	Lichen in habitats within 200m of the operational ARN may be impacted through air quality changes resulting in habitat loss/modification.
Amphibians	Mortality and injury of species	Movement of vehicles to/from the proposed	No	The site is only likely to support small numbers of common toad which are only important at a local level. Great crested

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Project during operation.		newts are considered absent from the Scoping Boundary and habitats within the ZoI. Therefore, no significant effects are predicted for amphibians which are scoped out of further assessment.
	Hydrological changes to surface and groundwater (resulting in habitat loss/modification, and/or mortality of amphibians, and/or loss of prey species)	Maintenance of watercourses, increased surface water run off and accidental pollution. This could lead to impacts to amphibians within these habitats.		
Badgers	Mortality and injury of species	Movement of vehicles to/from the proposed Project during operation.	No	The site supports a small number of outlier setts. Badgers are not a species of conservation concern and the population is considered important at a local level only. Therefore, no significant effects are predicted for badgers which are scoped out of further assessment.
Reptiles	Mortality and injury of species	Movement of vehicles to/from the proposed Project during operation.	No	Receptor valued as being of local importance – potential pathways to effect would not result in significant effects.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Other breeding bird assemblages and otters	Mortality and injury of species	Movement of vehicles to/from the proposed Project during operation.	No	Receptors valued as being of local importance – potential pathways to effect would not result in significant effects.
	Species disturbance (from changes to airborne noise)	Noise generated from operation of the site, including noise from vehicle engines and trains would reduce the suitability of immediately adjacent habitats for use by breeding birds and otters.		
	Species disturbance (from changes to underwater noise)	Noise generated by increased movement of vessels within Southampton Water leading to increased		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		disturbance of otters.		
Dormice and water voles	N/A	N/A	No	No dormice or water vole have been recorded within surveys undertaken in 2028 and 2024/25, and so these species are considered absent from the Scoping Boundary and habitats within the ZoI. Therefore, dormice and water vole are scoped out of further assessment.

12.7 Mitigation

12.7.1 The mitigation hierarchy (avoid, minimise, mitigate, compensate) would be applied throughout the design of the proposed Project. Where practicable, adjustments to the design of the proposed Project and timings of various aspects of the construction programme would be considered to reduce impacts on sensitive receptors.

12.7.2 Direct impacts to Dibden Bay SSSI and SINC would be unavoidable although areas of habitat impacted would be minimised. Measures to mitigate these impacts through improvements within the remaining parts of the SSSI would be considered, and where necessary off-site compensation would be provided in the form of new habitat creation and/or enhancement of existing habitats within off-site areas. The impacts of off-site habitat compensation would be assessed within the ES.

12.7.3 As outlined in **Section 12.2**, some of the ecological receptors are legally protected. Mitigation would be implemented to ensure legal compliance in line with the mitigation hierarchy. Where necessary, a protected species licence would be sought from Natural England.

12.7.4 Stakeholders will be consulted through the development of the project design to agree mitigation for receptors. Draft protected species licences would be submitted to Natural England to agree mitigation.

12.7.5 In line with Paragraph 5.1.4 of the NPSfP (Department for Transport, 2012), the proposed Project would seek to take advantages of opportunities to conserve and enhance biodiversity.

12.8 Approach to Assessment and Data Gathering for ES

12.8.1 The assessment would be prepared in accordance with best practice guidance for ecological impact assessment, specifically Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3 (CIEEM, 2024).

12.8.2 Where receptors are a feature of a designated site, they would be assessed in relation to that site. For example, vascular plants will be assessed as part of the designated site interest where they fall within the Dibden Bay SSSI, or the SINC/ habitat in which they are located if outside of Dibden Bay SSSI.

12.8.3 In line with this guidance, where protected species are present and there is potential for breach of the legislation, those species will be considered as 'important' features, and will be included in the assessment.

12.8.4 The assessment will be informed by a suite of desktop and field surveys. Some of the data has been collected and some will be updated or collected at a later date and reported in the PEIR or ES as appropriate. Survey methodologies including the extent of survey areas will be agreed with stakeholders as appropriate. **Table 12.8** identifies the surveys that will be completed to inform the assessment.

12.8.5 As the design of the proposed Project evolves, the impact pathways would be reviewed and the scope would be updated and agreed with key stakeholders.

Table 12.8 Proposed terrestrial ecology surveys / data collection

Receptor	Aim
Bats	Further surveys to gather baseline data with respect to tree roosts. Methodology to be agreed with statutory consultees.
Breeding coastal waterbird surveys	To determine the current population size of breeding waders to inform Coastal Ornithology (**Section 8**) and Terrestrial Ecology with respect to lapwing and Didben Bay SSSI.
Wintering farmland birds and raptors	Further data collection will be undertaken with respect to farmland bird and raptor species to establish the baseline for the proposed Project.

Determining Importance

12.8.6 The topic-specific criteria for determining the importance of ecological receptors are shown in **Table 12.9**. In accordance with CIEEM Guidelines (CIEEM, 2024), importance is defined within a geographical context and considers factors such as: rarity, ecosystem function, habitat diversity, connectivity, conservation status, population size and natural range.

Table 12.9 Criteria for determining importance of receptors

Importance	Criteria
International	International statutory designated nature conservation sites including SACs, SPAs, candidate or possible SACs (cSACs or pSACs), potential SPAs (pSPAs), and Ramsar sites. Areas of habitat or populations of species which meet the published selection criteria for international designation, but which are not themselves currently designated at this level.

Importance	Criteria
	Resident or regularly occurring populations of species where impacts would occur at an international scale where: • The loss of these populations would adversely affect the conservation status or distribution of the species at an international scale; or • The population forms a critical part of a wider population at this scale; or • The species is at a critical phase of its life cycle at an international scale.
National (England)	National statutory nature conservation sites including SSSIs and NNRs. Areas (and the populations of species which inhabit them) which meet the criteria within the guidelines for selection of biological SSSIs but which are not themselves designated. Priority habitats and legally protected and priority species that are not addressed directly in Part 2 of the 'Guidelines for Selection of Biological SSSIs' but can be determined to be of national importance using the principles described in Part 1 of the guidance. Nationally Rare or Scarce taxa: Nationally Rare taxa are those occurring in 15 or fewer 10km OS grid squares in the UK, whilst Nationally Scarce species are those occurring in 16-99 10km grid squares. Resident, or regularly occurring, populations of species where: • The loss of these populations would adversely affect the conservation status or distribution of the species at a UK or national scale; or • The population forms a critical part of a wider population at this scale; or • The species is at a critical phase of its life cycle at a UK or national scale.
County (Hampshire)	Statutory nature conservation sites (i.e. LNRs) and non-statutory nature conservation sites (i.e. SINCs) designated in the county context. Areas (and the populations of species which inhabit them) which based on field data collected to inform this assessment, meet the published selection criteria for those sites designated in the county context (for habitats or species, including those listed in the relevant LBAPs) but which are not themselves designated.

Importance	Criteria
	Priority habitats and legally protected and priority species that based on their distribution, population size and quality etc. are determined to be at a lesser level of importance than the geographic contexts above (i.e. the loss of these populations would adversely affect the conservation status or distribution of the species at a county scale only) e.g. isolated and/or degraded small areas of priority habitat.
Local (site)	Priority habitats and legally protected and priority species that based on their distribution, population size and quality etc. are determined to be at a lesser level of importance than the geographic contexts above (loss of these populations would adversely affect the conservation status or distribution of the species at a local scale only). Common and widespread habitats occurring within the study area in proportions greater than may be expected in the local context.

Characterisation of Impacts

12.8.7 In accordance with the CIEEM Guidelines (2024), impacts would be described with reference to the following characteristics, where relevant, and quantified where possible:

- Positive or negative.
- Extent.
- Magnitude: size, amount, intensity or volume of an impact, determined on a quantitative basis where possible.
- Duration: short, medium or long-term, permanent or temporary in ecological terms (defined in months/years where possible).
- Timing and frequency: important seasonal and/or life-cycle constraints and any relationship with frequency considered.
- Reversibility: reversible or not reversible (can the effect be reversed, whether or not this is planned).

Determination of Significance

12.8.8 CIEEM guidance (2024) defines a ‘significant effect’ as an effect that either supports of undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general. It states that ‘a significant effect is simply an effect that is sufficiently important to require assessment and reporting so that a decision maker is adequately informed of the environmental consequences of permitting a project’ and that ‘a significant effect does not

necessarily equate to an effect so severe that consent for the project should be refused planning permission'.

12.8.9 CIEEM guidance (2024) states that significant effects should be qualified with reference to an appropriate geographic scale.

13 TRAFFIC AND TRANSPORT

13.1 Introduction

13.1.1 This section outlines the proposed scope of assessment of effects on transport receptors resulting from the proposed Project. This includes a summary of baseline conditions / baseline data collection as well as a proposed scope of assessment for construction and operational phase impacts.

13.2 Relevant Policy, Legislation and Guidance

13.2.1 This assessment will be undertaken to meet the requirements set out in the NPSfP, in particular Section 5.4.

13.2.2 The assessment will also be undertaken in line with the National Planning Policy Framework (NPPF), December 2024 which sets out the Government's planning policies and how these are expected to be applied. The NPPF stresses that the forefront of planning is the 'presumption in favour' of sustainable development (paragraph 10). In particular, Section 9, paragraphs 115 and 116 are of relevance to transport.

13.2.3 The assessment will also take into consideration the following relevant local policy:

- New Forest District Council Local Plan 2016-2036 including:
  - Policy CCC2: Safe and sustainable travel; and,
  - Policy DM26: Development Generating Significant Freight Movements.
- The Hampshire Local Transport Plan 4.

13.2.4 The assessment will be carried out in accordance with the principles contained within Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic, Guidance Notes No 1. The IEMA Guidelines are intended for the assessment of the effect of road traffic associated with major road developments.

13.3 Study Area

13.3.1 The study area encompasses the road links assessed as part of this assessment, as illustrated in **Figure 13.1**. The study area encompasses the area over which all desk-based and on-site data were gathered to inform the scope of assessment presented in this section.

13.4 Description of Existing Environment

Data Sources

13.4.1 The key data sources in **Table 13.1** have been used to gather the baseline information on Traffic and Transport, and inform the scoping study.

Table 13.1 Key data sources

Title	Date
New Forest District Council Local Plan 2016-2036	NFDC, 2016
Waterside Transport Study	HCC, 2017
https://www.hants.gov.uk/transport/transportschemes/a326-north-waterside-improvements	2025b
http://hytheferry.co.uk/	2025
Baseline Traffic Surveys	2025
Marchwood Port Transport Assessment – ITB15144-008	2021
Marchwood Port Traffic Data Sources – ITB15144-004A	2020

13.4.2 A suite of traffic surveys has been undertaken in June and September 2025 across a comprehensive highway network surrounding the site. These surveys include Automatic Traffic Counts (ATCs) on local roads and Manual Classified Counts (MCCs) of turning movements at junctions in the area. The locations at which traffic surveys were undertaken are presented in **Figure 13.1** and explained in more detail below.

Highway Network

13.4.3 The proposed Project would be located on the western shore of the River Test, within the area known as Waterside. The Waterside area comprises of Totton, Marchwood, Hythe and Fawley.

13.4.4 The A326 is the main highway corridor through the Waterside area, running north to south.

ANPR M27 Junction 2

ANPR M27 Junction 3

ANPR Dock Gate 5 - Out

ANPR Dock Gate 4 - In

ANPR Marchwood Military Port

Legend

Scoping Boundary

ATCs

1. A336 Ringwood Road
2 - Redbridge Flyover / Redbridge Causeway
3 - Redbridge Road (East)
4 - A326 / Ashurst Bridge
5 - A326 Marchwood By-Pass
6 - A35 Lyndhurst Road
7 - A326
8 - A326 Marchwood By-Pass
9 - Bury Road
10 - Normandy Way
11 - Hythe Road
12 - Veal's Lane
13 - Main Road
14 - Main Road
15 - Applemore Road
16. A236
17. Mountbatten Way

Legend (Cont.)

Roundabouts

18. M27 Junction 1
19 - M27 Junction 2
20 -M27 Junction 3
21 - Ower Roundabout
22 - A31 / A336 / Lyndhurst Road
23 - A326 / Michigan Way
24 - Redbridge Roundabout
25 - A326 / A336 / Ringwood Road
26 - A326 / Fletchwood Road
27 - Totton By-Pass / A325 Marchwood By-Pass / Spicers Hill
28 - A326 / Cocklydown lane / Knellers Lane
29 - Bury Road / Normandy Way
30 - Normandy Way / North Road Mini-Roundabout
31 - A326 Marchwood By-Pass / Main Road / Applemore Hill
32 - Teboura Aay / First Avenue / Wimpson Lane Roundabout

Junctions

33 - A36 / A326 Marchwood By-Pass
34 - A326 Marchwood By-Pass / A35 / Hunters Hill
35 - A326 Marchwood By-Pass / Jacob's Gutter Lane
36 - A326 Marchwood By-Pass / Bulls Copse Road
37 - A326 Marchwood By-Pass
38 - A326 Marchwood By-Pass / Staplewood Lane
39 - A326 Marchwood By-Pass / Twiggs Lane
40 - Normandy Way / Cracknore Hard
41 - Hythe Road / Main Road / Veal's Lane
42 - Main Road / Main Road
43 - Mountbatten Way / Central Station Bridge / Western Esplanade / Southern Road
44 - Southern Road / West Quay Road

Scoping Boundary

0 1 2 3 4 5 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	31/10/2025	Initial Issue	RM	OT	OT	MSS

Scale @ A3 | Scale: 1:60,000 DO NOT SCALE

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Project: SOLENT GATEWAY 2

Drawing Title: TRAFFIC SURVEY LOCATIONS

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100026

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FIGURE 13.1

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13.4.5 Within the vicinity of the proposed Project, the A326 is a single carriageway road and carries approximately 32,130 vehicles per day of which approximately 10% represents HGV movements (i-Transport, 2025). To the west of Marchwood, the A326 becomes a dual carriageway for approximately one mile until its junction with the A35, where it reverts back to single carriageway until the roundabout junction with Michigan Way. From its junction with Michigan Way, the A326 continues north to its junction with the M27 as a dual carriageway.

13.4.6 The A326 provides key links to the A35 and A336 towards Southampton and wider connections to the strategic road network (under the control of National Highways) including the M27, M3 and A34. The strategic road network provides links to London, the South East, the Midlands and the west of England.

13.4.7 Hampshire County Council (HCC) undertook a study (HCC, 2017) of the A326 from the M27 Junction 2, to Fawley Oil Refinery (the Waterside Transport Study). The study identified the impact of a range of development scenarios on the A326 in the future.

13.4.8 The highway link capacity assessment undertaken within the Waterside Transport Study indicates that a large part of the A326 is congested under the current traffic conditions. The majority of the congested areas run from the A326 roundabout junction with Main Road, northbound to the junction with the A326 east of the Amazon Depot, also known as Hounsdown Fork.

13.4.9 Analysis of the A326 (without the addition of any other major developments or the proposed Project within the Waterside Transport Study) indicates that the A326 to the north of the location of the proposed Project is anticipated to be severely congested in 2030 and 2040 (future years considered within the Waterside study).

13.4.10 HCC is currently developing a major highway improvement scheme for a northern section of the A326. The scheme will involve:

- Junction capacity improvements.
- Improvements for non-motorised users including new crossing facilities.
- Road widening to provide additional traffic lanes.

13.4.11 The HCC scheme aims to address existing traffic congestion on the A326 and provide additional vehicular capacity to accommodate future growth associated with a number of important existing and planned development sites on the Waterside, which includes the proposed Project.

13.4.12 Within the vicinity of the proposed Project, a number of walking routes and bus and ferry services are available.

13.4.13 The Hythe passenger ferry service is provided from Hythe Pier to Town Quay (Southampton). The service is currently out of operation due to issues associated with the boarding pontoon; however, it normally operates at an approximate half hourly frequency between 06:10 and 19:10 (June to September). Between October and May, the service runs at half hour frequencies at morning and evening peak times and a reduced hourly service during the day.

13.4.14 A number of existing local bus services operate in the vicinity of the proposed Project from Main Road. The two key services are the Bluestar 8 and 9 routes which provide a link from central Southampton to Calshot and Langley Farm respectively. The services provide a key link to destinations en-route, including Totton, Marchwood, Hythe and Fawley. The number 8 service operates an hourly service, whilst the number 9 operates a service every 20 minutes.

13.4.15 There are a number of existing PRoWs within the vicinity of the proposed Project. PRoW (ref: 126/10/2) runs to the south of the proposed Project (approximately parallel with the Fawley branch line). This PRoW routes from Veal's Lane on its western extent and on towards Hythe on its eastern extent. This PRoW links to Hythe Pier and the Solent Way long distance footpath, both located to the east of the proposed Project

Rail Network

13.4.16 The Fawley branch line routes through the Scoping Boundary. This line served the Fawley oil refinery until the rail service ceased operation in 2016. Since then, the only use of the line is for freight services to Marchwood Military Port. Marchwood Military Port has two scheduled trains per day which run subject to demand on the line to the north.

13.4.17 Currently no passenger services are provided via the Fawley branch line.

13.4.18 The Fawley branch line is accessed from the South West Mainline at Totton, between Southampton and Bournemouth. The closure of the existing level crossing in Totton (to allow trains to pass) results in congestion and delay for highway users travelling through Totton.

13.4.19 The Fawley branch line passes close to a number of residential properties in the Marchwood and Totton area. The line also crosses a number of local roads that have level crossings including Jacob's Gutter Lane, Trotts Lane, Tavells Lane, Marchwood, Pumpfield Farm Access and Veal's Lane.

13.5 Future Baseline

13.5.1 A future baseline accounts for planned change in an area (without the proposed Project), such as including developments that are either consented (i.e. committed developments) or subject to planning applications but not yet determined.

13.5.2 In the absence of the proposed Project, it has been assumed that traffic flows on the local road network would increase broadly in line with the Department for Transport National Road Traffic Projections (2022) and growth factors contained within the TEMPro database, taking into account factors such as car ownership, employment and population growth.

13.5.3 Subject to funding confirmation, the proposed A326 improvement scheme delivered by HCC will form the future baseline scenario.

13.6 Potential Impacts

13.6.1 The ES will assess the likely significant environmental effects of the road traffic generated by the proposed Project. This requires assessment against criteria as set out in the Institute of Environmental Management Assessment's (IEMA) 'Guidelines for the Environmental Assessment of Road Traffic' and summarised in paragraph 13.6.3. The ES will:

- describe the assessment methodology;
- describe the baseline conditions at the site and surroundings;
- assess the potential significant environmental effects;
- identify the mitigation measures required to prevent, reduce or offset any significant adverse effects; and,
- assess the potential residual effects after the mitigation measures have been employed.

13.6.2 The IEMA guidelines set out thresholds at which percentage impacts of development traffic are considered significant. According to these guidelines, the following criteria will be used to determine the extent of the local highway network to be assessed:

- Highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%).
- Any other specifically sensitive areas where traffic flows have increased by 10% or more.

13.6.3 The following potential impacts have been identified as being relevant to the construction and operational phase of the proposed Project and are therefore proposed to be scoped into the EIA:

- Severance.
- Pedestrian / Cycle Amenity.
- Highway Safety.
- Driver Delay.

Severance

13.6.4 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people.

13.6.5 Severance may result from the difficulty of crossing heavily-trafficked road or a physical barrier created by the road itself. It can also relate to quite minor traffic flows if they impede pedestrian access to essential facilities. Severance effects could equally be applied to residents, motorists, cyclists or pedestrians.

13.6.6 For assessment of severance, IEMA suggests that changes in total traffic flow of 30%, 60% and 90% are considered to be slight, moderate and substantial respectively.

Pedestrian / Cycle Amenity

13.6.7 Pedestrian amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width and separation from traffic. This definition also includes pedestrian fear and intimidation and can be considered to be a much broader category including consideration of the exposure to noise and air pollution, and the overall relationship between pedestrians and traffic.

13.6.8 IEMA suggests that a threshold of a doubling of total traffic flow or the HGV component may lead to a negative impact upon pedestrian amenity.

Highway Safety

13.6.9 The salient IEMA guidance on road safety is as follows:

"Where a development is expected to produce a change in the character of traffic (e.g. HGV movements on rural roads), then data on existing accidents levels may not be sufficient. Professional judgement will be needed to

assess the implications of local circumstances, or factors which may elevate or lessen the risk of accidents, e.g. junction conflicts."

13.6.10 In this context, an examination of the existing collisions occurring within the traffic and transport study area will be undertaken to identify any areas of the highway with concentrations of collisions with similar patterns, or roads with collision rates are higher than national averages. These sites are considered to be sensitive to changes in traffic flows (sensitive receptors) and therefore a more detailed analysis of significance will be undertaken in the context of the proposals.

13.6.11 In addition to considering existing patterns of collisions that could be exacerbated by the proposed Project, the road safety assessment would also consider the potential for introduction of new risks associated with the formation of new junctions.

Driver Delay

13.6.12 IEMA recommends the use of proprietary software packages to model junction delay and therefore estimate increased vehicle delays. It is noted that vehicle delays are only likely to be significant when the surrounding highway network is at, or close to, capacity.

Potential Impacts During Construction

13.6.13 **Table 13.2** identifies the potential impacts on Traffic and Transport related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 13.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Road Users	Severance	Increased vehicle movements and numbers of HGVs associated with construction.	Yes	An increased number of construction vehicles / construction works may result in temporary road closures and increased queuing and delay. This may result in road diversions and difficulty in crossing heavily-trafficked roads for residents local to the Project.
Pedestrian / Cyclists	Journey Amenity	Increased vehicle movements and numbers of HGVs associated with construction.	Yes	Construction vehicle movements may result in an increase in noise and air pollution, negatively impacting on pedestrian and cyclist amenity. Higher traffic flows may result in severance. This could negatively impact on the pleasantness of a journey.
Road Users	Highway Safety	Increased vehicle movements and numbers of HGVs associated with construction.	Yes	An increase in traffic flows / increase in HGV movements may result in a higher incidence of collisions within the existing highway network. Professional judgement will be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents. In line with the IEMA guidelines, those areas of collision clusters would be subject to detailed review.
Vehicle Drivers	Driver Delay	Increased vehicle movements and numbers of HGVs associated with construction.	Yes	An increase in construction vehicle movements may add additional queuing and delay to existing junctions within the study area. Junction modelling software packages will be used to model junction delay and therefore estimate increased vehicle delays. It

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				is noted that vehicle delays are only likely to be significant when the surrounding highway network is at, or close to, capacity.
Road Users	Railway Crossing	Increased vehicle movements and numbers of HGVs associated with construction.	Yes	The construction phase may result in increased rail freight movements.

13.6.14 The construction phase would require movement of employees, the import of materials and plant to construct the proposed Project.

13.6.15 At this stage in the design process, no information is available with regard to likely material quantities and workforce numbers. It is envisaged that initially the majority of deliveries would be delivered by road; however, the infrastructure within SGL may be used during construction which would reduce road traffic by importing materials direct by sea or by rail.

13.6.16 On a worst case assumption that construction phase deliveries and workforce movements would be by road, daily traffic from increased levels of construction HGVs and private vehicles operated by the construction contractor's employees commuting to and from the site has the potential to be significant. No allowance has been made for the modal shift away from private vehicles sought to be achieved by the Travel Plan for the proposed Project.

13.6.17 In addition to the impacts associated with the construction of the proposed Project, there is also the potential for significant impacts associated with the construction of the off-site highway and rail improvements.

Potential Impacts During Operation

13.6.18 **Table 13.3** identifies the potential impacts on Traffic and Transport related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 13.3 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Road Users	Severance	Operation	Yes	The operational phase may result in difficulty in crossing heavily-trafficked roads. This is especially pertinent for residents who live in proximity to the site having difficulty accessing local facilities.
Bus Passengers	Journey Delay / Severance	Operation	Yes	The implementation of the access road will result in the realignment of Hythe Road, which is currently used as part of the route for the Bluestar services 8 and 9. This could result in journey delays for severance for passengers wanting to access these bus services.
Pedestrian / Cyclists	Journey Amenity	Operation	Yes	Higher traffic flows may result in severance. This could negatively impact on the pleasantness of a journey.
Road Users	Highway Safety	Operation	Yes	An increase in traffic flows / increase in HGV movements may result in a higher incidence of collisions.
Vehicle Drivers	Driver Delay	Operation	Yes	An increased volume of traffic may result in longer journey times and driver delay.
Road Users	Railway Crossing	Operation	Yes	The operational phase may result in longer delays and queuing for road users at the level crossing.

13.6.19 During the operation phase, there is the potential for increased traffic flows on the road network and an increase in rail freight movements on the Fawley branch line and, therefore, this is scoped into the EIA for further assessment.

13.6.20 At this stage, the final numbers of employee and HGV movements have yet to be determined.

13.6.21 The daily traffic from increased levels of HGVs and private vehicles travelling to and from the proposed Project has the potential to be significant, and likely to have variable distribution over a 24 hour period.

13.6.22 In addition to the potential impacts referred to in **Table 13.3**, the operation phase would also result in an increase in rail freight.

13.6.23 The operation phase assessment would, therefore, consider the impacts of driver delay and severance upon highway users associated with level crossing down time. Impacts from increased noise and emissions would be considered separately as set out in Noise and Vibration (**Section 14**) and Air Quality (**Section 15**).

13.7 Mitigation

13.7.1 The EIA will determine the requirement for the implementation of mitigation measures to reduce the significance of the impact to transport receptors (i.e. non-motorised users, Public Rights of Way users, motorist and freight vehicles, public transport and emergency services) associated with the transportation of materials/ freight and workforce.

13.7.2 If it is assessed that there is the potential for significant effects to arise, mitigation measures would be introduced to reduce the significance of the effect to an acceptable level.

13.7.3 During the construction phase, noting the temporal nature of the potential impacts, the following types of mitigation (if required) would be prioritised over hard engineering solutions (e.g. road widening and new junctions):

- Development of a Traffic Management Plan to stipulate specific haulage routes for HGVs delivering materials/plant by road.
- Consideration of options to use marine transport.

13.7.4 Upon completion of the construction works, on the basis of the available information and knowledge of similar impacts on other projects, mitigation measures could largely be achieved through improvement to existing road and rail links to the proposed Project.

13.8 Approach to Assessment and Data Gathering for ES

13.8.1 At present, the likely construction and operational traffic demand and distribution are not finalised. Therefore, the approach adopted in this EIA Scoping Report has been to assume that construction and operational traffic demand could exceed the IEMA screening thresholds.

13.8.2 A separate Transport Assessment will be scoped and produced in consultation / conjunction with HCC and NH. The Transport Assessment will be subject to a separate scoping process outside of (but in addition to) the EIA scoping process. The Transport Assessment will be a separate report that evaluates the potential transport impacts of the proposed Project. It evaluates the proposed Project in the context of the key transport tests outlined at paragraph 115 of the NPPF, relating to site access arrangements, accessibility and traffic generation impact.

13.8.3 To facilitate the impact assessment, the following baseline data will be obtained via data gathering and surveys:

- Baseline traffic flow data for the traffic and transport study area as illustrated in **Figure 13.1**.
- Details of sensitive receptors (such as district centres, schools, leisure facilities, etc.) within the traffic and transport study area.
- Collison data within the traffic and transport study area.
- Existing pedestrian, cycle and bus routes serving the traffic and transport study area.
- Existing Network Rail level crossing risk assessment.

13.8.4 The proposed Project access will need to cross the Fawley branch line. This could be achieved with a bridge, an at-grade level crossing or with an underpass. The proposed access option will be finalised for PEIR and, therefore, the impact of the chosen access option will be reviewed at that stage. At this stage it is understood that the different access options would result in different effects.

14 NOISE AND VIBRATION

14.1 Introduction

14.1.1 This section outlines the scope and methodology for the assessment of the likely significant effects arising from the construction and operation of the proposed Project on human noise and vibration sensitive receptors (NSR).

14.1.2 The construction and operational phases of the proposed Project may emit noise and vibration with the potential to result in direct effects at NSR. The proposed Project may also result in increased traffic flows on nearby roads, thereby causing indirect effects due to increases in road traffic noise levels at NSR. Changes in road traffic noise levels are classified as indirect effects as they are caused by a separate impact of the proposed Project (additional road traffic) rather than noise emitted by the specific proposed Project activities.

14.1.3 This section only assesses effects on human NSR, which includes structures, as discussed in **Section 14.8**. The proposed Project may result in noise and vibration effects at ecological receptors, and these topics are considered in Marine Ecology (**Section 7**) and Coastal Ornithology (**Section 8**).

14.1.4 There are links between this section and the following sections of this EIA Scoping Report:

- Archaeology and Cultural Heritage (**Section 7**) considers effects from changes to the setting of heritage assets, which includes noise and vibration impacts, and vibration affecting the fabric of a heritage asset.
- Landscape and Visual (**Section 16**) considers effects from disruption to tranquillity, which could include noise impacts.
- Human Health (**Section 21**) considers noise impacts in the assessment of potential effects on health.

14.2 Relevant Policy, Legislation and Guidance

14.2.1 The assessment has been carried out in accordance with relevant policy, legislation, and guidance as summarised below. It is recognised that this list is non-exhaustive and will be kept under review to take account of any later legislation or policy changes.

Legislation

14.2.2 The assessment will take account of the following legislation:

- Environmental Protection Act 1990 (UK Government, 1990) – this Act defines “statutory nuisance” and “BPM’’ which are relevant to determining potential noise impacts and control measures.
- The Control of Pollution Act 1974 (UK Government, 1974) – Sections 60 and 61 provide local authorities with powers to agree and enforce noise emission limits applied to construction sites.
- The Environmental Noise (England) Regulations 2006 (UK Government, 2006) – Require regular noise mapping and action planning for road, rail and aviation noise and noise in large urban areas.

National Policy

14.2.3 The assessment will be undertaken to meet the requirements set out in relevant national policy, which is described in the following paragraphs.

14.2.4 NPSfP (DfT, 2012) paragraphs 5.10.1 to 5.10.7 provides requirements on the contents and methodology of the assessment of noise and vibration effects. Paragraphs 5.10.8 to 5.10.10 discuss decision-making, including providing the following three aims which the proposals should meet:

- Avoid significant adverse impacts on the environment, human health and quality of life from noise.
- Mitigate and minimise other adverse impacts on health and quality of life from noise.
- Where possible, contribute to improvements to health and quality of life through the effective management and control of noise.

14.2.5 Paragraphs 5.10.11 to 5.10.13 of the NPSfP describe appropriate noise and vibration mitigation measures.

14.2.6 National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2024) Section 15 ‘Conserving and enhancing the natural environment’ requires that planning policies and decisions:

- prevent “unacceptable levels” of noise pollution;
- ensure that adverse impacts from noise are mitigated and minimised and significant adverse impacts from noise on health and quality of life are avoided; and,
- identify and protect tranquil areas.

14.2.7 Noise Policy Statement for England (NPSE) (Department for Environment, Food & Rural Affairs, 2010) sets out three aims for policy which accord with the NPPF and

relates these to a requirement to avoid exceedances of the Significant Observed Adverse Effect Level (SOAEL) and mitigate and minimise exceedances of the Lowest Observed Adverse Effect Level (LOAEL).

14.2.8 Planning Practice Guidance on Noise (PPG-N) (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, 2019) backs up the NPSE, reinforcing and expanding on points made within that document including the aim to where possible to consider opportunities to improve the acoustic environment.

Local Policy

14.2.9 The following local policy is potentially relevant to noise and vibration effects on human NSR from the proposed Project and will therefore be considered in the assessment:

- New Forest District Local Plan 2016-2036 Part One: Planning Strategy (New Forest District Council, 2020), policies:
  - ECON1: Employment land and development.
  - ECON3: Marchwood Port.
  - ECON4: Dibden Bay.
- New Forest National Park Local Plan 2016-2036 (New Forest National Park Authority, 2019), policies:
  - DP2: General development principles.
  - SP15: Tranquillity.
- Southampton Local Development Framework Core Strategy Development Plan Document (Southampton City Council, 2015) - no specific policies identified.

Guidance

14.2.10 The assessment will be informed by available guidance and best practice notes including, but not limited to:

- British Standard (BS) 4142:2014+A1:2019 Method for Rating and Assessing Industrial and Commercial Sound (British Standards Institution, 2019) (British Standards Institution, 2019).
- BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 1: Noise (British Standards Institution, 2014a).

- BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 2: Vibration (British Standards Institution, 2014b).
- BS 7385-2:1993 Evaluation and measurement for vibration in buildings - Guide to damage levels from ground borne vibration (British Standards Institution, 1993).
- ISO 4866: 2010 Mechanical vibration and shock - Vibration of fixed structures - Guidelines for the measurement of vibrations and evaluation of their effects on structures (International Standards Organization, 2010).
- BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings (British Standards Institution, 2014c).
- BS 6472-1:2008 Guide to Evaluation of Human Exposure to Vibration in Buildings (British Standards Institution, 2008).
- Calculation of Road Traffic Noise (CRTN) (Department of Transport Welsh Office, 1988).
- Design Manual for Roads and Bridges (DMRB) LA111 Noise and Vibration (Highways England, 2021).
- Guidelines for Community Noise (World Health Organisation, 1999).
- Night Noise Guidelines for Europe (World Health Organisation, 2009).
- Guidelines for Environmental Noise Impact Assessment (Institute of Environmental Management & Assessment, 2014).
- BS 4142:2014+A1:2019 Technical Note (Association of Noise Consultants (ANC), 2020).
- A good practice guide to the preparation, submission and management of Section 61 consents (ANC, 2021).

14.3 Study Area

14.3.1 The noise and vibration study areas for the EIA will be established through stakeholder engagement and by identifying the NSR with the potential to be impacted by the proposed Project. Separate study areas will be established for direct effects due to construction noise, construction vibration and operational noise, as well as for indirect effects due to construction and operational traffic noise and operational railway vibration.

14.3.2 The indicative study area for the purpose of EIA scoping is based on the Scoping Boundary, as described in **Section 2**, and the nearby NSR within the maximum distances specified below.

14.3.3 The proposed study areas for noise receptors will be refined at the assessment stage as the design and consultation processes progress, and as related topic assessments are progressed (e.g. traffic and transport).

Direct Effects

14.3.4 The direct noise and vibration effects study area extends from the Scoping Boundary to the closest NSR. The maximum distances to NSR at which effects will be considered depend on the proposed Project phase as follows:

- Construction - in accordance with the guidance in the DMRB LA111 Noise and Vibration, construction impacts would only be assessed at NSR which are no further than 300m from the Scoping Boundary for noise and 100 m from the Scoping Boundary for vibration.
- Operation - in accordance with the guidance in the DMRB LA111 Noise and Vibration, operational noise impacts from road traffic would only be assessed at NSR which are no further than 600m from a new road link to be constructed by the proposed Project. On that basis, operational noise impacts will be assessed at NSR which are no further than 600m from the Scoping Boundary. This study area is considered sufficient to capture all potential operational noise effects from the scheme.

Indirect Effects

14.3.5 The indirect noise effects study area relates to potential impacts due to changes in off-site road traffic and railway noise levels. In accordance with the DMRB, it incorporates the roads on which the proposed Project traffic is anticipated to result in noise level changes of at least 1 dB(A). These road links will be identified once the required traffic data are available, hence it has not been possible to identify an indirect noise effects study area at the scoping stage.

14.3.6 The indirect noise effects study area will incorporate the identified links and the closest NSR which are no more than 50m away. Where there are no NSR within 50m, this link will be excluded from the study area. The indirect noise effects study area also includes NSR no further than 50m from the Fawley branch line.

14.3.7 The indirect vibration effects study area relates to potential impacts due to changes in off-site railway vibration levels. Guidance such as ‘Railway Noise & Vibration and Line-side Residential Planning applications: Guidance for Local Planning Authorities and Developers’ (Rail Safety and Standards Board Ltd, 2019) indicates that railway vibration is only likely to require assessment at NSR no further than 30m from the

nearside rail. The indirect vibration effects study area will therefore incorporate the closest NSR which are no more than 30m the Fawley branch line.

14.4 Description of Existing Environment

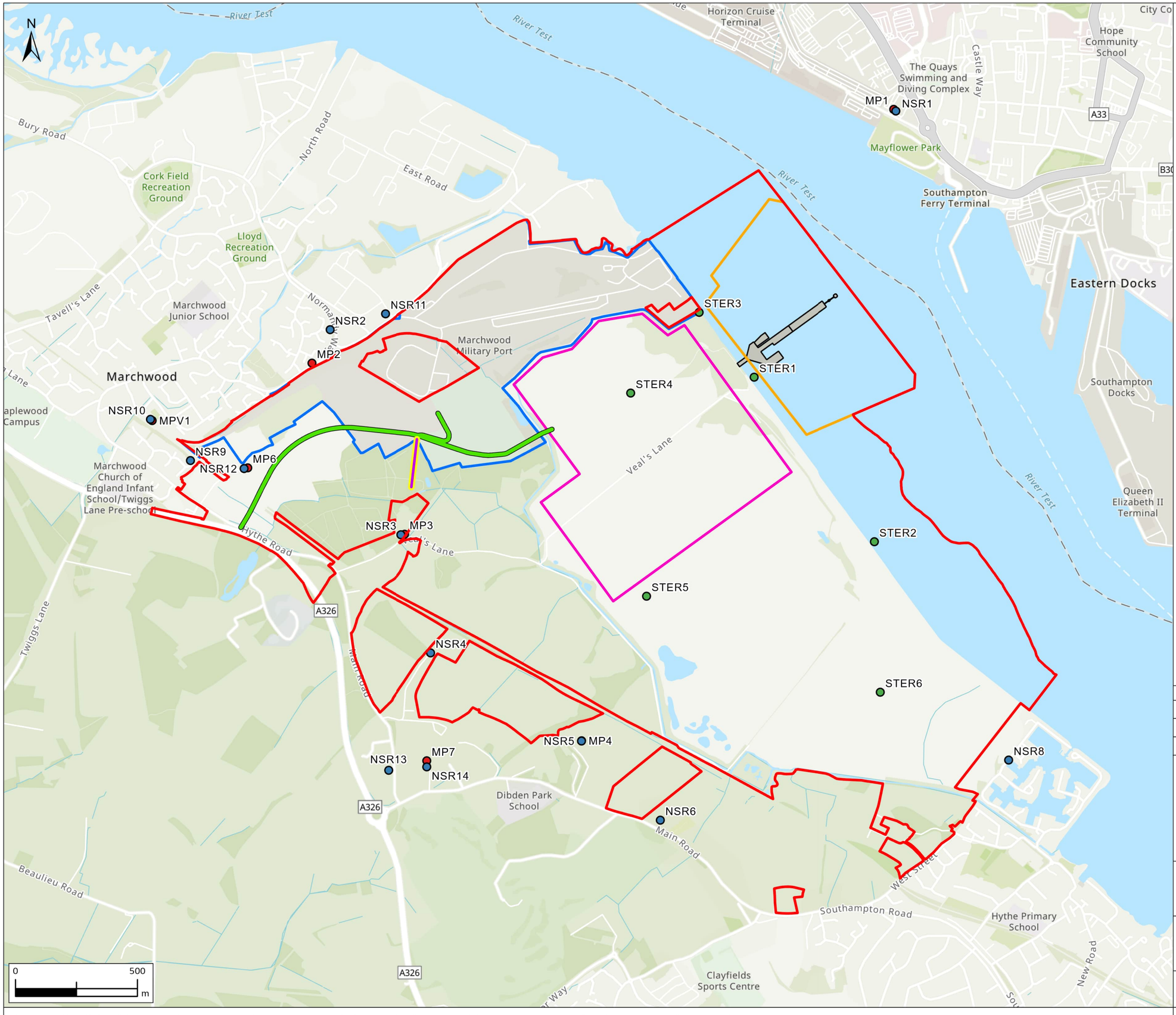
14.4.1 The data sources in **Table 14.1** have been used to gather the baseline information on Noise and Vibration and inform the scoping study.

Table 14.1 Key data sources

Title	Date
Noise Action Planning Important Areas Round 3 England (Defra, 2019)	2019
Southampton Airport Noise Action Plan 2023-2028 (Southampton Airport Ltd, 2024)	2023
Strategic Noise Mapping Round 4 (Defra, 2024)	2024
OS Master Map (Ordnance Survey, 2025)	2025
Google maps (Google, 2025)	2025
RealTime Trains (Swlines Ltd, 2025)	2025

Noise Sensitive Receptors

14.4.2 The data sources in **Table 14.1** were used to identify the closest, and most likely to be adversely affected NSR to the proposed Project, as detailed in **Figure 14.1** and shown in **Figure 14.1**. Noise and vibration impacts on marine receptors, ornithological receptors and terrestrial ecology receptors are considered in Marine Ecology (**Section 7**), Coastal Ornithology (**Section 8**) and Terrestrial Ecology (**Section 12**).



Legend

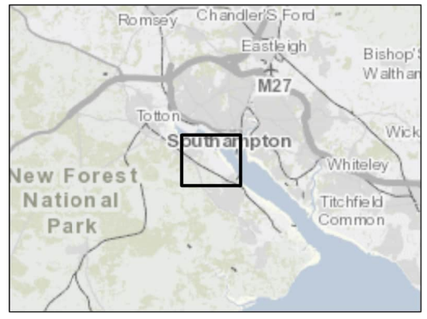
- Scoping Boundary
- Solent Gateway (Marchwood Military Port)
- Indicative Transect for Ammonia Monitoring

Baseline Noise Monitoring Locations

- Long-term Measurement Positions
- Noise Sensitive Receptors
- Short-term Ecological Receptor Positions

Proposed Project

- Dredge Envelope Area
- Jetty
- Terminal Boundary
- Indicative Access Road Alignment



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	23/10/2025	Initial Issue	AH	CB	TB	MSS

Scale @ A3 — Scale: 1:15,000 — DO NOT SCALE

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Project

SOLENT GATEWAY 2

Drawing Title

NOISE SENSITIVE RECEPTORS AND PROPOSED BASELINE MEASUREMENT LOCATIONS

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100027

Drawing Status FINAL

Figure 14.1

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Table 14.2 Nearby noise sensitive receptors

Title	Coordinates		Description
	X	Y	
NSR 1	441610	111255	Holiday Inn Hotel, Southampton
NSR 2	439353	110391	Residential dwellings on Cracknore Hard Lane, Marchwood
NSR 3	439615	109528	Residential dwellings along Veal's Lane, Marchwood
NSR 4	429700	109034	Mobile homes in Church Farm Close Park, Dibden
NSR 5	440320	108669	Residential dwellings off Main Road, Dibden
NSR 6	440643	108342	Residential dwellings off Main Road, Dibden
NSR 8	442073	108586	Residential dwellings on Endeavour Way, Hythe Marine Village
NSR 9	438714	109815	Residential dwellings on Willow Drive, Marchwood
NSR 10	438550	109984	Residential dwellings on Plantation Drive, Marchwood
NSR 11	439514	110417	McMullen Barracks, Cracknore Hard, Marchwood
NSR 12	438934	109782	Residential dwelling on Brittany Close, Marchwood
NSR 13	439527	108544	Residential dwellings on Main Road, Dibden
NSR 14	439685	108558	Residential dwellings off Main Road, Dibden

Baseline Noise and Vibration Levels

14.4.3 The current noise climate at the location of the proposed Project is likely to be dominated by industrial activities and other commercial port activities (e.g. the existing SGL facilities at Marchwood), including vessel movements on Southampton Water. Traffic on the surrounding road network is also likely to contribute significantly to the existing noise environment.

14.4.4 Baseline noise monitoring has not been undertaken to date within the study area and there is no recent and relevant existing monitoring data available.

14.4.5 Trains travelling to or from Marchwood Military Port are a potential source of ground-borne vibration at NSR within 30m of this section of the Fawley branch line (NSR9 and 10). This line is only used for freight services to or from Marchwood Military Port, which are extremely infrequent, and there are no train movements on the line in a typical day. No other significant sources of ground-borne vibration in the local

environment have been identified and existing vibration levels are expected to be negligible.

Receptor Sensitivity

14.4.6 NSR are broadly classified as either residential dwellings or non-residential, such as schools, hospitals or outdoor amenity areas. In accordance with the Guidelines for Environmental Noise Impact Assessment (IEMA, 2014), the sensitivity of receptors to health and quality of life-related effects has been classified. This is based on their usage, using professional judgement, as defined in **Table 14.3**. Receptor sensitivity to building damage effects is discussed in the methodology for assessing construction vibration impacts.

Table 14.3 Definitions of the different receptor sensitivity levels to noise and/or vibration impacts

Sensitivity	Definition	Examples
High	Receptors where noise or vibration level changes may significantly affect their usage.	Certain hospital wards (e.g. operating theatres or high dependency units), auditoria, laboratories with highly vibration sensitive equipment.
Medium	Receptors where noise and/or vibration level changes may cause disturbance; protection is required but some tolerance is expected.	Residential accommodation, private gardens, hospital wards, care homes, schools, universities, research facilities, places of worship and National Parks (during the day, or at night where specific night-time usages exist (e.g. Dark Sky Reserves)).
Low	Receptors where noise and/or vibration level changes may cause some distraction or disturbance.	Offices, shops (including cafes), outdoor amenity areas during the day (including recreation, public amenity space/play areas), visitor attractions, doctor's surgeries and sports facilities.
Negligible	Receptors where noise and/or vibration level changes are not expected to be detrimental.	Warehouses, light industry, car parks, and agricultural land.

14.5 Future Baseline

14.5.1 In general, the sources which typically contribute to the baseline sound climate in the UK can be classified as transportation (shipping, aircraft, road traffic and railways), industrial and commercial (e.g. mechanical or electrical plant and farming machinery) and natural (e.g. animal calls, wind in trees, and water movement such

as breaking waves or flowing rivers). At a particular location, the sources contributing to the baseline sound climate would depend on proximity to those noise sources and their sound emissions.

14.5.2 Transportation noise levels depend on individual vehicle (i.e. ship, car, train or plane) noise levels and the frequency of events. Vehicle flows are generally expected to increase in line with expectations for macro-economic expansion; however, there is a clear trend for vehicle noise to be driven down by a combination of legislation, consumer expectations and the replacement of fossil fuels with electrical power sources. Similarly, industrial and commercial sound levels are reduced by the introduction of quiet machinery, but this is counter-balanced by site expansion and/or introduction of new development. Farm machinery noise levels would also be expected to reduce as old equipment is replaced with newer, quieter versions.

14.5.3 It is reasonable to anticipate that the trend for increased economic activity to increase baseline noise levels would be balanced out by the effect of reductions in source noise emissions and planning controls, which aim to minimise increases in noise associated with new development. This would result in no change in overall baseline noise conditions in the study area, and no robust evidence has been identified that baseline noise levels are likely to reduce.

14.5.4 Consequently, the assessment of noise (and vibration) impacts will assume that the future baseline conditions (under a do nothing scenario) are similar to those which exist currently. This is in-line with good professional practice in noise and vibration EIA. Noise impacts at NSR in the vicinity of the proposed Project under a do nothing scenario are expected to be negligible.

14.6 Potential Impacts

Potential Impacts During Construction

14.6.1 **Table 14.4** identifies the potential impacts on Noise and Vibration related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 14.4 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Residential and non-residential NSR	Direct disturbance as a result of airborne noise emitted by construction activities	Construction of the marine facilities, landside terminal, access road and railway upgrades, involving activities such as earthmoving, excavation, compaction, dredging, piling and vehicles on the construction access road.	Yes	Construction activities will emit noise with the potential to temporarily increase noise levels at NSR and disturb the occupants/users. This impact pathway has, therefore, been scoped into the assessment.
	Direct disturbance as a result of vibration emitted by construction activities	Piling, compaction and other construction works with high vibration emissions.	Yes	Direct disturbance as a result of vibration emitted by construction activities.
	Indirect disturbance as a result of noise level changes due to changes in road traffic flows	Delivery of materials and contractor movements to and from the site, potential road works, closures and diversions.	Yes	Temporary road traffic flow changes on existing roads have the potential to change noise levels at NSR and disturb the occupants/users. This impact pathway has, therefore, been scoped into the assessment.
	Indirect disturbance as a result of vibration level changes due to		No	For those roads which are currently in good condition, there would be no pathway for the change in traffic flows on public roads to increase vibration levels at sensitive

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	changes in road traffic flows			receptors. If the construction traffic associated with the proposed Project uses roads with existing surface irregularities which are no more than around 20m from an NSR, HGV movements associated with the proposed Project could increase the rate of potentially perceptible vibration events in the NSR, although vibration levels per event would not change. Annoyance due to vibration is more closely linked to level than rate of events, when compared to noise-induced annoyance. In accordance with best practice, the assessment will determine annoyance due to changes in traffic noise levels. This impact pathway has, therefore, been scoped out of the assessment.
	Indirect disturbance as a result of noise or vibration from vessels travelling to or from the proposed Project	Delivery of materials and plant	No	Southampton Water is already a busy shipping area with vessel movements associated with the Port of Southampton. The additional movements due to the proposed Project construction will only constitute a small increase in vessel traffic in the area which will also be temporary in

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				nature. This impact pathway has, therefore, been scoped out of the assessment.
Structures which are sensitive to vibration	Direct structural damage as a result of vibration emitted by construction activities	Piling and other construction works with high vibration emissions	Yes	Structures which are sensitive to vibration
	Indirect structural damage as a result of vibration level changes due to changes in road traffic flows	Delivery of materials and contractor movements to and from the site, potential road works, closures and diversions.	No	TRRL Report 246 Transport and Road Research Laboratory (G.R. Watts, 1990) concludes that “there is no evidence to support the assertion that traffic vibration has a significant damaging effect on buildings”. Hence, the impact of building damage due to vibration generated by the proposed Project construction traffic will also be not significant. This impact pathway has, therefore, been scoped out of the assessment.

Potential Impacts During Operation

14.6.2 **Table 14.5** identifies the potential impacts on Noise and Vibration related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 14.5 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Residential and non-residential NSR	Direct disturbance as a result of airborne noise emitted by operational activities	Loading/unloading of trains or road transporters and Ro-Ro vessels, maintenance activities, train movements, vehicles on the new access road and berthed vessels.	Yes	Project operational activities will emit noise with the potential to result in long-term adverse disturbance effects at NSR. This impact pathway has, therefore, been scoped into the assessment.
	Direct disturbance as a result of vibration emitted by operational activities		No	Loading/unloading of trains or road transporters and Ro-Ro vessels, maintenance activities, vehicles on the new access road and berthed vessels will not emit vibration with the potential to be perceptible at NSRs. The additional railway movements will emit vibration; however, guidance such as 'Railway Noise & Vibration and Line-side Residential Planning applications: Guidance for Local Planning Authorities and Developers' (Rail Safety and Standards Board Ltd, 2019) indicates that railway vibration is only likely to require assessment at sensitive receptors no further than 30m from the nearside rail. No sensitive receptors have been identified

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				within 30m of the railway line within the SG2 site. This impact pathway has, therefore, been scoped out of the assessment.
	Indirect disturbance as a result of airborne noise level changes due to changes in road traffic flows on existing roads	Import and export activities and employee movements	Yes	Permanent road traffic flow changes on existing roads have the potential to change noise levels at NSR and disturb the occupants/users. This impact pathway has, therefore, been scoped into the assessment.
	Indirect disturbance as a result of airborne noise level changes due to additional train movements on the Fawley branch line	Import and export activities	Yes	Additional train movements on the Fawley branch line have the potential to change noise levels at NSR and disturb the occupants/users. This impact pathway has, therefore, been scoped into the assessment.
	Indirect disturbance as a result of vibration level changes due to additional train		Yes	Additional train movements on the Fawley branch line have the potential to change vibration levels at sensitive receptors and disturb the occupants/users. This impact

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	movements on the Fawley branch line			pathway has, therefore, been scoped into the assessment.
	Indirect disturbance as a result of noise or vibration from vessels outside the marine facilities	Import and export activities, maintenance dredging	No	Southampton Water is already a busy shipping area with vessel movements associated with the Port of Southampton. The additional movements due to the proposed Project operation will only constitute a small increase in vessel traffic in the area. A doubling of vessel movements would be required to result in a 3dB change (the threshold of likely perceptibility) in vessel noise levels at NSR, which will not occur. Vessel vibration emissions will be transmitted into the water but any transfer into the ground would be minimal. The closest NSR to the berthing area is at least 200m away, at this distance, vessel vibration will be imperceptible. This impact pathway has, therefore, been scoped out of the assessment.
Structures which are	Direct structural damage as a result	Loading/unloading of trains or road transporters and Ro-Ro vessels,	No	The same justification for direct disturbance effects due to operational

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
sensitive to vibration	of vibration emitted by operational activities	movement of breakbulk or the proposed Project using port handling equipment, train movements, vehicles on the new access road and berthed vessels.		phase vibration is applicable to structural damage effects. This impact pathway has, therefore, been scoped out of the assessment.
	Indirect structural damage as a result of vibration due to changes in road traffic flows	Import and export activities and employee movements	No	As discussed in relation to the construction phase, there is no evidence that vibration from road traffic can cause structural damage. This impact pathway has, therefore, been scoped out of the assessment.
	Indirect structural damage as a result of vibration level changes due to additional train movements	Import and export activities	No	The criteria for vibration-induced structural damage are substantially higher than those which apply to disturbance. Hence, significant structural damage effects due to operational phase vibration are not anticipated and this impact pathway has been scoped out of the assessment.
	Indirect structural damage as a result of vibration level changes due to	Import and export activities	No	The same justification for indirect disturbance effects due to vessel vibration is applicable to structural damage effects. This impact pathway has, therefore, been scoped out of the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	additional vessel movements			

14.7 Mitigation

14.7.1 The findings of the impact assessment will determine the requirement for the implementation of mitigation measures to reduce the significance of any impacts on noise sensitive receptors. If it is determined that significant impacts have the potential to arise, the objective of the mitigation measures will be to reduce the significance of the impacts as far as possible and to an acceptable level.

14.7.2 The nature of mitigation measures required will be informed by the predicted level of impact. Both the extant (Department for Transport (DfT), 2012) and consultation draft (DfT, 2025b)) versions of the NPSfP (paragraph 5.10.12) states that mitigation should be "proportionate and reasonable" and lists a number of categories of measures relevant to the construction and operational phases which could be put forward to minimise impacts associated with the proposed Project, summarised as follows:

- Engineering measures: use of low-noise equipment and enclosures.
- Incorporate good design by separation of noise sources from NSR and utilising screening by natural or purpose-built barriers.
- Administration: restricting activities allowed on the site, such as specifying acceptable noise limits or times of use.

14.7.3 The NPSfP goes on to state: *"In certain situations, and only when all other forms of noise mitigation have been exhausted, it may be appropriate for the decision-maker to consider requiring noise mitigation through improved sound insulation to dwellings, or in extreme cases, compulsory purchase of affected properties, as a means of consenting otherwise unacceptable development."*

14.7.4 During the construction phase, potential measures to reduce the significance of noise and vibration effects includes implementation of Best Practicable Means (BPM), as defined in BS 5228 2009+A1:2014 (BSI, 2014a).

14.7.5 During the operational phase, potential measures to reduce the significance of noise effects from activities within SG2 include:

- Ensuring that environmental noise is an integrated design consideration and that noise limit specifications are prepared for all major noise radiating plant items, restricting noise to the lowest reasonably practicable level.
- Provision of onshore power sources for compatible vessels.

14.8 Approach to Assessment and Data Gathering for ES

Additional Baseline Data Collection

14.8.1 Baseline noise surveys will be conducted with due regard to current applicable guidance, comprising:

- British Standard (BS) 4142:2014+A1:2019 Method for Rating and Assessing Industrial and Commercial Sound (British Standards Institution (BSI), 2019).
- BS 7445-2:1991 Description and measurement of environmental noise, Guide to the acquisition of data pertinent to land use (BSI, 1991).
- BS 5228: 2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Part 1 (BSI, 2014b).

14.8.2 These data will be supplemented with the Strategic Noise Mapping data identified in **Table 14.1** where appropriate.

14.8.3 As discussed in **paragraph 14.6.1**, assessments of construction phase vibration impacts do not require baseline vibration data. However, as per **paragraph 14.6.2**, the assessment of operational phase vibration from the proposed additional train movements on the Fawley branch line will require surveyed data on vibration generation by current train movements. Procedures for vibration monitoring will follow the guidance from:

- BS 6472-1:2008 ‘Guide to evaluation of human exposure to vibration in buildings Part 1: Vibration sources other than blasting’ (BSI, 2008).
- PD ISO/TS 14837-31:2017 ‘Mechanical vibration – Ground-borne noise and vibration arising from rail systems – Guideline on field measurements for the evaluation of human exposure in buildings’ (International Organization for Standardization (ISO, 2017).

14.8.4 To undertake unattended measurements over a 5-7 day period, it will be necessary to identify a secure location where monitoring equipment can be left, such as a residential property garden. Access to such locations will need to be granted by the residents. Where such permission is not granted, shortened unattended and/or attended measurements will be undertaken during representative time periods.

14.8.5 As required by BS 4142, traceable calibrated Class 1 Sound Level Meters will be used for all measurements during the baseline noise survey. Measurements will capture the following noise level parameters in 15-minute intervals: L_{Aeq}, L_{Amax}, L_{A90} and L_{A10}. Third-octave band sound levels will also be measured. The sound level meters will be calibrated before and after the survey using a portable sound pressure level calibrator.

14.8.6 Records of the meteorological conditions during the survey will be made and noise level measurements will not be considered valid during periods of rain or when average wind speeds exceed 5m/s.

14.8.7 The proposed measurement procedures and locations will be discussed with NFDC, NFNPA and SCC Environmental Health Officers prior to undertaking the surveys. Subject to this consultation and based on the currently identified NSR and design, the proposed measurement locations are detailed in **Table 14.6** and on **Figure 14.1**.

Table 14.6 Long-term measurement positions

Title	Coordinates		Description
	X	Y	
MP 1	441610	111255	Located on the roof of the Voco IHG hotel on Herbert Walker Avenue or in the car park on the south side of Herbert Walker Avenue or within the neighbouring public park to the south of the hotel. Location to be considered representative of NSR1.
MP 2	439211	110217	To be located within a garden/external amenity area of a dwelling at NSR2. If access cannot be agreed, a representative position would be considered to the south, on the other side of the railway line. This position will also be considered representative of NSR9.
MP 3	439615	109528	Located in a garden/external amenity area of a dwelling at NSR3. If access cannot be agreed, there appears to be neighbouring fields which could be used. NSR3 and NSR4 are in a similar direction from the site and significant effects are more likely at NSR3. The position will also be considered representative of NSR4. If an alternate location is required, it will be chosen as representative of NSR3 and NSR4.
MP 4	440320	108669	Located in a garden/external amenity area of a dwelling at NSR5. If access cannot be agreed, there appears to be neighbouring fields which could be used. NSR5 and NSR6 are in a similar direction from the site and significant effects are more likely NSR5. The position will also be considered representative of NSR6.
MPV 1	438557	109979	Located in the garden/external amenity area of NSR10 which has the potential to be affected by railway noise and vibration. Hence, noise and vibration levels will be measured. If Marchwood Military Port cannot indicate

Title	Coordinates		Description
	X	Y	
			when train movements are anticipated, an alternative representative survey location may be required.
MP 6	438949	109785	Located in the garden/external amenity area of NSR12, which has the potential to be affected by road noise from the proposed northern access route (if selected).
MP 7	439685	108583	A location representative of worst-case dwellings at NSR13 and 14. These receptors will be affected by road noise from the proposed southern access route (if selected).

14.8.8 Additional baseline noise measurements are proposed to inform the assessment of effects on coastal and terrestrial ecology. Short-term ecological receptor (STER) locations are shown in **Table 14.7** and **Figure 14.1**. At STERs 2, 4, 5 and 6, measurements will be undertaken during the daytime and will consist of two non-consecutive 15-minute measurements. At STERs 1 and 3, consecutive 15-minute measurements will be undertaken for four days.

Table 14.7 Short-term ecological receptor locations

Title	Coordinates		Description
	X	Y	
STER 1	441020	110169	Shorefront Ecological Receptor (feeding)
STER 2	441517	109484	Shorefront Ecological Receptor (feeding)
STER 3	440802	110423	Shorefront Ecological Receptor (feeding)
STER 4	440522	110086	Inland Ecological Receptor (breeding/roosting)
STER 5	440583	109242	Inland Ecological Receptor (breeding/roosting)
STER 6	441544	108859	Inland Ecological Receptor (breeding/roosting)

Assessment Method

14.8.9 The assessment of magnitude of impact is based on comparison with the relevant noise and vibration criteria depending on the specific impact being considered. These impacts will be combined with the receptor sensitivity, which, in combination with professional judgement, will be used to determine effect significance using the matrix in **Table 4.5**.

14.8.10 Separate from the assessment of significance based on sensitivity and magnitude of impact, an assessment will be undertaken in relation to the potential for effects

on health and quality of life as required by the NPSE (Defra, 2010). This will assess predicted noise impacts against appropriate LOAEL and SOAEL values.

Construction noise disturbance

14.8.11 Construction noise impacts on NSR will be assessed using the guidance and datasets contained in BS 5228: 2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Part 1 (British Standards Institution (BSI, 2014b) and based on knowledge of similar projects.

14.8.12 A quantitative assessment of construction noise impacts is proposed based on estimates of reasonable worst case construction noise levels at the closest identified potentially sensitive receptors to the works. Reasonable worst case construction noise levels will be predicted using 3-d noise modelling in accordance with the methodology in BS 5228-1.

14.8.13 The predicted construction noise levels at sensitive receptors will be compared with magnitude of impact criteria identified from BS5228-1 Annex E Method E.3.3 Example Method 2 – 5 dB(A) change. In accordance with the standard, the assessment will also account for *"other project-specific factors, such as the number of receptors affected and the duration and character of the impact, to determine if there is a significant effect"*. Construction noise level impacts lasting less than 10 days (or 10 evenings/weekends or nights) in any 15, or 40 days (or 40 evenings/weekends or nights) in any 6 month period, would not normally be considered significant (i.e. noise impacts of shorter durations are scoped out of further assessment).

Construction vibration disturbance

14.8.14 Construction vibration impacts will be assessed for all activities which are a potentially significant source of vibration, such as piling and vibratory rollers/compactors, where proposed within 100m of any identified potentially sensitive receptors.

14.8.15 Vibration from construction sites at the worst-case vibration sensitive receptors within the study area will be predicted using empirical calculations to predict the period Peak Particle Velocity (PPV) according to the guidance in Transport and Road Research Laboratory Report 53 Ground Vibration Caused by Civil Engineering Works (B.M. New, 1986), Transport Research Laboratory Report 429 Groundborne Vibration Caused by Mechanised Construction Works (G. I. Crabb and D. M. Hiller, 2000) and BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Part 2: Vibration (British Standards Institution, 2014).

14.8.16 The transmission of groundborne vibration is highly dependent on the nature of the intervening ground between the source and receptor and the activities being undertaken. BS 5228-2 provides data on measured levels of vibration for various construction works under a variety of ground conditions and these will be used where required to supplement the calculations, for example to determine the likelihood of predicted levels actually occurring, based on real-life examples.

14.8.17 Disturbance effects due to construction vibration will be assessed against LOAELs and SOAELs identified from guidance in BS 5228-2. The guidance states that *"Single or infrequent occurrences of these levels do not necessarily correspond to the stated effect in every case. The values are provided to give an initial indication of potential effects, and where these values are routinely measured or expected then an assessment in accordance with BS 6472-1 or -2, and/or other available guidance, might be appropriate to determine whether the time varying exposure is likely to give rise to any degree of adverse comment.*"

14.8.18 The other factors which will be used to determine the significance of construction noise will also be used for the assessment of disturbance effects due to construction vibration.

Construction vibration structural damage

14.8.19 The response of a building to groundborne vibration is affected by the type of foundation, ground conditions, the building construction, and the condition of the building. The guidance in BS 7385-2:1993 Evaluation and measurement for vibration in buildings - Guide to damage levels from ground borne vibration (British Standards Institution, 1993) on vibration levels likely to result in cosmetic damage will be used to inform this assessment.

14.8.20 The criteria adopted to assess construction vibration impacts (both disturbance and structural damage) are independent of existing vibration levels and, therefore, a baseline vibration survey is not required to inform the construction vibration impact assessment.

Construction road traffic noise on existing routes

14.8.21 Construction traffic noise impacts along existing roads will be estimated based on the Calculation of Road Traffic Noise (CRTN), 1988 (Department of Transport Welsh Office, 1988) methodology for the calculation of the Basic Noise Level (BNL) at a reference distance of 10m from the nearside carriageway. Predictions will be undertaken for both the 'with' and 'without' construction traffic scenarios for the peak construction year, for each road link in the construction traffic model.

14.8.22 The road network study area for the construction phase traffic assessment will be defined by the traffic and transport studies (described in Traffic and Transport (**Section 13**), with AAWT 18hr flows, % HGVs and speed data specified for each road link. These data will be used to undertake the BNL calculations.

14.8.23 If the provided traffic flow data indicate that traffic flows are below the validated CRTN range (<1000 vehicles per 18hrs), a qualitative assessment of potential impacts will be undertaken. If this assessment indicates a potential for significant effects, the haul route calculation method provided in BS5228-1 will used to determine the change in HGV noise level from the road due to the additional vehicles at the closest NSR.

14.8.24 In order to determine impacts, the assessment of construction traffic noise will compare the calculated BNLs with and without the construction traffic. Any changes in day or night-time noise levels due to a corresponding change in volume and composition will be assessed using the impact magnitude criteria detailed in Table 3.17 of the DMRB.

14.8.25 As the assessment of construction traffic noise impacts is purely based on noise level calculations, a baseline noise survey is not deemed necessary to inform this assessment. However, if the calculations indicate likely significant traffic noise effects, additional baseline surveys may be undertaken to inform the assessment.

Operational noise from import and export activity

14.8.26 The operational phase noise assessment will follow the guidance in BS 4142, which is the accepted UK standard for rating and assessing the impact of sound of an industrial and/or commercial nature. The methods use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a residential dwelling upon which sound is incident. This requires the existing baseline noise levels at nearby noise sensitive properties to be established through a noise survey and the impact of noise from the operation of the proposed Project to be referenced against these existing levels.

14.8.27 The operational sound levels will be predicted at the identified receptors using 3-d noise modelling software which will be set to implement the International Standard (ISO) 9613-2 prediction methodology. The model will incorporate proposed buildings and operational noise sources. The model will also include nearby residential dwellings and other buildings in the study area, intervening ground cover and topographical information.

14.8.28 An indicative list of plant and equipment noise levels will be defined. Where details are not known or available, target noise levels will be recommended based on the measured background/ambient noise level and in accordance with relevant policy.

14.8.29 The assessment of operational noise effects will be based on the measured background sound levels and predicted rating levels at residential NSR in accordance with BS 4142. In order to consider the context, reference will be made to appropriate guidance including the following:

- Guidelines for Environmental Noise Impact Assessment (IEMA, 2014) when considering the effect of changes in ambient sound level.
- World Health Organisation (WHO) Guidelines for Community Noise (WHO, 1999) and Night Noise Guidelines for Europe (NNG) (WHO, 2009) for criteria to apply when background sound levels are low.

14.8.30 Operational noise effects on non-residential NSR will be assessed using the indoor noise level criteria identified for the assessment of construction noise effects on these receptor types and with reference to the predicted change in ambient sound levels.

14.8.31 Given the likely fluctuations in import and export activities, noise emissions from the operational activities are likely to fluctuate accordingly. It may therefore be necessary to predict and assess the impact of different operational scenarios. This assessment will consider the likely timing of such activities and their frequency of occurrence. Very infrequent activities are typically assessed using fixed limit criteria appropriate to the usage of the NSR.

Noise from operational railway and road traffic on existing off-site routes

14.8.32 Changes in road traffic noise levels due to operational phase traffic flows on existing off-site roads will be calculated and assessed using the same procedures as described for construction road traffic noise.

14.8.33 Changes in railway noise levels will be calculated based on data for the existing and proposed train movements on the Fawley branch line. Calculations will be undertaken using The CRN (Department of Transport (1995)) and Defra's Additional railway noise source terms for Calculation of Railway Noise 1995 (Defra, 2007)). The change in noise level will be calculated for a notional track-side receptor, set 25m back from the nearside rail, to represent the overall change in railway noise levels that will occur at all receptors along the line.

Vibration from operational phase train movements on the Fawley Branch Line

14.8.34 Guidance on the assessment of vibration impacts generated by trains on nearby residential properties is available in BS 6472-1:2008 'Guide to Evaluation of Human Exposure to Vibration in Buildings Part 1: Vibration Sources other than Blasting' (BSI, 2008). The Standard assesses human exposure to vibration in terms of the Vibration Dose Value (VDV).

14.8.35 However, for those NSR already exposed to vibration from trains on the Fawley branch line, it is more important to consider the potential impact of the change in the vibration levels than whether the levels in BS 6472-1 are exceeded. This point is not addressed by BS 6472; hence where there are appreciable levels of vibration in the baseline, alternative criteria will be applied based on a predicted change in VDV, adopted from the High Speed 2 Phase One Environmental Statement (Department for Transport and High Speed Two Limited (2013)). This assessment method will therefore be applied.

14.8.36 In order to determine the current baseline vibration levels, it is anticipated that a vibration survey will be required. Vibration from operational phase train movements will also need to be determined from a survey of current train movements. There are currently very few trains using the Fawley branch line, so it may not be feasible to determine the vibration from trains currently using this line and it may be necessary to undertake vibration measurements at an alternative representative location.

15 AIR QUALITY

15.1 Introduction

15.1.1 This section considers the potential effect of the construction and operation of the proposed Project on air quality.

15.1.2 The section sets out a summary of relevant policy, legislation and guidance, an overview of the study area and potential sensitive receptors, baseline conditions established through a desktop review of existing air quality information, the potential impacts, which form the basis of the identification of the effects, are presented in terms of which specific impacts are proposed to be scoped in and out of the of the assessment, an overview of potential mitigation requirements, and the proposed assessment methodology for the assessment of likely significant effects.

15.2 Relevant Policy, Legislation and Guidance

National Policy Statements

15.2.1 This section has been prepared with reference to specific requirements in the NPSfP for decisions on new port development proposals. The relevant parts of the NPSfP for air quality will be considered within the EIA, including the requirements in Section 5.7 and paragraphs 5.8.4 to 5.8.5.

Legislation and Policy

National

15.2.2 The air quality assessment will be undertaken in accordance with the following national legislation:

- Air Quality (England) Regulations 2000 (HMSO, 2000).
- The Air Quality Standards Regulations 2010 (HMSO, 2010).
- The EU (Withdrawal Agreement) Act 2020 (HMSO, 2020).
- The Environment Act 2021 (HMSO, 2021).
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (HMSO, 2023).
- Clean Air Strategy (Defra, 2019).
- The Air Quality Strategy for England (Defra, 2023).

Local Policy

15.2.3 The air quality assessment will have regard to the following local legislation:

- New Forest District Council (NFDC) Local Plan 2016-2036 Part 1: Planning Strategy (NFDC, 2020):
  - Policy ENV1: Mitigating the impacts of development on International Nature Conservation sites.
  - Policy CCC1: Safe and healthy communities.
- New Forest National Park Authority (NFNPA) Local Plan 2016-2036 (NFNP, 2019):
  - Policy DP2: General Development Principles.
- Southampton City Council (SCC) Adopted Core Strategy (SCC, 2015):
  - Policy CS18 – Transport: Reduce – Manage – Invest.

Guidance

15.2.4 The air quality assessment will be undertaken in accordance with the following guidance documents:

- Local Air Quality Management Technical Guidance LAQM.TG(22) August 2025 (Defra, 2025a).
- A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites (Institute of Air Quality Management (IAQM, 2020).
- Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2024).
- Design Manual for Roads and Bridges (DMRB) LA 105 Air Quality (National Highways, 2024).
- Natural England's Approach to Advising Competent Authorities on The Assessment of Road Traffic Emissions Under the Habitats Regulations NEA001 (Natural England, 2018).
- Land-Use Planning & Development Control: Planning for Air Quality (IAQM & Environmental Protection UK (EPUK, 2017)).

15.3 Study Area

15.3.1 The construction phase of the proposed Project may give rise to dust and fine particulate matter (PM_{10} and $PM_{2.5}$) from construction-related activities, emissions of nitrogen oxides (NOx) (including nitrogen dioxide (NO_2)), PM_{10} and $PM_{2.5}$ from Non-Road Mobile Machinery (NRMM), emissions of NOx, NO_2, sulphur dioxide (SO_2), PM_{10} and $PM_{2.5}$ from construction vessels, and emissions of NOx, NO_2,

ammonia (NH_3), PM_{10} and $PM_{2.5}$ from construction road traffic on the Affected Road Network (ARN).

15.3.2 The operational phase of the proposed Project may give rise to emissions of NOx, NO_2, PM_{10} and $PM_{2.5}$ from centralised combustion plant or generators, emissions of NOx, NO_2, SO_2, PM_{10} and $PM_{2.5}$ from vessels, emissions of NOx, NO_2, SO_2, PM_{10} and $PM_{2.5}$ from rail movements and emissions of NOx, NO_2, NH_3, PM_{10} and $PM_{2.5}$ from operational road traffic on the ARN.

15.3.3 These aspects will be assessed and presented within the ES.

15.3.4 Within the ES, the study area will be defined using the criteria detailed below:

- Dust and fine particulate matter emissions during the construction phase:
  - Human receptors within 250m of the proposed Project and / or within 50m of trackout (i.e. the transport of dust and dirt from the construction site onto the public road network) routes, extending 250m from the site exit(s) of the proposed Project.
  - Ecological receptors within 200m of the proposed Project and/ or within 50m of trackout routes used by construction vehicles on the public highway, extending up to 250m from the site exit(s) of the proposed Project.
- NRMM emissions during the construction phase:
  - Human and ecological receptors within 200m of the proposed Project where NRMM will be located.
- Road traffic emissions during the construction and operational phases:
  - Human and ecological receptors within 200m of all roads that trigger the IAQM and EPUK traffic screening criteria (IAQM & EPUK, 2017) for human health receptors or the NEA001/ DMRB traffic screening criteria for ecological receptors and adjoining roads within 200m, referred to as the ARN.
- Vessel emissions in the construction and operational phases:
  - Human and ecological receptors within 250m of large ships berths and main area of maneuvering and within 1km of large ship movements.
- Rail emissions during the operational phase:
  - Human and ecological receptors within 15m of stationary diesel locomotives and within 30m of moving diesel locomotives.

Sensitive Receptors

15.3.5 The following receptors may be sensitive to changes in air quality:

- Human receptors such as residential properties, schools/ nurseries, care homes and hospitals.
- Designated ecological sites including SPAs, SACs, Ramsar sites, SSSIs, Ancient Woodlands, SINCs and LNRs, where these sites contain habitats or features which are sensitive to dust, changes in airborne pollutant concentrations, nitrogen and / or acid deposition.

15.4 Description of Existing Environment

Data Sources

15.4.1 The key data sources in **Table 15.1** were used to gather the baseline information on Air Quality and inform the scoping study.

Table 15.1 Key data sources

Title	Date
2025 Air Quality Annual Status Report, New Forest District Council	NFDC, 2025
2025 Air Quality Annual Status Report, Southampton City Council	SCC, 2025

Local Air Quality

15.4.2 The proposed Project location falls within the local authority boundaries of NFDC and NFNPA. Air quality monitoring is currently being undertaken by NFDC at various locations across the district, including at one roadside location in Marchwood (Marchwood School), situated approximately 2km west of the Scoping Boundary.

15.4.3 According to NFDC's 2025 Air Quality Annual Status Report (AQASR) (NFDC, 2024), there are currently one automatic and 11 NO_2 diffusion tube 'roadside' monitoring sites located in Totton (CM1 and diffusion tube sites 33 to 49). The bias adjusted and annualised annual mean NO_2 concentrations measured at these locations in 2024 ranged from 14.6 µg/m^3 at diffusion tube site 38 (26 Rumbridge Street) to 28.8 µg/m^3 at diffusion tube site 49 (A35 triplicate), which equated to between 37% and 72% of the annual mean Objective for NO_2 of 40 µg/m^3.

15.4.4 The annual mean particulate matter (PM_{10}) concentration measured at the CM1 roadside site in Totton in 2024 was 18.6 µg/m^3 and was well within (i.e. less than 75% of), and therefore met, the annual mean Objective for PM_{10} of 40 µg/m^3.

15.4.5 There is one NO_2 diffusion tube monitoring site located in Marchwood, referred to in the NFDC AQASR (NFDC, 2024) as site ID 30. The bias adjusted and annualised annual mean NO_2 concentration measured at the site in 2024 was 12.1 µg/m^3, which equates to 30% of the annual mean Objective for NO_2 (40 µg/m^3).

15.4.6 **Figure 15.1** provides an overview of the AQMAs around the Scoping Boundary.

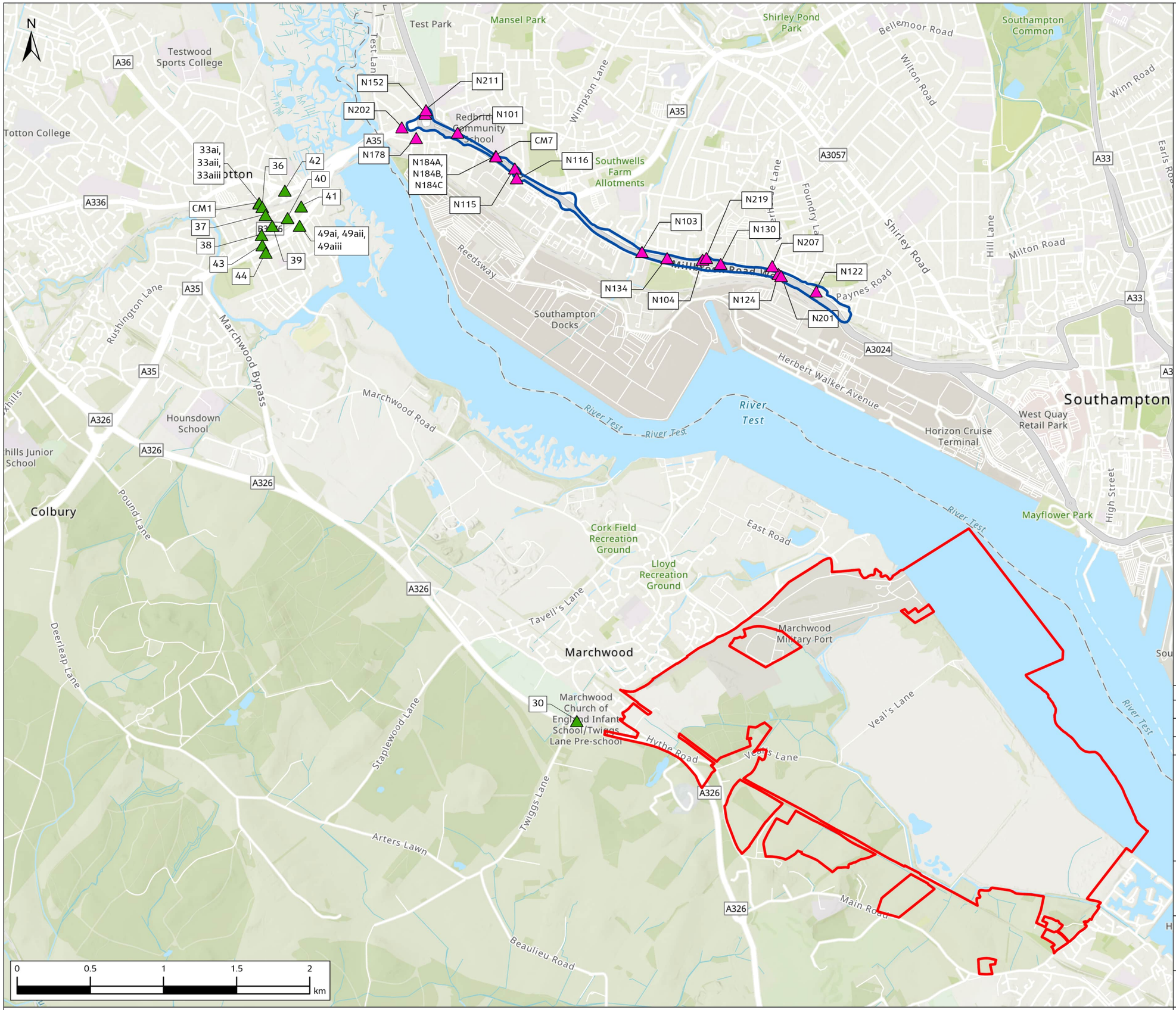
15.4.7 NFDC does not currently have any AQMAs. There was one AQMA in Lyndhurst, approximately 10km to the west of the Scoping Boundary, which was revoked in 2023.

15.4.8 Roads within the SCC area of jurisdiction may be used by traffic to access the proposed Project site from within the city. According to SCC's 2025 ASR, as of August 2025, SCC has declared ten AQMAs, which are located along the principal routes through the city and selected congested road intersections.

15.4.9 Air quality monitoring conducted by SCC identifies areas which breach the NO_2 annual mean Objective. The exceedances are largely due to localised pollution hotspots adjacent to busy roads and junctions (i.e. road transport emission sources); however, emissions associated with port operations and vessel movements are also likely to contribute to local ambient pollutant concentrations.

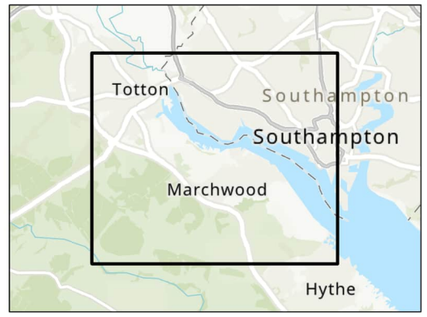
15.4.10 The requirement for the establishment of Clean Air Zones (CAZs) was identified as a major part of the Defra strategy (Defra, 2015) to improve the UK's air quality in the most polluted areas. Southampton was identified in 2015 as one of five UK cities with levels of pollution which would not meet air quality Objective levels through national policies and improvements in vehicle emissions. Consequently, additional local measures are required, and the development of a CAZ was the preferred option for SCC.

15.4.11 SCC undertook a feasibility study in December 2018 to assess access restrictions and charging zones in 2019 or 2020 (SCC, 2018a). The study set out that a charging CAZ would not be necessary; alternatively, a series of non-charging measures, known as 'The Local NO_2 Plan', would be implemented to help ensure that standards are met in the shortest possible time. The Government approved the implementation of The Local NO_2 Plan instead of a charging CAZ in February 2019.



Legend

- Scoping Boundary
- Air Quality Management Area
- SCC Air Quality Monitoring Locations
- NFDC Air Quality Monitoring Locations



Esri, Intermap, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	23/10/2025	Initial Issue	RM	DH	DH	MSS

Scale @ A3 | Scale: 1:25,000 | DO NOT SCALE

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Project: SOLENT GATEWAY 2

Drawing Title: AIR QUALITY MONITORING LOCATIONS

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100028

Drawing Status: FINAL

FIGURE 15.1

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15.5 Future Baseline

15.5.1 The future baseline scenario with respect to air quality assumes that future air quality in the UK is expected to continue to improve through the implementation of measures such as low emission zones, investment in cycling and walking infrastructure and new policy aimed at tackling poor air quality at a local level (i.e. the establishment of CAZs or alternative measures and the uptake of newer, lower-emitting vehicles). It is reasonable to assume that reductions in ambient air pollutant concentrations in and around the proposed Project location will improve in line with forecast national reductions.

15.6 Potential Impacts

Potential Impacts During Construction

15.6.1 **Table 15.2** identifies the potential impacts on Air Quality related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 15.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Human receptors	Health impacts and loss of amenity due to dust soiling from construction activities (PM_{10} and $PM_{2.5}$)	Construction dust	Yes	Dust emissions and particulate matter from the proposed Project could have health impacts and cause loss of amenity through dust soiling at nearby receptors. Therefore, construction dust impacts associated with demolition, earthworks, general construction activities and transfer of dust onto the road network by construction vehicles (trackout) will be scoped into the assessment. In line with Institute of Air Quality Management (IAQM) guidance on the assessment of dust from demolition and construction (IAQM, 2024), potential impacts on human receptors (e.g. schools, hospitals and residential receptors) within 250m of the construction site boundary (including haul routes) will be assessed.
	Health impacts from exhaust emissions from construction activities (NO_2, NH_3, SO_2, PM_{10} and $PM_{2.5}$)	Construction road traffic emissions	Yes	The requirement for the assessment of construction vehicle impacts on local air quality will be determined based on consideration of the predicted change in vehicle movements using Environmental Protection UK (EPUK) and IAQM screening criteria (EPUK and IAQM, 2017) These screening criteria are:

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				• a change of 500 Annual Average Daily Traffic (AADT) (outside an AQMA) or 100 AADT (within or adjacent to an AQMA) light duty vehicle (LDV) flows; and/ or, • a change of 100 AADT (outside an AQMA) or 25 AADT (within or adjacent to an AQMA) heavy duty vehicle (HDV) flows. It is expected that construction materials will be transported by road and sea with the current split not yet finalised. Therefore, if projected LDV and/ or HDV movements are above these screening criteria, a detailed dispersion modelling assessment will be required. As the proposed Project location is on the western side of the River Test, construction traffic is likely to avoid the most heavily polluted areas of Southampton and would avoid Lyndhurst. It is anticipated that vehicles would use the M27 and A326 to access the site. Impacts on air quality could occur if construction traffic generation triggers the screening criteria referenced above along construction vehicle routes that are within 200m of sensitive human receptors.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Construction Non-Road Mobile Machinery (NRMM) emissions	Yes	Impacts may occur from NRMM exhaust emissions during construction. NRMM emissions may contribute to existing pollutant concentrations at human receptors. Therefore, the impacts from construction phase NRMM have been scoped into the assessment.
		Construction rail emissions	No	It is anticipated there will be no rail movements associated with the proposed Project during the construction phase. Therefore, the impact of rail emissions during the construction has been scoped out of the assessment. Should any construction phase rail movements be proposed for the proposed Project, then this impact pathway will be scoped in for further assessment.
		Construction vessel emissions	Yes	The construction phase would involve the use of marine-based construction plant and dredging plant. Exhaust emissions from vessel movements generated by the proposed Project have the potential to cause impacts at nearby human receptors. The potential impacts of air emissions from these sources at onshore human receptors will therefore be scoped into the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Health impacts from stationary combustion plant emissions (NO_2, PM_{10} and $PM_{2.5}$)	Emissions from centralised combustion plant or generators during the construction phase	Yes	Emissions from centralised combustion plant or generators can cause health impacts at nearby human receptors (excluding emergency backup generators, which typically are only operated for less than 50 hours per year for testing and therefore do not make a significant contribution to air pollutant concentrations). It is not known at this stage if there will be any temporary or permanent centralised combustion plant or generators during the construction phase. Therefore, for a conservative approach, this impact pathway has been scoped in for further assessment. However, if no centralised combustion plant or generators are proposed during the construction phase of the proposed Project then this impact pathway will be scoped out of the assessment.
Habitats and species	Damage to sensitive habitats as a result dust soiling (PM_{10} and $PM_{2.5}$)	Construction dust	Yes	Dust deposition generated from demolition, earthworks, construction and trackout activities have the potential to cause damage to sensitive ecological habitats within 200m of the proposed Project. This impact pathway has, therefore, been scoped into the assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Damage to sensitive habitats as a result of changes in air quality (NO_X, NH_3, SO_2, Nutrient Nitrogen and Acid Deposition)	Construction road traffic emissions	Yes	Exhaust emissions from construction traffic generated by the proposed Project have the potential to contribute to existing pollutant concentrations and deposition rates at nearby designated ecological habitats within 200m of scoped in road links. The requirement for the assessment of construction vehicle impacts at ecological sites will be screened using Natural England guidance on the assessment of road traffic impacts on designated ecological sites (Natural England, 2018). This guidance references the screening criteria contained in the Design Manual for Roads and Bridges (DMRB) LA105 air quality guidance (National Highways, 2024). These screening criteria are: • a change in flow of all vehicle types of 1,000 AADT or more; and/ or, • a change in flow of HDVs of 200 AADT or more. If the screening criteria are triggered, a dispersion modelling assessment of sensitive habitats within 200 m of the affected road link will be undertaken. The assessment will include nitrogen oxides (NO_x) concentrations, ammonia (NH_3) concentrations, nitrogen deposition and acid deposition.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Construction rail emissions	No	It is anticipated there will be no rail movements associated with the proposed Project during the construction phase. Therefore, the impact of rail emissions during the construction has been scoped out for assessment. Should any construction phase rail movements be proposed for the proposed Project, then this impact pathway will be scoped in for further assessment.
		Construction vessel emissions	Yes	Exhaust emissions from vessel movements generated by the proposed Project have the potential to cause damage to onshore designated ecological habitats. This impact pathway has, therefore, been scoped into the assessment.
		Emissions from centralised combustion plant or generators during the construction phase	Yes	Emissions from centralised combustion plant or generators can cause damage to nearby ecological habitats (excluding emergency backup generators, which typically are only operated for less than 50 hours per year for testing and therefore do not make a significant contribution to air pollutant concentrations). It is not known at this stage if there will be any temporary or permanent centralised combustion plant or generators during the construction phase. Therefore, for a conservative

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				approach, this impact pathway has been scoped in for further assessment. However, if no centralised combustion plant or generators are proposed during the construction phase of the proposed Project then this impact pathway will be scoped out of the assessment.

Potential Impacts During Operation

15.6.2 **Table 15.3** identifies the potential impacts on Air Quality related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 15.3 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Human receptors	Health impacts from exhaust emissions from operational activities (NO_2, SO_2, PM_{10} and $PM_{2.5}$)	Operational road traffic emissions	Yes	The requirement for the assessment of operational phase vehicle impacts on local air quality is triggered if changes in the predicted vehicle movements exceed the screening criteria. These criteria are presented in **Table 15.2**, based on EPUK and IAQM guidance (EPUK and IAQM, 2017) and depend on whether the routes proposed to be used are within an AQMA. It is anticipated that changes in vehicle movements could trigger the screening criteria and, therefore, a detailed dispersion modelling assessment will be required. Emissions from road vehicles during the operational phase are, therefore, scoped into the assessment.
		Operational rail emissions	Yes	There may be a requirement to assess impacts associated with rail emissions if the number of expected rail movements above the LAQM.TG(22) screening criteria. The number of rail movements and the frequency and type of trains likely to be used will determine whether there could be a significant increase in pollutant concentrations along the existing railway route.
		Operational vessel emissions	Yes	The proposed Project would introduce vessel calls at a new location and increase the number of calls in the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				Marchwood area. Depending on the predicted frequency of calls, size and fuel types of vessels likely to be used, emissions from vessel movements have the potential to affect pollutant concentrations. Therefore, vessel emissions have the potential to cause health impacts at nearby human receptors. Consequently, a detailed assessment of potential air quality impacts from vessel movements is scoped into the EIA.
		Emissions from centralised combustion plant or generators during the operational phase	Yes	Emissions from centralised combustion plant or generators can cause health impacts at nearby human receptors (excluding emergency backup generators, which typically are only operated for less than 50 hours per year for testing and therefore do not make a significant contribution to air pollutant concentrations). It is not known at this stage if there will be any temporary or permanent centralised combustion plant or generators during the operational phase. Therefore, for a conservative approach, this impact pathway has been scoped in for further assessment. However, if no centralised combustion plant or generators are proposed during the operational phase of the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				proposed Project then this impact pathway will be scoped out of the assessment.
Habitats and species	Damage to sensitive habitats as a result of changes in air quality (NO_X, SO_2, NH_3, Nutrient Nitrogen and Acid Deposition)	Operational road traffic emissions	Yes	Exhaust emissions from operational traffic, rail and vessel movements generated by the proposed Project have the potential to cause damage to nearby designated ecological habitats. This impact pathway has, therefore, been scoped into the assessment.
		Operational rail emissions	Yes	
		Operational vessel emissions	Yes	
		Operational road traffic emissions	Yes	
		Emissions from centralised combustion plant or generators during the operational phase	Yes	Emissions from centralised combustion plant or generators can cause damage to nearby designated ecological habitats (excluding emergency backup generators, which typically are only operated for less than 50 hours per year for testing and therefore do not make a significant contribution to air pollutant concentrations. It is not known at this stage if there will be any temporary or permanent centralised combustion plant or generators during the operational phase. Therefore, this impact pathway has been scoped in for further assessment. However, if no centralised combustion plant or generators) are proposed during the operational phase of the Project

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				then this impact pathway will be scoped out of the assessment.

15.7 Mitigation

15.7.1 On the basis of possible mitigation measures adopted for other similar projects, mitigation measures could include:

- adoption of best practice construction dust mitigation and management recommended in IAQM guidance on the assessment of dust from demolition and construction (IAQM, 2024);
- a prescribed access/ egress route for road haulage during the construction and operational phases. Where possible and practicable, this could include a commitment to not route vehicles through known areas of elevated pollution; and,
- transportation of construction materials to site by sea as opposed to road, where possible.

15.8 Approach to Assessment and Data Gathering for ES

15.8.1 Data collected to date is likely to be suitable to conduct the air quality impact assessment for the existing most polluted areas. However, there is a potential lack of background data for the location of the proposed Project itself and at locations that are appropriate to verify the results of the atmospheric dispersion modelling study. Consequently, it is proposed that a baseline air quality monitoring survey will be undertaken. This will incorporate locations within the Scoping Boundary and along the proposed access routes (including local roads), to broaden the baseline air quality monitoring network (see **Figure 15.1**). The aim of the passive air quality monitoring is to determine baseline ambient concentrations of the following air pollutants at specified monitoring locations using diffusion tubes:

- Nitrogen dioxide (NO_2).
- Sulphur dioxide (SO_2).
- Ammonia (NH_3).

15.8.2 The air quality monitoring will be undertaken for at least six months. The existing ambient air quality monitoring data collected by SCC and NFDC and additional diffusion tube monitoring data will be analysed and used to inform the air quality impact assessment and for dispersion model verification purposes, as explained further below.

15.8.3 The monitoring of NH_3 is proposed for the purpose of characterising baseline concentrations at The Post / Horseclose Copse/ The Plantation SINC. This SINC is partially designated for its lichen interest. Lichens can be highly sensitive to NH_3.

The proposed Project will include an access road which may pass within 200m of this SINC and this is likely to trigger the need for detailed assessment. Should this be the case, NH_3 monitoring locations will be established at regular intervals along a transect, which will be located at the closest point to which the access road passes the SINC. The exact location of the transect and number of monitoring locations will be determined by the alignment of the proposed access road.

15.8.4 The construction phase dust assessment will be carried out in accordance with guidance provided by the IAQM (IAQM, 2024). This will consider construction dust emissions from the proposed construction activities and recommended suitable mitigation, where appropriate.

15.8.5 Assessment of the impacts of construction phase NRMM will be undertaken in line with Defra's Technical Guidance LAQM.TG(22) (Defra, 2025a). The assessment will take into account:

- the number and type of plant to be used;
- the working hours to be employed and the duration of works;
- distances from NRMM to the nearest receptors;
- existing air quality conditions in the area (based on either local monitoring (where available) and/ or Defra background pollutant concentration maps (Defra, 2024a)); and
- prevailing meteorological conditions.

15.8.6 Screening of potential air quality impacts associated with pollutant emissions from road vehicles and vessels during the construction phase, and from road vehicles, vessels and rail locomotives during the operational phase, will be undertaken. If screening criteria are exceeded, an atmospheric dispersion modelling assessment will be used to predict the impact of construction vehicles (including vessels and rail locomotives) at sensitive human and ecological receptor locations. Due to the scale of the proposed Project and the proximity to existing statutory AQMAs, it is likely that detailed atmospheric dispersion modelling will be required to assess the potential impacts associated with the principal emission sources and activities during the operational phase.

15.8.7 Any air dispersion modelling undertaken for the construction or operational phase, including determination of model performance of road sources against monitored NO_2 concentrations and the subsequent derivation of an adjustment factor using the model verification process, will be undertaken in line with Defra's Local Air Quality Management Technical Guidance (LAQM.TG(22)) (Defra, 2025a) and DMRB LA105 (National Highways, 2024). The derived verification factor for NO_2 will be applied to PM_{10} and $PM_{2.5}$ concentrations in line with Defra (LAQM.TG(22)) and

DMRB LA105 guidance. The assessment will use the relevant Defra LAQM tools, including data from Defra background 1km x 1km map projections (Defra, 2024a), the Emissions Factors Toolkit (Defra, 2025b) and the NO_x to NO_2 Calculator (Defra, 2024b).

15.8.8 The road traffic-related pollutant concentrations will be predicted using the ADMS-Roads model, both without and with the proposed Project in operation. Pollutant concentrations will be predicted at identified existing sensitive receptor locations.

15.8.9 Due to the anticipated increase in operational phase vessel movements, dispersion modelling of emissions from vessel movements will be undertaken. The ADMS 6 atmospheric dispersion model will be used. The model will also include emissions from any screened in rail movements. ADMS 6 is widely used in the UK for regulatory and impact assessment purposes. Pollutant concentrations will be predicted at relevant sensitive human and ecological receptor locations.

15.8.10 For relevant sensitive human receptors, predicted concentrations will be compared to the relevant air quality Objectives and the impact descriptors provided within the EPUK and IAQM guidance (EPUK and IAQM, 2017). For relevant designated ecological receptors, information on habitat type, background pollution, Critical Levels and Critical Loads will be taken from the Air Pollution Information System (APIS) (Centre for Ecology and Hydrology (CEH), 2024). Predicted pollutant concentrations will then be compared against the relevant Critical Levels and Critical Loads (once the concentrations have been processed into nitrogen deposition and acid deposition rates).

16 LANDSCAPE, SEASCAPE AND VISUAL EFFECTS

16.1 Introduction

16.1.1 This section outlines the baseline features that are considered relevant to the Landscape, Seascape and Visual Impact Assessment (LSVIA) report that will form part of the ES. The section identifies data sources and guidelines relevant to landscape, seascape and visual issues.

16.1.2 The aims of the section are to identify landscape and visual receptors that may be affected by proposed Project, the nature and extent of predicted landscape and visual effects and whether those effects may be deemed 'significant' in terms of EIA.

16.1.3 The section provides the mechanism to seek approval (or guidance) from PINS of the proposed LSVIA methodology, scope and reporting parameters used in the EIA process.

16.2 Relevant Policy, Legislation and Guidance

16.2.1 Relevant national legislation and planning policy is included in **Section 3.2**. Current legislation and policy refer to the effects of development upon landscape and visual receptors, the importance of protecting designated landscapes and the requirement for good design.

16.2.2 The LVSIA will meet the requirements set out in the NPSfP, specifically the following sections:

- 4.10 - Criteria for 'good design' for port infrastructure.
- 5.3 - Coastal change, paragraph 5.3.5.
- 5.11 - Landscape and visual impacts.
- 5.13 - Land use including open space, green infrastructure and Green Belt, paragraph 5.13.4.

16.2.3 Key data sources and guidelines used to inform this section are set out in **Table 16.1**.

Table 16.1 Key data sources and guidelines

Title	Date
Guidelines for Landscape and Visual Impact Assessment, 3rd Edition.	2013
Landscape Institute - Technical Guidance Note LITGN-2024-01: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment, Third edition (GLVIA3).	2024
Landscape Institute - Technical Guidance Note 02/21: Assessing landscape value outside national designations	2021
National Policy Statement for Ports	2012
New Forest National Park (NFNP) data: • Landscape Action Plan. • Landscape Character Assessment. • Tranquil Area Mapping. • Supplementary Planning Document (SPD); Design Guide (incorporating the National Park Design Code). • SPD Development Standards (and addendum). • Local Development Framework: Core Strategy and Development Management Policies DPD.	 2013 2015a 2015b 2022 2012 2010
New Forest District Council (NFDC) data: • Local Development Framework, Core Strategy. • Local Plan 2016-2036.	2020
Natural England, National Character Area profiles	Online, current at download
Hampshire County Council (HCC) data: • Hampshire County Integrated Character Assessment	2012
Marine Management Organisation (MMO) data: • MMO1134: National Seascape Character Assessment for England. • Seascape Assessment for the South Marine Plan Areas: technical report. • Seascape Assessment for the South Marine Plan Areas, MCA 5: The Solent. • MMO1204: Seascape sensitivity assessment: Technical Report. • Natural England: An Approach to Seascape Character Assessment.	 2013a 2014 2013b 2019 2012

16.3 Study Area

16.3.1 **Figure 16.1** illustrates the indicative extent of the study area for the LSVIA, locations of site photography and the locations of the places referred to in this section.

16.3.2 The area includes the full extent of receptors that may (as identified at this stage) be subject to significant landscape and visual effects. For the purposes of LVSIA, all receptors within 3km of the Scoping Boundary will be identified. Selected, high sensitivity receptors up to 5km will also be identified; for example, elevated viewpoints within the NFNP.

16.3.3 Although no significant effects would be expected beyond 5km of the Scoping Boundary, it may be necessary to assess specific receptors across a wider area (most likely within the NFNP) to confirm that assertion.

16.4 Description of Existing Environment

16.4.1 Marchwood Military Port and the settlement of Marchwood are located to the north of the Scoping Boundary. To the south-east, the town of Hythe and Hythe Marina Village abut the Scoping Boundary. The narrow, vegetated Fawley branch line bisects land within the western margins of the Scoping Boundary, with isolated pockets of land within the Scoping Boundary located to the south of the Fawley branch line.

16.4.2 The western margins of the Scoping Boundary comprise woodland and small pasture fields enclosed by tall, densely vegetated field boundaries. The village of Dibden is located to the south of the Scoping Boundary and comprises scattered properties and farmsteads extending along the Main Road and A326 Marchwood By-pass road, between Marchwood and Hythe. The village includes a nucleated group of properties and the Church of All Saints, located at Bramshott Hill.

16.4.3 The wider study area includes heavily urban and industrial areas of the City of Southampton and the Port of Southampton. The Port and city conurbation form a continuous developed frontage to the north of Southampton Water and the tidal River Test, interrupted by a series of important open spaces, including Mayflower Park, Westwood Woodland Park, the grounds of Netley Abbey and Royal Victoria Country Park.



Legend

- Scoping Boundary
- Distance Offsets from Landside Terminal
- New Forest National Park Boundary
- Viewpoint Locations

Note:
- The distance offsets are from the combined footprint of the proposed Marine Facilities jetty and the Landside Terminal.
- The 5km offset line defines the extent of the study area.



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SOLENT GATEWAY 2

Drawing Title

STUDY AREA AND PHOTOGRAPHIC VIEWPOINT LOCATIONS

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100053

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Figure 16.1

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16.4.4 The east bank of the River Test has been heavily modified to form the operational Port of Southampton through the creation of the Eastern Docks, Western Docks and Western Docks Extension (the Container Terminal). The Eastern Docks is located at the confluence of the River Test and River Itchen, extending to the south-east as Southampton Water.

16.4.5 The Eastern Docks largely contain cruise terminals and Ro-Ro automotive facilities. Located between the Eastern and Western Docks is Town Quay which is the home of the Red Funnel terminal for ferries to the Isle of Wight. The Western Docks also contains cruise and Ro-Ro automotive facilities, along with bulk and container facilities. The Western Docks Extension largely consists of the container terminal and support facilities. Large, deep sea ocean-going vessels moving along Southampton Water and the tidal River Test are a key characteristic of the landscape.

16.4.6 Significant urban and heavy industrial development also characterises the west bank of Southampton Water and the tidal River Test, with development extending from Totton in the north-west through Marchwood (with its associated power station, industrial parks and Military Port), to Hythe and the Fawley Oil Refinery complex in the south-east.

16.4.7 Development along the west bank is partially broken up by pockets of undeveloped landscape including woodland, reclaimed open farmland, mudflats and marsh. The Dibden reclaim comprises flat, open grassland with scrub woodland and forms one of the larger undeveloped landscape areas alongside Southampton Water / tidal River Test. Hythe Marina Village is located to the south of the reclaim area.

16.4.8 The south-western part of the study area lies within the NFNP and contrasts notably with urbanised and industrial areas elsewhere. Dense woodland and woodland belts to field margins give way to open heathland and scrub on rising ground.

16.4.9 Topography within the study area is relatively homogenous, rising gently to the north and south-west to elevations of approximately 80m Above Ordnance Datum (mAOD) within the City of Southampton and 40mAOD within the National Park. The wide expanse of Southampton Water / tidal River Test is the dominant watercourse, fed from the north by the River Test and River Itchen. Beaulieu River is the primary watercourse within the NFNP.

16.4.10 Major communication links and infrastructure are a key component of the study area; motorway, road and rail corridors extend across the Southampton conurbation. The A35 and A326 Marchwood By-pass roads are the primary road

links west of Southampton Water / tidal River Test. Overhead electricity pylons traverse the landscape to the west of the Scoping Boundary.

Public Rights of Way and Access

16.4.11 **Figure 16.2** shows the location of key visual receptors for the proposed Project.

16.4.12 There are very few PRoWs along the west bank of Southampton Water / tidal River Test. A PRoW extends across land within the Scoping Boundary from Hythe to Veals Lane, west of the proposed Project. A further section extends north from Veal's Lane, through a woodland plantation and then forks in opposite directions along the Scoping Boundary. Both diverging sections of path are truncated and do not link to other publicly accessible lanes or paths. The section of footpath from Veal's Lane through the plantation was overgrown and impassable at the time of field studies.

16.4.13 The Solent Way is a long-distance footpath that follows sections of the Hampshire coast. The footpath extends across the southern study area from the NFNP to Hythe and continues to the east of the River Test via a ferry to Town Quay, heading seaward along the east bank of Southampton Water. The Itchen Way named footpath follows the River Itchen to the north.

16.4.14 There are a limited number of PRoWs on the eastern margins of the National Park. Land within the National Park is primarily defined as Access Land; this confers rights to roam or freedom to roam with restrictions on types of use and activity.

Designated Landscape

New Forest National Park

16.4.15 The south-western study area includes a substantial tract of the NFNP. This nationally designated area of landscape is afforded the highest level of protection for the conservation and preservation of its natural beauty, wildlife and cultural heritage.

16.4.16 The eastern boundary of the National Park abuts the site of the proposed Landside Terminal. The proposed Project will have no direct impact on land within the National Park.

Legend

- Scoping Boundary
- Distance Offsets from Landside Terminal
- New Forest National Park Boundary
- Registered Park and Garden
- Conservation Areas
- Scheduled Monuments
- Itchen Way Long Distance Footpath
- Solent Way Long Distance Footpath
- Footpath
- Bridleway
- Sustrans Route
- Listed Building - Grade 1 (from Historic England Online Register)
- Representative Viewpoint Location (Preliminary and subject to agreement)



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Project: SOLENT GATEWAY 2

Drawing Title: VISUAL RECEPTORS

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100054

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Figure 16.2

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Registered Parks and Gardens

16.4.17 The study area includes four areas designated under the English Heritage Register of Historic Parks and Gardens. Three sites are located within the dense urban conurbation of Southampton. Royal Victoria Country Park is Grade 2 listed and located approximately 4km to the east on the eastern shoreline of Southampton Water. There are distant views from the outer margins of the park towards the location of the proposed Project.

National/Regional Landscape Character

16.4.18 The study area includes three National Character Area (NCA) profiles, as defined by Natural England. **Figure 16.3** illustrates the NCA boundaries within the study area. The NCAs profiles, listed below, provide a high-level summary of the key landscape characteristics within the study area:

- NCA profile: 131 - New Forest. The NCA encompasses the proposed Landside Terminal and access route and adjoining landscape areas to the west of the River Test/Southampton Water.
- NCA profile: 128 – South Hampshire Lowlands. The NCA includes land areas to the north of Southampton Water, including the conurbation of Southampton.
- NCA profile: 126 - South Coast Plains. The NCA encompasses the settlement of Netley and Westwood Woodland Park on the eastern segment of the study area.

16.4.19 Seascape character assessment is primarily derived from the MMO's Seascape Assessment for the South Marine Plan Areas, MCA 5: The Solent.

N

Legend

Scoping Boundary

Distance Offsets from Landside Terminal

National Character Areas

126 - South Coast Plain

128 - South Hampshire Lowlands

131 - New Forest



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NATIONAL CHARACTER AREAS

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16.4.20 The 2013 Guidelines for Landscape and Visual Impact Assessment, includes at paragraph 2.8, Seascape:

"The definition of landscape from the European Landscape Convention includes seascapes and marine environments. As the UK Marine Policy Statement indicates: 'seascape should be taken as meaning landscapes with views of the coast or seas, and coasts and the adjacent marine environment with cultural, historical and archaeological links with each other'.

This definition includes the meeting point of land and sea but also encompasses areas beyond the low water mark and so includes both areas near to the shore and the open sea. Any assessment of the *landscape and visual effects of change in marine and coastal environments should carefully consider the relationship between land and sea in coastal areas and also take account of possible requirements to consider the open sea".*

16.4.21 References to 'landscape' in this section should also be taken to encompass, or be relevant to, 'seascape'.

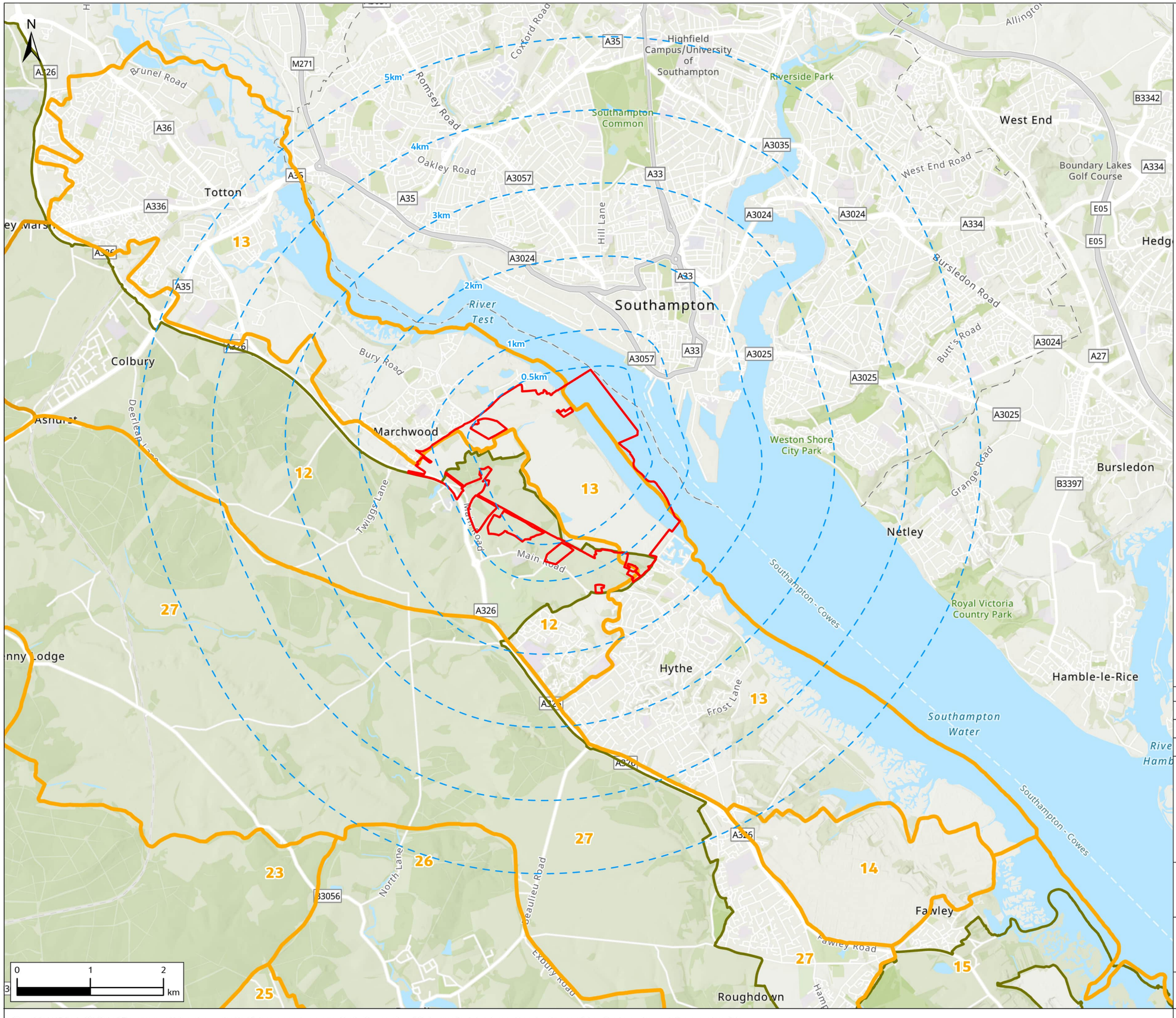
District/County Landscape Character

16.4.22 Studies prepared by the NFNPA, NFDC and HCC (listed in **Table 16.1**) will provide the basis for the landscape character assessment (**Figure 16.4** and **Figure 16.5**).

Visual Context

16.4.23 A draft Zone of Theoretical Visibility (ZTV) drawing has been produced as an aid to preliminary fieldwork and help determine the locations of landscape and visual receptors that may be affected by the proposed Project. The ZTV is a computer generated drawing that uses a digital terrain model (DTM) of the study area (Ordnance Survey 'Terrain 05' data) with analysis points based upon the assumed heights of the tallest buildings within the Landside Terminal; in this case the assumed maximum height of the multi-deck vehicle storage buildings at 25m above a finished floor level of 6mAOD. The light purple 'wash' of colour in **Figure 16.1** indicates areas where there may *theoretically* be a view of tall structures within the proposed Project.

16.4.24 The DTM does not include built structures, settlement areas or woodland; including those features will significantly reduce the extent of the ZTV. The DTM is, therefore, described as 'bare earth' and presents a worst case scenario of the theoretical visibility of the proposed Project. The assumed parameters of the analysis points used in the production of the ZTV are preliminary. The ZTV is draft only and used as a guide to this section of the EIA Scoping Report.



Legend

- Scoping Boundary
- Distance Offsets from Landside Terminal
- New Forest National Park Boundary

New Forest National Park Landscape Character Areas (from NFNP Landscape Character Assessment, 2015) &

New Forest District Council Landscape Character Areas (from New Forest District Landscape Character Assessments, 2001)

- 12 - Hythe and Ashurt Forest Farmlands
- 13 - Waterside Parishes (New Forest District Council)
- 14 - Fawley Refinery Complex (New Forest District Council)
- 15 - North West Solent Estates
- 23 - New Forest Central Woodlands
- 25 - Beaulieu Heath
- 26 - Beaulieu River
- 27 - Eastern Forest Heaths

Note:
Boundaries indicated are taken from the NFNP Landscape Character Assessment, 2015 and are generally coincidental with the New Forest District Landscape Character Assessment, 2001, LCA boundaries



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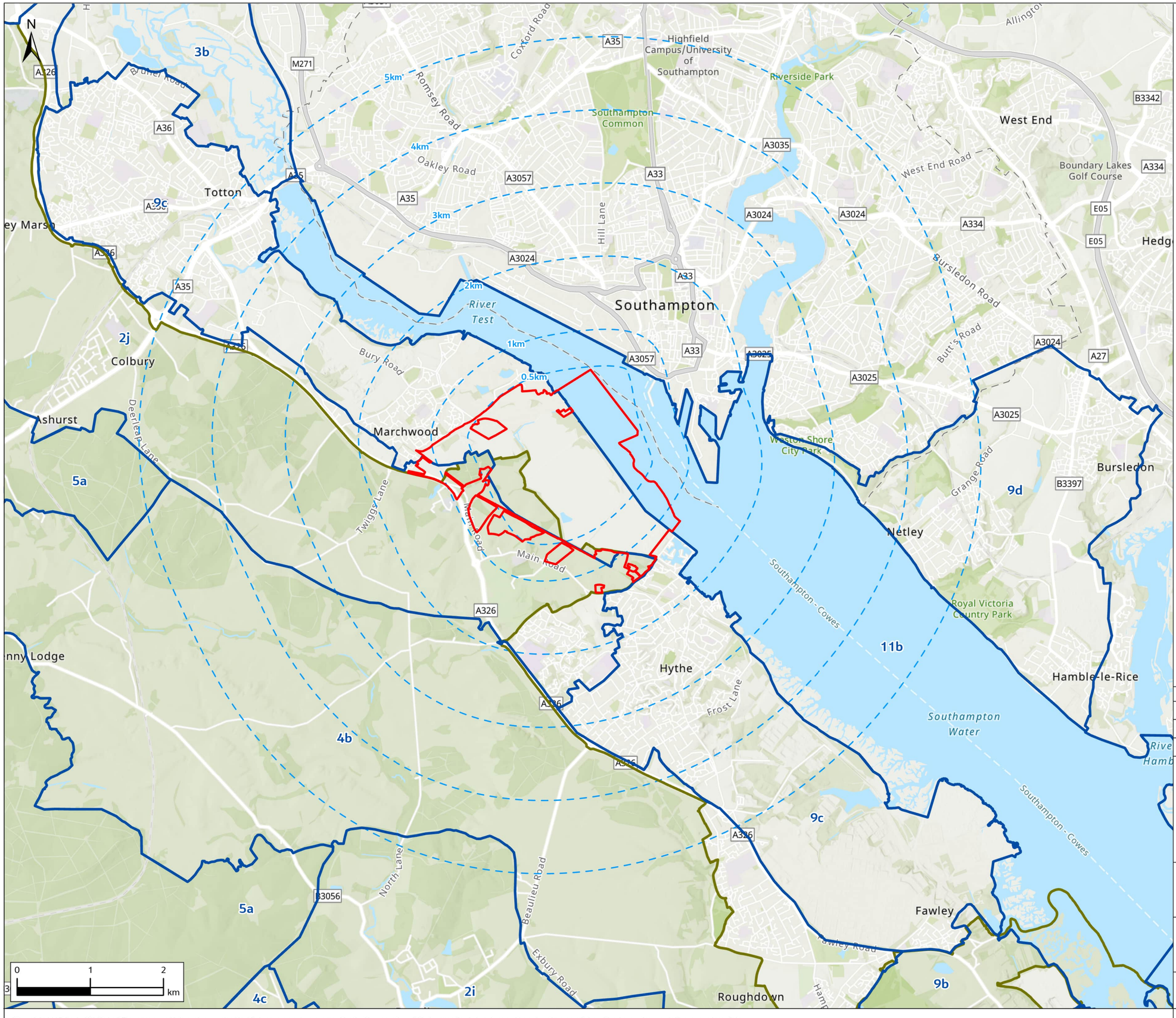
NEW FOREST NATIONAL PARK & NEW FOREST DISTRICT COUNCIL LANDSCAPE CHARACTER AREAS

Drawing No.	Drawing Status
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Figure 16.4

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Legend

- Scoping Boundary
- Distance Offsets from Landside Terminal
- New Forest National Park Boundary

Hampshire County Council Landscape Character Areas: (from Hampshire County Integrated Character Assessment, 2012)

- 2i - Upper Beaulieu and Hartford Heath Wooded Farmland
- 2j - Copythorne and Ashurst Heath Associated Wooded Farmland
- 3b - Test Valley
- 4b - New Forest Open Eastern Heath
- 4c - Beaulieu Open Heath
- 5a - New Forest Central and North Woodlands and Plantations
- 9b - South East New Forest Coastal Plain
- 9c - New Forest Waterside
- 9d - Netley Bursledon and Hamble Coastal Plain
- 11b - Southampton Water



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Project: SOLENT GATEWAY 2

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Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100057

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Figure 16.5

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16.4.25 The extent and nature of views within the study area is determined by a combination of topography and intervening urban/industrial development and vegetative features, such as woodland and hedgerows.

16.4.26 Topography within the study area is relatively low-lying and there are no pronounced features that allow elevated, extensive views towards the location of the proposed Project. Views from within dense urban and industrial areas are typically screened by intervening built structures. More open or distant views are limited to the outer margins of urban/industrial areas.

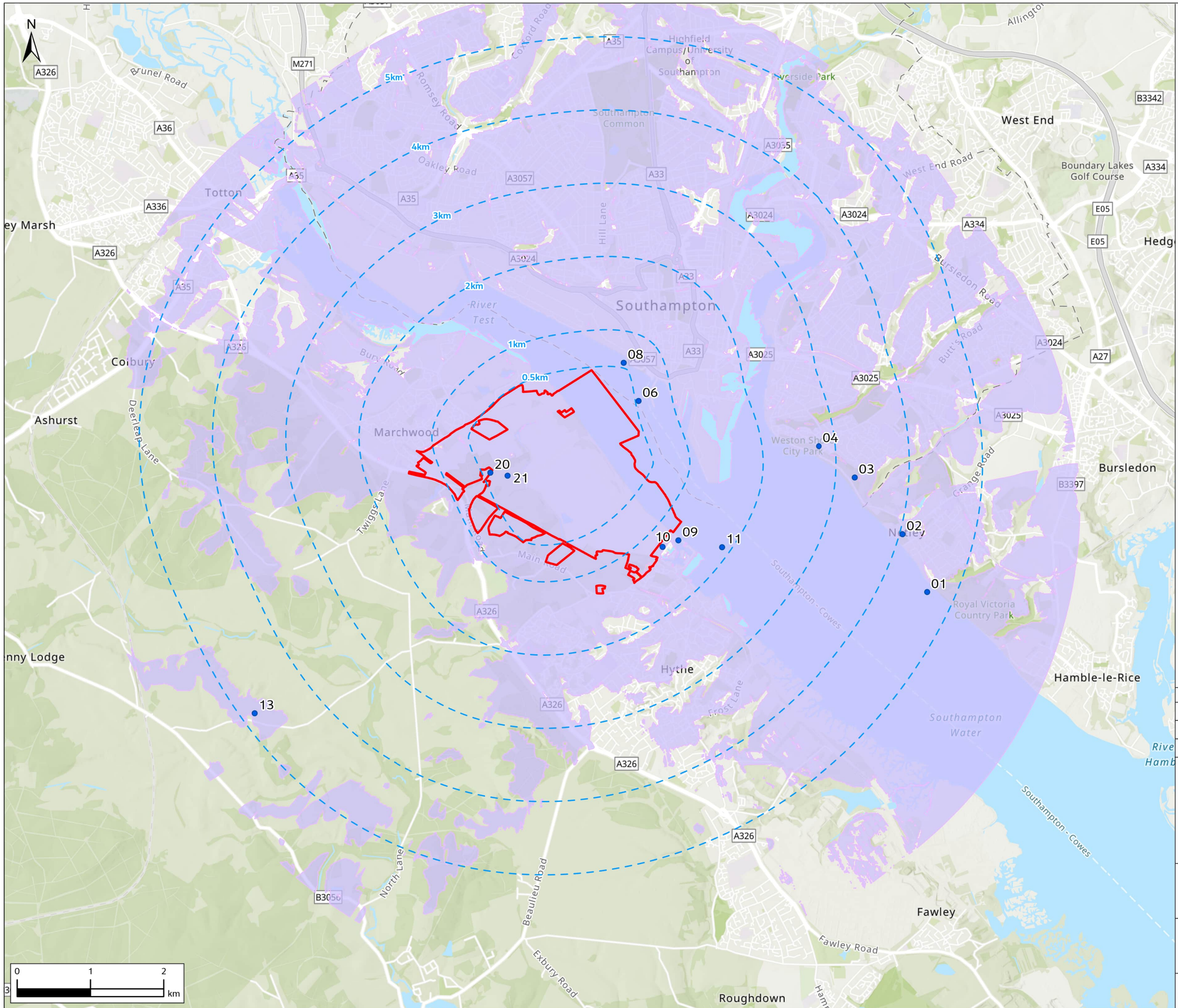
16.4.27 Views towards the site from within the National Park are also limited by a combination of gently rising topography and dense areas of woodland, scrub and boundary vegetation. The draft ZTV for the proposed Project (**Figure 16.6**) and initial site observation confirms the limited intervisibility from within the National Park towards the location of the proposed Project. These findings are preliminary only and subject to detailed assessment.

Views towards the site

16.4.28 The availability of close-range views towards the proposed Project is limited. The proposed Landside Terminal and road access are enclosed from the wider landscape to the west by a dense framework of woodland belts that define pasture fields to the south. There are dense woodland blocks to the west of the proposed Landside Terminal and belts of dense vegetation along the Fawley branch line.

16.4.29 Views from receptors to the south and west of the proposed Project (residential properties at Dibden, Bramshott Hill, along Veal's Lane and other individual properties) are effectively screened by intervening belts of field boundary vegetation, woodland and subtle variations in local topography. Views from the PRoW immediately to the west of the location of the proposed Landside Terminal are also predominantly screened by a combination of the raised earth bank and dense hedgerow and scrub vegetation alongside the path.

16.4.30 Potential views from receptors at Marchwood are effectively screened by intervening woodland, industrial units and structures within Marchwood Military Port and Cracknore Industrial Park. Similarly, potential views from receptors at Hythe to the south are screened by dense vegetation belts and local topographical variation.



Legend

- Scoping Boundary
- Distance Offsets from Landside Terminal
- Representative Viewpoint Location (Preliminary and subject to approval)
- Zone of Theoretical Visibility (Preliminary)

Notes:

ZTV analysis:

- The ZTV is a ***draft output only*** based on preliminary information.
- ZTV analysis points based on proposed development height of 25m on FFL of 6mAOD.
- The Digital Terrain Model is based on topographical level data only. Existing buildings and woodland areas are not included in the DTM.
- Observers eye level 1.7m.
- Analysis adjusted for earth curvature / refraction



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Jacobs No. B2488100

ABP | ASSOCIATED BRITISH PORTS

Project

SOLENT GATEWAY 2

Drawing Title

ZONE OF THEORETICAL VISIBILITY & REPRESENTATIVE VIEWPOINT LOCATIONS (PRELIMINARY)

Drawing No.	Drawing Status
S6585-MDEC-ZZ-ZZ-DG-EC-0100058	FINAL

Figure 16.6

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16.4.31 Hythe Marina Village is the settlement in closest proximity to the Scoping Boundary. Potential views towards the location of the proposed Project from residential properties are obstructed by a steeply-rising earth bund along the north-western boundary of the village. The bund supports dense pockets of tree and shrub planting that further restrict potential views to the north-west.

16.4.32 A local footpath network traverses a pocket park on the upper sections of the bund. The elevated vantage point allows open or framed views north and west across the reclaimed land, Southampton Water and the River Test and major port facilities in the north.

16.4.33 Properties on the outer northern margins of Hythe Marina Village obtain open views to the north and east across Southampton Water and the River Test. The backdrop to views are the major port facilities within the Eastern and Western Docks. Properties located in the central northern area of Hythe Marina Village may obtain an oblique view north-west to the eastern-most marine area within the Scoping Boundary.

16.4.34 Seating areas along the northern waterfront of the village also obtain expansive, open views across Southampton Water and River Test to the north / north-east. Docklands and shipping vessels dominate the scene, and there are views to woodland scrub within the Scoping Boundary, located between the proposed Landside Terminal and the tidal River Test.

16.4.35 There are expansive views from the northern end of Hythe Pier. The proposed Marine Facilities would be visible in oblique views north-west from the village. The eastern margins of the Landside Terminal would also be visible from Hythe Pier.

16.4.36 There are views from the east bank of the River Test towards the proposed Project. Mayflower Park and Town Quay are two publicly accessed areas on the Southampton city waterfront. Port facilities, cranes and large vessels dominate the skyline to the east and north-east. Stacks at Marchwood Power Station and the domed Marchwood waste transfer station are prominent in the view.

16.4.37 Stacks at Fawley Oil Refinery are visible above a treed horizon to the south-east. The view towards land within the Scoping Boundary is across the expansive foreground of the River Test to a narrow, wooded horizon on gently rising topography, seen below a vast sky. Electricity pylons punctuate the wooded horizon but otherwise there is no visible built development between Marchwood Military Port and Hythe Marina Village.

16.4.38 Distant views across Southampton Water are also obtained from coastal margins in the eastern study area. These include users of the Solent Way footpath and receptors at Netley Castle and Royal Victoria Country Park.

16.5 Future Baseline

16.5.1 Land within the Scoping Boundary is assumed to continue to be held on a short-term tenancy basis for agricultural use. Designated land (Ancient Woodland and SSSI) will remain protected and managed.

16.5.2 Future development of the Town Quay area will include high rise buildings and a hotel. In context of existing urban, dockland and industrial features prevalent within the study area, proposed future development is unlikely to significantly alter existing visual or landscape character within the study area.

16.5.3 The future baseline is not predicted to significantly alter from that existing.

16.6 Potential Impacts

Overview of Potential Landscape & Seascape Character Effects

16.6.1 Potential significant effects are anticipated upon landscape character within the proposed Project area. The area is visually isolated from adjoining land areas and the potential influence of intrusive, neighbouring features is reduced. The proposed Landside Terminal would fundamentally alter the character of existing coastal grassland and scrub margins found within the Scoping Boundary.

16.6.2 General effects across the New Forest Waterside/Waterside Parishes LCAs are not, however, predicted to be significant due to limited intervisibility between the site and wider landscape as a whole and the prevalence of comparable industry, urban and infrastructure development that is an existing, key characteristic of these LCAs.

16.6.3 LCAs that would be directly affected by the proposed road access also include LCA 9C: New Forest Waterside (HCC) and LCA 2J: Copythorne and Ashurst Heath Associated Wooded Farmland (NFDC). Predicted effects are similarly expected to be significant at a local level but not significant across the wider LCA due to the visual containment of the immediate site environs and lack of intervisibility across the wider area.

16.6.4 The proposed Marine Facilities would extend into LCA 11B: Southampton Water (also part of the Marine Character Area: 5 The Solent). Proposed structures, and

the presence of commercial vessels, would be visually compatible with existing jetties and shipping activity that is highly prominent within the tidal River Test and Southampton Water.

16.6.5 The open nature of the LCA would allow clear intervisibility with the proposed Landside Terminal, at both close and distant ranges. Perceptually the busy maritime nature of the LCA and the industrialised/urbanised upper reaches of the LCA indicates that the proposed Project would be in keeping with well-established key characteristics. However, in views from the LCA to the NFNP (notably those from the ferry crossing that forms part of the Solent Way recreational footpath route), the existing site is undeveloped and provides a distinct visual break in urban/industrial features along the coastal margins. The effects of the proposed Landside Terminal on the western horizon, as experienced from the LCA, will be a key consideration within the LVSIA.

16.6.6 Effects of lighting upon night time landscape character will be assessed within the LVSIA, based on the lighting design and informed by a lighting impact assessment.

16.6.7 These effects will be scoped into the EIA. The LVSIA will not, however, assess LCAs featured within the study area that are either remote from the proposed Project and/or would clearly not be subject to potential significant effects.

16.6.8 The LVSIA process will require close liaison with the NFNPA and its partners to inform the assessment of potential landscape character and Special Qualities effects within the National Park.

Overview of Potential Visual Effects

Visual effects

16.6.9 The potential for significant effects on visual receptors is predicted to be confined to those within close proximity of the proposed Project.

16.6.10 High sensitivity receptors include occupants of residential properties, users of PRoWs and recreational open space. Receptor locations that may allow close range views towards the proposed Project include the following:

- Residential properties along Veal's Lane.
- Individual properties along the Hythe Road / A326 Marchwood Bypass, including The Pilgrim Inn and Merceode Lodge Care Home.
- Pumpfield Farm to the north of the Fawley branch line.
- Homes at Church Farm Close Park.
- Individual properties along Main Road, including those at Bramshott Hill in proximity to All Saints Church and Dibden.

- West Cliff Hall Residential Care Home.
- Mayflower Park.
- Town Quay.

16.6.11 Receptor locations at Hythe Marina Village allowing potential views towards the proposed Project include the following:

- Elevated paths through the pocket park off Endeavour Way, to the northwest of Hythe Marina Village.
- Oblique views to the north-west from the northern margins of the marina.

16.6.12 Receptors within Hythe are not predicted to obtain views of the proposed Project due to intervening vegetation and topographical features. Hythe Pier will allow an open, albeit distant view towards the proposed Project.

16.6.13 Other receptor locations that may be subject to visual effects are generally confined to margins along the north bank of the tidal River Test and Southampton Water. These include:

- Residential properties on the southern margins of Weston and Netley.
- Recreational users of waterfront parking and playground facilities of Weston Parade.
- Users of the Solent Way footpath to the east of the River Itchen.
- Residential properties at Netley Castle.
- Parkland to the south of Abbey Hall, off Victoria Road.
- Royal Victoria Country Park (Registered Park and Garden).

16.6.14 Potential significant visual effects to receptor sites within the National Park are predicted to be limited to those within the Scoping Boundary to the north of the Fawley branch line, in closest proximity to proposed Project.

16.6.15 Potential effects across the wider NFNP will remain a critical consideration in the LVSIA process. ZTV and site analysis will seek to identify potential receptor sites within the National Park. Of note will be the identification of receptor sites to the south-west of the study area, particularly those in upland heath areas where there is a greater sense of isolation, with views less influenced by urban and industrial features.

16.6.16 The LVSIA process will also require close liaison with the NFNPA and its partners to inform the assessment of potential visual effects within the National Park.

Potential Impacts During Construction

16.6.17 Construction phase works and the sequence of works are described in **Section 2**.

16.6.18 The construction phase is predicted to be the most visually disruptive phase of the proposed Project. Physical effects to existing landscape features would occur during initial enabling works and site clearance. Visual effects would typically be considered ‘short term’ and temporary, lasting the duration of the construction phase.

16.6.19 **Table 16.2** identifies the potential impacts on Landscape, Seascape and Visual receptors related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 16.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Physical landscape features, including vegetation (woodland, trees, hedgerows, scrub etc.), topography, boundary features, etc.	Removal or alteration of existing landscape features, incurring landscape and / or visual effects	Construction	Yes	Construction phase activities will directly affect landscape features. The road access would directly affect existing woodland and dense field boundary vegetation to the south-east of Marchwood. The proposed Landside Terminal and access to the jetty would affect coastal margin grassland and well-established areas of woodland and dense scrub. Detailed assessment is necessary to determine effects.
Landscape character within the site and its immediate environs.	Direct effects upon the character of the site and upon NFDC 12 Hythe and Ashurst Forest Farmlands, 13 Waterside Parishes LCAs, HCC 11B Southampton Water (and other corresponding HCC LCAs) and South Marine	Construction stage plant movement, tall structures, temporary lighting, material stockpiles / storage, welfare facilities etc. Construction of road access, Landside Terminal and jetty.	Yes	The construction phase will directly affect landscape character.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Plan Area, MCA 5: The Solent			
Landscape character within the wider study area.	Indirect, visual and perceptual effects upon the character of NFDC 12 Hythe and Ashurst Forest Farmlands, 13 Waterside Parishes, 27 Eastern Forest Heaths LCAs, HCC 11B Southampton Water (and other corresponding HCC LCAs) and South Marine Plan Area, MCA 5: The Solent	Construction phase plant movement, tall structures, temporary lighting, material stockpiles / storage, welfare facilities etc. Construction of road access, Landside Terminal and jetty	Yes	The temporary construction phase will indirectly affect character within neighboring areas of landscape. Effects will be primarily visual, with construction features and activity contrasting with existing landscape and visual character, potentially imposing an 'urbanising' effect upon adjoining areas of landscape. Perceptual character may also be affected across the wider study area.
Landscape character within the wider study area.	Indirect, visual and perceptual effects upon the character of LCAs: 14 Fawley Refinery Complex, 15 North West Solent Estates, 23 New Forest Central	Construction	No	The temporary construction phase is not predicted to incur likely significant effects to these LCAs. The LCAs are either substantially influenced by existing infrastructure, industry or other urbanising features to the degree the proposed Project will have no discernible effect, or the LCAs are at such distance that

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Woodlands, 25 Beaulieu Heath, 26 Beaulieu River (and other corresponding HCC LCAs) and HCC 9d Netley, Bursledon and Hamble Coastal Plain.			there is no or very limited intervisibility with the proposed Project, with indirect visual effects barely perceptible.
NFNP Special Qualities	Direct and indirect effects upon the Special Qualities of the NFNP	Construction	Yes	The temporary construction phase could have some direct or indirect effect upon NFNP Special Qualities.
Visual effects upon high sensitivity receptors. These include visitors / recreational users within the NFNP, residential occupants, users of public rights of way, recreational trails, cycleways, parks, public open space	Loss of visual amenity, obstruction or alteration of existing view characters	Construction	Yes	The temporary construction phase could affect high sensitivity visual receptors.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
and visitor attractions.				
Visual effects upon medium and low sensitivity receptors, including travellers on road, rail or paths, office workers, active sports facilities where the view is not a primary feature of the location.	Loss of visual amenity, obstruction or alteration of existing view characters	Construction	Yes, for selected receptors where notable or significant effects are predicted.	The temporary construction phase could affect visual receptors.

Potential Impacts During Operation

16.6.20 **Table 16.3** identifies the potential impacts on Landscape, Seascape and Visual Effects related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 16.3 Potential effects during the operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Landscape character within the site and its immediate environment.	Direct effects upon the character of the site and upon NFDC 12 Hythe and Ashurst Forest Farmlands, 13 Waterside Parishes LCAs, HCC 11B Southampton Water (and other corresponding HCC LCAs) and South Marine Plan Area, MCA 5: The Solent	Operational features: proposed built development includes tall buildings, access routes, extensive hardstandings for vehicle storage, cranes, boundary fencing, lighting and CCTV masts. Vehicular movement to and from site and within the site. Large vessels moored at the jetties and vessel movements.	Yes	Operational features will directly affect landscape character. The proposed Project will introduce built development that will unavoidably alter the character of existing areas of landscape that comprise open areas of grassland, scrub and woodland.
Landscape character within the wider study area.	Indirect, visual and perceptual effects upon the character of NFDC 12 Hythe and Ashurst Forest Farmlands, 13 Waterside Parishes, 27 Eastern Forest Heaths LCAs, HCC 11B Southampton Water (and other corresponding HCC LCA's) and South Marine	Operational features	Yes	Operational features could indirectly affect landscape character across the adjoining study area.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	Plan Area, MCA 5: The Solent			
Landscape character within the wider study area.	Indirect, visual and perceptual effects upon the character of LCAs: 14 Fawley Refinery Complex, 15 North West Solent Estates, 23 New Forest Central Woodlands, 25 Beaulieu Heath, 26 Beaulieu River (and other corresponding HCC LCA's) and HCC 9d Netley, Bursledon and Hamble Coastal Plain	Operational features	No	The operational phase is not predicted to incur likely significant effects to these LCAs. The LCA's are either substantially influenced by existing infrastructure, industry or other urbanising features to the degree the proposed Project will have no discernible effect, or the LCA's are at such distance that there is no or very limited intervisibility with the proposed Project, with indirect visual effects barely perceptible.
NFNP Special Qualities	Direct and indirect effects upon the Special Qualities of the NFNP	Operational features	Yes	Operational features will have some direct or indirect effect upon NFNP Special Qualities.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Visual effects upon high sensitivity receptors, including, visitors / recreational users within the NFNP, residential occupants, users of public rights of way, recreational trails, cycleways, parks, public open space and visitor attractions	Loss of visual amenity, obstruction or alteration of existing view character	Operational features	Yes	Operational features will affect high sensitivity visual receptors.
Visual effects upon medium and low sensitivity receptors, including, travellers on road, rail or paths, office workers, active sports facilities where the view is not a primary feature of the location.	Loss of visual amenity, obstruction or alteration of existing view character	Operational features	Yes, for selected receptors where notable or significant effects are predicted.	Operational features will affect visual receptors.
	Indirect, visual and perceptual effects upon the character of NFDC 12 Hythe	Operational features	Yes	Operational features will affect high sensitivity visual receptors.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	and Ashurst Forest Farmlands, 13 Waterside Parishes, 27 Eastern Forest Heaths LCAs, HCC 11B Southampton Water (and other corresponding HCC LCAs) and South Marine Plan Area, MCA 5: The Solent	Operational features	Yes, for selected receptors where notable or significant effects are predicted.	Operational features will affect visual receptors.

16.7 Mitigation

Embedded Mitigation

16.7.1 The proposed Project will be developed with the aim of reducing its potential environmental impacts, including those relating to landscape and visual resources. Although not yet determined, measures to be adopted could include:

- Retention and reinforcement of existing woodland, scrub and hedgerow wherever practicable.
- Building facades and external structures to be visually 'clean' and uncluttered.
- The colour palette for the external structures and facades would be based around a complimentary series of muted colours appropriate to the landscape and visual setting.
- External lighting would be designed to minimise nighttime light spill – subject to other matters such as health and safety requirements.

Specific Landscape and Visual Mitigation Measures

16.7.2 The LVSIA will identify mitigation measures that are appropriate to the existing landscape and visual character, with the aim of either reducing or reversing potential adverse impacts. Proposed mitigation measures would be aimed at screening potential views towards the proposed Project, integrating it within its landscape setting and reinforcing existing landscape character.

16.7.3 Given the location of proposed land-based infrastructure and the existing landscape setting, the introduction of dense woodland planting is being considered as a potential key component of proposed mitigation. Woodland planting may be combined with the use of earth bunding, to provide immediate screening benefits and accelerate the benefits of establishing woodland. Other measures may include the reinforcement and enhancement of existing retained landscape features, including hedgerows, woodland and other vegetation belts.

16.7.4 Mitigation measures will be described in the LVSIA and be factored into the assessment of long-term landscape and visual effects.

16.8 Approach to Assessment and Data Gathering for ES

16.8.1 **Table 16.4** summarises the key data and guidance that will be gathered or implemented as part of the LSVIA process.

Table 16.4 Proposed data collection and guidance for LVSIA

Data	Year	Coverage	Data Confidence	Notes
Guidelines for Landscape and Visual Impact Assessment, 3rd Edition	2013	Accepted guidance for the production of LVIAs	High	Guidelines setting out methodology and approach to LVIA, adapted to suit project. Specific methodology to be tailored to the proposed Project and agreed with local authorities.
Landscape Institute Technical Guidance Note 06/19, Visual Representation of Development Proposals	2019	Accepted guidance for the production of photomontages	High	Agree the level of 'Accurate Visual Representation' (AVR, Levels 0 to 3) with local authorities.
Consultation with local authority landscape officers	Ongoing	Defining scope of the LVIA study	Ongoing	Defining scope of the LVIA study
Ordnance Survey 1:25,000 raster mapping	2025	Study Area	High	Base mapping
Ordnance Survey Terrain 5 height data	2025	Study Area	High	For ZTV, inner 3km of study area
Ordnance Survey Terrain 50 height data	2025	Study Area	High	For ZTV, study area beyond 3km
Natural England, National Character Area profiles	2025	National Character Areas within study area	High	Baseline, high level landscape character areas within study area
HCC, Hampshire County Integrated	2010 - 2012	Landscape character areas	High	Baseline, local level landscape character

Data	Year	Coverage	Data Confidence	Notes
Character Assessment		and landscape types outside the NFNP		areas and types within study area.
NFNP Landscape Character Assessment	2015a	Landscape Character Areas and landscape types within the NFNP	High	Baseline, local level landscape character areas and types within study area
NFNP Landscape Action Plan	2013	NFNP within the study area	High	Baseline, identification of NFNP Special Qualities, objectives for landscape conservation and enhancement.
NFNP Tranquil Area Mapping	2015b	NFNP within the study area	High	Identification of baseline tranquility within NFNP
New Forest District Landscape Character Assessment – superseded by later studies	2000	New Forest Landscape Character Areas (superseded)	High	Baseline, local level landscape character areas and types within study area (superseded)
Public rights of way, HCC and Southampton City Council online mapping	2025	Public rights of way and long distance paths within the study area	High	Baseline, potential receptors
Historic England GIS datasets	2025	Registered Parks and Gardens, Scheduled Monuments and Listed Buildings within the study area	High	Baseline, potential receptors

Data	Year	Coverage	Data Confidence	Notes
MAGIC online mapping	2025	National Park and National Character Area boundaries	High	Baseline, potential receptors
NPPF	2025	National planning policy	High	Landscape and visual related national policy
National Policy Statement for Ports	2012	National planning policy	High	Landscape and visual related national policy
NFDC, Core Strategy & Local Plan Review	2020	Local planning policy	High	Landscape and visual related local policy/receptors
NFNP, Core Strategy & DPD, Local Plan	2010-2018	Local planning policy	High	Landscape and visual related local policy/receptors
NFNP, supplementary planning guidance Design Guide & Development Standards	2022 & 2012	Design guidance	High	Of potential relevance to development of mitigation measures
Southampton City Council, Core Strategy, Local Plan, City centre Action Plan	2006-2015	Local planning policy	High	Landscape and visual related local policy/ receptors
Eastleigh Borough Council, Local Plan (2016-2036)	2022	Local planning policy	High	Landscape and visual related local policy/ receptors

16.9 LVSIA Assessment Methodology

16.9.1 The methodology for the LVSIA will be based on the general recommendations set out in Guidelines for Landscape and Visual Impact Assessment (GLVIA) (Landscape Institute & IEMA, 2013). The proposed LVSIA methodology will be agreed in advance with SCC, NFDC, the National Park and Natural England. Broadly, it is proposed that the assessment process will comprise:

- Establishment of the landscape baseline condition through identification of physical and perceptual landscape characteristics within the site and the surrounding study area.
- Establishment of the visual baseline condition through identification and analysis of the existing visual resource that may be affected including the extent and nature of principle views to the proposed Project from visual receptors in the study area.
- Identification of landscape and visual receptors to be assessed and assignation of their sensitivity to change.
- Assessment of the occurrence, magnitude and significance of the effects of the proposed Project on landscape and visual receptors, based upon a defined construction methodology and description of activities and phasing.
- Iterative development of design changes and/or mitigation measures to avoid, reduce or offset identified adverse effects.
- Re-assessment of effects, on the assumption of established mitigation measures being in place and identify any residual effects.

16.9.2 Two categories of effects will be considered:

- Landscape (and seascape) effects that relate to changes in the physical fabric, and/or character of the landscape (and seascape).
- Visual effects that relate to changes that would occur in the composition of view character as a result of implementing the proposed Project. Receptors include residents and users of PRoWs, roads and recreational facilities.

16.9.3 Published assessments appear to provide a comprehensive description of existing landscape character and the LVSIA will provide a comprehensive baseline assessment of this. Commentary will be provided where the site-specific assessment varies from published assessments.

Project-specific Methodology

16.9.4 Certain aspects of LVSIA methodology will be defined by the proposed Project, its characteristics and landscape setting. The following will be agreed in advance with the relevant local authorities:

- Extent of the study area.
- Representative viewpoint locations.
- Determination of landscape sensitivity (where the LVSIA process identifies variance of sensitivity from existing landscape character studies).

- Determination of visual receptor sensitivity (where different to the general sensitivity ranking identified in the LVSIA methodology).
- Use of ZTV mapping (to determine whether basic ZTV mapping or specialised mapping should be used). The LVSIA will identify both direct effects upon landscape character and indirect effects across the wider study area, including night-time effects of proposed lighting.
- Identification of the potential for cumulative effects and agreement on the extent of other development to be considered in the assessment.
- Agreement of photomontage view positions and development stages to be modelled and illustrated.
- Agreement of average vegetation growth rates to be used in photomontage views and for the purposes of assessing the effectiveness of mitigation measures over time.

16.9.5 Where a receptor cannot be directly accessed (for example, the rear elevation of a private property), the visual assessment will be made from publicly accessible footpaths, open space or public highways in closest proximity that receptor. For certain receptors, accurate visual assessment (with a high level of confidence) may only be possible where landowner permission is granted to access land.

Representative viewpoints

16.9.6 Representative viewpoints will be used as part of the LVSIA. Viewpoints will be selected through the LVSIA process and discussion with SCC, NFDC and the NFNPA. The selection of viewpoints will identify locations "*reasonable and necessary to cover the likely significant effects*". When selecting viewpoints, "*emphasis must always be on proportionality in relation to the scale and nature of the development proposal and its likely significant effects*" (GLVIA, 6.21).

16.9.7 Based on preliminary desktop study and site investigation, **Table 16.5** lists potential representative viewpoint locations, with locations illustrated on **Figure 16.6.**

Table 16.5 Preliminary representative viewpoint locations

Representative Viewpoint Location	Location description	Commentary
01	Royal Victoria Country Park	An important recreational facility and Grade 2 listed Park and Garden. Fenced and vegetated boundary to the south screens or filters certain views across Southampton Water. Worst case

Representative Viewpoint Location	Location description	Commentary
		views from access road to the outer, western margin of the park.
02	Solent Way footpath / residential flats at Netley Castle.	Outer margins of the property curtilage.
03	Solent Way footpath	The location is also alongside popular car park facilities with views across Southampton Water. More open, distant views towards the proposed Marine Facilities and Landside Terminal than location 12.
04	Solent Way footpath / public open space	The location is also close to public open space facilities. Views towards the proposed Marine Facilities and Landside Terminal partially screened by the intervening quayside at Eastern Docks.
06	Town Quay	An important vehicular and pedestrian ferry terminal that provides a link across Southampton Water for the named Solent Way footpath. Open views towards the proposed Marine Facilities and Landside Terminal.
08	Mayflower Park	Important recreational open space fronting onto the tidal River Test with open views towards the proposed Marine Facilities and Landside Terminal.
09	Hythe Marina Village	The outer, northern margin of the marina allows views of the northern and eastern areas of the proposed Project. Representative of potential oblique views from northernmost properties within Hythe Marina Village.
10	Public open space off Endeavour Way	Elevated vantage point from a pocket park. Considered to be the worst case view towards the proposed Project.

Representative Viewpoint Location	Location description	Commentary
11	Hythe Pier	An important pedestrian ferry terminal that provides a link for the Solent Way footpath, across Southampton Water
13	Heathland areas within NFNP	Final location (or locations) will be subject to detailed ZTV and site analysis during the ZTV process.
20	Footpath 126/10/2	Footpath and residential property receptor location to the west of the proposed Project.
21	Footpath 126/10/2	Footpath location to the west of the proposed Project.

16.9.8 There are relatively minor, incremental changes between views 01, 02, 03 and 04. Selection of two of these locations will be sufficient to describe the predicted effects, with the locations selected subject to agreement.

Landscape sensitivity

16.9.9 The sensitivity of identified landscape receptors is derived from a judgement of the value attached to a landscape and its susceptibility to the specific change associated with the type of development being assessed. It should be noted that the sensitivity of a landscape receptor to the type of development being assessed may be different to the inherent sensitivity that may be identified in general landscape character assessments or other sensitivity studies.

16.9.10 The LVSIA will attribute sensitivity values to landscape receptors (either directly and indirectly affected) based upon existing published studies and the proposed LVSIA methodology.

16.9.11 Landscape areas within the NFNP are of highest value. However, susceptibility to change may be affected at a local level by factors relating to pattern, complexity and physical aspects of the landscape and visual/ experiential susceptibility. Factors include perceptual qualities, the nature and extent of intrusive features and degree of landscape enclosure or openness.

16.9.12 The eastern pocket of the National Park extends towards the reclaimed land and the boundary abuts industrial zones at Marchwood Military Port and urban fringes to north and west of Hythe and Dibden Purlieu. The boundary crosses over and encompasses the busy A326 road, Main Road between Hythe and Marchwood and a section of the Fawley branch line.

16.9.13 An overhead electricity line on pylons crosses the eastern margin of the National Park and is often prominent against the skyline. National Park tranquillity mapping identifies that this edge of the National Park is less tranquil and is adversely influenced by development activity. Landscape areas in proximity to the proposed Project are likely to be considered less sensitive to change in comparison to the wider landscape within the National Park.

16.9.14 As part of the LVSIA methodology, landscape sensitivity of specific landscape character areas and other landscape receptors, will be agreed as far as is possible with relevant local authorities and stakeholders (NFDC, SCC, the NFNPA and Natural England) in advance of final reporting.

16.9.15 Based on this, assessment of the proposed Project effects upon the landscape has been scoped into the EIA.

New Forest National Park Special Qualities

16.9.16 The LVSIA will specifically address potential landscape and visual effects that relate to the Special Qualities of the National Park, namely (NFNP Management Plan, 2010-2015):

"The special qualities of the New Forest are those qualities that define it, make it unique and immediately recognisable and, when taken together, distinguish it from all other parts of the country. These qualities are fundamental to the two purposes of the National Park and are the underlying reason for its designation".

Use of ZTV mapping

16.9.17 The DTM used in ZTV mapping at the LVSIA reporting stage will include selected woodland and other significant areas of vegetation based upon online aerial mapping and site observation. Existing buildings will be incorporated using digital OS data. Heights used for both vegetation and buildings will be 'generic' and conservative estimates (e.g. existing woodland set to 10m height).

16.9.18 ZTV mapping will, however, still present a worst case and will be used as a guide only for site-based survey to enable the final selection of representative viewpoint locations and determine the possible extent of landscape and visual effects.

16.9.19 ZTV studies will include analysis based on the tallest proposed built structures. Separate studies may also be appropriate to determine the ZTV for tall lighting masts or temporary features, including tall plant and cranes used during construction.

16.9.20 ZTV analysis may also be used to determine the cumulative effect of combined major developments, as agreed with local authorities during the LVSIA reporting stage.

Use of photomontages

16.9.21 Photomontages will be prepared to illustrate the effect of the proposed Project within an existing photographed scene. Subject to agreement, photomontages will be used to illustrate the effects of the proposed Project at the following key stages:

- Existing view (baseline).
- Construction stage (possibly split into separate phases of construction where distinct changes occur).
- Completed proposed Project at Year 1.

16.9.22 Completed proposed Project at Year 15 (to demonstrate the possible growth effects of landscape mitigation measures).

17 ARCHEOLOGY AND CULTURAL HERITAGE

17.1 Introduction

17.1.1 This section sets out the proposed scope for the assessment of effects on archaeology and cultural heritage from the Project. Specifically, this includes consideration of known and potential heritage in the marine and terrestrial environments.

17.2 Relevant Policy, Legislation and Guidance

17.2.1 The assessment will be undertaken to meet the requirements set out in the NPSfP, including paragraphs 5.12.6, 5.12.7, 5.12.8 and 5.12.9.

17.2.2 Similarly, the assessment will be undertaken to meet the requirements set out in the NPPF, specifically Section 16 *Conserving and enhancing the historic environment* paragraphs 202 to 214.

17.2.3 The assessment will also take into consideration the following latest statutory guidance, relevant policy and legislation including:

- Policy:
  - UK Marine Policy Statement (HM Government, 2011).
  - South Inshore and South Offshore Marine Plan (Defra, 2018).
  - UK Marine Strategy (Defra, 2019).
  - New Forest District Policy.
  - New Forest National Park Policy.
  - Southampton City Policy.
- Legislation:
  - Protection of Wrecks Act 1973: Section One and Two.
  - Ancient Monuments and Archaeological Areas Act 1979 (as amended).
  - Protection of Military Remains Act 1986.
  - Merchant Shipping Act 1995.
  - Ancient Monuments and Archaeological Areas Act (1979) (as amended).
  - Planning (Listed Building and Conservation areas) Act (1990).
  - The Historic Buildings and Ancient Monuments Act (1953).
- Guidance:

- Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning 2 (Historic England, 2015a).
- The Historic Environment in Local Plans: Historic Environment Good Practice Advice in Planning 1 (Historic England, 2015b).
- The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning 3 (Historic England, 2017).
- Marine Geophysics: Data Acquisition, Processing and Interpretation Guidance Notes (2nd Edition) (Historic England, 2025).
- Principles of Cultural Heritage Impact Assessment in the UK (IEMA, IHBC and CIfA, 2021).
- Standard and guidance for historic environment desk-based assessment (CIfA, 2020).
- Code of Conduct (CIfA, 2025).
- The Assessment and Management of Marine Archaeology in Port and Harbour Development (Cooper, V and Gane, T, 2016).
- Dredging and Port Construction: Interactions with Features of Archaeological or Heritage Interest (PIANC, 2014).

17.3 Study Area

17.3.1 The archaeology and cultural heritage study area is the area over which potential direct and indirect effects of the proposed Project may occur during construction and operation.

17.3.2 The direct effects on marine archaeology and cultural heritage are those confined to within the footprint of the proposed Project (i.e. site clearance, topsoil strip, earthworks, underground cable installation, installation of services, the jetty, the capital dredge and disposal of dredge material).

17.3.3 Indirect effects may arise from changes to coastal processes regime and from changes to the setting of heritage assets due to the presence of new infrastructure in the landscape.

17.4 Description of Existing Environment

Data Sources

17.4.1 The key data sources set out in **Table 17.1** have been used to gather the baseline information on Archaeology and Cultural Heritage and inform the scoping study.

Table 17.1 Key data sources

Title	Date
Dibden Terminal Environmental Statement (and supporting technical appendices)	ABP, 2000b
Southampton Approach Channel Dredge Environmental Statement	ABP, 2012
New Forest Rapid Coastal Zone Assessment Survey Phase 2: Field Assessment	Wessex Archaeology, 2010
United Kingdom Hydrographic Office (UKHO) records of wrecks and obstructions (from the Admiralty Marine Data Portal https://datahub.admiralty.co.uk/)	2025
Records of designated heritage assets from the National Heritage List for England (NHLE) (maintained by Historic England from https://historicengland.org.uk/listing/the-list/)	2025

Marine and Terrestrial Resource

17.4.2 The archaeology assessment undertaken for Dibden Terminal Environmental Statement (ABP, 2000b) identifies the land as being reclaimed during the 20th century, overlying Holocene deposits and Pleistocene gravels, including some areas of post-medieval and possibly earlier reclamation. In addition to the reclaim, the superficial geology (illustrated on **Figure 11.2**) includes tidal flats (normally a consolidated soft silty clay, with layers of sand, gravel and peat) and river terrace (sand and gravel) deposits. This overlays bedrock geology comprising sand, silt and clay (see **Figure 11.1**).

17.4.3 The assessment determined that there is archaeological potential associated with these deposits for material dating from the Palaeolithic period to the present day and further potential for palaeoenvironmental material and maritime material.

17.4.4 In areas of land reclaimed following World War II (WWII), the potential for encountering material with archaeological significance is reduced, but should not be assumed to be entirely absent. For example, in the 1950s, when Dibden Bay was reclaimed, several dozen ‘beetles’ (hollow concrete floats used to support the floating roadways of the Mulberry Harbours during WWII) were reused to create breakwaters to delineate the reclamation area which was subsequently infilled. As well as the archaeological interest of these ‘beetles’, derived artefacts within the reclamation material may also be of potential archaeological interest.

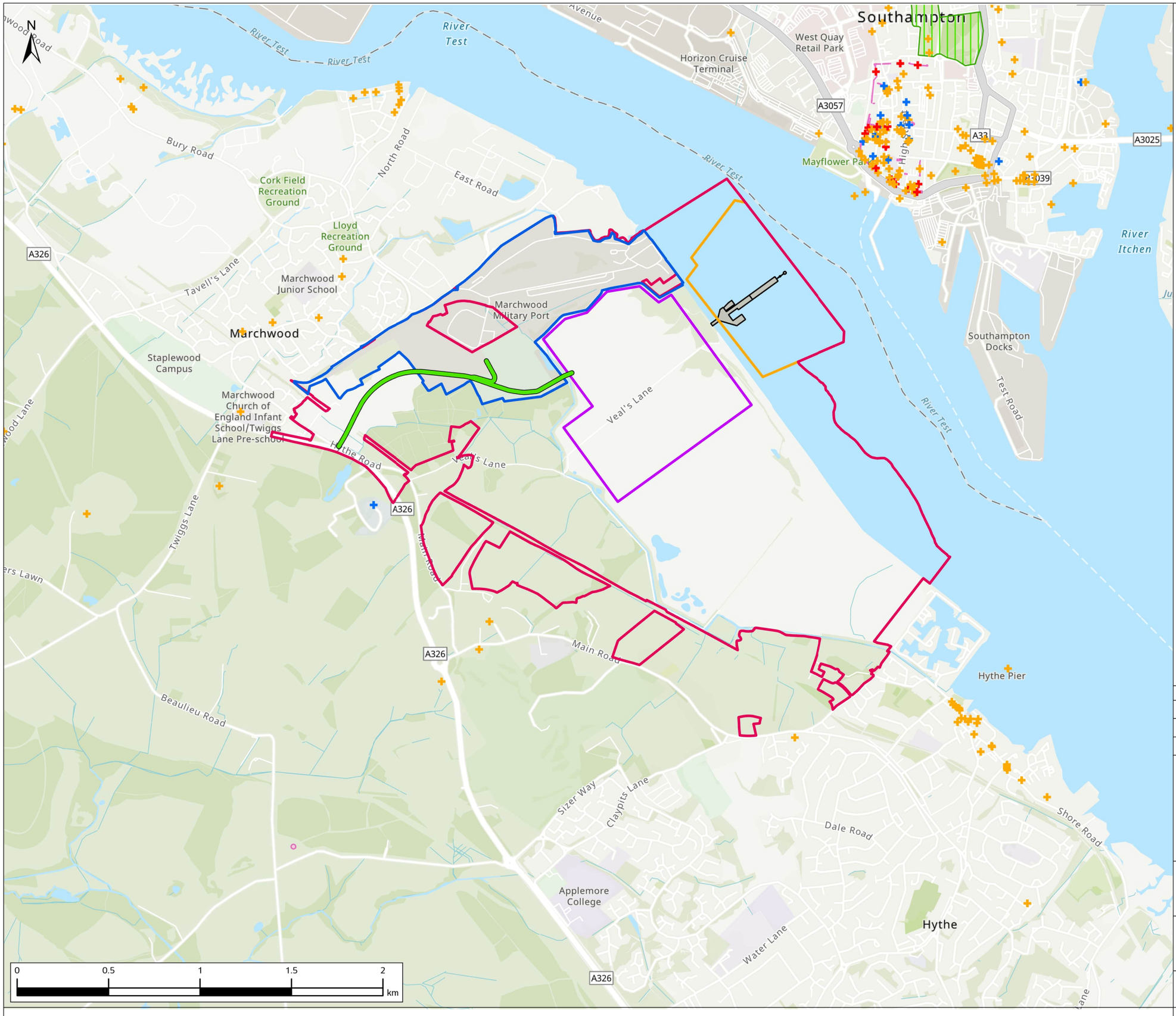
17.4.5 The importance of Southampton Water during D-day operations, with Dibden Bay as a main Mulberry Harbour assembly site, was raised in the Dibden Terminal assessment, associated with a strong level of public interest with the physical remains of the World Wars. The Dibden 'beetles' and other features are of continuing interest.

17.4.6 An assessment of cultural heritage was also undertaken for the Dibden Terminal Environmental Statement (ABP, 2000b). This focused on the potential impact of the development upon Listed Buildings, Conservation Areas and Historic Parks and Gardens (**Figure 17.1**). Although no designated sites were located within the proposed area of development, it was recognised that there was potential for the development to affect the settings of such heritage assets in the wider area. Attention was particularly drawn to potential impacts on the historic core of Southampton (Conservation Area), Marchwood Priory, Dun Clagh and the Marchwood Infants School (Listed Buildings) and Marchwood Park (locally important historic landscape). Similarly, there are no designated heritage assets within the currently proposed Scoping Boundary (**Figure 17.1**).

17.4.7 In 2010, field assessment, carried out by Wessex Archaeology for the New Forest Rapid Coastal Zone Assessment Survey (NFRCZAS), identified 436 new archaeological sites within the New Forest Coastal Stretches (Wessex Archaeology, 2010). Of the 436 sites identified, 58 are located within the scoping boundary. 34 of these relate to the Dibden 'beetles', while the remaining 26 largely relate to former dock structures, some of which relate to WWII. Several hulked vessels are also recorded. These are mapped on **Figure 17.2**.

17.4.8 In 2012, the Southampton Approach Channel Dredge Environmental Statement (ABP, 2012) also concluded that the area exhibits a high level of archaeological potential with respect to both prehistoric archaeology and more recent shipping and aircraft wrecks, both charted and uncharted. The desk-based assessment was supplemented with targeted geophysical survey and the archaeological assessment of geotechnical data.

17.4.9 Several geophysical anomalies of possible archaeological interest were identified as well as sub-seabed deposits of palaeoenvironmental interest. This informed a programme of pre-dredge archaeological works comprising archaeological diving, bulk sampling, geoarchaeological and palaeoenvironmental work and a protocol for archaeological discoveries. This work has since been presented as a good practice example for the management of marine archaeology in relation to port development and dredging (PIANC, 2014).



Legend

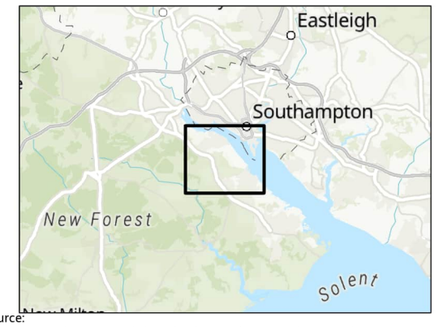
- Scoping Boundary
- Solent Gateway (Marchwood Military Port)

Listed Buildings

- I
- II
- II*
- Scheduled Monuments
- Registered Parks And Gardens

Proposed Project

- Indicative Access Road Alignment
- Dredge Envelope Area
- Terminal Boundary
- Jetty



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01	06/11/2025	Initial Issue	NM	GSP	DY	MSS

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Project: SOLENT GATEWAY 2

Drawing Title: DISTRIBUTION OF NHLE RECORDS

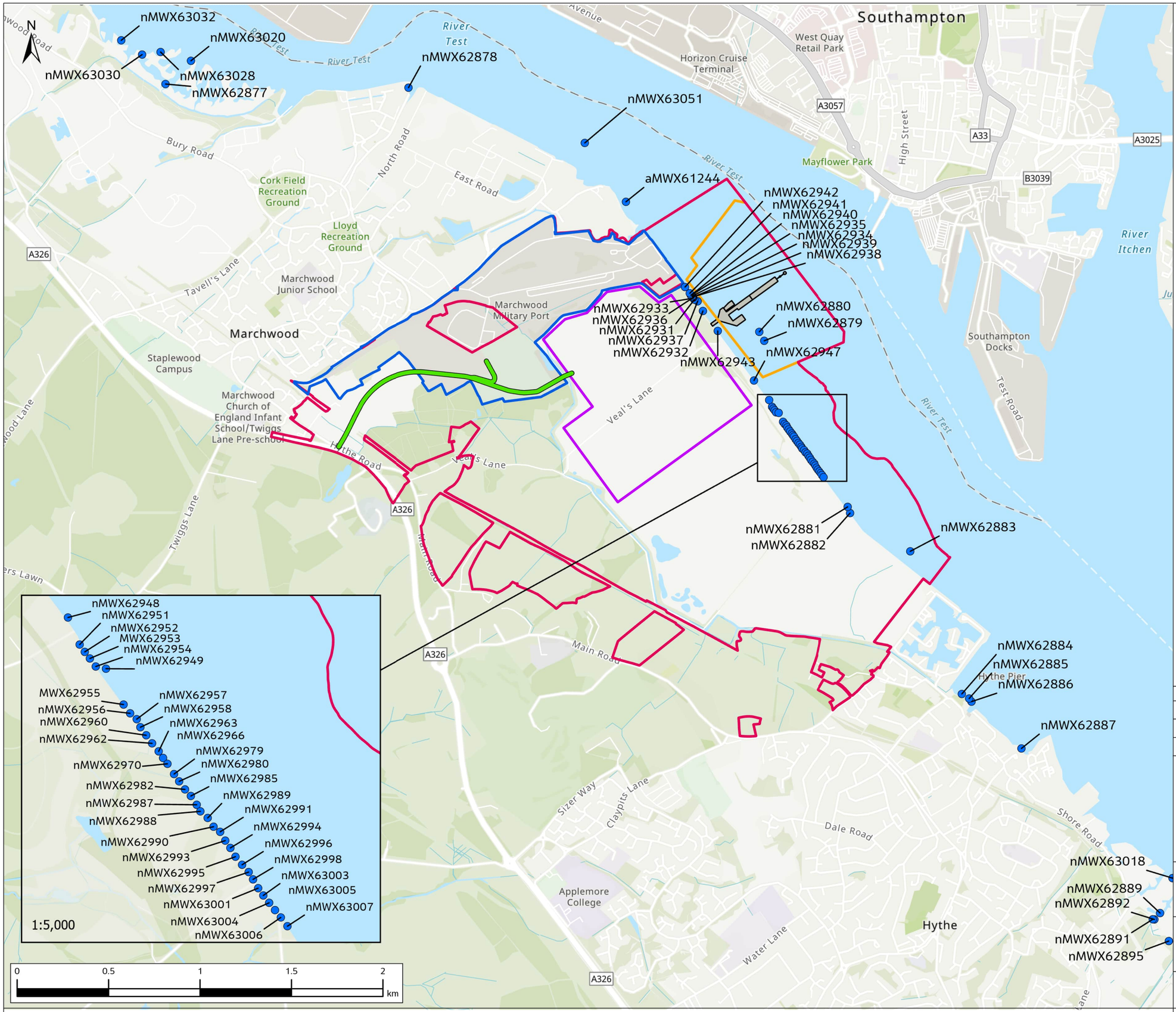
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Figure 17.1

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L:\B2488100_ABP_SG2\ArcGIS\004_Figures\EIA_Scoping\17_Archaeology_CulturalHeritage\Figure 17_1 Distribution of NHLE Records.aprx



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Figure 17.2

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L:\B2488100_ABP_SG2\ArcGIS\004_Figures\EIA_Scoping\17_Archaeology_CulturalHeritage\Figure 17_2 Distribution of NFRCZAS.aprx

17.4.10 The assessment of geophysical survey data undertaken by Wessex Archaeology in 2023 (Wessex Archaeology, 2023b) for the Southampton Western Docks Capital Dredge revealed a series of anomalies of archaeological potential. Of these, 14 are located within the capital dredge footprint for the proposed Project; 13 anomalies were identified only in the magnetometer data and one identified in both the magnetometer and side scan sonar data. All were interpreted A2 anomalies, meaning they are of anthropogenic origin and of potential archaeological interest. These are mapped on **Figure 17.2**.

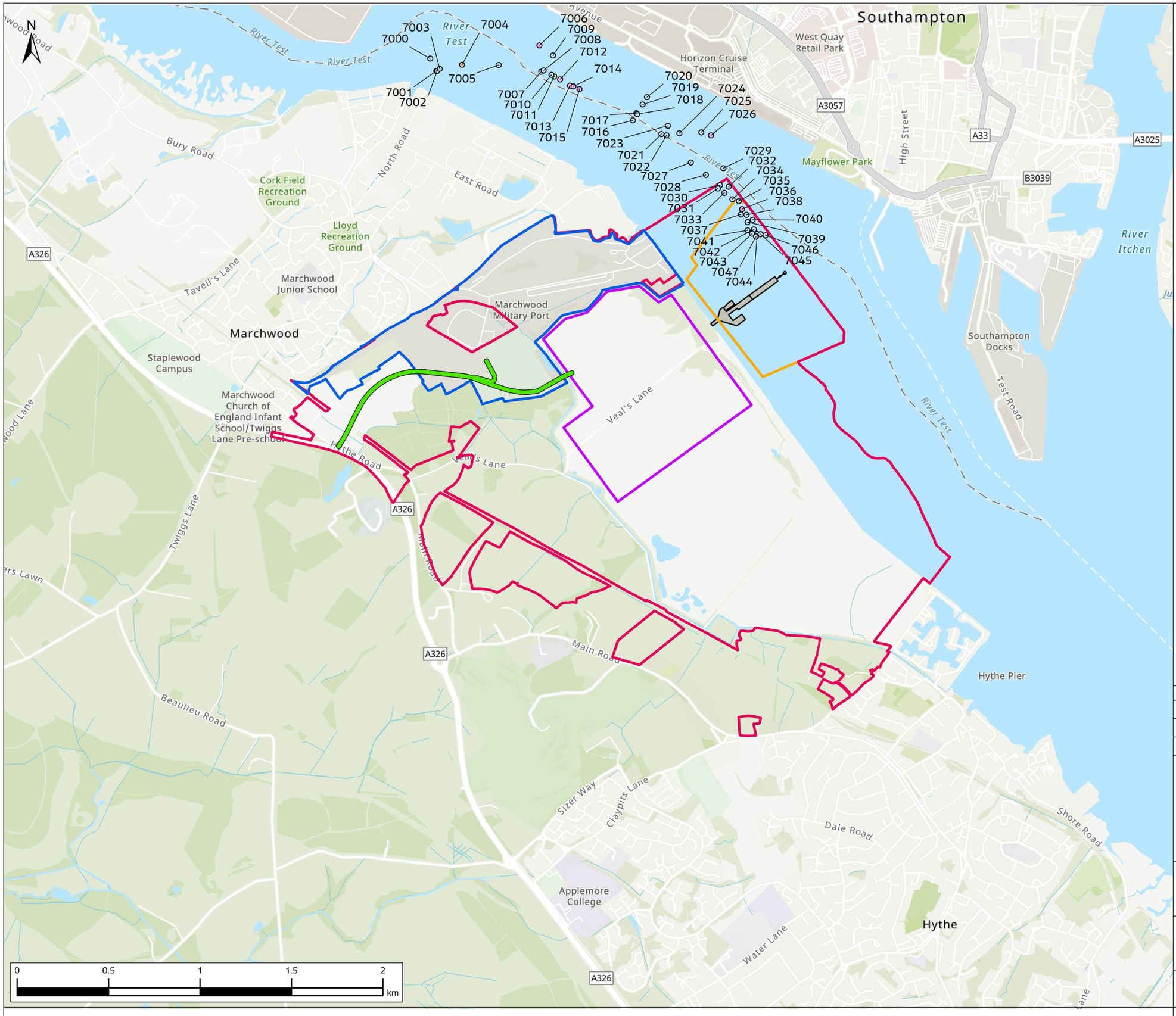
17.4.11 The United Kingdom Hydrographic Office (UKHO) records a single wreck (19317) within the proposed capital dredge footprint (**Figure 17.3**). This is a possible hopper barge which is visible on satellite images (**Figure 17.4**).

17.4.12 There is also the potential for aircraft crash sites, or debris associated with aircraft crash sites, to be uncovered. These would particularly relate to WWII, with the high levels of Allied and Axis air movement over the area during the Battle of Britain, the Blitz, and during the bombing of both Southampton and Portsmouth.

17.4.13 Most recently, geoarchaeological evaluation undertaken to the north of the scoping boundary, undertaken as part of the Solent Gateway project (Wessex Archaeology, 2024a, 2024b), indicated the presence of two Pleistocene terraces, equivalent to Terrace 1 (the Broadland's Farm Terrace) and Terrace 2 (the Hamble Terrace), as well as Pleistocene Head-Brickearth. The presence of the Hamble Terrace indicates that deposits with Middle Palaeolithic archaeological potential may be present towards the north of the site.

17.4.14 A broad area of Tidal Flat Deposits mapped by the BGS in the east of the site comprises estuarine alluvium, formed under the influence of relative sea level rise during the Holocene (MIS 1; 11.7 Kya to present) in the valley of the River Test.

17.4.15 Alluvium can describe a range of sediments that occur in riverine and estuarine environments, including both minerogenic (e.g. clays, silts and sands) and biogenic (e.g. peat) sediments. Alluvial clays, silts and sands are deposited within a range of settings from channel systems through to mud flats and salt marsh environments within intertidal floodplains.



Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)

Past Project Gazetteer

- Dark reflector
- Debris
- Magnetic
- Magnetic trend

Proposed Project

- Indicative Access Road Alignment
- Dredge Envelope Area
- Terminal Boundary
- Jetty



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Project

SOLENT GATEWAY 2

Drawing Title

DISTRIBUTION OF GEOPHYSICAL ANOMALIES (WESSEX ARCHEOLOGY,2023)

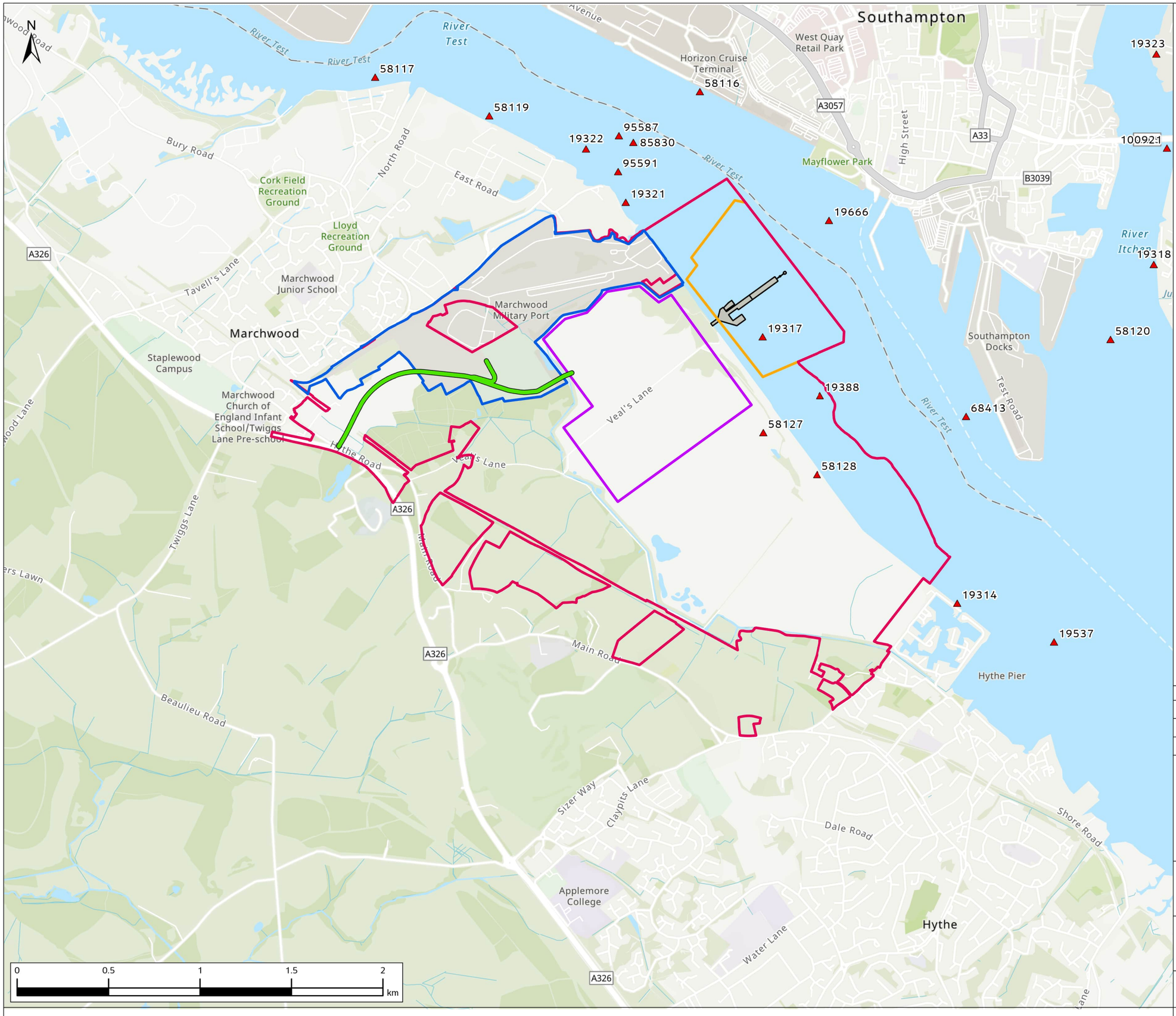
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Figure 17.3

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L:\B2488100_ABP_SG2\ArcGIS\004_Figures\EIA_Scoping\17_Archaeology_CulturalHeritage\Figure 17_3 Distribution of Geophysical Anomalies (Wessex Archaeology,



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Figure 17.4

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17.4.16 Alluvium, particularly in estuarine or intertidal contexts, has the potential to contain or mask deposits or palaeolandscape features of high potential such as former channels, buried land surfaces and peat or organic-rich sediments. Several peat deposits have been identified within the alluvium in the valley of the River Test and the River Itchen, including in Southampton Water. Although most of these are undated (see Hazell, 2008), available radiocarbon dates on these sediments generally indicate that they formed from the Mesolithic through to the Bronze Age, with occasional later peats forming up until the Medieval period.

17.4.17 Peat deposits are of high palaeoenvironmental potential on the basis that they have high potential to preserve biological remains (e.g. pollen and plant macrofossils) in waterlogged anaerobic (oxygen-free) conditions that are suitable for reconstructing past environments, including evidence for human activity such as burning, woodland clearance and cultivation. Peat deposits, particularly where they form part of extensive former wetlands, are also of high archaeological potential as they can preserve waterlogged archaeology such as wooden fish traps, vessels and trackways, and other organic remains that are not otherwise preserved in dryland contexts. Submerged Mesolithic sites such as that at Bouldnor Cliff, approximately 17km to the south of the proposed Project (Momber et al., 2011), demonstrate the potential for prehistoric archaeology to be present within peat deposits at the site.

17.4.18 Finally, the Unexploded Ordnance (UXO) Desk Study & Risk Assessment undertaken by Zetica UXO (Zetica UXO, 2025) for the SG2 project has revealed a series of WWI and WII records within the site. These comprise:

- A Heavy Anti-Aircraft (HAA) gun was established in the proposed scoping boundary during WWI. It was armed with 1an 18-pounder gun and has since been removed.
- A bombing decoy established in the scoping boundary in 1943. It was a Quick Lightning (QL) decoy, part of the Naval Coast ‘QL’ decoy series. It has since been dismantled.
- A HAA battery located at Marchwood on land adjacent to the proposed scoping boundary.
- Two WWII. barrage balloons located in the proposed scoping boundary. One was located at Church Farm, and the other was located at Veals Farm.
- 10 high explosive bombs that fell within the proposed scoping boundary in WWII.

Summary

17.4.19 Based on the data review undertaken, the key areas of interest and/or concern with respect to the proposed Project are likely to include (but are not limited to):

- Submerged prehistory and the development of Southampton Water.
- Geoarchaeological assessment and the ongoing development of a Quaternary sedimentary deposit model for Southampton Water and adjacent land area.
- Further investigation or avoidance of known heritage assets and geophysical anomalies offshore.
- The potential for archaeological evidence of (pre)historic port activities (buried archaeology onshore, intertidal or offshore), former port structures and WWI and WWII assets including the Dibden 'beetles'.
- Derived archaeological finds within reclaimed land areas and the potential for unexpected discoveries of maritime or aviation origin in intertidal or offshore areas.
- Potential changes within the settings of designated heritage assets located beyond the scoping boundary, which could impact their significance.
- As described above, a significant body of data has been acquired as part of previous archaeological studies undertaken for the Dibden Terminal, the Southampton Approach Channel Dredge, Southampton Western Docks Capital Dredge and the Solent Gateway projects.

17.5 Future Baseline

17.5.1 In the absence of the proposed Project, there are unlikely to be any significant short-term changes in baseline conditions (i.e. within approximately <5 years) for archaeology and cultural heritage receptors as environmental conditions (such as coastal physical processes) are likely to remain broadly comparable to the current baseline. In addition, land within ABP's ownership would continue to be held on a short-term tenancy basis for agricultural use as part of ongoing management.

17.5.2 However, in the longer-term (5-10 years+) the future baseline for archaeology and cultural heritage receptors will be increasingly influenced by ongoing climate change effects and potential increases in coastal processes. These could lead to changes in the burial or exposure or archaeology and cultural heritage assets. The future baseline could also be influenced by potential developments in the region and changes in other marine-related human activities.

17.6 Potential Impacts

Potential Impacts During Construction

17.6.1 **Table 17.2** identifies the potential impacts on Archeology and Cultural Heritage related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 17.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Known and potential archaeology and cultural heritage	Direct damage to or destruction of archaeological material or its physical setting which could impact its significance	Intrusive works associated with the jetty.	Yes	Any works which disturb the riverbed, intertidal deposits or sub-surface deposits on land have the potential to directly impact buried archaeology.
		Dredging to provide an estimated maximum dredge depth of up to -14.8m Chart Datum to enable vessels to access the berths at all states of the tide and loading conditions.	Yes	
		Site preparation (site clearance, earthworks and ground improvements works, installation of services, construction of paving and vehicle storage areas) and piling/foundations for the Landside Terminal	Yes	
		Construction of hinterland access (road and rail access and pedestrian and cycle infrastructure)	Yes	

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Ecological mitigation and compensation works (specifically any work which involve ground works or site preparation works).	Yes	
Known and potential archaeology and cultural heritage	Indirect impacts due to changes to coastal processes and marine physical processes	Dredging to provide an estimated maximum dredge depth of up to -14.8m Chart Datum to enable vessels to access the berths at all states of the tide and loading conditions.	Yes	The capital dredging works will disturb sediment from the bed into the water column which has the potential to result in an increase in siltation as plume material settles back to the bed. Conversely, the capital dredge may also result in changes to hydrographic process which cause the stripping of sediment outside the dredge area. This could result in the physical, biological or chemical degradation of heritage assets. For example, buried assets which become exposed to marine physical processes are subject to greater potential for degradation than those which remain buried.
Known heritage assets	Changes to the setting of heritage assets which	Presence of construction-related plant	Yes	The presence of construction-related plant will temporarily change the setting of known heritage assets.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	could impact their significance.			
Historic landscape/seascape character	Changes to the historic character of the landscape/seascape	Presence of construction-related plant	Yes	The presence of construction-related plant will temporarily change the character of the historic landscape/seascape.

Potential Impacts During Operation

17.6.2 **Table 17.3** identifies the potential impacts on Archeology and Cultural Heritage related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 17.3 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Known and potential archaeology and cultural heritage	Direct damage to or destruction of archaeological material or its physical setting which could impact its significance.	N/A	No	As the operational phase would not involve any further ground works, there would be no additional potential direct impacts during operation, particularly with the retention of Archaeological Exclusion Zones (AEZ) (see **Section 17.3**).
Known and potential archaeology and cultural heritage	Indirect impacts due to changes to coastal processes and marine physical processes	Presence of the jetty structure	Yes	The presence of the jetty structure and additional vessel movements have the potential to result in changes to coastal processes and marine physical processes which, in turn, could result in the physical, biological or chemical degradation of heritage assets. For example, buried assets which become exposed to marine physical processes are subject to greater potential for degradation than those which remain buried.
		Additional vessel movements		
Known heritage assets	Changes to the setting of heritage assets which could impact their significance.	Presence of the jetty structure	Yes	Significant impacts to heritage assets may occur where the setting of an asset forms a key part of an assets' heritage significance. Setting includes visual considerations and other environmental factors such as noise, dust and vibration, spatial associations and
		Presence of the landside terminal (potential multi decks and lighting		

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		columns within the landscape).		consideration of the historic relationship between places.
Historic landscape/seascape character	Changes to the historic character of the landscape/ seascape	Presence of the jetty structure	Yes	The proposed Project has potential to result in a change to the historic character of the seascape and landscape within which the proposed Project is located.
		Presence of the landside terminal (potential multi decks and lighting columns within the landscape).		

17.7 Mitigation

17.7.1 The preferred mitigation for direct impacts to 'known' heritage assets (including geophysical anomalies of known or suspected archaeological interest) is avoidance. The locations of such assets should be taken into consideration in the design of the proposed Project to allow for micro-siting, where possible, to avoid direct impacts to heritage assets.

17.7.2 Wrecks or crashed aircraft identified in marine areas (**Figure 17.4**) may be subject to AEZs, which preclude activities from taking place within their boundaries, as a key measure to prevent significant impacts.

17.7.3 Where avoidance is not possible, measures to record heritage assets prior to destruction may be required (i.e. excavation/further investigation).

17.7.4 Geoarchaeological assessment and the ongoing development of a Quaternary sedimentary deposit model, building upon existing archaeological work, would constitute a primary mitigation for potential impacts to submerged prehistoric landscapes.

17.7.5 In order to account for unexpected discoveries during construction, the implementation of a protocol for archaeological discoveries during works would also reduce the significance of impacts to archaeological material which may be present within the footprint of the proposed Project.

17.7.6 Through the delivery of this mitigation (and reliant on delivery of specific work packages to the appropriate professional standards and upon public dissemination of the results), the proposed Project has the potential to have a positive beneficial effect in terms of its contribution to an understanding of the archaeology of Southampton, Dibden and of Southampton Water.

17.7.7 The approach to all archaeological works and mitigation measures would be set out in a Written Scheme of Investigation (WSI) for agreement with the archaeological curators. The WSI will be prepared in accordance with available guidance and will detail the approach to post-consent survey and investigation (and any requirements for preservation by record), embedded mitigation (such as AEZs and micro-siting) and the procedures that would be put in place for unknown assets discovered during pre-construction or construction activity (e.g. watching briefs, protocol for archaeological discoveries).

17.7.8 Up to date marine geophysical and geotechnical data collected to inform the design of the proposed Project will be subject to archaeological and geoarchaeological

assessment. This will be correlated with all previous work undertaken by ABP Southampton with respect to the area, to provide an up to date, synthesised baseline (including an updated deposit model) relevant to assessing the potential impact from the specific elements of the construction and operation phases of the proposed Project.

17.7.9 A WSI has been prepared in connection with a programme of marine and terrestrial Ground Investigation (GI) being undertaken to inform design of the proposed Project. It outlines the approach to geoarchaeological assessment of geotechnical data arising from the GI works. The GI works are expected to take place in Q3 2025 (marine geophysical survey), Q1 2026 (marine geotechnical survey) and Q2 2026 (landside geotechnical survey).

17.8 Approach to Assessment and Data Gathering for ES

17.8.1 The approach to assessment will be informed by available guidance and best practice notes including, but not limited to:

- The Assessment and Management of Marine Archaeology in Port and Harbour Development (Cooper and Gane, 2016).
- The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (Historic England, 2017).
- Dredging and Port Construction: Interactions with Features of Archaeological or Heritage Interest (PIANC, 2014).
- Chartered Institute for Archaeologists Standard and Guidance for Desk Based Assessment (2020) and Code of Conduct (2025).
- Marine Geophysical Data Acquisition, Processing and Interpretation – guidance notes (2nd edition) (Historic England, 2025).
- Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector (Gribble and Leather, 2011).
- Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record (Historic England, 2015c).
- Deposit Modelling and Archaeology: Guidance for Mapping Buried Deposits (Historic England, 2020).

17.8.2 A desk-based assessment will be carried out, supplemented by specialist geophysical and geoarchaeological assessment and fieldwork where appropriate and proportionate (e.g. further walkovers surveys, site visits to inform settings assessments and further evaluation such as geophysical survey, geoarchaeological borehole survey or trial trenches). The primary aim would be to provide an up to date, synthesised baseline and gazetteer of heritage assets relevant to assessing

the potential impact from the specific elements of the construction and operation of the proposed Project.

17.8.3 The sources of data that will inform the assessment are summarised in **Table 17.4**.

Table 17.4 Data sources to inform the Archaeology and Cultural Heritage assessment

Data source	Reason for assessment
New searches of existing records: Southampton HER and Hampshire HER; National Marine Record; NHLE; and Records of wrecks and obstructions held by the UKHO.	To provide the most up to date data on known and potential heritage assets.
Review of existing borehole/vibrocore data and existing deposit models supplemented by geoarchaeological assessment of LiDAR data and cores/samples from additional site investigations (terrestrial, intertidal and marine) carried out for the proposed Project.	To provide a synthesised Quaternary sedimentary deposit model.
Review of all archaeological studies undertaken with respect to previous development proposals in the vicinity, supplemented by additional fieldwork where appropriate and proportionate.	To inform understanding of the context for known heritage assets and potential for previously undiscovered buried archaeology. To inform the impact assessment (i.e. ground-truthing 'known' assets and undertaking settings assessments)
Review of additional existing archaeological studies and survey reports such as Historic England's New Forest Rapid Coastal Zone Assessment Survey.	To inform understanding of the context for known heritage assets and potential for previously undiscovered buried archaeology.
Review of information relating to setting and historic character, in conjunction with the landscape and visual assessment for the proposed Project, including: • Management plans and character appraisals for relevant Conservation Areas (via HERs or local authority websites).	To identify the key heritage assets and historic landscapes/seascapes which could be subject to change and potential setting impacts.

Data source	Reason for assessment
• Hampshire Historic Landscape Characterisation (Scott Wilson, Oxford Archaeology, 2013). • England's Historic Seascapes: Solent and Isle of Wight (Satchell, 2007).	

17.8.4 Early consultation with archaeological curators is proposed to ensure that all risks to the proposed Project from archaeology and cultural heritage are recognised and addressed as early in the design and assessment process as possible.

17.8.5 The archaeological curator for matters relating to the historic environment below mean high water, and the advisor to the MMO on the marine historic environment, is Historic England.

17.8.6 The archaeological curators for matters above mean low water are the local authorities. Due to the location of the proposed Project, consultation with curators from NFDC, SCC and HCC will be undertaken.

18 WATER RESOURCES AND FLOOD RISK

18.1 Introduction

18.1.1 This section describes the current baseline in relation to water resources and flood risk. The baseline conditions have been described from a high level desk-based review of publicly available information and reports which are considered relevant to the proposed Project.

18.1.2 It also details the scope of assessment for the effects that water resources and flood risk elements may have on the proposed Project, specifically considering tidal, fluvial and surface water flood risk as well as impacts on surface watercourses for both construction and operation.

18.2 Relevant Policy, Legislation and Guidance

18.2.1 The assessment will be undertaken in accordance with the requirements set out in the NPSfP, specifically section 5.2. However, given the subsequent publication of the NPPF since the NPSfP, it is likely that some of the NPPF will supersede elements specifically related to flood risk in the NPSfP.

18.2.2 The assessment will also consider the following relevant legislation, policy and guidance:

- NPPF – Chapter 14: Meeting the challenge of climate change, flooding and coastal change (2025).
- Planning Practice Guidance (PPG) – Flood Risk and Coastal Change (2025).
- Strategic Flood Risk Assessment (SFRA) New Forest District Council – Strategic Flood Risk Assessment – Level 1 (2024a).
- New Forest District Council Local Plan 2016-2036. Part One: Planning Strategy (2020).
- Environment Agency – Flood Risk Assessments: Climate Change Allowances (2022b).
- Hampshire County Council: Local Flood and Water Management Strategy (2020a).
- Hampshire County Council: Groundwater Management Plan (GWMP) for Hampshire (2013a).
- Hampshire County Council: Hampshire Catchment Prioritisation: Test (Lower) Catchment Management Plan (2023).

18.3 Study Area

18.3.1 The water resources and flood risk study area will be defined based on the distance over which impacts may occur and by the location of potential receptors that may be affected by those potential impacts.

18.3.2 This will be established using professional judgement and will be supported by a Flood Risk Assessment (FRA) and WFD Compliance Assessment. These will form appendices to the water resources and flood risk chapter of the ES.

18.3.3 At this stage, the study area is envisaged to comprise the surface waterbody catchments within and hydrologically connected to the Scoping Boundary for the proposed Project.

18.4 Description of Existing Environment

Data Sources

18.4.1 The key data sources set out in **Table 18.1** were used to gather the baseline information on Water Resources and Flood Risk and to inform the scoping study.

Table 18.1 Key data sources

Title	Date
Environment Agency - Catchment Data Explorer (Provides details on water body status, objectives and classificatior data)	2025c. Available online at the Environment Agency's Catchment Data – Southampton Water: Water body web page
Environment Agency – Flood Map for Planning (Shows the extent of Flood Zones 2 and 3, with and without defences)	2025f. Available online at the Environment Agency's Flood Map for Planning web page
Environment Agency – Check the long-term flood risk for an area in England (Shows annual chance of flooding from rivers and the sea, surface water and flood risk from reservoirs. Also shows flood depths and future (climate change) flood risk)	2025g. Available online at the Environment Agency's Long Term Flood Risk web page

Title	Date
Multi-Agency Geographic Information for the Countryside (MAGiC) (Shows details of Source Protection Zones (SPZs), aquifer designations, groundwater vulnerability mapping and statutory and non-statutory designated sites)	2025. Available online on the Multi-Agency Geographic Information for the Countryside (MAGiC) web page.
BGS geology viewer (Shows details of bedrock and superficial deposits)	2025. Available online on the BGS Geology Viewer web page.
Abstraction and discharge data	Available on request from the local authority. Data consented discharges to controlled waters with conditions are available from the Environment Agency web page
Water quality data archive (Shows details of archive water quality information across England)	2025a. Available at the Environment Agency's Water Quality Archive web page
New Forest District Council – Strategic Flood Risk Assessment – Level 1	2024a. Available at the New Forest District Council web page.
Southampton Water Coastal Model (Provided by Environment Agency as part of data request)	May 2014
JFLOW fluvial model outputs (Provided by Environment Agency as part of data request)	2008

Surface Water Drainage

Surface water features

18.4.2 The proposed Project is located on the western bank of the River Test between Marchwood and Hythe, close to its confluence with the River Itchen. Both the Rivers Test and Itchen are tidal at this point and combine to form Southampton Water, which discharges to the Solent to the south. The River Test, Itchen and Southampton Water have numerous designations for habitats and species, these

designations are considered in Marine Ecology (**Section 7**) and Terrestrial Ecology (**Section 12**).

18.4.3 The proposed Project is drained by a network of interconnected water features (see **Figure 18.1**) including the following watercourses:

- North Dibden Stream: A designated main river which issues from a series of springs near Smither's Copse, adjacent to the A326. The watercourse flows in a north-easterly direction through Veal's Farm, turning south-east where it is joined by Marsh Ditch near Veal's Lane. From here, it continues to flow south-east along the boundary of the proposed Project before discharging into Southampton Water to the south of Hythe Marina Village.
- Marsh Ditch: An ordinary watercourse, which is located on the southern boundary of Marchwood Military Port and the northern boundary of the Terminal Boundary extent. This watercourse drains in a landward direction until it joins North Dibden Stream.
- Tributary of North Dibden Stream: A designated unnamed main river which rises at Roy's Copse to the north of Dibden. The watercourse then flows in a north-easterly direction until it joins the North Dibden Stream near to Veals Lane.
- Cracknore Hard Stream: A designated Environment Agency main river located on the northern boundary of the Marchwood Military Port. The watercourse flows in a north easterly direction and discharges directly into the River Test.

Surface water flows

18.4.4 Hydrological monitoring undertaken between January 1997 and April 1998 (ABP, 2000) indicates that discharges in each watercourse are generally low (less than $0.01m^3s^{-1}$), with a maximum discharge of $2.65m^3s^{-1}$ recorded during this period.

18.4.5 Hydrological conditions are unlikely to have changed significantly in these catchments since this monitoring was undertaken. It was noted during the site walkover, undertaken on 3rd June 2025, that the channels were typically heavily vegetated and there was little to no flow observed in the majority of watercourses.

Fluvial geomorphology

18.4.6 Analysis of aerial photography and observations during the site walkover, undertaken on 3rd June 2025, indicate that these watercourses are contained within narrow (approximately 1.5m wide) open channels that appear to be largely artificial, following highly straightened courses. These are fed by several smaller tributaries, which drain the surrounding urban and agricultural catchment.

Surface water quality

18.4.7 The Environment Agency routinely undertakes extensive monitoring of water quality in the lower River Test and Southampton Water. This monitoring indicates that water quality is generally of a good standard, although elevated Dissolved Inorganic Nitrogen (DIN) concentrations indicative of agricultural diffuse pollution from the upstream catchment are recorded. Elevated concentrations of mercury, polybrominated diphenyl ethers (PBDE) and benzo(g-h-i)perylene are also recorded; however, this is a ubiquitous issue in all surface waters in England and is therefore not indicative of local pollution issues.

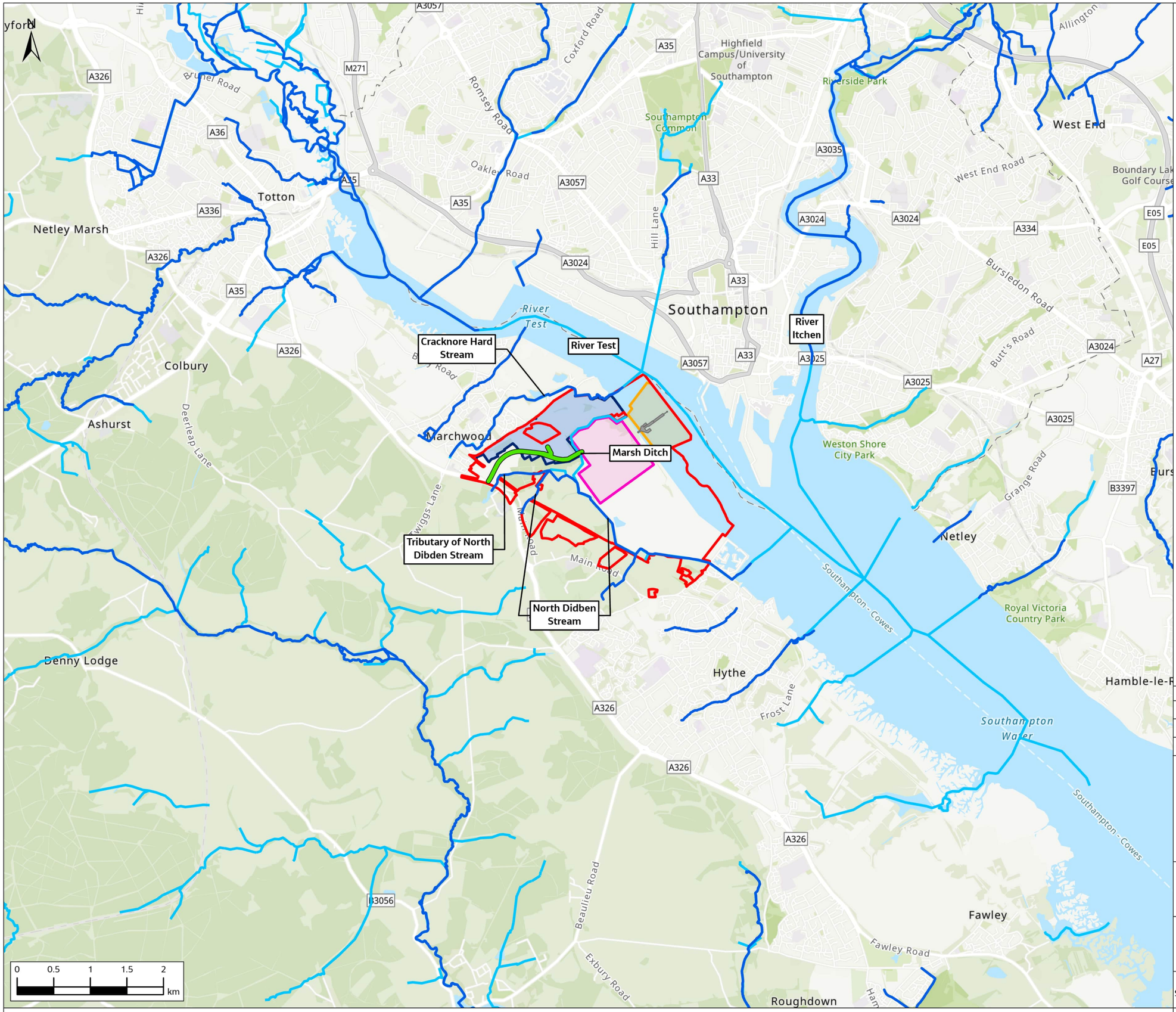
18.4.8 Water quality data for watercourses draining the site is very limited, with sporadic records of common nutrients and basic water quality parameters (e.g. pH, temperature, conductivity) available on the North Dibden Stream at the discharge point from two private sewage treatment works near Smither's Copse and Veal's Farm; these data indicate that water is of reasonably good quality.

18.4.9 There are no further recent water quality data available for the watercourses, but monitoring undertaken in the late 1990s indicates that water quality was generally fair to good.

Groundwater

18.4.10 The site of the proposed Project is classified as being unproductive with respect to groundwater resources, the area is not inside a Drinking Water Safeguard Zone and there are no Source Protection Zones in the study area. There is, however, a Secondary A aquifer supported by bedrock immediately to the south of the proposed Project site, and Secondary A aquifers supported in the overlying superficial geology to the north west and south.

18.4.11 The groundwater resource of the study area is described in more detail in Ground Conditions and Contamination (**Section 11**).



Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)
- EA Main Rivers
- OS Open Rivers

Proposed Project

- Dredge Envelope Area
- Jetty
- Terminal Boundary
- Indicative Access Road Alignment



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Project: SOLENT GATEWAY 2

Drawing Title: HYDROLOGICAL FEATURES

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100035

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Figure 18.1

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Water Body Status

18.4.12 The North Dibden Stream is too small to have been defined as a river water body in its own right under the Water Environment (WFD) (England and Wales) Regulations 2017 (typically referred to as the 'WER'); its catchment is therefore considered to be part of the adjacent Southampton Water transitional water body. The water body is currently at moderate Ecological Status, reflecting relatively high concentrations of DIN from the upstream agricultural catchments of the Rivers Test and Itchen.

18.4.13 The site of the proposed Project is not directly underlain by any designated groundwater bodies. However, the South West Hants Barton Group is located immediately to the south. This is currently at Good Status, with no significant pressures identified by the Environment Agency.

18.4.14 Potential impacts on the status of these water bodies will be assessed in the WFD Compliance Assessment which will be submitted with the ES.

Flood Risk

18.4.15 A baseline assessment for flood risk elements such as fluvial, tidal, surface water, reservoir, groundwater and sewers has been carried out. This has informed the elements which will be scoped in or out in **Section 18.2** and the approach to the assessment and data gathering for the flood risk element set out in **Section 18.4**.

Fluvial and coastal flood risk

18.4.16 A review of the Environment Agency's Flood Map for Planning (Environment Agency, 2025f) has been undertaken.

18.4.17 For the purposes of the EIA scoping, the proposed Project has been divided into two key areas (**Figure 18.1**):

- SGL (Marchwood Military Port), where there is existing infrastructure present, and which may be subject to change as a result of the construction of the proposed Project.
- Terminal Boundary, which is defined as the area that is currently undeveloped and which will be developed as a result of the construction of the proposed Project.

18.4.18 The locations of these two key areas have been compared with the Flood Zones, as defined in the NPPF (Department for Levelling Up, Housing and Communities, 2025), supporting Planning Practice Guidance for Flood Risk and Coastal Change (Department for Levelling Up, Housing and Communities, 2022) as follows:

- Flood Zone 1: land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (0.1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
- Flood Zone 2: land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
- Flood Zone 3: land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

18.4.19 Flood Zone 2 and Flood Zone 3 are shown on the mapping within **Figure 18.2** as blue and navy respectively. Any area not covered by shading or a colour is classified as being in Flood Zone 1.

SGL Area

18.4.20 Based on the Flood Map for Planning, refer to **Figure 18.2**, the majority of SGL is located in Flood Zone 1 (low risk of flooding from either fluvial or tidal / coastal sources). However, there are areas of Flood Zone 2 (medium risk of flooding) and Flood Zone 3 (high risk of flooding) which are located along the northern and southern boundary of SGL and also within the SGL area.

18.4.21 The center of SGL is shown as being located in Flood Zone 2 and there are minor areas of Flood Zone 3; this is likely to be associated with the existing agricultural ditches and Marsh Ditch.

18.4.22 The majority of the flood extent which is located to the south of SGL is classed as Flood Zone 2 or Flood Zone 3. The large flood extent in this location is associated with the confluence of Marsh Ditch, North Dibden Stream and the tributary of North Dibden Stream.

18.4.23 Furthermore, the existing jetties at Solent Gateway are classed as being located in Flood Zone 3.

Terminal Boundary Area

18.4.24 Based on the Flood Map for Planning, refer to **Figure 18.2**, the majority of the Terminal Boundary that would be subject to development, due to the construction of the proposed Project is located in Flood Zone 1. However, areas of Flood Zone 2 and Flood Zone 3 are located around the edge of the Terminal Boundary (north, east and west).

18.4.25 The areas of Flood Zone 2 and Flood Zone 3 are likely to be associated with the Environment Agency designated main river, known as the North Dibden Stream, as well as the existing agricultural drainage ditches. Any areas at flood risk located to the northern end of the currently undeveloped Terminal Boundary are likely to be associated with the tidal flood extent.

18.4.26 Overall, the areas towards the Scoping Boundary have a medium and high risk of flooding from either fluvial or tidal / coastal sources, with the remainder of the undeveloped area of the Terminal Boundary being at low risk of flooding.

18.4.27 Marsh Ditch, and its associated flood extent, is likely to be crossed by the proposed access road from the A326 and additional short link roads between the proposed Project and SGL.

Fluvial and tidal modelled flood risk

18.4.28 Given that the proposed Project is located within Flood Zones 1, 2 and 3, further information related to this risk was requested from the Environment Agency to provide further clarification on the potential fluvial or tidal flood risk.

18.4.29 In June 2025, the Environment Agency provided further data in the form of its Product 4, 5, 6 and 7 dataset, which included the Southampton Water Coastal Modelling Study (2014).

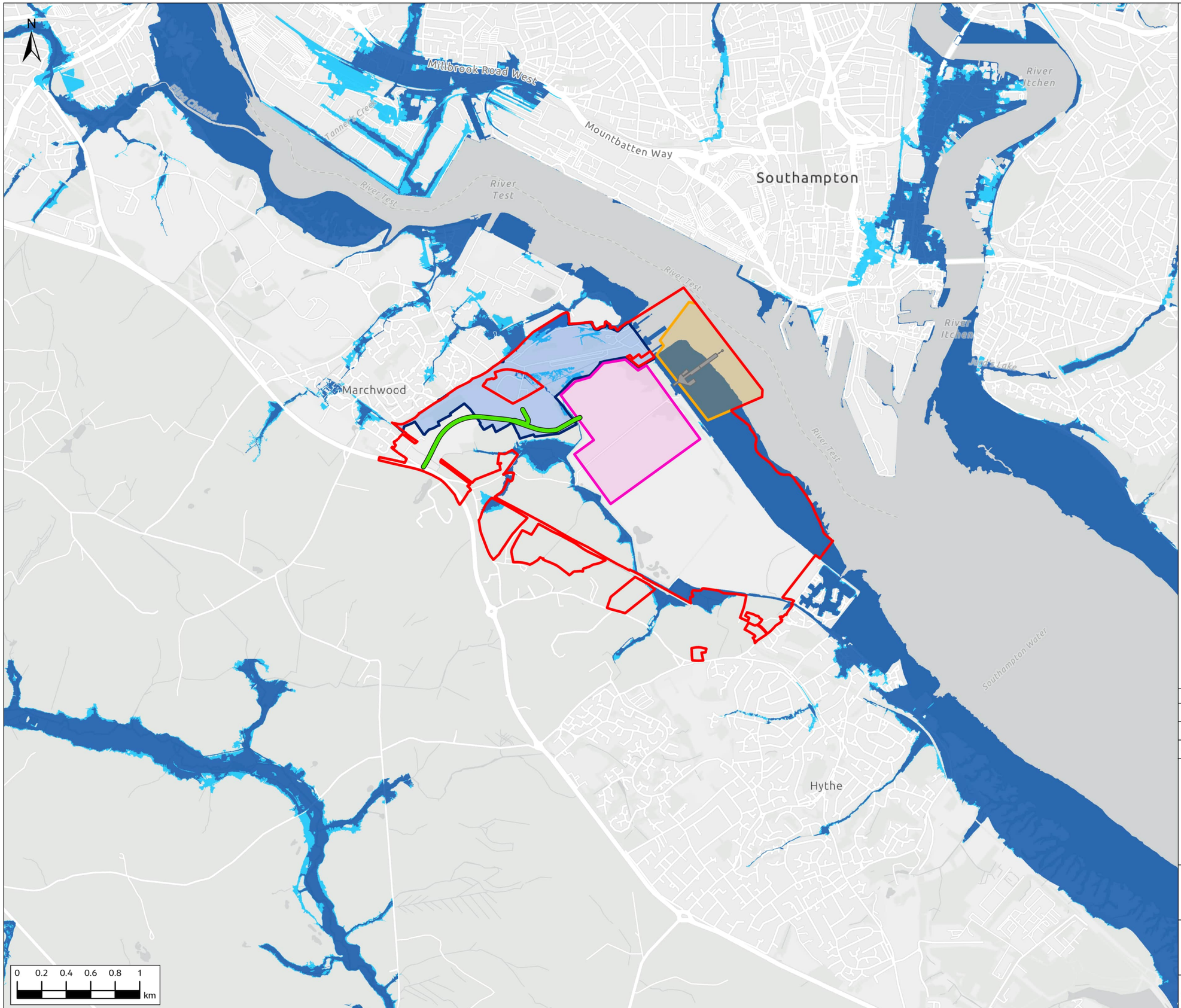
18.4.30 For fluvial flood risk, the Environment Agency noted that the modelling information is based on JFLOW results from 2008.

18.4.31 The datasets supplied by the Environment Agency provide the opportunity for a further detailed analysis of the differing flood sources, for both fluvial and tidal separately. In comparison, the Flood Map for Planning combines both flood sources into the same mapping output.

18.4.32 Furthermore, the data also allows for the analysis of the flood depths, flood levels, velocity and hazard mapping, which is not offered by the standard Flood Map for Planning. A summary of the modelled fluvial and tidal flood risk is included below.

SGL Area

18.4.33 The area in which the SGL infrastructure is situated is shown to be affected by the tidal flood extent for the defended and undefended scenarios, for both present day conditions and when allowing for climate change.



Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)
- Flood Zone 2
- Flood Zone 3

Proposed Project

- Dredge Envelope Area
- Jetty
- Terminal Boundary
- Indicative Access Road Alignment



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Project

SOLENT GATEWAY 2

Drawing Title

EA FLOOD MAP FOR PLANNING (FLOOD ZONES)

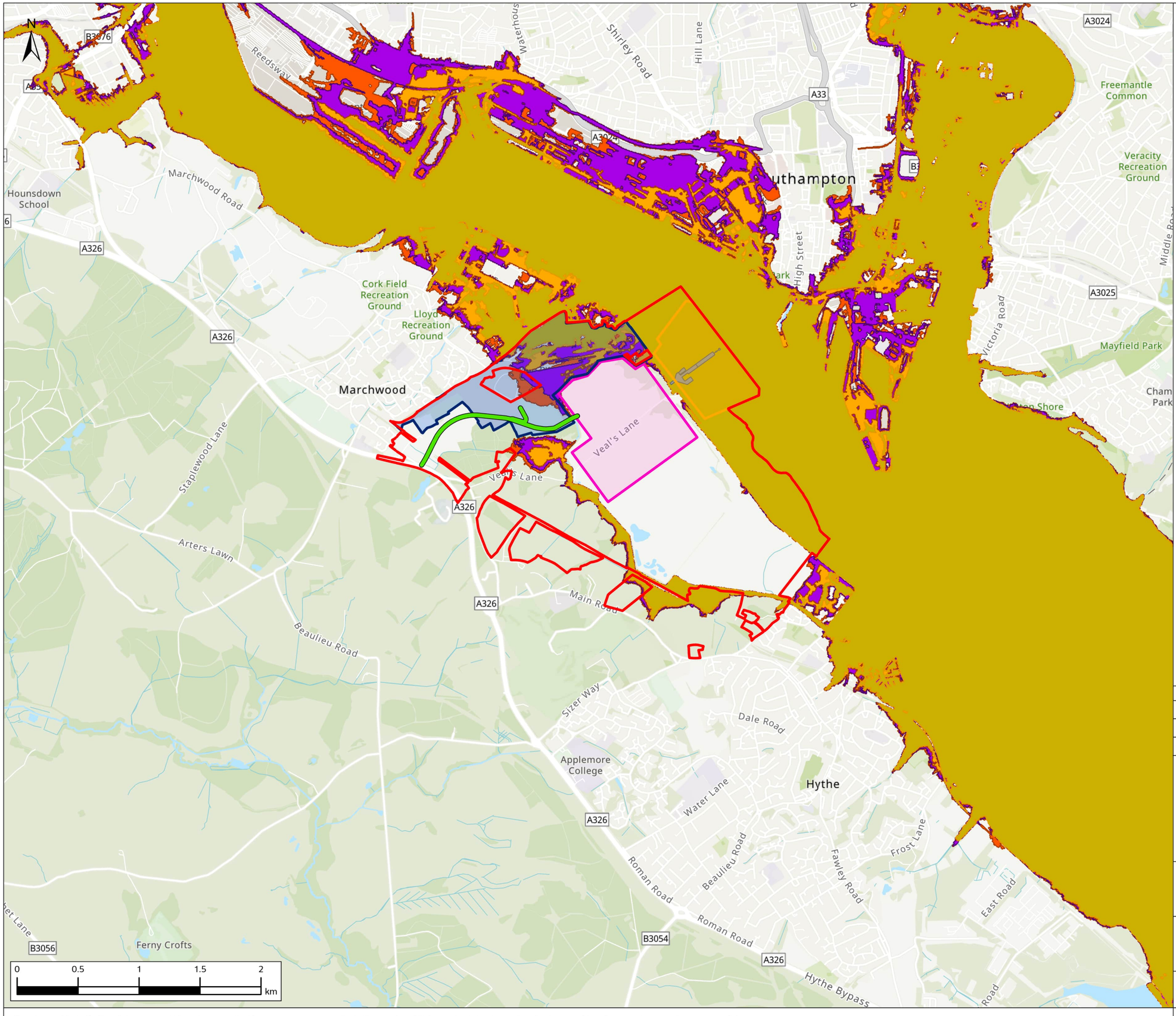
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Figure 18.2

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Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)

Proposed Project

- Dredge Envelope Area
- Jetty
- Terminal Boundary
- Indicative Access Road Alignment

Outline Design Runs

- T200, cc2075
- T1000, cc2075
- T200, cc2115
- T1000, cc2115



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Project

SOLENT GATEWAY 2

Drawing Title

TIDAL FLOOD EXTENT - DEFENDED CLIMATE CHANGE SCENARIOS

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100037

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Figure 18.3

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18.4.34 The tidal flood extent during the present day defended and undefended scenarios covers a small area of the SGL. In contrast, the tidal flood extent including climate change scenarios covers the majority of the SGL as seen in **Figure 18.3**.

18.4.35 The fluvial flood extent during the present-day scenario covers a small area of the northern part of the SGL. It is understood that there is no available fluvial modelling taking into account future climate change projections.

Terminal Boundary Area

18.4.36 On the basis of the available information, the area in which the proposed Project would be located is largely unaffected by tidal flooding. During the tidal defended and undefended scenario in the present-day scenario, the areas within the flood extent are located to the north and appear to be retained primarily within the watercourse channel. There is also a small area to the central and southern end of the proposed Project which is shown to be affected by flooding.

18.4.37 However, the tidal flood extent is more extensive across the proposed Project during both the defended and undefended climate change scenarios.

18.4.38 The available data indicates that the present-day fluvial flood extent is primarily outside the location of the proposed Project. However, the proposed access road crosses the fluvial flood extent. It is understood that there is no available fluvial modelling taking into account future climate change projections.

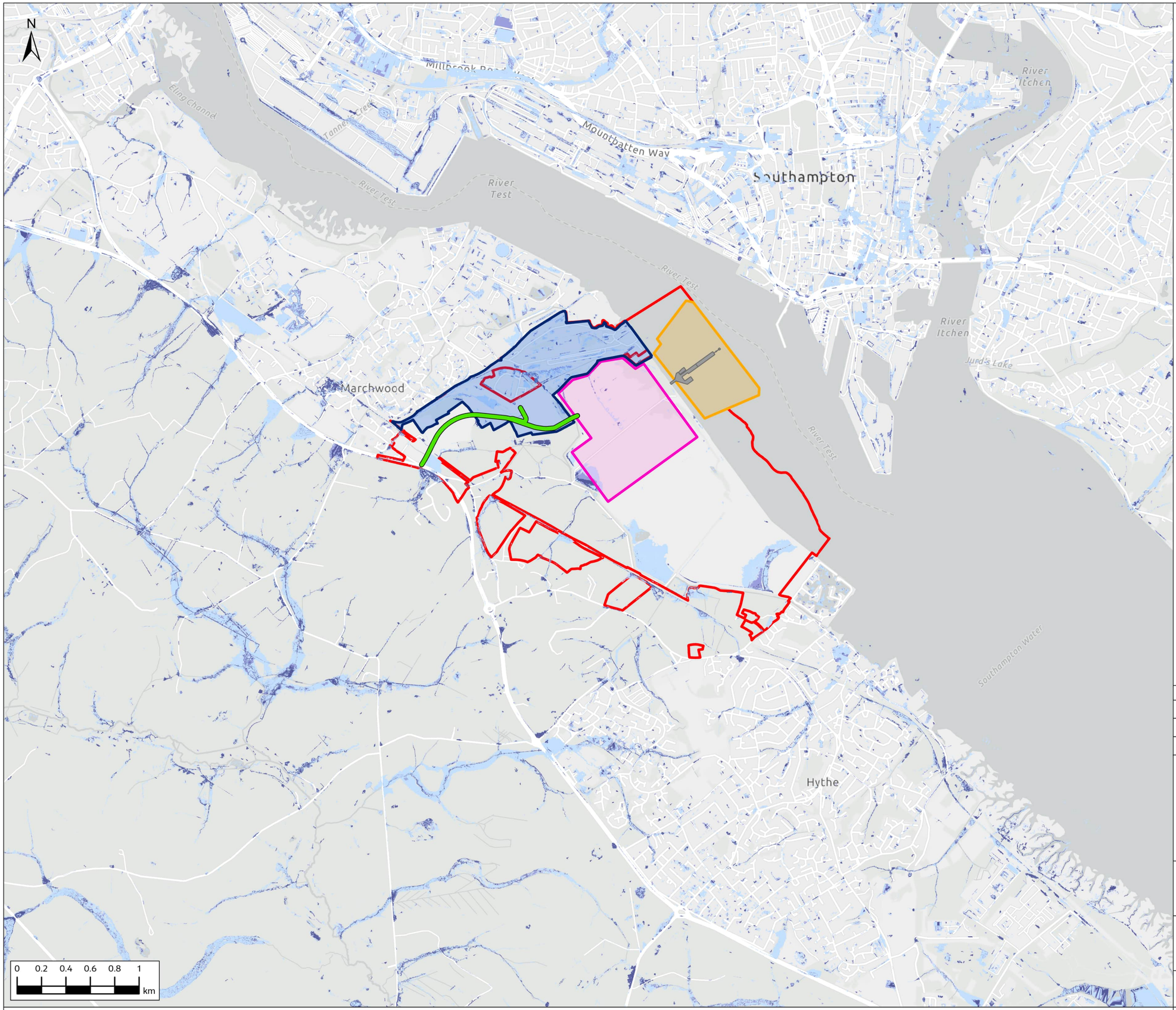
Surface water flood risk

18.4.39 A review of the Environment Agency's Surface Water Flood Map (Environment Agency, 2025g) as seen in **Figure 18.4**, indicates that the majority of the proposed Project area is at very low risk of flooding from surface water.

18.4.40 However, there are multiple isolated areas of varying risk from low to high across the SGL, Terminal Boundary and the wider Scoping Boundary.

18.4.41 Furthermore, located on the south-western boundary of the Terminal Boundary, is an extensive area of low to high risk of surface water flooding, which is shown in **Figure 18.4**.

18.4.42 Additionally, the 2025 updates to the surface water mapping provide climate change allowances, which are based on the latest UK Climate Projections (UKCP18) from the Met Office. These allowances help to inform the likelihood of future flood risk.



Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)

Proposed Project

- Dredge Envelope Area
- Jetty
- Terminal Boundary
- Indicative Access Road Alignment

Risk of Flooding from Surface Water

- High
- Medium
- Low



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Project: SOLENT GATEWAY 2

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18.4.43 A review of the surface water flood risk mapping for the climate change scenario shows an increase in surface water flood risk across the whole of the proposed Project area in comparison with the present-day scenario.

Reservoir flood risk

18.4.44 The Environment Agency's Reservoir Flood Map provides a summary of the potential flood risk from reservoirs based on two modelled scenarios and extents, as seen in **Figure 18.5**. The reservoir flood risk mapping extents are defined as either reservoir flooding when the river levels are normal or reservoir flooding when there is also flooding from rivers.

18.4.45 The Environment Agency's Reservoir Flood Map indicates that the proposed Project is not at risk of reservoir flooding during either of the modelled scenarios.

Groundwater flood risk

18.4.46 The proposed Project is situated within the administrative area of NFDC. In 2024, NFDC published its updated Level 1 Strategic Flood Risk Assessment (NFDC, 2024a). The SFRA provides mapping of the 'Areas Susceptible to Groundwater Flooding'.

18.4.47 The mapping shows that there is variable susceptibility to groundwater flooding across the proposed Project, ranging from "greater than 25%" up to "greater than 75%" susceptibility.

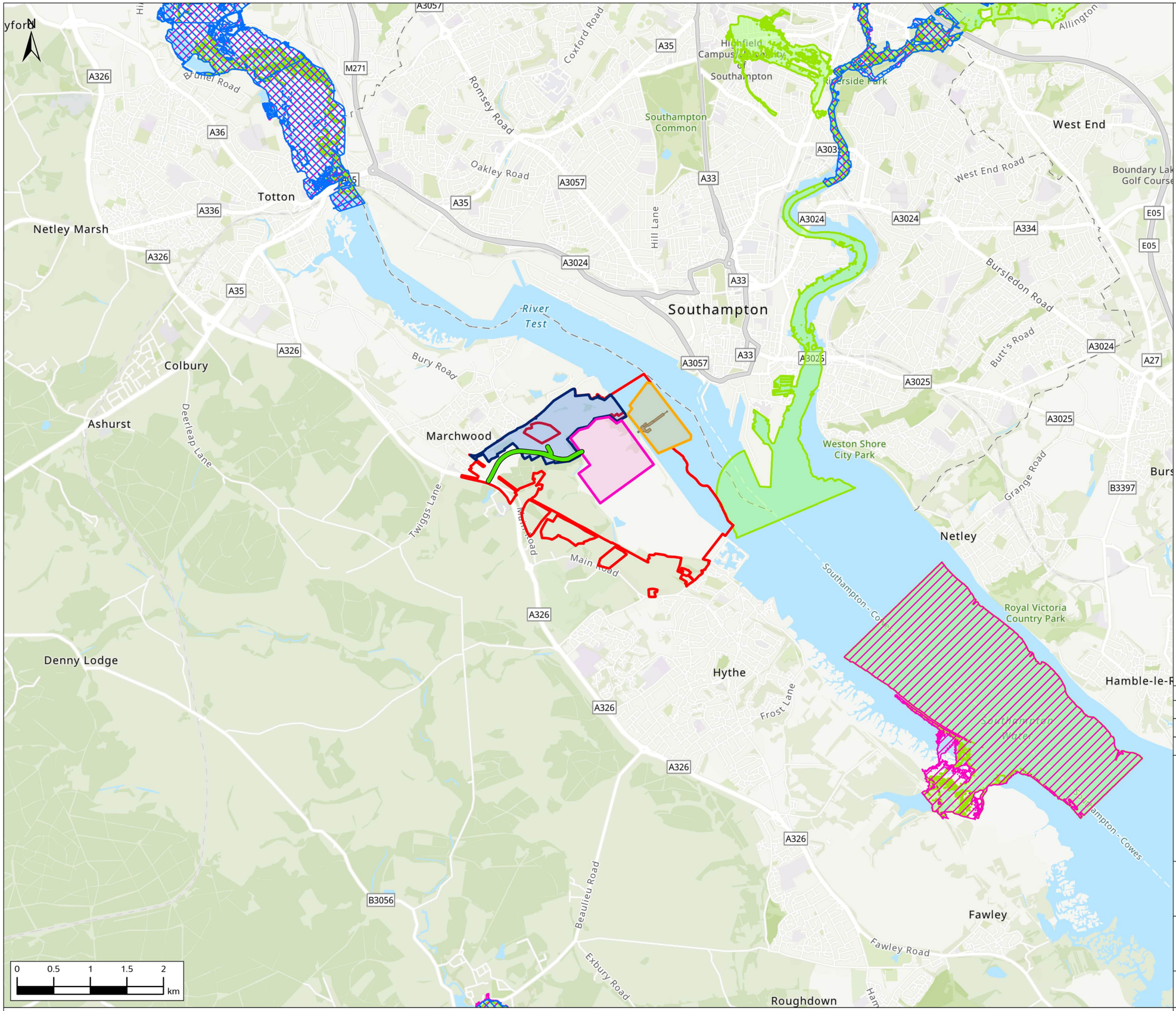
18.4.48 Furthermore, the mapping indicates that the majority of the proposed Project is defined as having the potential for flooding to occur at the surface, with some minor areas having the potential for groundwater flooding to affect any property / development situated below ground level such as basements.

Sewer flood risk

18.4.49 The SGL area is pre-existing and may have some form of drainage. The Terminal Boundary is to be developed and the majority of development is to be built on greenfield land which may contain some form of land drainage.

18.4.50 Based on the available information, the greenfield area is likely to have a negligible risk of sewer flooding due to limited existing infrastructure. There is understood to be existing sewerage infrastructure in SGL; however, there is limited available information related to any sewerage infrastructure.

18.4.51 As such, discussions with Southern Water, ABP and MoD will be held and any further information obtained and reviewed within the FRA to confirm that there is no flood risk associated with the existing and proposed sewerage connection.



Legend

- Scoping Boundary
- Solent Gateway (Marchwood Military Port)
- Reservoir Flood Extent - Fluvial Contribution
- Reservoir Flood Extent -Wet Day
- Reservoir Flood Extent - Dry Day

Proposed Project

- Dredge Envelope Area
- Jetty
- Terminal Boundary
- Indicative Access Road Alignment

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Figure 18.5

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18.4.52 As such, sewer flood risk will be scoped in for further assessment during the development of the FRA.

18.5 Future Baseline

18.5.1 In the absence of the proposed Project, there are unlikely to be any activities on the site which would result in a significant deterioration of surface water and groundwater resources or result in an increase in flood risk. However, the 'do nothing' scenario with respect to the future condition of water resources will be subject to the impact of other development activity.

18.5.2 Flood risk at the site may be influenced by future development within the wider catchment, and the site is expected to be vulnerable to sea level rise and an increase in surface water risk associated with climate change.

18.6 Potential Impacts

Potential Impacts During Construction

18.6.1 **Table 18.2** identifies the potential impacts on water resources and flood risk related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 18.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Watercourses	Increased sediment supply to the surface watercourses	Construction	Yes	The construction phase activities include extensive earthworks which would create areas of bare ground by removing the existing vegetation cover. There is also the potential for soil compaction to occur resulting from the use of construction plant. These activities, including ground surcharging, will likely lead to compaction of the ground. This has the potential to increase the erosion of soil, resulting in an increase in the supply of fine sediments to surface watercourses through surface run-off. It is proposed that increased sediment supply to surface watercourses during construction is scoped into the assessment.
	Mobilisation of contaminants to surface water and groundwater	Construction	Yes	Activities that disturb the ground, notably earthworks and piling, could mobilise contaminants and potentially adversely affect surface water and groundwater quality. It is proposed that the mobilisation of contaminants to surface water and groundwater during construction is scoped into the assessment.
	Direct disturbance of surface watercourses	Construction	Yes	The construction phase has the potential to result in direct disturbance of the existing surface water drainage network and associated floodplain. Direct disturbance could occur due to the construction of the proposed infrastructure,

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				watercourse crossings (e.g. temporary access crossings over surface watercourses) or the direct manipulation of channels (e.g. diversions). This could affect the geomorphology and hydrology of the channels, and impact upon the habitats that they support. In addition, changes in channel capacity or conveyance could increase fluvial flood risk. It is proposed that the direct disturbance of surface watercourses during construction is scoped into the assessment.
	Increased surface water runoff, flood risk and changes to groundwater flows and recharge	Construction	Yes	Earthworks and other activities required during the construction phase have the potential to alter the hydrological characteristics of the site through soil compaction and an increase in the area of impermeable surfaces. This could result in changes to surface water runoff patterns, changes to groundwater flow paths and changes to drainage and infiltration patterns and rates, potentially increasing flood risk (flood extent and depths) to surrounding areas. Any development in either the fluvial or tidal flood extent has the potential to increase the flood risk to the Site and the wider area.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				It is proposed that increased surface water runoff, flood risk and changes to groundwater flows and recharge during construction are scoped into the assessment.
	Impact of dredging works, jetties and berths affecting wave climate and water levels	Construction	Yes	The proposed works for the Marine Facilities have the potential to impact on coastal protection levels, either through changes to the hydrodynamic environment (water levels and wave climate) or sediment transport regime (erosion / sedimentation patterns). Any increase in water levels and / or wave activity, may increase both the risk of overtopping and the loading on the structure of wave attack at the water's edge. Therefore, it is proposed that these impacts are scoped into the assessment.

Potential Impacts During Operation

18.6.2 **Table 18.3** identifies the potential impacts on water resources and flood risk related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 18.3 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Watercourses	Direct disturbance of surface watercourses	Operation	Yes	For the purpose of ongoing drainage during the operational phase of the proposed Project there may be the need to maintain channels through ongoing desilting or dredging. These works could cause direct disturbance of the surface water drainage network and therefore have been scoped into the assessment.
	Increased surface water runoff and flood risk, changes to groundwater flows and recharge	Operation	Yes	The proposed Terminal Boundary has the potential to change the hydrological characteristics of the site through an increase in impermeable area and variation in ground level. This may result in changes to surface water runoff patterns, groundwater flow paths and decreased infiltration which may increase flood risk at the Site or elsewhere. On the basis of the above, it is proposed that the increased surface water runoff and flood risk, changes to groundwater flows and recharge during operation are scoped into the assessment.
	Impact of dredging works, jetties and berths affecting wave climate and water levels	Operation	Yes	During the operation of the jetties and berths there is likely to be some ongoing dredging to maintain the operation of the Marine Facilities, such as the dredged berths and their approaches, as discussed in Coastal Processes and Geomorphology (**Section 5**).

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				These dredging works have the potential to impact on coastal protection levels, either through changes to the hydrodynamic environment (water levels and wave climate) or sediment transport regime (erosion / sedimentation patterns). Any increase in water levels and / or wave activity, may increase both the risk of overtopping and the loading on the structure of wave attack at the water's edge. Therefore, it is proposed that these impacts are scoped into the assessment.

18.7 Mitigation

18.7.1 The EIA will determine the requirement for the implementation of mitigation measures to reduce the significance of the impact to water resources and flood risk receptors.

18.7.2 However, on the basis of the available information and knowledge from other projects, it is likely that the assessment will require standard or embedded mitigation measures, which could include:

- Adoption of sediment management measures such as avoiding soil stockpiles within a floodplain, where practicable. Where storage is unavoidable in Flood Zone 2 or Flood Zone 3, storage areas could be located such that they do not block or divert existing surface water flow paths.
- The use sediment retention measures (e.g. silts traps and settling ponds) within the construction drainage system and the installation of silt curtains.
- Provision of a construction drainage system that incorporates best-practice measures (e.g. in line with the Environment Agency's Pollution Prevention Guidance notes PPG01, PPG05, PPG08 and PPG21, which although revoked as regulatory guidance continue to provide a source of best practice) to minimise sediment runoff and prevent discharge into the surface drainage network.
- Ensuring the best practice of construction site management through the development on an Outline Code of Construction Practice (OCoCP), including measures such as having spill kits available, surface water drainage during construction, checking equipment regularly to ensure leakages do not occur, storing plant above drip trays, and limiting refuelling to designated impermeable, bunded areas.
- Due to extensive areas of the proposed Project being located in Flood Zone 1, it would be recommended to micro-site development, where possible, away from Flood Zone 2 and Flood Zone 3. This would aid in limiting the impact of either fluvial or tidal flood risk on the proposed Project.
- In the event that some developments cannot be placed in Flood Zone 1, it would be recommended locating development, such as car parking, landscaping or open spaces in Flood Zone 2 or Flood Zone 3. As indicated above this would aid in limiting the impact of fluvial or tidal flood risk on the proposed Project.

- Production of a construction phase drainage strategy and creation of a temporary construction phase drainage system to minimise and contain surface water runoff.
- Development of an operational phase drainage strategy and permanent surface water drainage system which incorporates Sustainable Drainage Systems (SuDS) to ensure that the proposed Project does not increase the surface water flood risk either to the proposed Project or to off-site receptors.
- Consider whether any new channels (e.g. diversions of the existing drainage network) can have a natural rather than artificial (reinforced) bed and banks so that the prevailing geomorphological conditions and ecological habitats can be retained, where possible.
- Furthermore, any new channels should have at least the same capacity as the current channels to ensure that there are no increases in fluvial flood risk.
- Consideration of a foul drainage strategy for both permanent and temporary works.

18.8 Approach to Assessment and Data Gathering for ES Water Resources

18.8.1 The initial data review has demonstrated that the majority of data on the condition of surface water and groundwaters within the proposed Project were collected during the late 1990s to inform the Dibden Terminal Environmental Statement (ABP, 2000). There is a risk that prevailing conditions have changed over the intervening period, and it is therefore proposed that further data review and collection is undertaken to inform the full assessment of potential impacts of the proposed Project on freshwater receptors.

18.8.2 At this stage, it is envisaged that a detailed desk-based assessment will be undertaken, taking into account any available archive data on hydrogeology and ground conditions (including infiltration capacity), groundwater quality, licensed and private water abstractions (including any SPZs), surface water flows and drainage patterns, surface water quality and channel geomorphology.

18.8.3 A geomorphology baseline survey will be undertaken to acquire primary data on key watercourses including Marsh Ditch and North Dibden Stream. This will be carried out in accordance with best practice geomorphological walkover methodologies. Any additional primary or secondary datasets will be identified through ongoing consultation with stakeholders.

18.8.4 Depending on the outcomes of the desk-based assessment, it may be necessary to undertake further monitoring of surface and / or groundwater quality (e.g. if the potential for significant contamination issues is identified).

18.8.5 There is significant overlap between the work required to inform the water resources and flood risk assessments and the work required to inform the development of the WFD Compliance Assessment for river and groundwater bodies. Any desk-and field-based assessments will, therefore, explicitly consider factors relevant to the water quality elements as well to inform the development of the WFD Compliance Assessment.

Flood Risk

18.8.6 The baseline assessment has been used to assess the fluvial, tidal, surface water, reservoir, groundwater and sewer flood risk, during construction and operation, with the relevant elements being scoped in or scoped out for further assessment. The EIA will also be informed by a site-specific FRA for the proposed Project.

18.8.7 The proposed Marine Facilities may impact water levels and wave climate and this will be assessed through the modelling studies referred to in Coastal Processes and Geomorphology (**Section 5**), with the relevant results referenced in the site-specific FRA.

18.8.8 Further activities required to inform the FRA will include:

- Detailed topographical survey for the area within the Scoping Boundary of the proposed Project.
- Detailed drawings and details on the proposed land use and layouts for the proposed Project. These will be used to ascertain the potential flood risk both to and from the proposed Project.
- A data request will be submitted to HCC, as the Lead Local Flood Authority, related to historic flood events, any additional details on ordinary watercourses, including any culvert or asset information, and to confirm the requirements associated with obtaining Ordinary Watercourse Consent for proposed works which may affect ordinary watercourses.
- A data request will be submitted to NFDC to understand whether it holds any additional information regarding historic flood data or details relevant to the proposed Project.
- Data from Southern Water will be used to assess the location of the wider drainage network, assets and historic flood events.
- Desk-based study using publicly available data from the Environment Agency, Defra British Geological Survey (BGS) and AIM Spatial

Distribution (i.e. data that identifies defence type) to help support the findings of the FRA.

- Discussion with the Environment Agency regarding the requirements associated with obtaining permission under the Environmental Permitting Regulations for flood risk activities on Main Rivers and agreement related to methodology for discharge of surface water from the proposed Project.
- Information will be obtained regarding coastal defences, such as confirmation of defence type, crest levels and land ownership.
- Review of the results of any wave modelling undertaken to assess the potential impact of the Marine Facilities.
- Consider and identify the need for the completion of additional fluvial and / or tidal modelling to understand the different sources of flood risk in greater detail.
- Review Climate Change Allowance guidance published by the Environment Agency in February 2016 (and updated in May 2022) to establish the appropriate allowances to be adopted when assessing flood risk for the design life of the proposed Project.

19 INFRASTRUCTURE AND OTHER USERS

19.1 Introduction

19.1.1 This section describes the proposed scope of the ES chapter in relation to infrastructure and other users that may be affected by the proposed Project. This section considers infrastructure and other users within the Scoping Boundary and at the Nab Tower disposal site and interactions with industries not already covered as EIA topics in their own right. Commercial Fisheries (**Section 9**), Commercial and Recreational Navigation (**Section 10**) and Traffic and Transport (**Section 13**) are not covered within this section, because those individual sections address the issues relevant to these topics.

19.2 Relevant Policy and Legislation and Guidance

19.2.1 The assessment will be undertaken to meet relevant requirements within the NPSfP and the South Marine Plan. Local policy, including the New Forest District Local Plan 2016-2036, will also be considered.

19.3 Study Area

19.3.1 The study area is the area over which potential effects of the proposed Project may occur during construction and operation and encompasses both direct effects (e.g. direct interference with existing infrastructure that requires re-routing) and indirect effects (i.e. effects on aggregate sites through increases in siltation rates).

19.3.2 The study area for this topic therefore includes the activities within Scoping Boundary as well as activities at the Nab Tower disposal site.

19.4 Description of Existing Environment

Data Sources

19.4.1 The key data sources set out in **Table 19.1** have been used to gather the baseline information on Infrastructure and Other Users and inform this scoping study.

Table 19.1 Key data sources

Title	Date
Southampton Maintenance Dredge Protocol Update: Baseline Document. ABP Southampton. ABPmer Report No. R.4792.	ABP, 2025
UK Disposal Site Layer. Available online at: UK Disposal Site Layer - data.gov.uk (Accessed 04/03/2019).	Cefas, 2024
Power cables and telecommunication cables spatial data layers. Available online at: https://www.escaeu.org (Accessed 12/05/2025).	KIS ORCA, 2019
South Inshore and South Offshore Marine Plan Technical Annex Available online at: The South Marine plans documents - GOV.UK (Accessed 12/05/2025).	Marine Management Organisation (MMO), 2018
Military Practice Areas spatial data layer. Available online at: https://www.emapsite.com/mapping-and-data/marine-mapping/?p=MarineThemes-Large,Medium+SmallScale (Accessed 12/05/2025).	Marine Themes, 2019a
Pipeline spatial data layer. Available online at: https://www.emapsite.com/mapping-and-data/marine-mapping/?p=MarineThemes-Large,Medium+SmallScale (Accessed 12/05/2025).	Marine Themes, 2019b
Oil and gas licence blocks and infrastructure spatial data layers. Available online at: https://hub.arcgis.com/maps/ef2d703fcf43426ba4a6108001974570/about (Accessed 12/05/2025).	Oil and Gas Authority, 2024
Aggregate licence areas spatial data layer. Available online at: https://www.thecrownestate.co.uk/en-gb/resources/maps-and-gis-data (Accessed 12/05/2025).	The Crown Estate, 2024
North Sea Transition Authority (2025). Experience. [online] Arcgis.com. Available at: https://experience.arcgis.com/experience/120f3b5237d04246a0964a99779fb724#widget_	North Sea Transition Authority, 2025
SCC (2021). Southampton Climate Change Risk & Vulnerability Assessment. [online] Southampton.gov.uk. Available at: https://www.southampton.gov.uk/our-green-city/southampton-climate-change-risk-vulnerability-assessment/ (Accessed 12/05/2025).	SCC, 2021
Department for Environment, Food & Rural Affairs (2025). Supporting minimising environmental impacts from unexploded	Defra, 2025c

Title	Date
ordnance clearance. [online] GOV.UK. Available at: https://www.gov.uk/government/publications/supporting-minimising-environmental-impacts-from-unexploded-ordnance-clearance/supporting-minimising-environmental-impacts-from-unexploded-ordnance-clearance	
Global Marine Group (2025). Public basemap sidebar. [online] Oceaniq.co.uk. Available at: https://oceaniq.co.uk/submarinecablemap/ (Accessed 12/05/2025).	Global Marine Group, 2025
The Crown Estate (2025). Offshore Wind Map. [online] The Crown Estate. Available at: https://www.thecrownestate.co.uk/media/4505/marine-aggregates-annual-review-2023.pdf (Accessed 12 Jun. 2025).	The Crown Estate, 2023

Marine Infrastructure

Navigational channel and berths

19.4.2 As the statutory harbour authority for the Port of Southampton and its surrounding waters, ABP has a statutory duty to maintain advertised water depths in navigable channels within its jurisdiction, including the main access channel and operational berthing facilities. This jurisdiction encompasses a busy harbour area with frequent vessel movements and multiple dredging activities. ABP fulfils its duty through regular maintenance dredge campaigns and ad hoc capital dredging, ensuring safe navigation and operational efficiency across the port.

19.4.3 The location of the proposed Project site is directly adjacent to the main navigation channel, where vessel movements are frequent due to commercial shipping, the cruise industry, military logistics and ferry services.

19.4.4 In addition to maintenance dredging undertaken by the Port of Southampton, there are other third-party operators which carry out maintenance dredging. These include ExxonMobil Fawley Marine Terminal, British Petroleum (BP) Hamble Oil Terminal and a number of marina and wharves in the rivers Test and Itchen and along Southampton Water, including Marchwood Wharf and Power Station, Hythe Marina Village and Hythe Marine Park (**Figure 19.1**) (ABPmer, 2025). Existing maintenance dredge activities that occur near to the proposed Project location are summarised in **Table 19.2**.



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
01	06/11/2025	Initial Issue	LB	GLD	SM	MSS

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Jacobs No. B2488100

ABP | ASSOCIATED BRITISH PORTS

Project: SOLENT GATEWAY 2

Drawing Title: THIRD-PARTY OPERATORS WHICH CARRY OUT MAINTENANCE DREDGING CLOSE TO SG2

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100040

Drawing Status: FINAL

Figure 19.1

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Table 19.2 Maintenance dredge activities (ABPmer, 2025)

Operator	Location	Method	Frequency
Port of Southampton	River Test berths and main access channel	Trailing Suction Hopper Dredger (TSHD) is the principal method, with plough dredging used for bed levelling operations.	Mostly occurs twice per year, with some berths having a longer time frame between dredging.
	River Itchen berths and main access channel		Mostly occurs on a bi-annual basis, with some berths having a longer time frame between dredging.
	Southampton Water berths and main access channel (Dock Head to Fawley)		Dredge pockets around Dock Head and areas adjacent to Hythe and Netley are dredged on an annual basis. The rest of the main access channel is dredged approximately every two years.
ABP	Marchwood Wharf Industrial Area	Backhoe dredger.	Infrequently, approximately every five to eight years.
Solent Gateway Limited (ABP)	Marchwood Military Port approaches and berths	TSHD is the principal method, with plough dredging used for bed levelling operations. Backhoe dredger is used in areas that are not accessible by TSHD or plough.	Generally occurs on an annual basis and sometimes twice a year.
Marina Developments Limited (MDL) Marinas	Hythe Marina Village approach channel	Backhoe dredger.	Every two years.
Solent Dredging Limited on behalf	Hythe Marine Park	Backhoe dredger.	Ad hoc basis, with scope for annual frequency.

Operator	Location	Method	Frequency
of Solent Refit Services Limited (leaseholders)			

Dredged material disposal sites

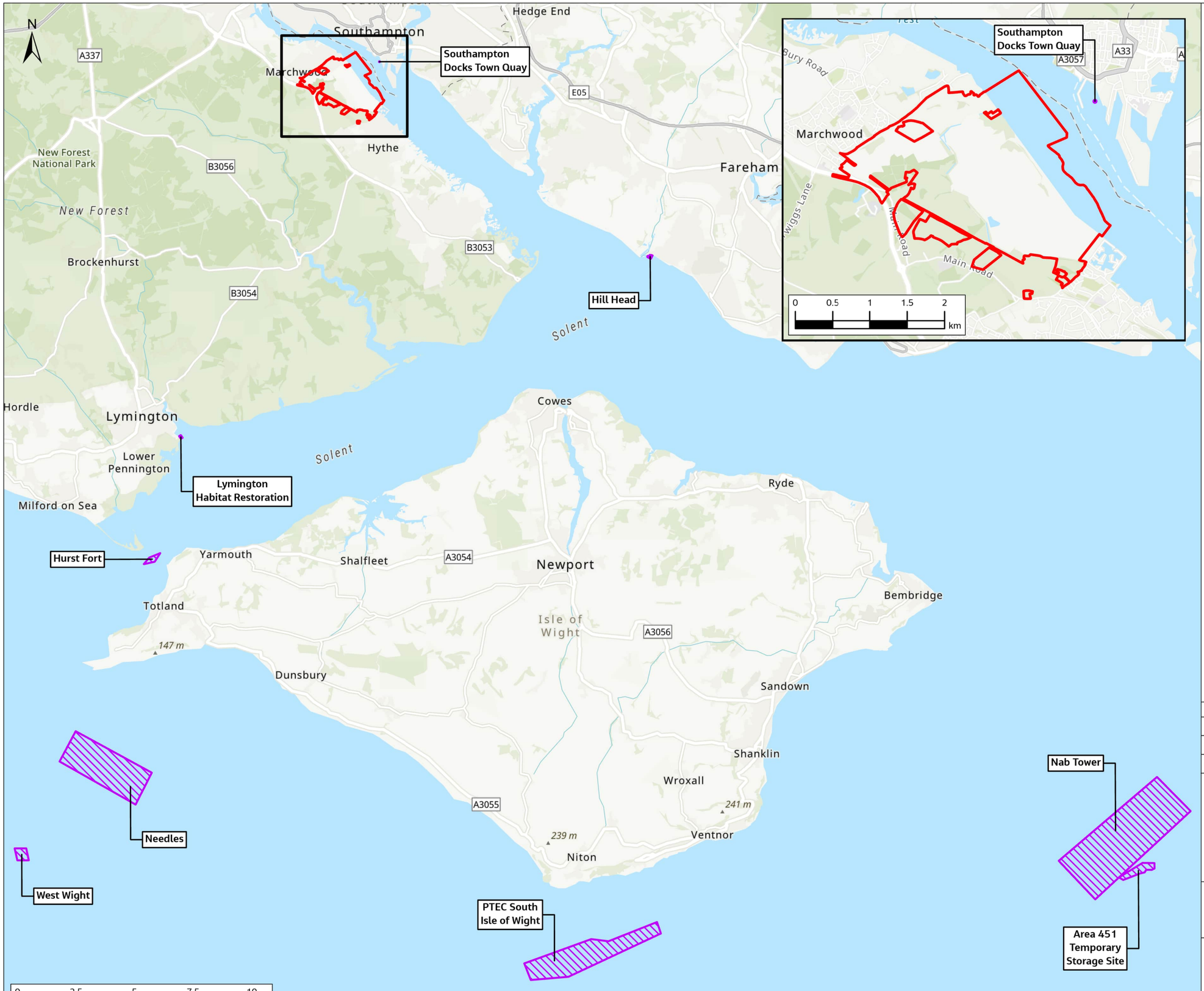
19.4.5 There are a number of disposal sites which have been or are currently available for the licensed disposal of maintenance and/or capital dredged material from within the Port of Southampton's Statutory Harbour Authority (SHA) (ABPmer, 2025). **Table 19.3** lists these sites along with their current status. The location of these sites are shown on **Figure 19.2**.

19.4.6 Of the disposal sites listed in **Table 19.3** only the Nab Tower disposal site is currently used for disposal of maintenance dredged material by the Port of Southampton. Third-party organisations within the Port of Southampton's SHA principally use the Nab Tower (40km south-east of the proposed Project location), along with Hill Head (19km east-south-east), Hurst Fort (26km south-west) and the Needles (32km south-west).

19.4.7 The Nab Tower disposal site is located in the eastern approaches to the Solent in approximately 40m water depth, 12km off the south-east coast of the Isle of Wight (**Figure 19.2**). This disposal site receives both capital and maintenance dredged material from nearby harbour areas including Southampton, Hamble, Portsmouth, Chichester and Cowes.

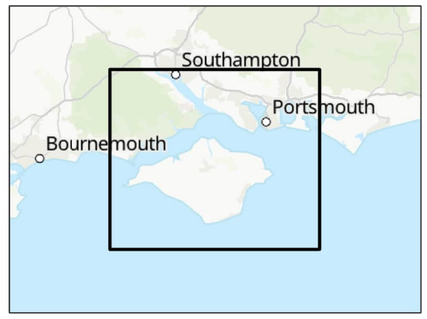
Table 19.3 Disposal sites close to the Port's SHA

Disposal site number	Disposal site name	Status
WI053	Area 451 Temporary Storage Site	Closed
WI060	Nab Tower	Open
WI067	Perpetuus Tidal Energy Centre (PTEC) South Isle of Wight	Closed
WI070	Cowes	Closed
WI072	Hill Head	Open
WI075	Southampton Docks Town Quay	Closed
WI080	Hurst Fort	Open
WI085	Lymington Habitat Restoration	Closed
WI090	Needles	Open
WI091	West Wight	Closed
WI053	Area 451 Temporary Storage Site	Closed



Legend

- Scoping Boundary
- Disposal Sites



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01	06/11/2025	Initial Issue	LB	GLD	SM	MSS

Scale @ A3 | Scale: 1:160,000 DO NOT SCALE

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Project: SOLENT GATEWAY 2

Drawing Title: OFFSHORE DISPOSAL SITES

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100041

Drawing Status: FINAL

Figure 19.2

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Marine aggregate dredging

19.4.8 Marine aggregate dredging involves the extraction of sand and gravel resources from the seabed by a TSHD. These marine sediments are an important source of quality aggregate for construction and civil engineering projects.

19.4.9 Although no aggregate dredging occurs in Southampton Water, the route that would be taken by vessels disposing of capital dredged material arising from the proposed Project to the Nab Tower disposal site passes in close proximity to several licensed aggregate extraction areas, particularly those south-east of the Isle of Wight.

19.4.10 There are several existing aggregate dredging licence areas located adjacent to or in the vicinity of the Nab Tower disposal site which are presented in **Table 19.4** (The Crown Estate, 2023). The location of aggregate licence areas is shown on **Figure 19.3**).

Table 19.4 Aggregate dredging areas located adjacent or in the vicinity of the Nab Tower disposal site (The Crown Estate, 2023)

Disposal site number	Disposal site name	Status
395/2	South East Isle of Wight	Tarmac Marine Ltd
395/1	Off Selsey Bill	Tarmac Marine Ltd
351	South East Isle of Wight	Volker Dredging Ltd
451	St Catherine's	Westminster Gravels Ltd
340	South East Isle of Wight	CEMEX UK Marine Ltd

Ministry of Defence activities

19.4.11 The MoD has the primary role of providing defence and security to the people of the UK and overseas territories. Within UK waters, military activities comprise practice and training activities, routine patrolling, transporting equipment and personnel in and out of the country and communications including using radar.

19.4.12 While no MoD Practice and Exercise Area (PEXA) directly overlaps the proposed Project site, disposal of dredged material at the Nab Tower disposal site would occur within the Q6401 South-East UK PEXA, which includes designated naval exercise zones off the south coast of the Isle of Wight. Vessel transits to and from the Nab Tower disposal site would therefore pass through, or adjacent to, this PEXA, particularly near areas used for surface fleet manoeuvres and radar calibration exercises. These zones are active during larger-scale operations and are charted in Admiralty Chart NP131, specifically relevant to this area (United Kingdom Hydrographic Office, 2025) (**Figure 19.4**).

N

Fordingbridge

Totton

Southampton

Southampton

Hedge End

Clanfield

A32

B2141

Marchwood

Hythe

Waterlooville

Havant

Fareham

Ringwood

New Forest

Chichester

Portsmouth

A3023

Brockenhurst

Portsmouth

Southsea

Solent

Aldw

Cowes

New Milton

Lymington

Burton

Highcliffe

Solent

Solent

Ryde

East Southbourne

Milford on Sea

Shalfleet

Newport

Bembridge

Totland

Isle of Wight

Dunsbury

Sandown

Wroxall

Niton

Dolphin Sand/Bank and Shingles Bank

West Isle of Wight

Needles Isle of Wight

South of Needles Channel

South West Isle of Wight

South Wight

Off Selsey Bill

South East Isle of Wight

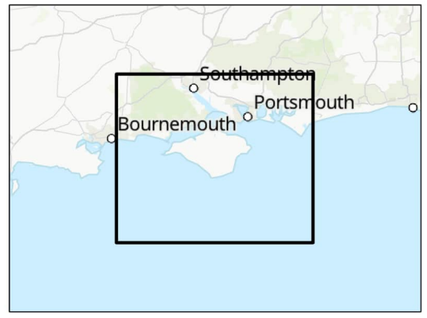
St Catherine's

0 2.5 5 7.5 10 km

Legend

Scoping Boundary

Aggregate Site Agreements



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01	06/11/2025	Initial Issue	LB	GLD	SM	MSS

Scale @ A3 | Scale: 1:250,000 | DO NOT SCALE

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Project

SOLENT GATEWAY 2

Drawing Title

LOCATION OF AGGREGATE LICENCE AREAS

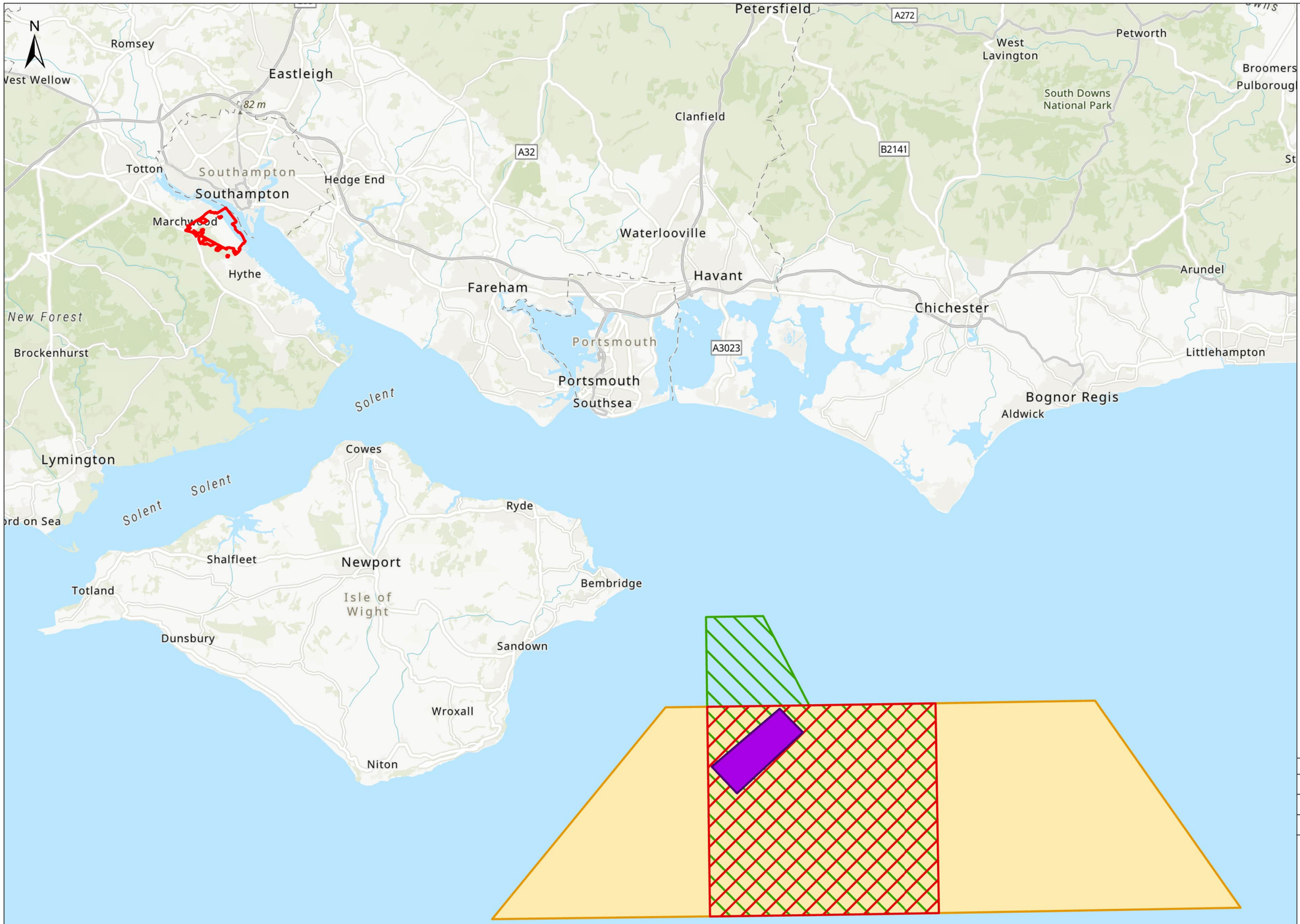
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Figure 19.3

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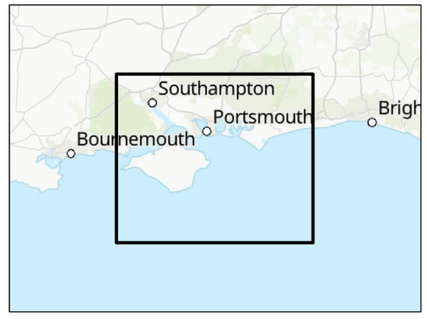


Legend

- Scoping Boundary
- Nab Tower disposal site

Military Practice Areas

- Firing danger area
- Submarine exercise area
- Submarine exercise area,firing danger area,surface danger area,practice and exercise area (surface fleet)



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
01	06/11/2025	Initial Issue	LB	GLD	SM	MSS

Scale @ A3 — Scale: 1:250,000 — DO NOT SCALE

Jacobs No. B2488100

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Project

SOLENT GATEWAY 2

Drawing Title

NAB TOWER DISPOSAL SITES
OVERLAPS MOD AND PEXA

Drawing No. S6585-MDEC-ZZ-ZZ-DG-EC-0100043

Drawing Status FINAL

Figure 19.4

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19.4.13 A historic munitions disposal ground which is no longer used is also located off the south coast of the Isle of Wight.

Oil and gas activity

19.4.14 No offshore oil and gas production currently takes place in the vicinity of the proposed Project or the Nab Tower disposal site (North Sea Transition Authority, 2025). The closest oil and gas infrastructure is the Fawley Oil Refinery, located approximately 11km south-south-west. While the refinery itself is land-based, it includes a deep-water marine terminal extending into Southampton Water. This facility facilitates the import of crude oil and export of refined products, representing the nearest significant oil and gas activity (ExxonMobil UK, 2025).

Subsea cables and pipelines

19.4.15 There are no subsea cables or pipelines in the vicinity of the proposed Project or the Nab Tower disposal site. The closest infrastructure is the IFA-2 interconnector subsea cable, estimated to be approximately 18km to the south-east of the proposed Project location, in the eastern Solent (TeleGeography, 2019).

Offshore wind farms

19.4.16 There are no existing or proposed offshore wind farms in the vicinity of the proposed Project. The closest offshore wind farm to the proposed Project is Rampion Offshore Wind Farm, located approximately 69km east-south-east of the proposed Project location (The Crown Estate, 2025).

Unexploded ordnance (UXO)

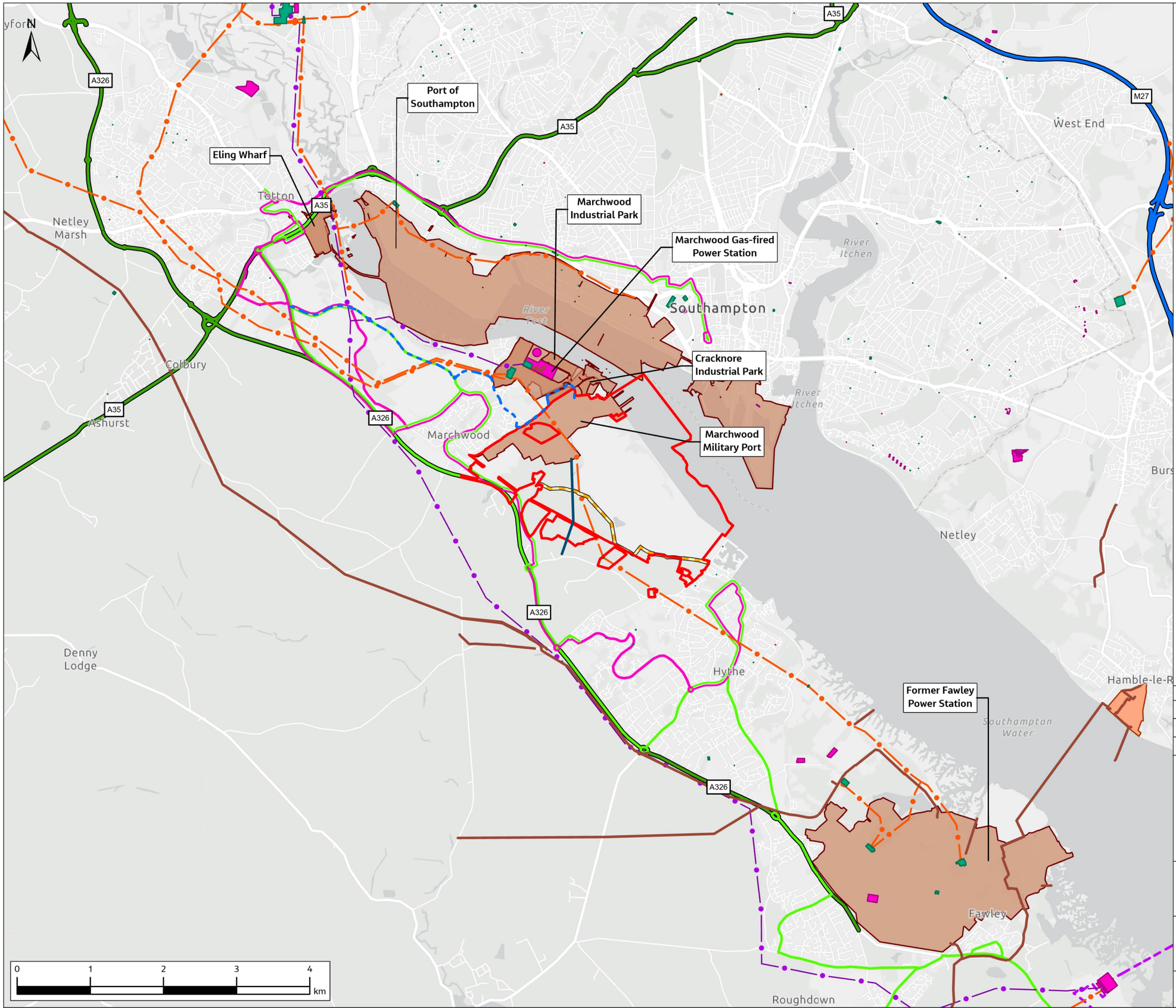
19.4.17 Southampton Water and the Solent has been a major area of naval and aerial warfare, most notably during WWII. As a result, there is a potential for UXO to be unearthed during construction (SCC, 2017, Defra, 2025c).

Landside Infrastructure

Utilities and services

19.4.18 There are no known service or utility provisions within the Scoping Boundary or the proposed Project that could be used or modified to provide services to the proposed Project.

19.4.19 The SGL site is served by the Southern Electric Power Distribution (SEPD) network, with substations located in Marchwood and Hythe (SSEN, 2025). A single overhead power line crosses the location of the proposed Project, comprising two 132kV circuits. Additionally, 132kV substations are located within the nearby Fawley Refinery Power Station (**Figure 19.5**).



Legend

- Scoping Boundary
- A Road
- Motorway
- Emergency services access route to site
- Public Rights of Way
- Bus route 8
- Bus route 9
- Overhead 132kV power lines
- Overhead 400kV power lines
- Underground electricity cables
- Power stations
- Substations
- Gas pipelines
- Esso Oil Pipeline
- Oil refineries
- Industrial and commercial infrastructure



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Project: SOLENT GATEWAY 2

Drawing Title: LANDSIDE INFRASTRUCTURE WITHIN AND SURROUNDING THE PROPOSED PROJECT

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100044

Drawing Status: FINAL

Figure 19.5

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19.4.20 Southern Water provides water services to Marchwood and surrounding areas.

19.4.21 Openreach offers fibre broadband infrastructure in Marchwood, with Fibre to the Cabinet (FTTC) available to most premises. Virgin Media also operates in the area, providing high-speed cable internet and data services.

Oil and gas infrastructure

19.4.22 The site is located near the ExxonMobil Fawley Refinery, which includes extensive pipeline infrastructure. Local gas distribution is managed by Southern Gas Networks (SGN) (**Figure 19.5**).

19.4.23 There is an existing Esso oil pipeline that runs under the proposed location of the access road for the proposed Project (**Figure 19.5**).

Marchwood Industrial Park

19.4.24 Marchwood Industrial Park is located approximately 600 metres north of the proposed Project site. It accommodates over 60 businesses, including warehousing, logistics, light industrial units, and open storage facilities.

Cracknore Industrial Park

19.4.25 Cracknore Industrial Park is located adjacent to Marchwood Industrial Park, approximately 450m from the location of the proposed Project. It supports similar commercial activities to Marchwood Industrial Park.

Marchwood Military Port (Sea Mounting Centre)

19.4.26 The proposed Project would be located adjacent to Marchwood Military Port which is (currently operated by ABP under concession from the MoD as SGL) and would utilise the existing facilities such as the rail sidings and access to the Fawley Branch line.

Eling Wharf

19.4.27 Eling Wharf is located in Totton and has a long history of use for industrial activities and logistics associated with its waterside location, contributing to the area's maritime infrastructure.

19.5 Future Baseline

19.5.1 In a future baseline scenario the land within the Port of Southampton’s ownership would continue to be held on a short-term tenancy basis for agricultural use as part of an ongoing management review. There are, therefore, unlikely to be any short-term changes to infrastructure and other users.

19.6 Potential Impacts

Potential Impacts During Construction

19.6.1 **Table 19.5** identifies the potential impacts on Infrastructure and Other Users related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 19.5 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Other navigational dredging operations	Potential for capital dredging to affect existing navigational dredging	Capital dredging for the Marine Facilities	Yes	There is potential for capital dredging required for the Marine Facilities (including jetty structures) to interact with or affect existing navigational dredging operations in the Test and Southampton Water. This may result in temporary disruption to vessel access or movement in areas where maintenance dredging is routinely carried out, such as at Marchwood Military Port and the approach channel to Hythe Marina Village. This potential impact is therefore proposed to be scoped into the EIA.
Existing dredged material disposal operations	Potential interaction between project-related sea disposal at Nab Tower and existing disposal activities	Disposal of dredged material at Nab Tower	Yes	Capital dredged material from the proposed Project is proposed to be deposited at the Nab Tower disposal site. While alternative uses for the material may be explored, it is expected that offshore disposal will still be required for at least a portion of the dredged material. Consequently, there is potential for project-related disposal activity to interact with existing dredged material disposal operations at the Nab Tower deposit ground (as outlined in **Table 19.3**). This potential impact is, therefore, proposed to be scoped into the EIA.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Aggregate dredging activities	Proposed marine disposal near aggregate licence areas	Disposal of capital dredge material	Yes	Existing disposal activities at the Nab Tower deposit ground already take place adjacent at/or near to a number of existing aggregate license areas. The disposal of capital dredge material associated with the proposed Project at the Nab Tower disposal site may result in disruption to aggregate dredging activities and this potential impact is proposed to be scoped in.
MOD activities	Disposal activities within existing marine PEXA zone	Disposal of capital dredged material at Nab Tower	No	Given dredged material disposal operations at the Nab Tower deposit ground already take place within the PEXA, the dredged material disposal activities associated with the proposed Project are not expected to result in any additional disruption to existing military activities. This potential impact is, therefore, proposed to be scoped out of the EIA.
Oil and gas operations	Overlapping marine infrastructure or activities with proposed Project.	Construction of Marine Facilities	No	As there are no oil and gas activities or infrastructure that coincide with the construction activities associated with the proposed Project, there is no impact pathways. This potential impact is, therefore, proposed to be scoped out of the EIA
Subsea cables or pipelines	Overlap between project construction and any known subsea infrastructure.	Construction phase	No	The construction activities associated with the proposed Project do not overlap any subsea cables

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				or pipelines and, therefore, this potential impact is proposed to be scoped out of the EIA.
Offshore wind farms	Spatial overlap between construction footprint and Offshore wind farm sites.	Construction activities	No	The construction activities associated with the proposed Project do not overlap any offshore wind farm sites with the closest being the Rampion Wind Farm (69km distant from the proposed Project location). This potential impact is proposed to be scoped out of the EIA.
UXO	Potential for UXO detonation during construction of the proposed Project marine and landsite.	Construction footprint	No	UXO Desk Study & Risk Assessment has been undertaken by Zetica UXO (Zetica UXO, 2025) for the SG2 project has revealed a series of WWI and WII records within the site. The construction of the proposed Project has the potential to result in the detonation of UXO, should any live ordnance be present beneath the footprint of the marine or landside construction activities.
Utilities and services	Potential interaction with existing utilities infrastructure during construction of the proposed Project	Construction activities	Yes	The key known infrastructure potentially impacted by the proposed Project is the 132kV overhead power line that crosses the location of the proposed Project and the Esso oil pipeline that runs under the proposed access road.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				The locations of other utilities and services will require identification and potentially require protective measures prior to construction. It is proposed that the potential impact on utilities and services is scoped into the EIA.
Existing industrial and commercial infrastructure	Potential disruption or interaction with nearby industrial and commercial facilities during construction of the proposed Project	Construction activities	No	Key industrial and commercial facilities, including Marchwood Industrial Park, Cracknore Industrial Park and Eling Wharf are located outside the footprint of the proposed Project. While these facilities are in relatively close proximity, no physical infrastructure associated with these facilities lies within the scoping boundary, and no disruption to their operations is anticipated. Marchwood Military Port is located within the scoping boundary. However, this site is operated under a concession by ABP. It is proposed that this is scoped out of the EIA.

Potential Impacts During Operation

19.6.2 **Table 19.6** identifies the potential impacts Infrastructure and Other Users related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 19.6 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Other navigational dredging operations	Potential for maintenance dredging at the Marine Facilities to affect existing navigational dredging	Maintenance dredging at Marine Facilities	No	Maintenance dredging may be required at the Marine Facilities during the operational phase of the proposed Project. However, this activity is expected to be coordinated with existing adjacent dredging operations, such as those undertaken by ABP, and integrated into broader maintenance schedules.
Existing dredged material disposal operations	Potential interaction with existing disposal operations at the Nab Tower disposal site.	Disposal of maintenance dredged material at the Nab Tower disposal site	No	Disposal of maintenance material at Nab Tower will be required through the operational lifetime of the proposed Project. This activity is expected to be integrated or coordinated with existing disposal operations at Nab Tower so interactions with other users would not occur.
Aggregate dredging activities	Proposed disposal near aggregate licence areas	Disposal of maintenance dredge material at the Nab Tower disposal site	No	The disposal of maintenance dredged material associated with the proposed Project is not predicted to result in any additional disruption to aggregate dredging over baseline activities and this potential impact is proposed to be scoped out of the EIA.
MOD activities	Disposal activities within existing marine PEXA zone	Disposal of capital dredged material at Nab Tower	No	Given dredged material disposal operations at the Nab Tower deposit ground already take place within the PEXA, the dredged material disposal

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				activities associated with the proposed Project are not expected to result in any additional disruption to existing military activities. This potential impact is, therefore, proposed to be scoped out of the EIA.
Transport infrastructure	Potential landside transport disruption during operation of the proposed Project	Operational activities	No	Transport infrastructure, including road access, emergency routes, public transport, pedestrian and cycle networks, may be used during the operational phase of the proposed Project. However, this impact is scoped out of the infrastructure section because it will be assessed under Traffic and Transport (**Section 13**) and Tourism and Recreation (**Section 20**).
Utilities and Services	Potential interaction with existing utility infrastructure during operation of the proposed Project	Operational activities	No	Water supply and drainage, telecommunications, and gas infrastructure are located outside the immediate footprint of the proposed Project and are not expected to be directly affected during operation. These services are therefore scoped out of this section. Any necessary coordination or safeguarding measures will have been addressed during the construction phase.
		Operational activities	Yes	Electricity infrastructure is scoped in due to the presence of an overhead power line comprising two 132kV circuits that crosses directly through the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				proposed project site. The Esso oil pipeline located under the access road is also scoped in. This infrastructure may require ongoing management or operational safeguards to ensure safety and service continuity.
Existing Industrial and Commercial Infrastructure	Potential disruption or interaction with adjacent industrial and commercial facilities during operation of the proposed Project	Operational activities	No	Key industrial and commercial facilities, including Marchwood Industrial Park, Cracknore Industrial Park, Marchwood Military Port, and Eling Wharf, are located outside the operational footprint of the proposed Project. While these facilities are in proximity to the site, no direct interaction or disruption is anticipated during the operational phase.

19.7 Mitigation

Marine Infrastructure

19.7.1 Where potential conflicts between the proposed Project and existing infrastructure or other marine users are identified, the following mitigation measures may be implemented as appropriate:

- Early engagement with any other offshore operators or developers active within the area to agree working arrangements, operational windows, and communication protocols.
- Capital dredging for the Marine Facilities could be scheduled to avoid direct overlap with planned maintenance dredging and disposal campaigns.

19.7.2 Other construction and operational phase mitigation measures relevant to this topic are related to potential impacts on commercial and recreational navigation and will, therefore, be derived from the NRA (see Commercial and Recreational Navigation (**Section 10**).

Landside Infrastructure

19.7.3 Detailed searches, potentially supplemented by surveys if necessary, will be undertaken to identify the location and condition of existing utilities (e.g. electricity, water, gas, telecommunications) within and adjacent to the location of the proposed Project. This will inform construction planning and avoid accidental damage or service disruption.

19.7.4 Engagement with relevant utility providers will be carried out to agree (if necessary) protection measures, access protocols, and any required diversions or upgrades.

19.7.5 The 132kV overhead power line crossing the site will be safeguarded through exclusion zones, signage and coordination with UK Power Networks. The power line may require temporary rerouting. Temporary rerouting of the 132kV overhead power line may be required if construction activities conflict with statutory safety clearances, obstruct maintenance access, or pose risks to infrastructure integrity. This would typically be considered in consultation with the utility provider where safe working distances cannot be maintained or permanent structures interfere with the existing alignment. Works near the power line will follow industry safety standards.

19.7.6 Consultation with Esso will also be undertaken to establish safe working practices or requirements for the construction and maintenance of the proposed access road to safeguard the oil pipeline.

19.7.7 Emergency access routes will be maintained throughout construction, with coordination between contractors and emergency services to ensure clear and reliable access at all times.

19.8 Approach to Assessment and Data Gathering for ES

19.8.1 Baseline information will be verified and, if necessary, supplemented and updated using the most recent datasets available, including those listed in **Table 19.1**.

19.8.2 . Consultation will confirm baseline conditions, identify operational constraints and highlight any potential conflicts during construction and operation.

19.8.3 Updated GIS mapping will be used to assess the extent of spatial and temporal overlap between the proposed Project footprint and existing infrastructure, dredge and disposal sites and other licensed activities.

19.8.4 Potential effects on infrastructure and others users will be assessed, taking into account both proximity of other infrastructure and timing of other activities. Potentially significant cumulative impacts will be assessed through consideration of other planned or consented marine developments and ongoing activities in the study area.

19.8.5 Potential effects will be assessed in terms of both proximity and timing, taking account of operational windows and the scale of other marine user activities. Where interactions are identified, they will be cross-referenced with the Commercial and Recreational Navigation assessment (**Section 10**).

20 TOURISM AND RECREATION

20.1 Introduction

20.1.1 This section describes the relevance of tourism and recreation to the proposed Project. The receptors covered in this section include visitor economy, tourist attractions, accommodation, land-based recreation and water-based recreation.

20.2 Relevant Policy, Legislation and Guidance

20.2.1 Legislative and Regulatory Regime (**Section 3**) presents a summary of key legislation and policy that are relevant to the proposed Project.

20.2.2 The Tourism and Recreation assessment will be undertaken to meet the requirement of the NPSfP (DfT 2012) as set out in paragraphs *4.6.1* and *4.6.2*.

20.2.3 There are no specific guidelines or requirements for the assessment of effects on tourism and recreation. Unlike other environmental topics, such as noise, the sensitivity of receptors is not determined by reference to designations or an objective standard. The assessment of tourism and recreation will be undertaken as a desk-based study and will draw on the following guidance:

- DMRB: LA 112 Population and Human Health Guidance (Highways England, 2020a).
- DMRB: LA 104 Environmental Assessment and Monitoring Guidance (Highways England, 2020b).

20.3 Study Area

20.3.1 The study area for tourism and recreation is within the proposed Project Scoping Boundary as well as a further two spatial extents:

- Local study area: 1km buffer which includes settlements such as Hythe, Marchwood and Southampton City Centre. This study area, as seen in **Figure 20.1**, is considered appropriate to identify tourism and recreational receptors likely to be impacted by the proposed Project. This study area will remain under review and may be refined or expanded in response to the identification of potential significant effects by other disciplines, such as Traffic and Transport (**Section 13**), Noise and Vibration (**Section 14**), Air Quality (**Section 15**), Landscape, Seascape and Visual Effects (**Section 16**), Human Health (**Section 21**) and Socioeconomics and Population (**Section 22**).

- Wider study area: Tourism economy, tourism employment and accommodation effects may occur beyond the immediate Scoping Boundary and local study area. Therefore, such effects are considered within New Forest District and Southampton Unitary Authority.

20.4 Description of Existing Environment

Data Sources

20.4.1 The key data sources set out in **Table 20.1** have been used to gather the baseline information on Tourism and Recreation and inform the scoping study.

Table 20.1 Key data sources

Title	Date
New Forest National Park Authority, State of the Park Report 2019	New Forest National Park Authority, 2019a
New Forest National Park Local Plan 2016-2036	New Forest National Park Authority, 2019b
Tourism and Recreation	New Forest National Park, 2018
The New Forest Economic Profile	New Forest District Council, 2022a
The New Forest National Park Partnership Plan 2022-2027	New Forest National Park Authority, 2022
Southampton City Council Annual Review	Southampton City Council, 2018b
Southampton's Destination Management Plan (DMP) 2021-2031	Southampton City Council, 2021
£1bn+ generated for the City of Southampton by record cruise year	ABP, 2023

Visitor Economy

20.4.2 The New Forest National Park is located to the west of the proposed Project and has a significant tourist economy, with tourism-related activities estimated to generate £528 million per year and provides for around 20% of all local jobs (New Forest District Council, 2022a). In comparison, the UK's visitor economy contributed around £286 billion to the UK economy in 2024 and is projected to contribute £257 billion in 2025 and support 3.8 million jobs (Condor Ferries, 2025).

20.4.3 In 2022, it was reported that the New Forest National Park received over 15 million day-visits each year (New Forest National Park Authority, 2022) and it is projected

that by 2037 there could be 17.6 million visitor days to the National Park (RJS Associates, 2018).

20.4.4 In 2019, tourism provided £422 million of direct expenditure to Southampton's economy (Southampton City Council, 2021). This supported 7,720 Full time Job Equivalents (FTEs), including indirect and induced jobs. In 2019 there were 563,000 overnight trips taken in Southampton, with approximately 81% of these originating in the UK and 19% from overseas (Southampton City Council, 2021). The total spend on overnight visits in 2019 was around £128 million. There were also 7.7 million day trips with a total spend of £293 million (Southampton City Council, 2021).

20.4.5 Southampton has five passenger cruise terminals, owned by Associated British Ports, located to the north-east of the proposed Project on the opposite side of the River Test. Southampton is reported to be the UK's number one cruise economy and supports 85% of the UK cruise market. The Port of Southampton received 3 million passengers in 2024 and contributed to more than £1 billion in the local and regional economy (ABP, 2019). Cruise sector employment in Southampton supported around 15,000 jobs across various sectors such as hospitality (ABP, 2023).

Tourist Attractions

20.4.6 Apart from the natural attractions of the New Forest District and New Forest National Park, there are few land-based tourist attractions within the local study area. The area surrounding the Port of Southampton includes restaurants and bars, all of which accommodate local and tourist visitors. Other tourism attractions in the study area include Hythe Tourist Information Centre, the town of Hythe as well as attractions across the River Test in Southampton, such as the Town Wall. Hythe Marina Village is also a popular tourist destination, where the marina is equipped with restaurants, bars and a hotel to accommodate visitors and tourists arriving by boat or on foot (MDL Marinas, n.d.).

20.4.7 A 2006 study suggests that the New Forest National Park has over 15 million people who live within a 90 minute drive of the park with this is estimated to have increased by 1 million with housing developments (New Forest National Pak Authority, 2016). The National Park hosts a number of events in various locations throughout the year, including the Steamship Shieldhall Eastern Solent Cruise (The New Forest, 2025). Southampton City Centre also hosts a number of events, with the annual Southampton Pride location bordering the study area as well as the annual Southampton International Boat Show (Visit Southampton, 2025).

Accommodation

20.4.8 Recent figures for tourist accommodation supply in New Forest District could not be identified. However, from a report detailing research from 2006, there are approximately 20,500 bed spaces in self-catering accommodation and a further 4,500 bed spaces in hotels and guest houses across the New Forest National Park (New Forest National Park, 2008).

20.4.9 According to Southampton's Destination Management Plan (DMP) (Southampton City Council, 2021) report there are approximately 22 city centre hotels in Southampton with around 2,300 rooms in total, and a further 16 hotels surrounding the M27 corridor with around a total of 1,600 bedrooms to let. The main overnight market in Southampton includes the mid-week market of cruise passengers and corporate business travelers', as well as residential, delegates, University Graduations, contractors, cruise ship crews and mid-week breaks. The weekend market is mainly cruise passengers and weekend breakers (Southampton City Council, 2021).

Land-based Recreation

20.4.10 The site of the proposed Project is an extensive grassland area located on the western shore of Southampton Water, serving as a multifunctional buffer that helps manage the transition between the site and its surrounding landscape (Hythe and Dibden Neighbourhood Development Plan, 2018). The area is a SSSI with 21 nationally rare and 67 nationally scarce species (Hythe and Dibden Neighbourhood Development Plan, 2018). There is no public mention of the area being used for public use of recreational activity along this shoreline at Dibden Bay.

20.4.11 There is a 3km PRoW on the boundary of the site which is also within the Scoping Boundary. The Scoping Boundary partly sits within the boundary of the New Forest National Park. The tourism and recreation local study area includes large sections of Dibden Bay and a number of PRoW.

20.4.12 There is a National Cycle Route (Route 2) in the local study area that runs from the coast at Hythe, through the village of Dibden and beyond. This is a long-distance bike route along the south coast of England (Sustrans, 2019).

20.4.13 Land within the New Forest National Park also lies within the New Forest Perambulation which is approximately 200m from the 1km study area buffer. The Perambulation is largely enclosed and privately owned and is much less used for recreation as this is an area where livestock can roam freely (New Forest National Park, 2010). It does, however, contain some local facilities, such as the Dibden Golf Course, which is adjacent to the Scoping Boundary.

20.4.14 There are a number public footpaths and PRoWs that coincide with, or are in close proximity to, the potential road and rail access options to the proposed Landside Terminal. These routes are located to the south and west of the proposed Project in the vicinity of Veal's Farm and running south towards Hythe Village Marina. There are also a number of prominent walking routes within the Marchwood area, including the Carters Lane Trail, which is a 4km route that starts approximately 300m from the Scoping Boundary.

20.4.15 The New Forest National Park contains over 100 miles of cycle tracks (The New Forest, 2015). There are 171km of forestry paths and 16km of National Cycle Network routes, both off road routes and road routes (New Forest National Park Authority, 2019a). The New Forest National Park also includes 326km of bridleways and footpaths that make up the PRoW network. Across the National Park there are nine cycle rental facilities and recreational cycling is popular in the National Park (New Forest National Park Authority, 2019b).

20.4.16 The National Park also engages with the local community regularly, including initiatives such as the Duke of Edinburgh's Award, the John Muir Award, the National Citizen Service, and a collaborative effort known as the Youth Action Project (New Forest National Park Authority, 2019b).

20.4.17 The urban areas of Waterside and Southampton provide a range of informal recreation activities, including the enjoyment of public parks and open spaces, observing shipping and watersports on the Rivers Test, Itchen and Southampton Water, and socialising within the waterside pubs, cafes and restaurants. Examples of these facilities include Lloyd Recreation Ground and the Royal Pier, both approximately 1km from the Scoping Boundary.

Water-based Recreation

20.4.18 Commercial and Recreational Navigation (**Section 10**) reports a number of marinas, yacht and sailing clubs that are based in and around Southampton Water. The area close to the Scoping Boundary also hosts Sea Scouts which ranges from ages 6 to 25 (25th Southampton (Northam) Sea Scouts, 2020).

20.4.19 Commercial and Recreational Fisheries (**Section 9**) highlights that within the Southern Inshore Fisheries and Conservation Authority (IFCA) District, which is within the Scoping Boundary and local study area, onshore recreational angling occurs all across the coastline in and around the proposed study area for the Commercial and Recreational Fisheries assessment. Where in 2018 the IFCA (2018b) estimated that there were 150 craft operating as angling and charter vessels. Onshore recreational angling occurs all along the coastline in the Southern

IFCA District from piers, marinas, cliffs, harbour walls and beaches (Southern IFCA, 2025b).

20.4.20 Although Southampton has areas of water-based recreation, there are few water-based recreation facilities identified within the Scoping Boundary and local study area.

20.5 Future Baseline

20.5.1 In a scenario where the proposed Project did not commence, it is reasonable to assume that the tourism and recreational interest of the area would continue as at present, with the same mix of established activities continuing for the foreseeable future. Additionally, it may result in a loss of opportunity and reduced investment into other areas around the Port.

20.5.2 In the absence of the proposed Project, the local community would be subject to the impacts of other development activity in the area, as well as the decisions and influence of tourism and recreation subjects covered in this chapter by local governing bodies on subjects concerning visitor economy, tourist attractions, accommodation, land-based recreation and water-based recreation.

20.6 Potential Impacts

Potential Impacts During Construction

20.6.1 **Table 20.2** identifies the potential impacts on Tourism and Recreation related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 20.2 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Visitor economy	Changes in spending due to the presence of a construction workforce and construction work	Construction workforce	Yes	Over the construction period of the proposed Project, it is anticipated that workers would spend in the local economy during the construction period. Visitors may also be deterred from visiting the local area due to construction activities, which could result in temporary losses to the visitor economy.
Attractions, land-based recreation facilities, water-based recreation facilities	Changes to amenity	Construction-related activities Delivery of materials and plant	Yes	Construction-related activities have the potential to increase noise, air pollution, traffic and visual disturbance. This has the potential to reduce the enjoyment of attractions by visitors and users of recreation facilities.
Attractions, land-based recreation facilities, water-based recreation facilities	Accessibility and severance	Construction-related activities including the construction of the marine facilities, landside terminal, access road and railway upgrades.	Yes	The proposed Project has potential to result in changes to traffic flow and access during construction. Closures, diversions or disruptions in access to PRoWs and other routes (both water-based and land-based) may be required during construction. This has potential to result in temporary

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		Delivery and materials and plant.		disruption in access to tourism and recreation facilities.
Users of tourist accommodation	Changes in the availability of tourist accommodation due to presence of a construction workforce	Construction workforce	Yes	Although the proposed Project construction period is currently unknown, construction workers will likely require accommodation during the construction works, either on a temporary basis or longer-term. This has potential to put pressure on existing tourist and visitor accommodation and limit the availability of accommodation for tourists and visitors.
Water-based recreation facilities	Changes to water quality and levels	Construction of the marine facilities Delivery of materials and plant movements	Yes	Marine Water and Sediment Quality (**Section 6**) highlights how during construction there is potential for water quality to be reduced as a result of capital dredging. This could deter or prohibit water-based recreational users from using the area.
	Access to recreational fisheries	Marine works (jetty structure and capital dredging); dredge disposal; vessel operations	No	Commercial fisheries (**Section 9**) highlights that there is no recreational fishing activity within the proposed Project area or the Southampton main navigation channel which will result in loss or

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				restricted access. Whilst bait diggers are observed regularly on the Dibden foreshore, it should be noted that ABP is the land owner of the foreshore and no permission has been granted for commercial or recreational bait digging. It is noted that there is clear signage indicating that no public access is permitted. Therefore, the potential impact of the proposed Project on bait digging activity on the Dibden foreshore has not been considered further.
	Changes to fish stocks	Marine Piling and capital dredging	No	The installation of marine construction infrastructure and capital dredging may cause direct and indirect effects on fish habitats, prey resources and behaviour. This will be assessed in Marine Ecology (**Section 7**). Due to the limited evidence of recreational fishing in the area and that the area is advertised as not accessible to the public, this impact receptor has been scoped out as there should be minimal significance to recreational fishing as this

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				activity is relatively minimal in the area already.

Potential Impacts During Operation

20.6.2 **Table 20.3** identifies the potential impacts Tourism and Recreation related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 20.3 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Visitor economy	Changes in spending due to the presence of an operational workforce and operational activities	Operational activities	No	The proposed Project is located adjacent to an area of existing port-related activity. It is therefore considered that visitors are unlikely to be deterred from visiting the local area due to the presence and nature of the proposed Project.
Attractions, land-based recreation facilities, water-based recreation facilities	Changes to amenity	Operational activities	Yes	The proposed Project may result in permanent changes to the visual, noise, air quality and traffic environment, such as a possible increase in road traffic and in rail freight which could result in longer delays at the level crossing. This could reduce the enjoyment of visiting tourism and recreation facilities for visitors.
Attractions, land-based recreation facilities, water-based recreation facilities	Accessibility and severance	Operational and maintenance activities and provision of active travel routes	Yes	The proposed Project would be accessible by a footpath and cycleway that would also connect to existing and proposed routes in Hythe and Marchwood to form a network of routes to and from surrounding residential areas. The area would also be accessible by public transport linked by existing bus services. Although the focus of these routes is for active

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				travel to work, users may also access these routes for recreation.
Users of tourist accommodation	Changes in the availability of tourist accommodation due to presence of an operational workforce	Operational workforce	Yes	Although the workforce size during operation is currently unknown for the proposed Project during the operational phase, most of the workforce is not anticipated to use tourist accommodation. However, due to uncertainty around workforce numbers, there remains a possibility of impacts on local accommodation, and this pathway has therefore been scoped into the assessment.
Water-based recreation facilities	Changes to water quality and water levels	Operational and maintenance activities	Yes	Marine Water and Sediment Quality (**Section 6**) highlights the potential for water quality to be reduced as a result of maintenance dredging during operation. This could deter or prohibit water-based recreational users from using the area.
	Access to recreational fisheries	Operations; maintenance dredge; dredge disposal	No	Commercial fisheries (**Section 9**) highlights that there is no recreational fishing activity within the proposed project area or the Southampton main navigation channel to result in loss or restricted access. Bait diggers are observed regularly on the Dibden foreshore.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				However, it should be noted that ABP is the land owner of the foreshore and no permission has been granted for commercial or recreational bait digging, with clear signage indicating that no public access is permitted. Therefore, the potential impact of the proposed Project on bait digging activity on the Dibden foreshore has not been considered further.
	Changes to fish stocks		No	Marine Ecology (**Section 7**) highlights that changes to fish stocks could be a significant impact. Where the built structures will result in changes to hydrodynamic and sedimentary processes, which will then result in impacts for prey resources and quality of foraging, nursery and spawning habitats, as well as the potential fish egg removal. However, due to the limited evidence of recreational fishing in the area and that the area is advertised as not accessible to the public, this impact receptor has been scoped out as there should be minimal significance to recreational fishing.

20.7 Mitigation

20.7.1 The findings of the impact assessment will determine the requirement for the implementation of mitigation measures to reduce the significance of any impacts on tourism and recreation. Mitigation measures could include the following:

- Where impacts on recreational navigation are identified, mitigation measures identified through the NRA process (see Commercial and Recreational Navigation (**Section 10**) will be considered and implemented as appropriate.
- Potential enhancements to the PRoW network and incorporation of pedestrian and cycle access, connecting to existing and proposed routes in Hythe and Marchwood to form a network of routes to and from surrounding residential areas that can be used for recreation.
- Air quality, noise attenuation and landscaping mitigation measures, as necessary (informed by the findings of the assessments described in Noise and Vibration (**Section 14**), Air Quality (**Section 15**) and Landscape, Seascape and Visual Effects (**Section 16**).
- The proposed Project will also deliver a new public country park within ABP's land to the southwest of the location of SG2, between SG2 and the A326. This area will be accessible via pedestrian and cycle routes connecting Hythe and Marchwood, enhancing opportunities for people to enjoy the park and its surroundings.

20.8 Approach to Assessment and Data Gathering for ES

20.8.1 The assessment will assess whether any aspect of the proposed Project could:

- affect the tourism economy;
- fundamentally affect the use or function of a tourism and/or recreational facility/receptor); and/or,
- could significantly reduce the enjoyment of users of tourism and/or recreational facilities (e.g. through visual intrusion or through increased noise levels or vessel traffic).

20.8.2 The sub-elements that will be assessed include tourism economy, tourist attractions, tourist and visitor accommodation and land and water-based recreation facilities.

20.8.3 Key sources to identify receptors and inform the assessment will include:

- spatial data, such as Google Maps and GIS software;

- publicly available statistics and information from various web-based sources; and,
- outputs from the studies of other technical disciplines including Commercial and Recreational Fisheries (**Section 9**), Commercial and Recreational Navigation (**Section 10**), Traffic and Transport (**Section 13**), Noise and Vibration (**Section 14**), Air Quality (**Section 15**), Landscape, Seascape and Visual Effects (**Section 16**) and Socioeconomics and Population (**Section 22**).

20.8.4 There are no specific standards or guidelines for defining receptor sensitivity for tourism and recreation receptors or for defining the thresholds for the magnitude of change for tourism and recreation impacts. Consequently, sensitivity and magnitude criteria will be formulated with professional judgement, industry good practice and experience of similar developments, drawing on the sensitivity and magnitude criteria presented in EIA Methodology (**Section 4**).

20.8.5 Sensitivity and magnitude will not be assessed explicitly for effects on the tourism economy; expenditure effects will instead be considered against baseline economic performance.

20.8.6 The overall significance of effects will be determined using the methodology outlined in EIA Methodology (**Section 4**), which combines receptor sensitivity and impact magnitude to establish significance levels.

21 HUMAN HEALTH

21.1 Introduction

21.1.1 This section describes the Human Health resources of relevance to the proposed Project. This includes a summary of baseline data collection and an assessment of construction and operational impacts.

21.2 Relevant Policy, Legislation and Guidance

21.2.1 The Human Health assessment will be undertaken to meet the requirements of the NPSfP (DfT, 2012) as set out in paragraphs, *4.161, 4.16.2, 4.16.3 and 15.10.1.*

21.2.2 The assessment will also have regard to the following relevant key local legislation and policy:

- New Forest District Council Development Plan.
- Hythe and Dibden Neighbourhood Plan (2019).
- Southampton City Council's Local Development Plan.
- Hampshire's Joint Strategic Needs Assessment (Hampshire County Council, 2025c).
- Southampton Joint Strategic Needs Assessment (Southampton City Council, 2025).

21.3 Study Area

21.3.1 As noted in the IEMA human health scoping guidance (Pyper *et al.*, 2022a), health effects vary geographically as they are influenced by different health determinants. The study areas applied at this scoping stage for health are purposefully broad. This is to help identify relevant population groups on which likely significant effects are anticipated, using a source-pathway-receptor approach. The human health study areas include:

- The wider study area to establish the population health baseline with regard to wider determinants of health that might interact with populations at a wider scale. This study includes the unitary authority of Southampton and the local government district of New Forest.
- The local study area to establish the population health baseline with regard to wider determinants of health that interact with populations at a more local level. The local study area for the purposes of scoping has been based on

Middle layer Super Output Area (MSOA) level data where MSOAs intersect within 500m of the Scoping Boundary (see **Figure 21.1**).

21.3.2 There is significant interaction between matters scoped within this chapter and other aspects within this EIA Scoping Report, namely:

- Marine Water and Sediment Quality (**Section 6**).
- Ground Conditions and Contamination (**Section 11**).
- Traffic and Transport (**Section 13**).
- Noise and Vibration (**Section 14**).
- Air Quality (**Section 15**).
- Landscape, Seascape and Visual (**Section 16**).
- Water Resources and Flood Risk (**Section 18**).
- Tourism and Recreation (**Section 20**).
- Socioeconomics and Population (**Section 22**).
- Climate Change (**Section 25**).

21.3.3 The human health scoping assessment considers the interaction of the social, economic and biophysical environment on population health. The study areas for these topics are therefore also relevant to the human health assessment as they reflect the expected limits of the various biophysical, social and economic matters which influence human health (i.e. health determinants) and which inform the scope of assessment of effects on human health.

21.4 Description of Existing Environment

Data Sources

21.4.1 The key data sources set out in **Table 21.1** were used to gather the baseline information on Human Health and inform the scoping study. No field surveys or consultation have been undertaken for the health assessment, however information from surveys undertaken to inform other aspects have been used where relevant.

Table 21.1 Key data sources

Title	Date
Fingertips Public Health Profiles	Office for Health Improvement and Disparities (OHID, 2025)
Local Health	Office for Health Improvement and Disparities (OHID, 2025)
Hampshire's Joint Strategic Needs Assessment	Hampshire County Council, 2025c

Title	Date
Annual Report of the Director of Public Health for Hampshire	Hampshire County Council, 2025d
Southampton Joint Strategic Needs Assessment	Southampton Data Observatory, 2025a
Census 2021	Office for National Statistics (ONS), NOMIS, 2021

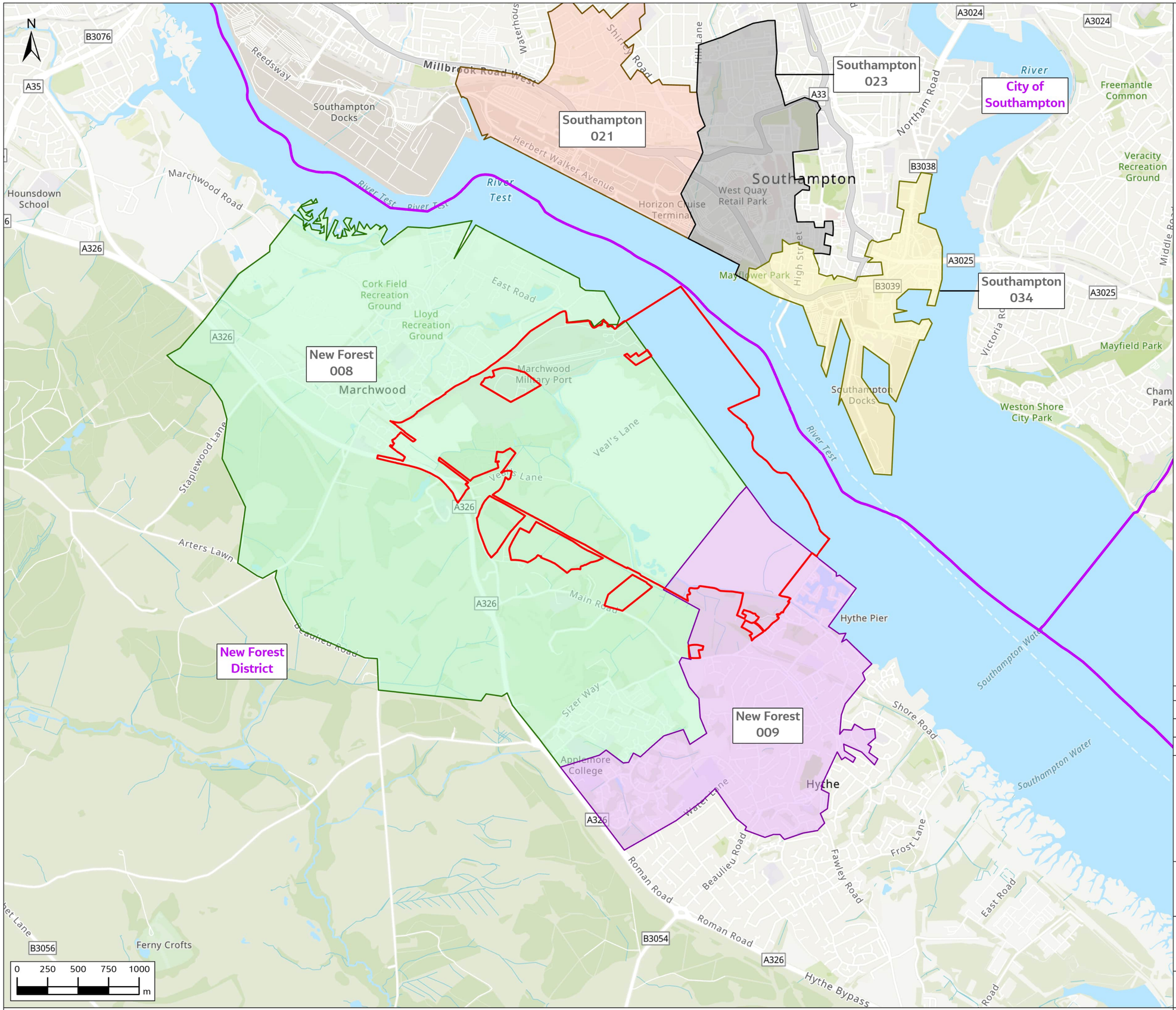
Local Community Health Profiles

21.4.2 The Scoping Boundary for the proposed Project abuts the village of Marchwood at the south-eastern extent of the settlement and abuts the town of Hythe at the northern extent of the settlement. The City of Southampton is located approximately 400m north of the Scoping Boundary for the proposed Project, to the north of the River Test.

21.4.3 The MSOAs of Hythe (New Forest 009), and Marchwood & Dibden (New Forest 008) are partially within and intersect within 500m of the Scoping Boundary for the proposed Project. The MSOAs of Ocean Village and Town Key (Southampton 034), City Centre & The Polygon (Southampton 023) and Freemantle (Southampton 021) intersect within 500m of the Scoping Boundary for the proposed Project. **Table 21.2** identifies key demographic and health indicators for the nearest communities to the proposed Project, based on data for the relevant MSOAs.

21.4.4 **Table 21.2** sets out population health indicators used to characterise the health profile for communities within the local human health study area (see **Figure 21.1** for human health study areas). New Forest has significantly lower average levels of income deprivation compared to the England average, whereas Southampton has significantly higher than average levels of income deprivation.

21.4.5 Data from the 2021 Census presented in **Table 21.2** shows that New Forest has a lower proportion of young people (aged under 16), at 15.5%, compared to Southampton (17.7%), Hampshire, the South East and England (18.5%). Within the New Forest, Hythe has an even lower percentage of young people at 13.7% and Marchwood & Dibden has a higher proportion at 18.5%, which is similar to the national average. In Southampton, Freemantle has a similar percentage of young people (16.4%) to the Southampton average (17.7%). City Centre & the Polygon, and Ocean Village & Town Quay have much lower proportions of young people, at 8.2% and 8.5% respectively, well below both the Southampton, Hampshire, regional and England averages.



Legend

- Scoping Boundary
- Local Authority Boundary
- Wider study area: Southampton Unitary Authority and New Forest District

Local study areas: population defined by the MSOA boundaries

- New Forest 008
- New Forest 009
- Southampton 021
- Southampton 023
- Southampton 034



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Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	27/10/2025	Initial Issue	HCH	LC	SG	MSS

Scale @ A3 | Scale: 1:30,000 | DO NOT SCALE

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Project: SOLENT GATEWAY 2

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Figure 21.1

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21.4.6 In terms of an older population, Hythe has a notably high percentage of residents aged 65 and over (34.5%), which is higher than the averages for the New Forest (29.5%), and much higher than the averages for Hampshire, the South East and England. The New Forest overall also has a higher than average proportion of people aged 65 and over (29.5%). In contrast, Southampton has a much lower percentage of residents aged 65 and over (13.5%) compared to the Hampshire, regional and England averages, with the City Centre & the Polygon and Ocean Village & Town Quay having much lower proportions of residents aged 65 and over (7.5% and 8.0% respectively).

21.4.7 In terms of general health, New Forest has a slightly lower percentage of people reporting general health as 'very good' or 'good' (81.6%) compared to percentages for Southampton (82.8%), Hampshire (83.9%), the South-East region (84.0%) and England (82.2%). New Forest has a lower percentage of people reporting 'bad' or 'very bad' health (4.8%) compared to the percentages for Southampton (4.9%) and England (5.2%), but higher than Hampshire (4.1%) and the South East region (4.2%).

21.4.8 As shown in **Table 21.1** 'confidence intervals' give a range of values within which the true value of a health measure is likely to fall. If the range is narrow, the data is considered more reliable and if it is wide, there is more uncertainty.

21.4.9 Quintiles are used to group areas based on levels of deprivation. The lowest quintile includes the most deprived areas, while the highest quintile includes the least deprived. This helps compare health outcomes between communities with different levels of disadvantage

21.4.10 New Forest has significantly above average life expectancy for both males and females compared to the average for England, as does Hampshire and the South East, while Southampton has significantly below average life expectancy than the England average. Compared to Southampton and England, New Forest has lower than average mortality rates for heart disease, cardiovascular disease, cancer and COPD as well as lower rates of premature death from all causes. The rate of emergency hospital admissions for intentional self-harm and admission episodes for alcohol-related conditions in New Forest and Southampton are significantly above the average for England.

Table 21.2 Summary population and human health profile

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
Usual resident population, 2021	7,275	8,249	175,778	8,968	7,818	5,305	248,912	1,400,899	9,278,063	N/A
Population density, people per square kilometre, 2021	1,992.9	601.7	233.7	5,674.0	3,888.6	4,029.3	4,990.5	380.8	486.5	433.5
Percentage of the total resident population who are 0 to 15 years of age, 2021 (%)	13.7	18.5	15.5	8.2	16.4	8.5	17.7	17.7	18.5	18.5
Percentage of the total resident population who are 65 years and over, 2021 (%)	34.5	18.8	29.5	7.5	10.2	8.0	**13.5**	21.7	19.4	18.1

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
Income deprivation, English Indices of Deprivation, proportion of the population experiencing deprivation, 2019 (%)	5.7*	7.0*	7.7*	7.4*	12.5	N/A	13.5	7.5*	N/A	12.9
Percentage of people who reported disabled under Equality Act (2010), 2021 (%)	18.4	16.3	18.5	16.0	17.1	10.2	17.7	16.4	16.1	17.3
Life expectancy at birth for males, 2019-23 (years)	84.0*	81.8*	81.9*	**74.7**	N/A	80.8	**78.1**	81.3*	80.3*	79.1
Life expectancy at birth for females, 2019-23 (years)	86.0*	85.3*	85.3*	**78.6**	84.5	91.3	**82.3**	84.6*	84.0*	83.0

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
Percentage of population reporting general health as 'very good' or 'good', 2021 (%)	80.9	84.0	81.6	85.8	82.5	89.7	82.8	83.9	84.0	82.2
Percentage of population reporting general health as 'bad' or 'very bad', 2021 (%)	4.7	3.9	4.8	4.3	4.8	2.2	4.9	4.1	4.2	5.2
Mortality from all causes (aged under 75), 2019-23 (Standardised mortality ratio (SMR))	69.9*	62.9*	70.3*	125.3	**141.4**	49.0*	**114.4**	78.2*	87.2*	100.0
Mortality from causes considered preventable (aged	76.8	72.1*	64.7*	130.2	**163.9**	70.8	**122.6**	73.3*	84.0*	100.0

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
under 75), 2019-23 (SMR)										
Mortality from coronary heart disease, all ages, 2019-23 (SMR)	75.6*	66.6*	83.6*	**156.6**	142.1	55.8	**117.8**	82.1*	82.4*	100.0
Mortality from stroke, all ages, 2019-23 (SMR)	59.7*	119.7	98.5	99.2	92.2	0.0*	99.0	89.6*	92.8*	100.0
Mortality from cancer, all ages, 2019-23 (SMR)	85.9	88.6	90.0*	117.8	120.7	73.1	**109.8**	90.8*	94.7*	100.0
Mortality from respiratory diseases, 2019-23	79.6	68.9	78.8*	**144.3**	88.7	47.2	**123.5**	81.2*	89.2*	100.0
Intentional self-harm: emergency hospital	**139.0**	**136.1**	**137.4**	112.9	172.4	N/A	**182.9**	**124.0**	N/A	100.0

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
admissions, 2019/17-2020/21										
COPD: emergency hospital admissions (2016/17 – 2020/21) (SAR)	58.7*	61.3*	62.3*	**212.3**	**197.8**	N/A	**164.0**	71.5*	N/A	100.0
Alcohol-related conditions: admission episodes (all primary and secondary diagnoses), 2016/17-2020/21.	**124.6**	**122.8**	**108.6**	**194.3**	**240.1**	N/A	**184.7**	89.9*	N/A	100.0
Smoking prevalence in adults (aged 15 and over) – current smokers, 2022/2023 (%)	N/A	N/A	11.7*	N/A	N/A	N/A	**17.3**	12.7*	N/A	14.7

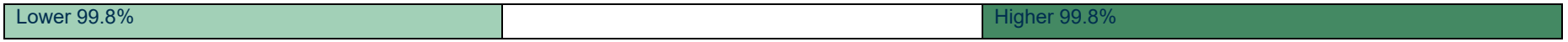
Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
Violent crime – violent offenses, 2023-2024, per 1,000 population	N/A	N/A	23.6	N/A	N/A	N/A	50.6	26.2	29.7	32.7
Obesity prevalence in adults, 18+ years, 2023/24 (%)	N/A	N/A	**31.8**	N/A	N/A	N/A	24.9	27.0	24.6*	26.5
Year 6 prevalence of obesity (including severe obesity), 3 years data combined 2021/22 – 2023/24	14.3*	17.5*	18.8*	20.8	26.7	**33.3**	**26.1**	19.0*	19.5*	22.7
Asthma prevalence 6+ years, 2023/24 (%)	N/A	N/A	7.4	N/A	N/A	N/A	6.0	7.0	6.4	6.5
Estimated prevalence of common mental disorders: % of population aged 65 & over (2017)	N/A	N/A	N/A	N/A	N/A	N/A	11.5	8.5*	9.2	10.2

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average
Estimated prevalence of common mental disorders: % of population aged 16 & over (2017)	N/A	N/A	N/A	N/A	N/A	N/A	**18.7**	13.5*	14.8*	16.9
Mental Health: QOF prevalence (All ages) (2023/24)	N/A	N/A	N/A	N/A	N/A	N/A	1.0	0.8	0.9	1.0
Depression: QOF prevalence – retired after 2022/23	N/A	N/A	N/A	N/A	N/A	N/A	12.8	15.0	13.8	13.2
Depression: QOF incidence – new diagnosis (18+ yrs) (2023/24)	N/A	N/A	N/A	N/A	N/A	N/A	1.5	1.7	1.6	1.5

Data sourced from:
NOMIS National Census 2021d Table TS006 (ONS, 2021)
NOMIS National Census 2021a Table TS007 (ONS, 2021)
NOMIS National Census 2021b Table TS037 (ONS, 2021)

Indicator	Hythe (009)	Marchwood & Dibden (008)	New Forest	City Centre & The Polygon (023)	Freemantle (021)	Ocean Village and Town Quay (034)	Southampton	Hampshire	South East	England average

NOMIS National Census 2021c Table TS038 (ONS, 2021)
Fingertips (OHID, 2025).
Notes:
[1] Data on common mental health disorders, COPD and asthma prevalence are not available at MSOA level, therefore district or county level data applied.
[2] Health indicator values that are significantly worse (outside 95% upper or lower confidence interval as appropriate) than the national average are indicated in bold. Those which are significantly better (outside the 95% upper or lower confidence interval as appropriate for most indicators) are indicated with an asterisk. For asthma prevalence, 99.8% confidence intervals are used.
Further detail regarding methodology used for individual health indicators can be found at the following weblink: https://fingertips.phe.org.uk/profile/guidance.
Asthma prevalence and mental health: QOF prevalence (all ages) (for the South East only): higher 99.8% confidence level is considered to be worse and lower 99.8% confidence interval is considered better as linked to prevalence.



Quintiles:



[3] Data for City Centre & The Polygon MSOA has used Central Southampton West MSOA data where data has been obtained from Fingertips (OHID, 2025).
[4] Percentage living in income deprived households reliant on means tested benefit, Income domain score from the Indices of Deprivation 2019.
[5] The Standardised Admissions Ratio (SAR) is a health measure that allows a comparison of hospital admissions data between areas, whilst accounting for differences in population structures (i.e., age profile) between those areas. It is calculated by using admissions data from a standard population to estimate the number of admissions expected in the study population. The estimate is then compared with the actual (observed) number of admissions and multiplied by 100 to yield the SAR. If the observed admissions are the same as the expected admissions the SAR will be 100. An SAR greater than 100 indicates that admissions are higher than would be expected for the age structure in the study population. An SAR less than 100 indicates it is lower than expected.
[6] The Standardised Mortality Ratio (SMR) is a health measure that allows a comparison of mortality data between areas, whilst accounting for differences in population structures (i.e., age profile) between those areas. It is calculated from mortality data using the same approach as for the SAR

21.4.11 In New Forest, the prevalence of obesity in adults is significantly above the England average, and a higher percentage than that for Southampton, Hampshire and the South East. In New Forest, the prevalence of year 6 obesity is significantly better than the average for England, and in Southampton is significantly worse than the average for England. New Forest also has a high prevalence of asthma (6+ years old) compared to the England average.

21.4.12 Southampton has a significantly higher estimated prevalence of common mental disorders for those aged 16 and over compared to the England average, and Hampshire has a significantly lower prevalence compared to the England average.

Health-related Behaviours

21.4.13 The IEMA guidance (Pyper et al., 2022a) identifies the matters of physical activity, risk taking behaviour, and diet and nutrition as relevant to the health-related behaviours wider determinants of health.

21.4.14 The percentage of physically active adults is presented in **Table 21.3**, showing that New Forest has a higher percentage of physically active adults than the England average, and slightly higher percentage than the averages for Hampshire and South East. Southampton has a lower percentage of physically active adults than New Forest, Hampshire and the South East, but only a slightly lower percentage compared to the England average. New Forest has a higher prevalence of adult obesity compared to the averages for Southampton, Hampshire, the South East and England, whereas Southampton has a lower prevalence of adult obesity than New Forest, Hampshire and England. The areas of open space and recreational facilities outlined in Tourism and Recreation (**Section 20.2**) provide opportunities for promoting healthy behaviour and lifestyles.

21.4.15 Risk taking behaviours that can have a negative effect on health may include the use of alcohol, cigarettes, non-prescribed drugs, problem gambling and communicable illness (Pyper et al., 2020). **Table 21.3** provides behavioural risk factor data for New Forest and Southampton compared to Hampshire, the South East and England. New Forest scores lower than Southampton, Hampshire, the South East and the England averages for indicators on deaths from drug misuse, smoking prevalence, all new sexually transmitted infection (STI) diagnosis rate and tuberculosis (TB) incidence, but higher than the Hampshire, South East and England averages for admission episodes for alcohol-related conditions. Southampton scores higher than New Forest, Hampshire and England averages for admission episodes for alcohol-related conditions, smoking prevalence in adults, new STI diagnoses rate and TB incidence, but lower than the South East and England averages for deaths from drug misuse.

Table 21.3 Physical activity and risk taking behaviour indicators

Indicator	New Forest	Southampton	Hampshire	South East	England average
Percentage of physically active adults, 2023/24 (%)	71.5	66.5	70.5*	70.5*	67.4
Obesity prevalence in adults, 18+ years, 2023/24 (%)	**31.8**	24.9	27.0	24.6*	26.5
Deaths from drug misuse (Persons) 2021-23, per 100,000	1.9*	4.2	3.9*	4.3*	5.5
Alcohol-related conditions: admission episodes (all primary and secondary diagnoses), 2016/17-2020/21	**108.6**	**184.7**	89.9*	N/A	100.0
Smoking prevalence in adults (aged 15 and over) – current smokers, 2022/2023 (%)	11.7*	**17.3**	12.7*	N/A	14.7
All new STI diagnoses rate, 2024, per 100,000	239	634	318	447	632
TB incidence (three year average), 2021-2023	1.7*	8.9	3.2*	5.7*	8.0
Indicator	New Forest	Southampton	Hampshire	South East	England average

Notes:
[1] Health indicator values that are significantly worse (outside 95% upper or lower confidence interval as appropriate) than the national average are indicated in bold. Those which are significantly better (outside the 95% upper or lower confidence interval as appropriate for most indicators) are indicated with an asterisk.
Further detail regarding methodology used for individual health indicators can be found at the following weblink: https://fingertips.phe.org.uk/profile/guidance.
All new STI diagnoses rate:

Lower 95%	Similar	Higher 95%

Social Environment

21.4.16 The IEMA guidance (Pyper *et al.,* 2022a) identifies the matters of housing, relocation, open space, leisure and play, transport modes, access and connections,

community safety, community identity, culture, resilience and influence and social participation, interaction and support as relevant to the social environment wider determinants of health

21.4.17 Tourism and Recreation (**Section 20**) reports the baseline relating to open space, leisure and play, and PRoWs and Socioeconomics and Population (**Section 22**) reports the baseline regarding housing. These are all factors identified in the IEMA guidance (Pyper *et al.*, 2022a) as relevant to the social environment wider determinants of health.

21.4.18 In relation to community safety, crime in New Forest is lower than average for the Hampshire area, whereas the crime rate in Southampton is higher than average for the Hampshire area (year ending September 2024) (Police.uk, 2025). The Safer New Forest Partnership consists of the partners New Forest District Council, Hampshire & Isle of Wight Constabulary, Hampshire & Isle of Wight Fire & Rescue Service, Integrated Care Board (ICB) and Probation, and works to reduce crime and anti-social behaviour in the New Forest (Safer New Forest, 2025). Priorities identified through the 2024 Strategic Assessment were shoplifting and burglary (business and community), serious violence/possession of weapons and violence against women and girls including domestic abuse (Safer New Forest, 2024).

21.4.19 Southampton's Safe City Strategic Assessment highlights significant community safety issues of sexual offences, violent crime, domestic crimes, theft offences, drugs and alcohol and hate crime (Southampton City Council, 2024a). The Southampton Safe City Partnership comprises the partners of Hampshire and Isle of Wight Constabulary, Southampton City Council, Hampshire Fire and Rescue, Probation Services and Hampshire and Isle of Wight ICB, as well as representatives from organisations such as the Youth Justice Service. The partnership takes action to reduce crime, anti-social behaviour, alcohol misuse and supply, and the use and harm caused by drugs (Southampton City Council, 2024a).

21.4.20 In relation to transport modes, access and connections, Hampshire County Council is developing a Transport Strategy for Waterside, which will cover the main modes of transport in the Waterside are of the New Forest. The A326 is the main road, which connects 60,000 residents and businesses in Marchwood, Hythe, Dibden, Fawley and Totton, with 30,000 vehicular movements per day (Hampshire County Council, 2025e (updated)).

21.4.21 A Local Cycling and Walking Infrastructure Plan (LCWIP), 2022b, has also been produced to invest in Hampshire and New Forest District in sustainable transport measures, including walking and cycling infrastructure, especially in urban areas. This should reduce air pollution, reduce travel delays and decrease the number of traffic accidents, whilst improving accessibility for everyone. The three Cycle

Freeways across Southampton and the wider area in Hampshire, will be completed which will make it easier and safer for people to cycle (Hampshire County Council, 2022).

21.4.22 A Southampton Mass Transit System is being planned to transform the public transport system across Southampton and wider area along with the creation of Active Travel Zones, which will encourage people to walk or cycle for short trips. Further transport infrastructure will include a network of Park & Ride sites and the Southampton Cycle Network. The Local Transport Plan aims to have improved connectivity to main employment areas including the Port, industrial areas, hospitals and universities (Southampton City Council, 2019).

21.4.23 Southampton is culturally diverse with a long past in maritime, military and literary history. A Joint Cultural Needs Assessment (JCNA) was undertaken to understand the 'importance and value of culture' of the city which fed into Southampton's Cultural Strategy 'Southampton Together' adopted 2022. The Strategy notes that currently access to the waterfront is limited. The Strategy also states the impact on climate change on the city and communities exacerbating the social and economic inequalities that exist generationally. The city is reported to have poor air quality, poorer health and well-being, lower educational attainment, skills and low-quality jobs, leading to reduced life expectancy and geographical and social divides, which is affecting Southampton's identity and pride (Southampton City Council, 2022a).

21.4.24 The New Forest District has a rich cultural heritage with unique aspects such as 'commoning' where commoners have grazing rights, the use of traditional agricultural practices and a long archaeological heritage, presenting a strong community identity and culture. Farming remains the major land use in the National Park (New Forest National Park Authority, n.d.).

21.4.25 The Hythe and Dibden Neighbourhood Development Plan 2018-2026 gives residents a voice over the development of their communities. Both areas have a long history and identity particularly with a maritime heritage (Hythe and Dibden Neighbourhood Development Plan, 2019).

21.4.26 Tourism and Recreation (**Section 20**) and Socioeconomics and Population (**Section 22**) identifies community land and assets which are considered likely used for social participation, interaction and support.

Economic Environment

21.4.27 Socioeconomics and Population (**Section 22**) reports the baseline in relation to education and training, and employment and income, which are matters identified

in the IEMA guidance (Pyper et al., 2022a) as relevant to the economic environment wider determinants of health.

21.4.28 **Section 22.2** identifies the professional occupations that are the most prevalent in the socio-economics study area. New Forest has a high proportion of managers, directors and senior officials (15.2%) and has an ageing population with high retiree rates. The New Forest economy growth strategy identifies the New Forest as having a diverse economy, geographical landscape and workforce shaping the local economy (New Forest District Council, 2018). The strategy recognises that there are key issues for the local economy: its elderly and ageing population, a large and growing skills deficit, lack of high-skilled and high-value jobs, net outflow of high-skilled workers, unaffordable housing, slow business growth and vast economic variation across the district (New Forest District Council, 2018).

21.4.29 Southampton is home to two universities with a total of approximately 34,000 students in attendance, which is considered likely to account for the higher-than-average working age population and has a much higher unemployment rate than New Forest. Southampton has a high proportion of elementary occupations (13.3%). Southampton's Economic & Green Growth Strategy identifies that those who commute into Southampton earn more per week on average than residents, and that although Southampton is an economic centre in the South East, it still experiences high levels of deprivation (Southampton City Council, 2020). The focus of the strategy in relation to employment skills is to bring quality jobs to local people, bring local people to quality jobs, and increasing equity across the city (Southampton City Council, 2020). This includes establishing Southampton as a 'City of Learning' to create employer-led skills pathways to local jobs.

Biophysical Environment

21.4.30 Climate change is expected to influence a range of environmental factors, such as shifts in seasonal temperatures, precipitation and sea levels (Climate Change (**Section 25**)). The impacts of climate change are being experienced in Hampshire and include flooding, heatwaves and extreme weather (Hampshire County Council, undated).

21.4.31 **Section 25** provides information on the baseline climate relevant to the proposed Project. The impacts of climate change on health in the UK are anticipated by the UKHSA to be significant and wide-ranging, and due to factors, such as the heat and cold, flooding and vector-borne disease (UKHSA, 2023). According to the Heat mortality monitoring report for England (UKHSA, 2024), the South East had the highest number of deaths associated with heat in 2022, 2023 and 2024.

21.4.32 Air Quality (**Section 15**) reports the air quality baseline. It identifies that there are currently no AQMAs in New Forest District Council and 10 AQMAs in Southampton, located along main routes through the city of Southampton on congested road intersections. Air quality monitoring undertaken by Southampton City Council has identified areas that breach the NO_2 mean Objective.

21.4.33 Water Resources and Flood Risk (**Section 18**) reports the baseline in relation to water. As described in **Section 18**, the proposed Project crosses several flood zones in areas with existing infrastructure and in currently undeveloped areas. Tidal flooding is the greatest flood risk faced by the city of Southampton, which the River Itchen Flood Alleviation Scheme aims to reduce the risk of tidal flooding in areas of Southampton (Southampton City Council, undated). It has been found that flooding can have a significant negative impact on the mental health of people whose homes are flooded or whose lives are disrupted by flooding (Public Health England (PHE), 2020a).

21.4.34 Marine Water and Sediment Quality (**Section 6**) reports the baseline for marine water quality. The IEMA Guide to Effective Scoping (Pyper et al., 2022a) advises the consideration of water quality and water availability, including biological and chemical agents and disease vectors. Bathing waters located approximately 10km to the south-east of the proposed Project location include Calshot and Hillhead, which have been classified as 'Excellent' in 2024 (Environment Agency, 2025d).

21.4.35 Ground Conditions and Contamination (**Section 11**) reports the baseline with regard to ground conditions. **Section 11** identifies that contaminants of concern have been identified at the site including volatile organic compounds (VOC) and asbestos. Environment Agency records also indicate that the SLR is within an Historic Landfill Site.

21.4.36 Archeology and Cultural Heritage (**Chapter 17**) reports the historic uses at the site have included areas of infilled rubble associated with bombing raids during the Blitz.

21.4.37 Noise and Vibration (**Section 14**) reports the baseline noise environment. The area is considered likely to be dominated by industrial activities and other commercial port activities, including vessel movements on Southampton Water. Traffic on the surrounding road network is also considered likely to contribute significantly to the existing noise environment.

Institutional and Built Environment

21.4.38 The main baseline issues of relevance to the institutional and built environment wider health determinants, as described in the IEMA guidance (Pyper et al., 2022b), relate to health and social care services.

21.4.39 The Scoping Boundary for the proposed Project falls within the Hampshire and Isle of Wight ICB. The Hampshire and Isle of Wight ICB is responsible for providing healthcare services to more than 1.9 million people and works across the four local authority areas of Hampshire, Isle of Wight, Portsmouth and Southampton (National Health Service (NHS) Hampshire and Isle of Wight, 2024). There are 14 general practice surgeries in Hampshire and Isle of Wight, with four general practices in New Forest and 23 in Southampton.

21.4.40 Between the 2011 and 2021 Census, the population of New Forest decreased by 0.4% from 176,500 to 175,800, and was only one of two local authority areas in the South East of England to have its population decline (ONS, 2021). New Forest has the second-highest average (median) age in the South East, and between 2011 and 2021, the median age increased from 47 to 51 years of age (ONS, 2021). In Southampton, the population increased between the 2011 and 2021 Census by 5.1%, from below 236,900 to 248,900 (ONS, 2021). This was less than the overall percentage increase for the South East (7.5%) and England (6.6%). Between 2011 and 2021, the median age of Southampton increased by two years, from 32 to 34 years of age, which is the joint second-lowest average median age in the South East, and lower than England.

21.4.41 New Forest is anticipated to see 2.3% increase in population between 2023 and 2030, with a 16.1% increase in the number of those aged 85 years and older, and 10.4% increase in those aged 65 and over (Hampshire County Council, 2025c). Southampton's population is anticipated to increase 7.5% between 2023 and 2030, with an increase of 18.2% in the over 65 years of age population, and 17.9% increase in the over 75 years of age population (Southampton Data Observatory, 2025a). This means that demand for health services can be expected to increase further.

21.4.42 The Hampshire and Isle of Wight integrated care system has experienced challenges in the supply of the health and social care workforce, increasing sickness absence rates and identifies that there are unpaid carers that require better support, as well as voluntary and community resources that could be better utilised (Hampshire and Isle of Wight Integrated Care Partnership, 2022). In Hampshire, there is a focus on undertaking work to enable older age living, palliative care and improve end of life conversations. In Southampton, there is a focus on supporting people to life active and safe lives, reduce inequalities in health outcomes and have improved health experiences (Hampshire and Isle of Wight Integrated Care Partnership, 2022).

Vulnerable Groups

21.4.43 Vulnerable groups or sub-populations are groups who would be sensitive to changes in health determinants in a given context. For example, these can include groups such as 'ethnic minorities, people with disabilities, people who are homeless, people living in poverty, those struggling with addiction and substance abuse, and isolated older people' (Pyper et al., 2022a).

21.4.44 Potential vulnerable populations have been identified through a review of the baseline. The population group most likely to be affected by the proposed Project is those living and occupying property in close proximity to the proposed Project, and any relevant routes for construction traffic (to be determined). Other potentially vulnerable groups in the area may include:

- People who have a low or insecure income.
- Older people.
- People who are homeless.
- People with existing poor physical or mental health.
- People struggling with addiction and substance abuse.

21.5 Future Baseline

21.5.1 In a scenario where the proposed Project did not comment, it is reasonable to assume the land within ABP Southampton's ownership would continue to be held on a short-term tenancy basis for agricultural use. The health and well-being of the local population in the absence of the proposed Project would be subject to the effects of other development activity in the area and the effect of the implementation of Government policies that could impact on many aspects relevant to human health.

21.6 Potential Impacts During Construction

21.6.1 **Table 21.4** identifies the potential impacts on Human Health related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 21.4 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Users of local land and water-based recreation facilities	Health related behaviours: physical activity	Potential temporary and permanent land-take from some areas of green space and areas of water used for recreation.	Yes	The proposed Project has potential to influence behaviours around physical activity. Construction activities may reduce the local amenity of PRoWs within the vicinity of the Project, green space and areas of water used for physical activity. This determinant has an interaction with 'Open space, leisure and play' below'.
Construction workers	Health related behaviours: risk taking behaviour	Construction workforce requirements and supply chains.	Yes	Currently construction workforce numbers are not yet defined for the for the proposed Project creating uncertainty on the potential impact of health-related behaviours and risk-taking behaviours.
Local residents	Health related behaviours: diet and nutrition	Construction-related activities	No	The proposed Project has potential to result in the loss of soils and land in terms of quantity of quality, and the loss of land or farm capital (Agriculture and Soils **Section 23**). Health impacts relating to changes in availability and quality of agricultural land arising from

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				activities around land acquisition for construction are scoped out of the assessment, as the loss of agricultural land is not anticipated to affect access to healthy food options in the study area. This is due to the land being of very poor quality (Grade 5), which restricts use to permanent pasture or rough grazing.
Local residents, local businesses, construction workers.	Social environment: housing	Construction workforce requirements and supply chains	Yes	Construction workforce numbers are not yet fully defined for the proposed Project. As per information presented in the Socioeconomics and Population Chapter (**Chapter 22)**, this uncertainty introduces the potential for significant housing effects. Given the existing population levels and travel to work distances identified in the area, construction related activities could affect the residential bed stock and affect housing and accommodation availability, provision and mix in the local area.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Local residents	Social environment: relocation	Construction-related activities	No	The proposed Project is not anticipated to require the relocation of residents or temporary disruption to direct access to residential properties such that relocation is required. The proposed Project is mainly located within ABP Southampton's land ownership, and where land acquisition is required for construction or operation, no relocation of residents is required.
Local residents, users of local recreational facilities.	Social environment: open space, leisure and play	Construction-related activities.	Yes	The proposed Project may disrupt access to PRoWs, green open space and the marine environment. The proposed Project potentially resulting in indirect effects on health due to noise, dust, lighting and visual impacts affecting the amenity value and quality of open space, leisure and play.
Users of local recreational facilities.	Social environment: open space, leisure and play	Construction-related activities.	Yes	The proposed Project may disrupt access to PRoWs, green open space and the marine environment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				The proposed Project potentially resulting in indirect effects on health due to noise, dust, lighting and visual impacts affecting the amenity value and quality of open space, leisure and play.
Local residents, local business owners and employees, construction workers.	Social environment: transport modes, access and connections	Construction activities, including construction of the temporary construction road access to the site, and construction traffic (including workforce).	Yes	The proposed Project has potential to temporarily and permanently affect road transport and active travel routes, such as PRoWs used by cyclists and walkers. The proposed Project has potential to temporarily increase delays and community severance, as well as journey amenity. The proposed Project also has potential to affect navigation in and around Southampton Water.
Local residents, construction workers, users of local recreational facilities	Social environment: community safety	All construction activities, particularly in areas used by the community.	Yes	The construction activities for the proposed Project in areas accessed by the community such as green space and transport routes have potential to pose a health and safety risk.
Local residents, users of local	Social environment: community identity,	All construction activities.	Yes	Construction workforce numbers are not yet fully defined for the proposed

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
recreational facilities, construction workforce	culture, resilience and influence			Project. The potential presence of the construction workforce has the possibility to impact community cohesion, sense of belonging and community sense of control over living environments and workplaces. There is also potential for health impacts associated with the construction workforce being isolated from their family and networks.
Local residents and users of local recreational facilities	Social environment: social participation, interaction and support	All construction activities	Yes	Community engagement and consultation on the proposed Project has the potential to influence the degree to which people feel able to participate in decision-making, have a sense of control and are able to express their views. Social interaction may be impacted by potential amenity and access impacts on community and recreational assets.
Local business owners and employees	Economic environment:	Construction workforce and supply chains	Yes	The proposed Project has the opportunity to support skills and training opportunities associated with

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	education and training			the construction of the proposed Project.
Local residents, local business owners and employees	Economic environment: employment and income	Construction workforce and supply chains	Yes	Whilst construction workforce numbers are not yet fully defined, the proposed Project may result in employment opportunities associated with the construction workforce and supply chains, and resulting health effects from changes to socioeconomic conditions. There is also the potential for employment impacts on fishers and associated businesses due to potential impacts on fish stocks.
Local residents	Biophysical environment: climate change and adaptation	Construction-related activities.	Yes	The proposed Project has potential to impact on climate change from emissions associated from construction, such as fuel consumption from transport (materials, equipment and personnel) and emissions from onshore equipment
Local residents, users of water-	Biophysical environment: air quality	Construction-related activities: demolition and construction dust,	Yes	The proposed Project has potential to cause dust emissions and cause a loss of amenity and health impacts, and to

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
based recreation facilities		construction road traffic emissions and construction vessel emissions.		cause negative health impacts from exhaust emissions from construction traffic and vessel movements.
Local residents, local business owners and employees	Biophysical environment: water quality or availability	Construction-related activities.	Yes	The findings of the Water Resources and Flood Risk assessment (**Section 18**) and Marine Water and Sediment Quality (**Section 6**) will be kept under review and the human health assessment will only scope in water quality and availability as a wider determinant of health if it is judged that there are significant effects to the water environment that relate to human receptors or bathing waters.
Construction workers, neighbouring site users during construction	Biophysical environment: land quality	Construction-related activities (land-based).	Yes	Construction workers could be affected by exposure to contaminated soils, groundwater and ground gas during earthworks. Neighbouring site users, outside of the proposed Project boundary also have potential to be affected due to dispersion of potentially contaminated dusts emanating from the site during earthworks or as result

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				of ground gas migration (Ground Conditions and Contamination (**Section 11**)). The findings of the Ground Conditions and Contamination assessment will inform the human health assessment, and this issue will be scoped in if it is considered that there is the potential for significant effects to human receptors.
Local residents, local business owners and employees, users of recreation facilities	Biophysical environment: noise and vibration	Noise and vibration from construction activities.	Yes	There is the potential for an increase in noise and vibration from construction activities and changes in road traffic flows to result in disturbance to human receptors. The findings of the Noise and Vibration assessment will inform the human health assessment, and this issue will be scoped in if it is considered that there is the potential for significant effects to human receptors.
Local Residents, construction workers	Biophysical environment: radiation	Construction-related activities	No	The proposed Project is not considered likely to affect actual or perceived exposure to electromagnetic and

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				ionising radiation risks, due to the nature of the proposed Project. and the equipment and construction processes that will be used.
Construction workers, local residents	Institutional and built environment: health and social care services	Construction workforce requirements and supply chain	Yes	Construction workforce numbers are not yet fully defined for the proposed Project. Depending on the final size of the construction workforce they may require access to local health and social care services, resulting in increased pressure on health and social care services. This may have an impact on the provision of, or access to, local health and social care services, including emergency services.
Local residents	Institutional and built environment: built environment	Construction-related activities	No	The proposed Project is not considered likely to affect the built features or quality of the environment that contribute to health, as the proposed Project is located in an area characterised by existing port activities and associated built infrastructure. The

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				proposed Project is not anticipated to influence the spatial planning and design context that influences public health.
Local residents	Institutional and built environment: wider societal infrastructure and resources	Construction-related activities	No	The proposed Project is considered unlikely to contribute infrastructure, such as buildings, which society depends on for good population health during construction. It is not anticipated that the proposed Project will have any impact on the wider societal infrastructure and resources, such as energy infrastructure, transport infrastructure and communication and IT infrastructure.

Potential Impacts During Operation

21.6.2 **Table 21.5** identifies the potential impacts on Human Health related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 21.5 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Site workers, local residents	Health related behaviours: physical activity	Workforce travelling to work, users of the footpaths and cycleways, Country park	Yes	The proposed Project has potential to influence behaviours around physical activity. As part of the proposed Project, opportunities have been identified to improve accessibility, with the incorporation of footpaths and cycleways into the design of the proposed Project to promote the use of active travel for journeys to work at the site, and provide opportunities for physical activity. The footpaths and cycleways would connect to existing and proposed routes in Hythe and Marchwood to form a network of routes to and from surrounding residential areas, and a new public country park.
Site workers	Health related behaviours: risk taking behaviour	Operational activities	No	The proposed Project does not include opportunities to reduce risk-taking behaviours.
Local residents	Health related behaviours: diet and nutrition	Operational activities	No	The proposed Project is not anticipated to provide opportunities for promoting healthy lifestyles related to diet. The proposed Project has potential to result in the permanent loss of soils and land in terms of quantity of quality, and the loss of land or farm capital (Agriculture and

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				Soils (**Section 23**)). Health impacts relating to changes in availability and quality of agricultural land arising from activities around land acquisition for operation are scoped out of the assessment, as the loss of agricultural land is not anticipated to affect access to healthy food options in the study area. This is due to the land being of very poor quality (Grade 5), which restricts use to permanent pasture or rough grazing.
Local residents	Social environment: housing	Operational activities	Yes	Workforce size during operation is currently unknown. This uncertainty introduces the potential for impact on local residents by making it difficult to plan for changes in demand on local services, infrastructure, and housing.
Site workers, local residents	Social environment: relocation	Operational activities	Yes	Workforce size during operation is currently unknown. This uncertainty introduces the potential for impact on local residents and site workers in relation to the social environment and potential housing relocation.
Local residents and communities, users of recreation facilities	Social environment: open	Operational activities	Yes	The proposed Project may permanently disrupt access to PRoWs, and green and blue space. However, the proposed Project also includes

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	space, leisure and play			enhancements to footpaths and cycleways and improved access to open spaces such as the provision of a public country park. The interaction of operational noise and vibration, air quality, lighting and visual impacts on amenity and quality of open space, leisure and play, which may result in indirect effects on health.
Local residents, local business owners and employees, commuters, pedestrians, cyclists, site workers, users of recreation facilities	Social environment: transport modes, access and connections	Operational activities	Yes	The proposed Project may permanently affect road transport and active travel routes during operation (see Traffic and Transport, **Section 13**). There is the potential for severance, impacts on journey amenity and driver delay due to an increase in traffic flows/traffic volume. The operational phase may result in longer delays and queuing for road users at the level crossing.
Local residents	Social environment: community safety	Operational activities, Country park	Yes	Health and safety legislation, design codes and standards would ensure no likely significant community safety risks from the operational infrastructure, however there is potential for the new country park to become an area for anti-social behaviour.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Local residents	Social environment: community identity, culture, resilience and influence	Operational activities	No	Whilst current operational workforce numbers are yet to be defined, it is not anticipated that a large operational workforce will be located on the site and the operational infrastructure will be located in an area where there is existing port infrastructure and operational activities taking place. It is therefore not anticipated that the proposed Project will have an impact on the way people feel about their community, sense of belonging or sense of control.
Local residents, users of recreation facilities	Social environment: social participation, interaction and support	Operational activities	Yes	Opportunities for social interaction may be impacted by the proposed Project due to impacts on access improvements to, and amenity of, community and recreational assets related to the operation activities of the proposed Project.
Local residents, site workers	Economic environment: education and training	Operational activities	Yes	The proposed Project has the opportunity to support ongoing education and training opportunities associated with the operation of the proposed Project, and resulting health effects from changes to socioeconomic conditions.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Local residents	Economic environment: employment and income	Operational activities	Yes	The operation phase may offer opportunities for workforce related skills development during operation, resulting health effects from changes to socioeconomic conditions. There is also the potential for employment impacts on fishers and associated businesses due to potential impacts on fish stocks.
Site workers	Biophysical environment: climate change and adaptation	Operational and maintenance activities	Yes	The proposed Project has potential for human receptors to be exposed to climate hazards during operation and maintenance activities (Climate Change (**Section 25**)).
Local residents, users of recreation facilities, local business owners and employees	Biophysical environment: air quality	Operational road traffic emissions, operational rail emissions and operational vessel emissions	Yes	There is the potential for exhaust emissions from operational traffic, rail and vessel movements generated by the proposed Project have the potential to cause negative health impacts.
Local residents, local business owners and employees	Biophysical environment: water quality or availability	Operational activities	Yes	The proposed Project has potential to increase flood risk (including flood extent and depths) to surrounding areas. The findings of the Water Resources and Flood Risk assessment (**Section 18**) and Marine Water and Sediment Quality (**Section 6**) will be kept under review and the

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				human health assessment will only scope in water quality and availability as a wider determinant of health if it is judged that there are significant effects to the water environment that relate to human receptors or bathing water.
Construction workers	Biophysical environment: land quality	Operation and maintenance activities	Yes	The proposed Project has potential for impacts on human health as a result of the presence of ground contamination and ground gas during any on-site maintenance works (Ground Conditions and Contamination (**Section 11**)). The findings of **Section 11** will be kept under review and the human health assessment will only scope in land quality as a wider determinant of health if it is judged that there are significant effects to the soil environment relating to human receptors.
Local residents, local business owners and employees, users of recreation facilities	Biophysical environment: noise and vibration	Loading/unloading of trains or road transporters and Ro-Ro vessels, movement of breakbulk or project using port	Yes	The proposed Project has potential to cause disturbance to human receptors from noise emitted from operational activities and from additional train movements, changes in road traffic flows on existing roads. The proposed Project has potential to cause disturbance to

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
		handling equipment, train movements, vehicles on the new access road and berthed vessels.		human receptors from vibration due to additional train movements.
Local residents, site workers	Biophysical environment: radiation	Operational activities	No	The proposed Project is not considered likely to affect actual or perceived exposure to electromagnetic and ionising radiation risks, due to the nature of the proposed Project and the equipment and construction processes that will be used.
Local businesses, health care facilities, emergency services	Institutional and built environment: health and social care services	Operational activities	Yes	Workforce size during operation is currently unknown. This uncertainty introduces the potential for impact on the provision of, or access to, local health and social care services, including emergency services.
Local residents	Institutional and built environment: built environment	Operational activities	Yes	The proposed country park as part of the proposed is considered likely to contribute to the built features or quality of the environment that contribute to health, and provide opportunities to positively contribute to the wider spatial planning

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				context and existing green space to support physical, mental and social wellbeing.
Local residents	Institutional and built environment: wider societal infrastructure and resources	Operational activities	No	The proposed Project is considered unlikely to contribute to wider infrastructure (e.g. energy infrastructure, waste management; infrastructure; water infrastructure; communication and IT infrastructure) which society depends on for good population health.

21.7 Mitigation

21.7.1 A number of mitigation measures are likely to be identified within the relevant technical topic chapters that would mitigate likely significant effects, including human health effects. These topics include Marine Water and Sediment Quality, Marine Ecology, Commercial and Recreational Navigation, Ground Conditions and Contamination, Traffic and Transport, Noise and Vibration, Air Quality, Landscape and Visual Effects, Water Resources and Flood Risk, Tourism and Recreation, Socioeconomics, Agriculture and Land Use, Climate Change and Waste.

21.7.2 The human health assessment process will help to identify suitable mitigation for adverse effects on human health. Good practice and essential mitigation comprises:

- Engagement with landowners and other individuals who would be directly affected by the proposed Project.
- Good practice construction measures to break the source-pathway-receptor links between environmental hazards and human health receptors, and/or measures to reduce potential exposure to hazards such as dust, noise and polluting substances.
- Mitigation measures relating to community, recreation, access and amenity that are relevant to health (covered in Tourism and Recreation (**Section 20**) and Socioeconomics and Population (**Section 22**)).
- The Applicant is looking at ways to support skills and training opportunities, associated with the proposed Project.

21.7.3 Approach to assessment and data gathering for Environmental Statement This section provides the proposed assessment of human health that will be undertaken as a desk-based study and based on the following guidance:

- IEMA Guide to: Effective Scoping of Human Health in Environmental Impact Assessment (Pyper *et al.,* 2022a).
- IEMA Guide to: Determining Significance for Human Health in Environmental Impact Assessment (Pyper *et al.,* 2022b).
- Spatial Planning for Health: An evidence resource for planning and designing healthier places (PHE, 2020b).
- IEMA Guide: Competent Expert for Health Impact Assessment including Health in Environmental Assessments (Pyper *et al*., 2024).

21.8 Approach to Assessment and Data Gathering for ES

21.8.1 It is proposed to undertake a comprehensive Health Impact Assessment fully integrated into the EIA process to meet requirements of the EIA Regulations.

21.8.2 Further research and baseline analysis will be developed as part of the EIA process and reported in the Environmental Statement. The health assessment will also reference the Equality Impact Assessment (EqIA) and the socioeconomics assessment (see Socioeconomics and Population (**Section 22**)), for further information on potentially vulnerable groups and how they may be affected. This will include consideration of potential health inequalities.

21.8.3 Key sources of information to inform the assessment include a literature review of scientific literature, baseline conditions, health priorities, consultation responses, regulatory standards and policy context. The assessment will also take into account the findings of the Equality Impact Assessment and will draw on the assessments for Ground Conditions and Contamination, Traffic and Transport, Noise and Vibration, Air Quality, Landscape, Seascape and Visual Effects, Water Resource and Flood Risk, Tourism and Recreation, Socioeconomics and Climate Change.

21.8.4 In accordance with the IEMA Guide to Effective Scoping of Human Health (Pyper et al., 2022a), assessment work should include engagement with the relevant Director of Public Health for Hampshire and the Director of Public Health at Southampton City Council (or their representatives within local public health teams) alongside Integrated Care Systems representatives, Local Environmental Health Officers, UKHSA and Local Environmental Health Officers. This engagement will help to identify public health priorities and agree the relevant determinants of health and desired health outcomes for the proposed Project. Engagement will also help update and further develop the local health profiles and better understand the sensitivity of population groups likely to be affected by the proposed Project.

21.8.5 The overall approach to the human health assessment will follow the process set out in **Figure 21.2**. A population health approach will be used, as it would be disproportionate to reach conclusions on the potential health outcomes of individuals. 'Population health' refers to the health outcomes of a group of individuals, including distribution of such outcomes within the group. To take account of potential inequalities, where appropriate, conclusions on potential health outcomes will be reached for:

- the general population (for a defined area); and
- a second separate sub-population for relevant vulnerable groups (as a single defined class of sensitivities for that issue.

21.8.6 Determining the sensitivity of population groups and the magnitude of change will be guided by the following criteria presented in the IEMA Guide to Determining Significance for Human Health in Environmental Impact Assessment (Pyper *et al.,* 2022b):

- Table 7.1 Health sensitivity methodology criteria.
- Table 7.2 Health magnitude methodology criteria.

21.8.7 Table 7.3 of the IEMA Guide to Determining Significance for Human Health in Environmental Impact Assessment (Pyper et al., 2022b) will be used to guide the judgement of significance. The judgement of significance will take into consideration a range of information including literature, baseline conditions, consultation responses, regulatory standards and policy context.

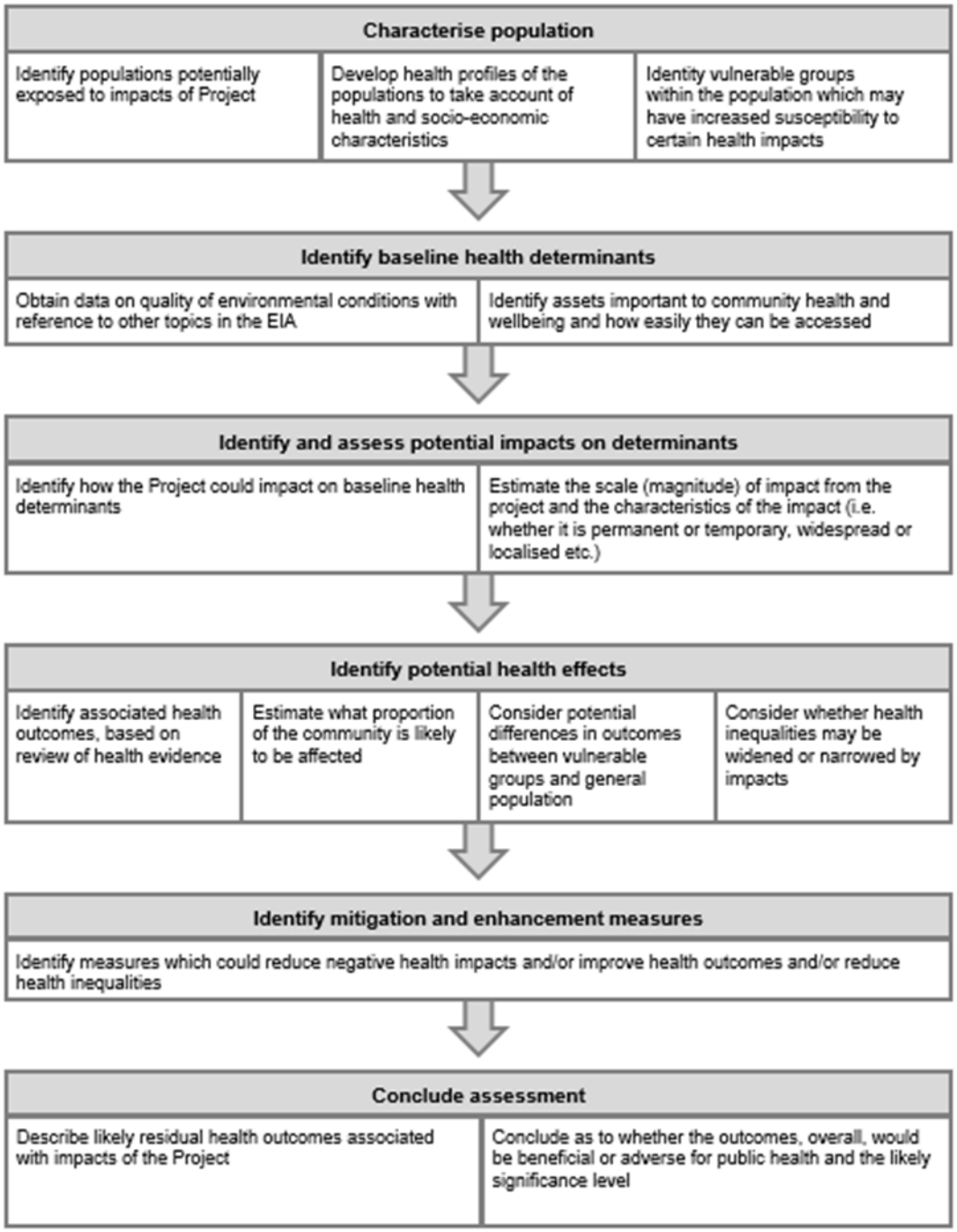


Figure 21.2 Approach to the human health assessment (Jacobs, 2025)

22 SOCIOECONOMICS AND POPULATION

22.1 Introduction

22.1.1 This section describes the relevance of socioeconomics and population to the proposed Project. The receptors covered in this section include economy, employment, education and skills, community accessibility & severance, land take, community amenity and housing.

22.2 Relevant Policy, Legislation and Guidance

22.2.1 Legislative and Regulatory Regime (**Section 3**) presents a summary of key legislation and policy that are relevant to the proposed Project.

22.2.2 This assessment will be undertaken to meet the requirements set out in the NPSfP (DfT, 2012), specifically paragraphs *4.3.1 – 4.3.3*, *5.11.1 – 5.11.5*, *5.11.14 – 5.11.18*, *5.13.1 – 5.13.24* and *5.14.1 – 5.14.19*.

22.2.3 There is limited guidance for assessing socioeconomic and population impacts. Unlike other environmental topics, such as Noise and Vibration (**Section 14**), the sensitivity of some socioeconomic and population topics is not determined by reference to designations or an objective standard.

22.2.4 The sensitivity and magnitude criteria to assess socioeconomics and population effects will be formulated with professional judgment, experience of similar developments and industry good practice, as well as taking into account the sensitivity and magnitude criteria as outlined in EIA Methodology (**Section 4**). The assessment of socioeconomics and population will be undertaken as a desk-based study and where relevant, will draw on the following guidance:

- DMRB: LA 112 Population and Human Health (Highways England, 2020a).
- DMRB: LA 104 Environmental Assessment and Monitoring (Highways England, 2020b).
- HM Treasury 'The Green Book' (HM Treasury and Government Finance Function, 2022).
- UK National Accounts 'The Blue Book' (ONS, 2024a).

Local Policies and Data Sources

22.2.5 The key data sources listed in **Table 22.1** were used to gather the baseline information on Socioeconomics and Population to inform the scoping study. A desk-

based review of these sources was conducted to identify existing baseline conditions. Other sources have been used and are referenced throughout this chapter.

Table 22.1 Key data sources

Title	Date
Corporate Plan 2024-2028	New Forest District Council, 2024b
National Park Local Plan, 2016 – 2036	New Forest National Park Authority, 2019b
Local Plan 2016-2036 Part One: Planning Strategy	New Forest District Council, 2020
Port of Southampton Port Master Plan 2016-2035 Consultation Draft	ABP, 2016
Southampton Economic Green and Growth Strategy 2020-2030	Southampton City Council, 2020
Southampton City Council Corporate Plan (update 2024)	Southampton City Council, 2024b
Southampton City Council Corporate Plan 2022-2030	Southampton City Council, 2022b
Solent Growth & Prosperity Strategy	Isle of Wight Council, et al., 2025
Re: New Forest The New Forest National Park Partnership Plan 2022-2027	Environment Agency et al., 2022
State of Economy	Hampshire County Council, 2020
Census 2021	ONS, NOMIS, 2021a

22.3 Study Area

22.3.1 The socioeconomic and population assessment covers a variety of assessment matters outlined in **Table 22.2**. As seen in **Figure 22.1**, the Scoping Boundary sits within New Forest District and borders Southampton Unitary Authority. These areas sit within the County of Hampshire. The effects considered in the socioeconomics and population assessment may occur across different spatial scales. Some impacts may be confined within the Scoping Boundary, while others, such as those related to the economy and employment, may extend to a broader geographic area.

22.3.2 While the assessment focuses locally and regionally within these boundaries, it is important to recognise that the proposed Project serves the whole nation.

Strategically, the proposed Project plays a significant role in enhancing economic connectivity for UK businesses to the global marketplace, and this wider benefit should be acknowledged alongside the local and regional impacts.

Table 22.2 Assessment matter study areas

Assessment Matter	Study Area
Economy	Economic effects may occur beyond the immediate site area. For this assessment, such effects are considered within the study area defined as the County of Hampshire. This study area is based on the potential for wider geography to experience either adverse or beneficial effects.
Employment, Education & Skills	The study area is defined as the County of Hampshire. Based on professional judgement, this is the area labour is likely to be sourced from and is also based on information on the distance travelled to work for residents in the area. 2021 census data shows that 76% of residents travel up to 30km for work or work from home (ONS, 2021b), extending beyond Southampton and New Forest boundaries. The assessment will focus on local employment and skills opportunities.
Community Accessibility & Severance	As per Design Manual for Roads and Bridges (DMRB) LA 112 guidance, the study area for community accessibility and severance is within the Scoping Boundary plus 500 metres (Highways England, 2020a). The study area may be extended if there are impacts associated with the proposed Project which are thought to extend beyond this (e.g. traffic and transport effects).
Land Take	As per DMRB: LA 112 guidance, the study area is defined as within the Scoping Boundary plus 500 metres (Highways England, 2020a).
Community Amenity	Different disciplines, such as Traffic and Transport (**Section 13**), Noise and Vibration (**Section 14**), Air Quality (**Section 15**), and Landscape, Seascape and Visual Effects (**Section 16**), on which the community amenity assessment is based upon, have their own study areas. The community amenity assessment study area is therefore defined by the maximum extent at which two or more disciplines intersect.
Housing	Housing impacts will be considered within New Forest District and Southampton Unitary Authority. This has been considered the geography where effects are most likely to be experienced.

22.4 Description of Existing Environment

Socio-economic Data

Community

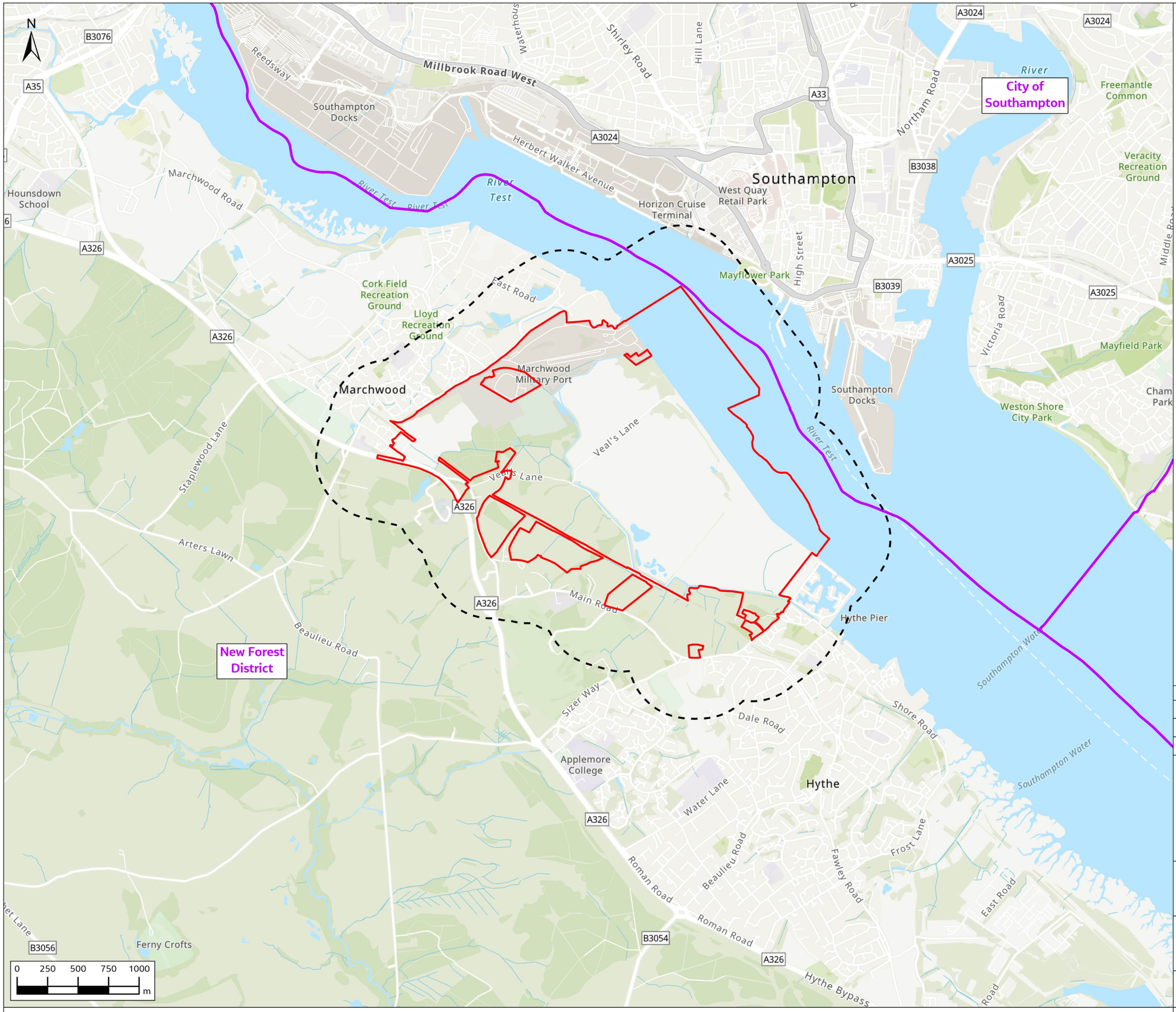
22.4.1 To the immediate south of the Scoping Boundary there are the rural areas of Dibden with scattered small settlements, a church, and a number of schools. To the south-east of the Scoping Boundary sits the town of Hythe, with a number of community facilities. The residential areas of Applemore and Dibden Purlieu sit south of the Scoping Boundary and to the north-west of the Scoping Boundary sits the residential areas of Marchwood and Pooksgreen.

22.4.2 The Priory Hospital, Southampton, is a private medical health facility, which sits between Marchwood, Pooksgreen and Dibden. These rural areas sit within New Forest District, part of Hampshire County.

22.4.3 The Scoping Boundary extends into the River Test, and the Port of Southampton is located to the north-east. Southampton is a city and unitary authority area also located in Hampshire County. The Solent separates Southampton and the Isle of Wight. It is a major shipping route for passengers, freight and military vessels, with both Southampton and Portsmouth located along it. The New Forest National Park is located to the west of the Scoping Boundary.

Population

22.4.4 Between the 2011 and 2021 censuses, population growth was evident across England, Hampshire and Southampton (ONS, 2011; 2021c). However, New Forest experienced a slight decline of about 700 people, dropping to 175,785. Hampshire saw a notable increase of over 83,000 residents, rising from 1.32 million to 1.40 million. Southampton's population grew by around 12,000, reaching nearly 249,000, while nationally, England's population rose by over 3.4 million, from 53 million to 56.5 million. These figures indicate an increase in residents living in the urban area of Southampton, and a more stable or declining number in the rural district of New Forest.



Legend

- Scoping Boundary
- Study area for the assessment of effects on housing
- Study area for the assessment of effects on land take, community accessibility and severance
- Study area for the assessment of effects on economy, employment, and education & skills



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0	24/10/2025	Initial Issue	HCH	TGJ	SG	MSS

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Project: SOLENT GATEWAY 2

Drawing Title: SOCIOECONOMICS ASSESSMENT STUDY AREA

SHEET 1 OF 2

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100047

Drawing Status: FINAL

Figure 22.1a

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Hordle
Lymington
Highcliffe
Lower Pennington
East Southbourne
Bournemouth
Bournemouth, Christchurch and Poole
Milford on Sea
Solent
Yarmouth
Shalfleet
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Legend

- Scoping Boundary
- Study area for the assessment of effects on housing
- Study area for the assessment of effects on land take, community accessibility and severance
- Study area for the assessment of effects on economy, employment, and education & skills



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0	06/08/2025	Initial Issue	HCH	TGJ	SG	MSS

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Project
SOLENT GATEWAY 2

Drawing Title
SOCIOECONOMICS ASSESSMENT STUDY AREA
SHEET 2 OF 2

Drawing No.
S6585-MDEC-ZZ-ZZ-DG-EC-0100047

Drawing Status
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Figure 22.1b

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22.4.5 According to Hampshire's 'State of Economy' Report (Hampshire County Council, 2020), Hampshire in general has low levels of economic deprivation, but pockets of deprivation can be found concentrated in a few neighbourhood areas. Deprivation in Hampshire is concentrated in the urban south of the county, notably in Southampton (29% of all areas are deprived), Portsmouth (24% of all areas are deprived), the Isle of Wight (13% of all areas are deprived) and, disproportionately, Havant (58% of all areas are deprived). Conversely, Hart was the least deprived area in England in 2019. Southampton also experiences greater health inequalities than that of its statistical neighbours (Southampton City Council, 2024b).

22.4.6 Hampshire has a population of 1,400,899 and hosts 21 major colleges and four universities; the four universities are home to 65,000 students (Hampshire County Council, 2025f). According to ONS Census data, the working age population sits at 60.5%, notably lower than the South East (62%) and England (63%) (ONS, 2021d). New Forest and Southampton, the two authorities closest to the location of the proposed Project, offer opposing ends of this statistic. Southampton hosts a working age population of 68.3% and New Forest 55.2%. New Forest has one of the oldest populations in the South East with an average age of 51, the joint second highest average age alongside the Isle of Wight, and 11 years higher than the England average of 40 (ONS, 2023).

22.4.7 The 2021 Census highlights clear demographic contrasts between Southampton and the New Forest in ethnicity, religion, and age (ONS, 2021a). Southampton is far more diverse, with 19.3% of residents identifying as non-white compared to 3.2% in the New Forest (ONS, 2021e). The largest non-white group in Southampton is 'Asian, Asian British or Asian Welsh', while in the New Forest it is 'Mixed or Multiple Ethnic Groups'.

22.4.8 Religious affiliation also differs: 43.4% of Southampton residents report no religion, slightly higher than the New Forest's 40.7% (ONS, 2021f). Christianity dominates in the New Forest (51.6%), while in Southampton it falls behind 'no religion' at 40.1%. Southampton also has a notably higher Muslim population (5.6%) versus 0.3% in the New Forest.

22.4.9 Age profiles diverge sharply: 70.3% of Southampton's population is under 50, whereas 51.7% of the New Forest population is 50 or older, with nearly 30% aged 65+ (ONS, 2021d).

22.4.10 Socio-economic data for Southampton, New Forest and Hampshire is set out in **Table 22.3**.

Table 22.3 Socio-economic data for Southampton, New Forest and Hampshire (Source: Office for National Statistics, 2021 Census and Business count 2024)

Indicator		New Forest (count)	New Forest (%)	Southampton((count)	Southampton (%)	Hampshire (count)	Hampshire (%)	South East (%)	England (%)
Census 2021. Table TS001- Population		175,785	n/a	248,922	n/a	1,400,899	n/a	9,278,065 (count)	56,490,048 (count)
Census 2021. Table TS007B - Working age population (16-64)		97,099	55.2	170,118	68.3	846,993	60.5	62.0	63.0
Census 2021. Table TS066 - Economically active (16+)		79,645	53.5	118,233	57.9	695,753	60.4	60.1	58.6
Census 2021. Table TS063 – Occupation	Managers, Directors and Senior Officials	11,997	15.2	10,223	8.6	102,011	14.8	14.9	12.9
	Professional Occupations	13,956	17.7	23,404	19.8	140,069	20.4	21.2	20.3
	Associate Professional & Technical	9,927	12.6	14,011	11.9	99,933	14.5	14.3	13.3
	Administrative & Secretarial	7,715	9.8	9,892	8.4	67,713	9.9	9.4	9.3
	Skilled Trades Occupations	9,971	12.7	12,153	10.3	73,390	10.7	10.0	10.2
	Caring, Leisure and Other Service Occupations	8,252	10.5	12,651	10.7	63,149	9.2	9.1	9.3
	Sales and Customer Service	5,386	6.8	9,903	8.4	46,602	6.8	6.8	7.5

Indicator		New Forest (count)	New Forest (%)	Southampton((count)	Southampton (%)	Hampshire (count)	Hampshire (%)	South East (%)	England (%)
	Process Plant & Machine Operatives	4,498	5.7	10,307	8.7	36,370	5.3	5.6	6.9
	Elementary Occupations	7,000	8.9	15,684	13.3	58,063	8.4	8.8	10.5
Census 2021 Table TS060A- Employee by industry	Agriculture, forestry and fishing	880	1.1	218	0.2	4,938	0.7	0.6	0.8
	Mining and quarrying	277	0.4	156	0.1	1,027	0.1	0.1	0.2
	Manufacturing	5,240	6.7	7,691	6.5	46,147	6.7	6.0	7.3
	Electricity, gas, steam and air conditioning supply	475	0.6	654	0.6	4,603	0.7	0.6	0.6
	Water supply; sewerage, waste management and remediation activities	552	0.7	774	0.7	4,783	0.7	0.7	0.7
	Construction	8,115	10.3	10,594	9.0	63,666	9.3	9.0	8.7
	Wholesale and retail trade; repair of motor vehicles and motor cycles	10,982	14.0	18,431	15.6	95,456	13.9	13.9	15.0
	Transport and storage	3,463	4.4	8,511	7.2	29,367	4.3	4.9	5.0
	Accommodation and food service activities	4,412	5.6	6,380	5.4	29,067	4.2	4.5	4.9

Indicator		New Forest (count)	New Forest (%)	Southampton((count)	Southampton (%)	Hampshire (count)	Hampshire (%)	South East (%)	England (%)
	Information and communication	2,890	3.7	4,169	3.5	42,747	6.2	6.2	4.7
	Financial and insurance activities	2,567	3.3	3,462	2.9	25,351	3.7	4.1	3.8
	Real estate activities	1,432	1.8	1,364	1.2	10,241	1.5	1.6	1.6
	Professional, scientific and technical activities	5,416	6.9	6,171	5.2	45,906	6.7	7.2	6.7
	Administrative and support service activities	4,304	5.5	6,767	5.7	39,008	5.7	5.7	5.3
	Public administration and defence; compulsory social security	4,118	5.2	5,288	4.5	55,836	8.1	5.9	5.8
	Education	7,164	9.1	11,874	10.0	63,977	9.3	10.2	9.9
	Human health and social work activities	12,222	15.5	21,202	17.9	94,093	13.7	13.9	14.6
	Other	4,193	5.3	4,523	3.8	31,084	4.5	4.8	4.6
	Enterprises by employment size band								
	Micro (0 to 9)	6,920	88.5	6,660	90.0	51,495	88.0	89.6	89.2

Indicator		New Forest (count)	New Forest (%)	Southampton((count)	Southampton (%)	Hampshire (count)	Hampshire (%)	South East (%)	England (%)
United Kingdom (UK) Business Counts (2024)	Small (10 to 49)	745	9.5	605	8.2	5,845	10.0	8.5	8.7
	Medium (50 to 249)	125	1.6	100	1.4	960	1.6	1.5	1.6
	Large (250+)	25	0.3	35	0.5	220	0.4	0.4	0.4
	Total	7,815	-	7,400	-	58,520	-	404,360 (count)	2,368,350 (count)
	Local units by employment size band								
	Micro (0 to 9)	7,590	84.0	7,620	83.0	56,480	83.6	85.1	84.6
	Small (10 to 49)	1,205	13.3	1,250	13.6	9,055	13.4	12.1	12.4
	Medium (50 to 249)	225	2.5	255	2.8	1,795	2.7	2.5	2.6
	Large (250+)	20	0.2	50	0.5	230	0.3	0.4	0.4
	Total	9,040	-	9,180	-	67,560	-	465,155 (count)	2,735,615 (count)

Economy

22.4.11 Hampshire contributed £66.7 billion to the UK economy in 2018. New Forest made up £7.1 billion of this total and Southampton accounted for £8.3 billion, the largest local level economy of the Hampshire region (Hampshire County Council, 2020).

22.4.12 Exports account for a large share of Hampshire's economic output. It is the largest exporting region in the South East (Hampshire County Council, 2020). Hampshire exports are 43.9% services and 56.1% goods, with machinery and transport the largest export of goods category and transport and storage is the largest service export category (Hampshire County Council, 2020).

22.4.13 According to the ONS UK Business Count 2024 (ONS, 2024b), there are 58,250 enterprises in Hampshire and, compared to the average for England, there is a considerably greater proportion of businesses in the construction and professional and scientific and technical industries in Hampshire. There are 13 major business parks in Hampshire, two major ports and three airports (Hampshire County Council, 2020).

22.4.14 The Port of Southampton is an international deep-sea port of global importance and a vital economic centre both locally and nationally. It handles goods worth around £71 billion annually, with £36 billion destined for non-EU markets, making it the UK's number one port for exports to non-EU countries.

22.4.15 The Port handles a variety of trades including containers, cars and passenger cruises. As mentioned in Commercial and Recreational Navigation (**Section 10**), there are on average 65,000 commercial vessel movements annually within the Port of Southampton alone. In 2024, Southampton welcomed over 3 million passengers via cruise ships, contributing over £1 billion to the local and regional economy (ABP, 2025h).

22.4.16 Southampton's largest industries are manufacturing, transport and storage and public sector businesses. Between 2020 and 2022 the storage and transport sector experienced the most growth among all industries in Southampton, and retail experienced the biggest decline (Southampton Data Observatory, 2025b).

22.4.17 In 2023, Hampshire saw the creation of 5,655 new businesses, while 5,735 businesses closed during the same period (ONS, 2024c). The five-year survival rate for businesses established in 2018 was 38.1% in Hampshire, compared to 41.4% in the South East and 39.4% across the UK (ONS, 2024c).

22.4.18 The New Forest is home to 9,000 businesses, the highest number in any local authority in Hampshire (Hampshire County Council, 2025g). The New Forest District

Council Local Plan 2020 identified the leading business sectors as distribution and transport, accommodation and food, tourism, public administration, education and health and construction and manufacturing (New Forest District Council, 2020).

22.4.19 The New Forest is the fourth largest economy in Hampshire with Fordingbridge and Ringwood the key economic centres of New Forest (New Forest District Council, 2022a). The Solent is home to 41,900 enterprises, the majority of which are considered micro in size (88.8%) (Solent Local Enterprise Partnership, 2024). The maritime sector makes an important economic contribution to the Solent economy and its underlying assets are of national significance (Solent Local Enterprise Partnership, 2022).

Employment

22.4.20 Hampshire employment figures are lower than those of the South East region and England as a whole (ONS, 2021i). The unemployment rate in Hampshire stands at 2.1%, compared to 2.5% for the South East and 2.9% for England. The percentage of people in Hampshire who are economically active is marginally higher than the South East; 60.4% versus 60.1%, and notably higher than the England average at 58.6% (ONS, 2021i).

22.4.21 Hampshire, like many UK regions, has an ageing population. This is largely due to people living longer and a declining fertility rate (Hampshire County Council, 2020). The future working age percentage of Hampshire's population will likely decline (Hampshire County Council, 2020).

22.4.22 Hampshire's levels of employment by occupation are broadly in line with the South East (ONS, 2021h), with higher percentages in roles such as 'managers, directors and senior officials' when compared with England averages, and lower percentages in occupations such as 'elementary occupations'. The exception to this is 'professional services' where Hampshire sits 0.8% behind the South East, 20.4% and 21.2% respectively, with England at 20.3%.

22.4.23 The maritime sector is a major employer across the region. In Hampshire, it provides around 150,000 jobs (Hampshire County Council, 2025g). Within the Solent region, employment stands at 137,999 roles, including 45,000 directly linked to maritime activities, with jobs growing at an average of 2.1% per year since 2019 (Maritime UK Solent, 2025).

22.4.24 The Port of Southampton plays a pivotal role in this employment landscape supporting 45,600 jobs (ABP, 2020). Additionally, it handled 3 million passengers in 2024 (ABP, 2025e), underpinning many additional roles in hospitality, retail, and associated services.

22.4.25 According to ONS data, 'agriculture, forestry and fishing' supports 4,938 jobs in Hampshire, accounting for just 0.7% of the total number of jobs in the region (ONS, 2021g). This is relatively similar to South East and England figures. New Forest District has 1.1% of its workforce employed in agriculture, forestry and fishing, likely due to its rural character and the presence of the New Forest National Park.

Skills and Education

22.4.26 2021 ONS Census data indicates that Hampshire demonstrates better educational attainment across most levels compared to both the South East and England (ONS, 2021j). Hampshire's population with no qualifications stands at 14.7%, lower than the South East (15.4%) and notably below England's average (18.1%). For qualifications at levels one through three, Hampshire consistently outperforms both regional and national averages. Regarding level four qualifications and above, Hampshire slightly edges out the national average but falls marginally short of the South East's average performance.

Land Use

22.4.27 There are two National Parks and three National Landscapes in Hampshire. These are:

- New Forest National Park.
- South Downs National Park.
- North Wessex Downs National Landscape.
- Cranborne Chase National Landscape.
- Chichester Harbour National Landscape.

22.4.28 Together they cover about 144,000 hectares or 38% of Hampshire (Hampshire County Council, 2025h). As identified in Chapter 20: Tourism and Recreation, the proposed Project is in close proximity to the New Forest National Park which is home to a number of recreational activities and provides a very large amount of open green space. The Dibden area itself hosts a large amount of open space and some woodland.

22.4.29 The Department for Levelling Up, Housing & Communities (DLUHC) 2022 land use survey reveals stark contrasts between Southampton and New Forest (DLUHC, 2022). Southampton is predominantly urban, with almost half its land (49.7%) developed, the highest share among wider regions, transport and utilities alone account for 23%. In contrast, New Forest is overwhelmingly rural, with just 7.6% developed land and 92.4% remaining undeveloped. Nearly half of this is forest, open land and water (49.7%), while agriculture makes up 34.6%. Southampton's non-developed land is mostly residential gardens (28.2%) and outdoor recreation (10.2%).

22.4.30 As mentioned in Agriculture and Soils (**Section 23**), land within ABP Southampton's ownership and the proposed Project Scoping Boundary is currently used for agriculture under short-term tenancies. The study area identified in Agriculture and Soils (**Section 23**), and the study area identified in this chapter includes holdings used for seasonal grazing and some woodland. The grazing regime in the area is opportunistic and tenanted, rather than strategically planned. Commoners in the New Forest rely on surrounding land, referred to as 'back-up land', to support the grazing of animals on the open forest. Local planning policies, including those of the National Park Authority, aim to protect land that could serve as 'back-up land' from development.

Housing

22.4.31 According to ONS Census 2021 data Southampton has a markedly lower house ownership percentage compared to the South East and England (ONS, 2021k), yet house prices in Southampton are considerably lower than the regional average (ONS, 2025a). Of a total of 108,518 dwellings in Southampton, 16,381 are owned by the local authority and 7,901 by housing associations (Southampton Data Observatory, 2022).

22.4.32 Bedroom overcrowding in Southampton is of particular concern for nearly 6,000 households. The cost of living crisis, decline in national housebuilding and increased purchasing of social houses under the right to buy scheme has led to a lack of affordable housing where demand far outweighs the supply. In March 2022, 7,379 households were on the social housing waiting list (Southampton Data Observatory, 2023). Southampton recorded housing delivery at 50% of the target (Southampton City Council, 2024c), building only 80 new homes in 2024 (Linehan, 2025).

22.4.33 New Forest National Park[11] house prices are considerably higher than surrounding areas; with an average property price of £643,000, it is the most expensive National Park in England (New Forest District Council, 2022b). In the wider New Forest District, house prices remain higher than the national and regional averages (ONS, 2025b).

22.4.34 Compared to both regional and national data, house ownership in the New Forest District is notably higher. New Forest District has 83,464 dwellings, with around 7,000 of these being social housing (New Forest District Council, 2022b). One of the largest concerns in New Forest District is the average house prices versus median pay, as the District is a desirable place to live but there is limited space and

[11] *The New Forest National Park is a protected area focused on conserving natural landscapes, wildlife, and cultural heritage. In contrast, the New Forest district is an administrative area that includes the park as well as surrounding towns and villages, managing local services and governance.*

capacity to build new homes due to the National Park and the rental prices in the area are also particularly high.

22.4.35 The percentage of caravan, mobile or temporary housing structures sits notably above average, as does the number of households in 'detached' properties, making for a polarised housing landscape (ONS, 2021l). The latest data available puts the social housing waiting list for the New Forest District at 3,362 (Whatdotheyknow, 2016), and New Forest District Council has agreed to build a second 100% affordable housing site in Dibden Purlieu to tackle the waitlist (HousingDigital, 2024).

22.5 Future Baseline

22.5.1 In a scenario where the project did not commence, it is reasonable to assume that socioeconomic and population factors in the area would continue as at present, with the local economy, levels of employment, education & skills, level of community accessibility & severance, standard of community amenity and housing levels continuing for the foreseeable future. Additionally, it may result in a loss of opportunity and reduced investment into other areas around the Port.

22.5.2 In the absence of the proposed Project, the local community would be subject to the impacts of other development activity in the area, as well as the decisions and influence of socioeconomic subjects covered in this chapter by local governing bodies on subjects concerning employment, community amenity and the economy.

22.6 Potential Impacts

Potential Impacts During Construction

22.6.1 **Table 22.4** identifies the potential impacts on Socioeconomics and Population related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 22.4 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Economy The County of Hampshire Economy	Direct, indirect and induced economic effects from the construction of the proposed Project	Construction activities and construction workforce.	Yes	The proposed Project is anticipated to result in beneficial economic effects through direct, indirect and induced spending. Construction activities have the potential to contribute to the local economy via direct expenditure, such as the purchase of materials. Indirect effects include spending in the supply chain and induced effects may occur by construction workers spending in the local economy.
Economy The County of Hampshire Economy	Direct effects on fisheries from loss or restricted access to fishing grounds and interference with fishing activities	Construction activities that potentially restrict access to fishing grounds or interfere with fishing activities	No	Based on the information presented in Commercial and Recreational Fisheries (**Section 9**), this pathway considers the potential impacts on fisheries from loss or restricted access to fishing grounds and interference with fishing activities and the associated economic implications during construction. Given the conclusion in the forementioned chapter that the impact of access and interference with fishing is not significant, the economic impact in comparison to the broader Hampshire economy, is also likely to be insignificant.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Economy The County of Hampshire Economy	Indirect effects on fisheries from potential impacts on fish stocks of target finfish and shellfish species	Construction activities that potentially impact fish stocks of target finfish and shellfish species	Yes	Based on the information presented in Commercial and Recreational Fisheries (**Section 9**) and Marine Ecology (**Section 7**), this pathway considers the indirect economic effects on fisheries from impacts on fish stocks of target finfish and shellfish species, including loss or change to fishing grounds due to changes in fish stocks. The conclusion in the forementioned chapters is that there could be a potential impact on target finfish and shellfish and therefore there may be economic impacts on fishers and associated businesses.
Employment The County of Hampshire Labour Market	Direct, indirect and induced employment effects from the construction of the proposed Project	Construction activities and construction workforce.	Yes	The construction period and workforce size is currently unknown. This uncertainty introduces the potential for significant direct, indirect, and induced employment effects The construction of the proposed Project is anticipated to result in direct employment for the construction of the proposed Project, indirect employment in the supply chain, and induced employment from spending by workers in the economy.
Employment	Direct effects on fishers from loss or restricted	Construction activities that potentially restrict	No	Based on the information presented in Commercial and Recreational Fisheries (**Section**

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
The County of Hampshire Labour Market	access to fishing grounds and interference with fishing activities	access to fishing grounds or interfere with fishing activities		**9**), this pathway considers the potential employment impacts on fishers from loss, restricted or disturbed access to fishing grounds. Given the conclusion in the forementioned chapter that the impact of access and interference with fishing is not significant, the associated employment impacts in comparison to broader Hampshire employment, is also likely to be insignificant.
Employment The County of Hampshire Labour Market	Indirect effects on fishers from potential impacts on fish stocks of target finfish and shellfish species	Construction activities that potentially impact fish stocks of target finfish and shellfish species	Yes	Based on the information presented in Commercial and Recreational Fisheries (**Section 9**) and Marine Ecology (**Section 7**), this pathway considers the indirect employment effects on fishers from potential impacts on fish stocks of target finfish and shellfish species, including loss or change to fishing grounds due to changes in fish stocks. The conclusion in the forementioned chapters is that there could be a potential impact on fish stocks of target finfish and shellfish. Therefore, there may be employment impacts on fishers and associated businesses.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Education and Skills The County of Hampshire Labour Market Skills Profile	Education and skills effects from the construction of the proposed Project	Construction activities and construction workforce.	Yes	The proposed Project has potential to result in beneficial effects through training, upskilling, and educational opportunities related to the skills required during the construction phase. These benefits may extend across the supply chain and associated businesses, resulting in benefits for individuals and the local community.
Land take Agricultural holdings	Direct land take from the construction of the proposed Project	Construction activities that require temporary and/or permanent land take.	Yes	The proposed Project is expected to require temporary and/or permanent land take for construction. This may lead to the temporary and/or permanent loss of agricultural land resulting in changes to operating conditions that affect the overall viability of the agricultural holding.
Community Accessibility and Severance Community, residential and commercial receptors	Increased traffic and transport, and disruption to other access routes arising from construction activities	Construction activities	Yes	Construction activities, such as those resulting in an increase in traffic, have potential to cause disruption in access to residential, community and commercial land and assets. Access to community land and assets may also be disrupted due to the diversion/closure of routes during construction. Tourism and Recreation (**Section 20**) identifies the effects of disrupted

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				access on tourism and recreation facilities, including PRoWs.
Community Amenity Community, residential and commercial receptors	Construction activities resulting in traffic, noise, air pollution and visual disruption	Construction activities	Yes	The proposed Project has the potential for adverse effects on community amenity through increased traffic, noise, air pollution and visual disruption related to construction activities, such as from vehicles and the transport of materials. These factors may result in adverse effects of the pleasantness and 'feel' of a community, and people's enjoyment of their surroundings, as well as a disturbance effect on local businesses. Tourism and Recreation (**Section 20**) identifies the amenity effects for users of tourism and recreation facilities, including PRoWs.
Housing Residential receptors	Impact on housing availability and house prices due to presence of construction workforce.	Increased population in the area due to construction related activities	Yes	The construction period and workforce size is currently unknown. This uncertainty introduces the potential for significant housing effects. Given the existing population levels and travel to work distances identified in the area, construction related activities could affect the residential bed stock or house prices.

Potential Impacts During Operation

22.6.2 **Table 22.5** identifies the potential impacts on Socioeconomics and Population related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 22.5 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Economy The County of Hampshire Economy	Direct, indirect and induced economic impact	Investment into the economy from spending by the proposed Project's operation and/or maintenance activities	Yes	During operation, the proposed Project's facility will likely result in increased spending in the local economy. Maintenance activities also have the potential to result in beneficial effects for the local economy through spending.
Economy The County of Hampshire Economy	Direct effects on fisheries from loss or restricted access to fishing grounds and interference with fishing activities	Operation and/or maintenance activities that potentially restrict access to fishing grounds or interfere with fishing activities	No	Based on the information presented in Commercial and Recreational Fisheries (**Chapter 9**), this pathway considers the potential impacts on fisheries from loss or restricted access to fishing grounds and interference with fishing activities and the associated economic implications during operation and/or maintenance. Given the conclusion in the forementioned chapter that the impact of access and interference with fishing is not significant, the economic impact in comparison to the broader Hampshire economy, is also likely to be insignificant.
Economy	Indirect effects on fisheries from potential impacts on fish stocks	Operation and/or maintenance activities that potentially impact	Yes	Based on the information presented in Commercial and Recreational Fisheries (**Chapter 9**) and Marine Ecology (**Chapter 7**),

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
The County of Hampshire Economy	of target finfish and shellfish species	fish stocks of target finfish and shell fish species		this pathway considers the indirect economic effects on fisheries from impacts on fish stocks of target finfish and shellfish species during operation and/or maintenance, including loss or change to fishing grounds due to changes in fish stocks. The conclusion in the forementioned chapters is that there could be a potential impact on target finfish and shell fish and therefore there may be economic impacts on fishers and associated businesses.
Employment The County of Hampshire Labour Market	Direct, indirect and induced employment	Direct, indirect and induced employment through the proposed Project operations and/or maintenance services	Yes	Workforce size during operation is currently unknown. There is also no detailed breakdown of the skills or roles required. This uncertainty introduces the potential for significant direct, indirect, and induced employment effects. The scale and nature of these impacts will depend on whether the workforce demand is concentrated within a single sector or distributed across multiple services and industries, and whether these skills are already available locally or would need to be sourced from outside the area.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Employment The County of Hampshire Labour Market	Direct effects on fishers from loss or restricted access to fishing grounds and interference with fishing activities	Operation and/or maintenance activities that potentially restrict access to fishing grounds or interfere with fishing activities	No	Based on the information presented in Commercial and Recreational Fisheries (**Chapter 9**), this pathway considers the potential employment impacts on fishers from loss, restricted or disturbed access to fishing grounds once the proposed Project is in operation and/or during maintenance. Given the conclusion in the forementioned chapter that the impact of access and interference with fishing is not significant, the associated employment impacts in comparison to broader Hampshire employment, is also likely to be insignificant.
Employment The County of Hampshire Labour Market	Indirect effects on fishers from potential impacts on fish stocks of target finfish and shellfish species	Operation and/or maintenance activities that potentially impact fish stocks of target finfish and shellfish species	Yes	Based on the information presented in Commercial and Recreational Fisheries (**Chapter 9**) and Marine Ecology (**Chapter 7**), this pathway considers the indirect employment effects on fishers from potential impacts on fish stocks of target finfish and shellfish species, including loss or change to fishing grounds due to change in fish stocks during operation and/or maintenance. The conclusion in the forementioned chapters is

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				that there could be a potential impact on fish stocks of target finfish and shellfish. Therefore there may be employment impacts on fishers and associated businesses.
Education & Skills The County of Hampshire Labour Market Skills Profile	Education and skills impact	Education, skills and training opportunities that arise as a result of the operation of the proposed Project	Yes	Operation and maintenance activities may generate positive impacts through training, upskilling, and educational opportunities related to site operations and through the supply chain.
Land take Agricultural holdings	Direct land take	Operational activities that require temporary and/or permanent land take	No	Permanent land take requirements of the proposed Project are assessed under construction. No further land take requirements beyond those assessed at construction are anticipated.
Community accessibility and severance	Increase in traffic, changes to access routes including the provision of active travel routes for the operational workforce.	Operational activities resulting in a change in traffic and other routes.	Yes	The proposed Project has potential to result in disruption in access to essential community services. For example, due to increased use of the rail terminal, there may be increased traffic and delays. However, the proposed Project includes an access road to enable traffic generated to directly access the A326.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
				This will remove movements from the local road network that currently occur through Marchwood due to activity at the existing Solent Gateway facilities and could improve connectivity between local areas such as Marchwood and Hythe.
Community Amenity Residential, community and commercial receptors.	Operational activities and structures resulting in traffic, noise, air pollution and visual disruption.	Operational activities and structures	Yes	The proposed Project operations may result in adverse effects on community amenity due to increased noise, lighting, visual and air quality impacts from large buildings, vehicles, operations and storage facilities, such as multistorey car parks and heavy storage areas. The proposed Project will also be in operation 24/7. Conversely, some receptors will experience a reduction in impact due to traffic using the proposed access road to and from the A326 rather than routing through residential areas (notably Marchwood), as currently occurs. The proposed Project will also create a new public country park in the area which will include access from pedestrian and cycle routes between Hythe and Marchwood.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Housing	Impact on housing availability and house prices due to presence of construction workforce.	Increased population in the area due to construction related activities	Yes	Workforce size during operation is currently unknown. This uncertainty introduces the potential for significant housing effects. Given the existing population levels and travel to work distances identified in the area, operational activities could affect housing availability and house prices.

22.7 Mitigation

22.7.1 Mitigation measures should be developed to avoid, reduce, or offset adverse socioeconomic and population effects and enhance potential benefits during both construction and operation phases. These measures may be refined through stakeholder engagement and ongoing assessment. Mitigation measures could include:

- Mitigation of many socioeconomic and population impacts can be accounted for in the design of the proposed Project (e.g. avoiding important community assets and including enhancements).
- Ensuring that local employment benefits (and benefits on local community) are realised by developing a recruitment strategy that identifies relevant skills sets and training needs to encourage local recruitment.
- During construction, good practice measures are likely to include advance notice of works, traffic management plans and temporary diversions for PRoW.
- Ongoing liaison with residents, businesses and community groups could help identify concerns and develop appropriate solutions.

22.8 Approach to Assessment and Data Gathering for ES

22.8.1 A socioeconomic study will be undertaken that will feed into and contribute to the socioeconomics baseline and preliminary assessment in the ES.

22.8.2 Potential effects associated with both the construction and operation of the proposed Project will be considered. The assessment will cover the following aspects:

- Economy.
- Employment.
- Education and Skills.
- Land take.
- Community Amenity.
- Community Accessibility and Severance.
- Housing.

22.8.3 The assessment will be conducted across four different study areas, which have been defined having regard to existing baseline conditions and based on the anticipated scale and type of effects, as set out above. These four study areas are:

- The Scoping Boundary, plus a 500m area surrounding the Scoping Boundary for land take, and community accessibility and severance.
- Hampshire County for economic, employment, and education and skills.
- Southampton Unitary Authority and New Forest District for housing.
- The maximum extent at which two or more disciplines intersect for community amenity[12].

22.8.4 A separate Equalities Impact Assessment (EqIA) will be submitted with the ES and will capture impacts on equality groups[13]. Therefore, this methodology will not cover equality impacts.

Employment

22.8.5 Rather than applying formal sensitivity and magnitude criteria, the assessment will focus on the impact of the proposed Project on the existing levels of employment in the Hampshire area. The assessment will consider the anticipated staffing requirements alongside the proportion of jobs likely to be filled locally.

22.8.6 The number of direct, indirect and induced jobs will be estimated by applying ONS and Government Blue Book industry employment multipliers. The assessment will also consider how well the proposed Project aligns with local employment needs and whether it supports inclusive access to jobs.

22.8.7 The methodology for assessing impacts to employment relating to changes to fish stocks will be a qualitative assessment which will include engagement with local fishers and key fishery stakeholders, as described in Commercial and Recreational Fisheries (**Chapter 9**). The sensitivity and magnitude criteria will draw on the degree of potential displacement, availability of alternative fishing grounds, operational resilience and range of fishing fleets.

Economy

22.8.8 During construction and operation there will likely be direct, indirect and induced economic effects. The assessment will consider potential economic and supply chain effects.

22.8.9 Supply chain effects will be assessed based on the anticipated non-labour construction expenditure. Baseline data will be obtained from both the ONS and UK

[12] Different disciplines, such as Chapter 13 Traffic and Transport, Chapter 14 Noise and Vibration, Chapter 15 Air Quality, and Chapter 16 Landscape, Seascape and Visual Effects, on which the community amenity assessment is based upon, have their own study areas. The community amenity assessment study area is therefore defined by the maximum extent at which two or more disciplines intersect.
[13] An Equality Impact Assessment (EqIA) evaluates how a plan or policy may affect people with protected characteristics, focusing on potential impacts and relationships between groups. It identifies measures to avoid or mitigate negative effects and suggests ways to promote equality and good relations, ensuring compliance with legal equality duties. Protected characteristics include: age, disability, gender reassignment, marriage or civil partnership (in employment only), pregnancy and maternity, race, religion or belief, sex, and sexual orientation

Government Blue Book on industrial multiplier benchmark (ONS, 2024a). These will be used to estimate the additional economic activity generated by the proposed Project's expenditure. Effects will be considered against baseline economic performance in Hampshire as measured by Gross Value Added (GVA) to determine whether or not the effects are significant.

22.8.10 The methodology for assessing economic impacts relating to changes to fish stocks will be a qualitative assessment which will include engagement with local fishers and key fishery stakeholders, as described in Commercial and Recreational Fisheries (**Chapter 9**). The sensitivity and magnitude criteria will draw on the degree of potential displacement, availability of alternative fishing grounds, operational resilience and range of fishing fleets.

Education and Skills

22.8.11 The assessment for education and skills will consider the proposed Project's influence on educational and skills attainment within Hampshire.

22.8.12 Sensitivity will be determined by considering the baseline skills and qualification levels within Hampshire. The magnitude of impact will be assessed based on the extent to which the proposed Project provides workforce-related skills development, apprenticeships and career advice that address existing local skills and education barriers. The overall significance of the effect will be determined by combining sensitivity and magnitude using the matrix approach outlined in Chapter 4 EIA Methodology, and professional judgement.

Community Accessibility and Severance

22.8.13 The methodology for assessing community accessibility and severance for both construction and operation of the proposed Project will follow the sensitivity and magnitude criteria from DMRB LA 112 (Highways England, 2020a). As per this guidance, sensitivity will be defined based on the number of existing assets, the number of alternatives and level and frequency of use. Whilst magnitude will be determined based on the degree of loss or damage to key characteristics, features or elements and the level of severance. Outputs from the Traffic and Transport assessment (**Section 13**) will be considered, such as changes to traffic flows. The overall significance will draw on the EIA methodology outlined in **Section 4**.

Community Amenity

22.8.14 Community amenity is often used to describe the quality or character of an area and the elements that contribute to its overall enjoyment. The assessment will consider whether, and to what extent, the proposed Project may have an impact on community amenity.

22.8.15 The amenity assessment will draw on the outputs of other relevant chapters Traffic and Transport (**Section 13**), Noise and Vibration (**Section 14**), Air Quality (**Section 15**), and Landscape, Seascape and Visual Effects (**Section 16**) to determine whether a combination of reported impacts across these topics could result in an amenity effect for residential, community and/or commercial receptors. The outputs of chapters, such as those listed above, are referred to as aspects in **Table 22.6**

22.8.16 Amenity effects will be assessed for individual receptors by taking the residual effects reported in the relevant aspect sections and determining a 'combined significance' guided by the example matrix in **Table 22.6**.

22.8.17 The matrix can be applied to any combination of four topics and **Table 22.6** shows a simplified significance matrix based on a combination of impacts across four topics. The assessment will follow a more detailed significance matrix which encompasses a comprehensive set of combinations. Professional judgement will also be applied in determining whether the combination of topic effects could result in a significant amenity effect overall for that receptor based on the sensitivity of the receptor.

Table 22.6 Significance matrix for the assessment of community amenity effects (Jacobs, 2025)

Aspect 1	Aspect 2	Aspect 3	Aspect 4	Combined Significance
Major	Moderate	Moderate	Moderate	**Major**
Moderate	Minor	Negligible	Negligible	**Minor**
Minor	Negligible	Negligible	Negligible	**No disturbance effect**
Negligible	Moderate	Moderate	Moderate	**Moderate**

Housing

22.8.18 Due to uncertainty surrounding construction and operation workforce numbers there could be impacts on housing. Rather than applying formal sensitivity and magnitude criteria, the assessment will focus on the impact of the proposed Project on the existing levels of bed stock within New Forest District and Southampton Unitary Authority. The assessment will consider the anticipated staffing requirements alongside current levels of housing availability.

Land Take

22.8.19 The methodology for assessing land take impacts will follow the sensitivity and magnitude criteria from DMRB LA 112 (Highways England, 2020a). Residential, commercial and community receptors will be considered. The overall significance will be derived by drawing on the matrix approach outlined in EIA Methodology (**Section 4**).

23 AGRICULTURE AND SOILS

23.1 Introduction

23.1.1 This section identifies the relevant agriculture and soil receptors that could potentially be impacted by the proposed Project. This includes a summary of baseline data, an evaluation of the potential construction and operation impacts, and outlines the proposed scope of work and assessment methodology to assess the potential impacts on these receptors.

23.2 Relevant Policy, Legislation and Guidance

23.2.1 Consideration of the potential impacts of the proposed Project on agriculture and soils takes into account the following key policy, legislation, and technical guidance.

- NPSfP (Department for Transport, 2012) – Chapters 5.13.8 and 5.13.15.
- NPPF (Ministry of Housing, Communities & Local Government, 2024) – Chapters 187(a) and (b).
- A Green Future: Our 25 Year Plan to Improve the Environment (HM Government, 2018).
- Safeguarding our Soils: A Strategy for England (Defra, 2011a).
- The Natural Choice: Securing the Value of Nature (HM Government, 2011).
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009a).
- IEMA Guide: A New Perspective on Land and Soil in EIA (IEMA, 2022a).

23.3 Study Area

23.3.1 The study areas used to establish baseline conditions and identify potential impacts on Agriculture and Soils differ between construction and operation, as follows:

- Construction – the onshore land temporarily required for the construction of the proposed Project. This will extend to the known land plot limits of each directly affected person with interests in lands.
- Operation – the onshore land permanently required for the operation of the proposed Project (land directly affected and permanently required for operation and maintenance of the proposed Project). This will extend to

the known land plot limits of each directly affected person with interests in lands.

23.4 Description of Existing Environment

Scope

23.4.1 Agriculture and soils receptors are considered for the purposes of this scoping exercise to be:

- land and associated infrastructure used for the purposes of agricultural production, e.g. arable farming and dairy farming; and,
- soils supporting agricultural production, sites of ecological importance and soil carbon.

23.4.2 With regard to agriculture, the assessment will consider land-take and change of use, severance, accessibility and loss of farm infrastructure. It will also consider whether this would affect the viability of the existing land use. Interdependent land use enterprises, such as equestrian units and commercial farm woodland, will be assessed. The economic effects on these land uses (such as acquisition of land compromising the viability of an agricultural holding), as well as effects on other rural enterprises, will be considered in Socioeconomics and Population (**Section 22**).

23.4.3 Agricultural land drainage systems are not considered in this chapter. It has been assumed that any such assets affected would be maintained, tied-in or replaced with systems of equal utility and function where applicable. These would be included as part of the drainage designs for the proposed Project and the Draft Code of Construction Practice (CoCP).

Data Sources

23.4.4 The data sources set out in **Table 23.1** have been used to gather the baseline information on Agriculture Soils and inform the scoping study.

Table 23.1 Key data sources

Title	Date
Dibden Terminal Environmental Statement.	ABP, 2000a
Dibden Terminal Technical Statement. Agriculture Impact Assessment. TS/AG1	ABP, 2000b
Dibden Bay Inquiry – Inspector's Report	The Planning Inspectorate, 2003

Title	Date
Post-1988 Agricultural Land Classification (ALC) data	Multi-Agency Geographic Information for the Countryside (MAGiC) Online Viewer
Provisional ALC data	MAGiC Online Viewer
Soilscapes	LandIS Soilscapes Viewer

23.4.5 Consideration of Agriculture and Land Use was undertaken as part of the EIA of the former Dibden Bay port proposals for the Project area (ABP, 2000a; 2000b). The baseline material contained in that assessment provides the initial basis for this assessment.

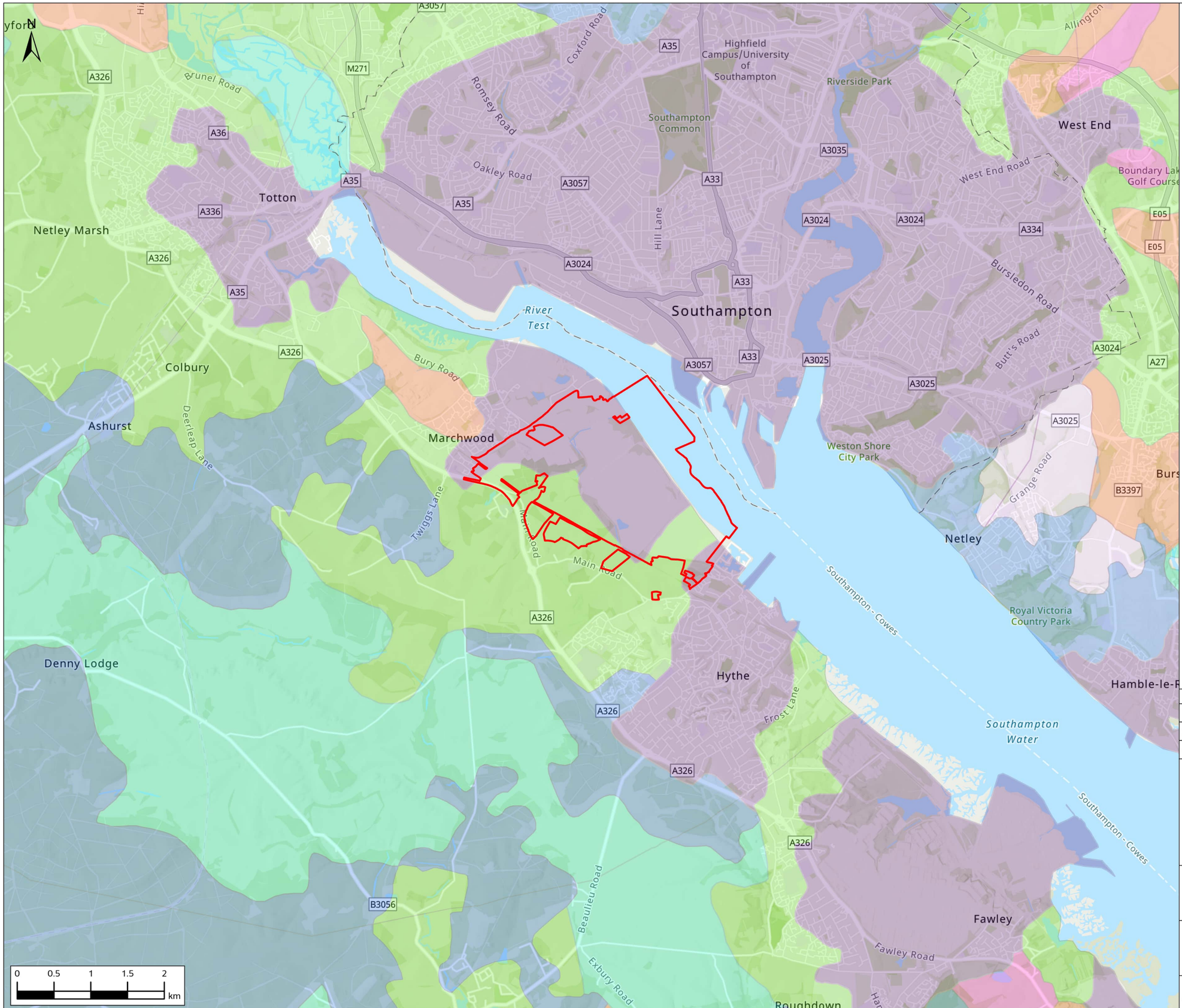
Soils

Soils supporting agriculture

23.4.6 The value of soils for agricultural production is primarily determined by the agricultural land classification (ALC) grade. Best and most versatile (BMV) agricultural land equates to grades 1, 2 and subgrade 3a of the ALC system. Provisional ALC data show the study area as Grade 3, Grade 4 and urban (MAGiC, 2025).

23.4.7 There are no publicly available post-1988 ALC data for the study area (MAGiC, 2025). However, a site-specific ALC survey was undertaken in 2000 as part of the Dibden Bay port proposals in accordance with the established guidelines from the Ministry of Agriculture, Fisheries and Food (MAFF,1988). The majority of the survey area was identified as reclaimed coastal land, which was unlikely to be of BMV quality, and so soil profiles were examined at a density of 1 location per 3 hectares was agreed with MAFF at the time. A zone of slightly undulating, partly wooded and partly pastoral land was identified inland, to the west and south of the previously proposed terminal boundary, where an observation density of one per hectare was applied.

The survey concluded that the land within the study area primarily consists of Grade 5 (very poor quality) agricultural land, which is described as “land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops” (ABP, 2000b). Areas of Subgrade 3b (moderate quality) and Grade 4 (poor quality) were also identified to the west of the reclaimed land. The ALC grades are illustrated on **Figure 23.1**.





Legend

- Scoping Boundary

Agricultural Land Classification (ALC) Grade

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban

Esri, Intermap, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	27/10/2025	Initial Issue	RM	RH	CC	MSS

Scale @ A3 | Scale: 1:50,000 | DO NOT SCALE

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ABP | ASSOCIATED BRITISH PORTS

Project: SOLENT GATEWAY 2

Drawing Title: PROVISIONAL AGRICULTURAL LAND CLASSIFICATION (ALC)

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100048

Drawing Status: FINAL

FIGURE 23.1

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L:

Soils supporting sites of ecological importance

23.4.8 The study area is situated within the Dibden Bay SSSI which is an area formed by the deposition of marine dredgings over coastal habitats. This was subsequently allowed to naturally colonise and supports plants, birds and a nationally important assemblage of invertebrates (see **Section 12**, **Table 12.2**). Soils are considered to be important to the ecological functions of the SSSI.

Soil carbon

23.4.9 The England Peat Map (Natural England, 2025b), which contains modelled peat depth and extent across England, indicates that there is potentially peat in the western section of the study area. However, the modelled extent of peat is limited, and this is corroborated by regional soil mapping (ABP, 2000b) which suggests that soils in the study area are likely to be dominated by mineral/organic-mineral textures with rare peat components locally based on the soil types (Wickam 3 and Wallasea 1 soil associations). In addition, the ALC survey did not identify peat. The soils are, therefore, likely to be mineral/organic-mineral and of low to medium value for soil carbon.

Resilience of soils to structural damage

23.4.10 The resilience of soils to structural damage during handling (i.e. soil stripping, stockpiling and restoration) is important to understanding the potential impacts. The interactions between soil texture, moisture, structure and climate are key to understanding soil resilience, and **Table 23.2** sets out the criteria that will be followed. This follows the approach set out in 'A New Perspective on Land and Soil in Environmental Impact Assessment' (IEMA, 2022a).

Table 23.2 Resilience of soil receptors

Resilience	Description
Low	Soils with high clay and silt fractions (clays, silty clays, sandy clays, heavy silty clay loams and heavy clay loams) and organic mineral and peaty soils where the field capacity days (FCD) are 150 or greater.
Medium	Clays, silty clays, sandy clays, heavy silty clay loams, heavy clay loams, silty loams and organic mineral and peaty soils where FCD are fewer than 150.
High	Soils with a high sand fraction (sands, loamy sands, sandy loams and sandy silt loams) where FCD are fewer than 225 and are in WCI (rarely wet) or WCII (seldom wet).

23.4.11 The soil profiles within the study area are dominated by clay and silt fractions and are primarily of wetness class IV, while the number of field capacity days has been calculated as 175 (ABP, 2000b). Therefore, the resilience of the soils within the study area is likely to be low.

Agricultural Holdings

23.4.12 The study area includes agricultural holdings used for short-term, likely opportunistic seasonal grazing and some woodland. Based on aerial imagery, there appear to be no farm buildings within the study area. Potential infrastructure that could be affected by the proposed Project are the roads/tracks that are present across the centre and northeastern edge of the study area, which are likely used to gain access for agricultural management purposes.

23.5 Future Baseline

23.5.1 The future baseline revolves around the potential for climate change to impact soils. Climate change could impact some of the parameters used to determine the agricultural land classification of the land, but the changes are likely to be variable in both directions such that there is no predictable overall impact. Therefore, it is unlikely to have a material impact to baseline conditions or magnitudes of impact for soil receptors.

23.6 Potential Impacts

Potential Impacts During Construction

23.6.1 **Table 23.3** identifies the potential impacts on Agriculture and Soils related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 23.3 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project Activity	Scoped into EIA	Justification
Agricultural land	Loss of agricultural land / soil sealing	Temporary and/or permanent land take.	Yes	Construction of the proposed Project will cause the loss of agricultural land due to permanent development over agricultural land and loss of paddock areas for the establishment of the country park.
	Land use change	Temporary and/or permanent land take.	Yes	Construction works could cause permanent/temporary change of land use resulting in the loss of agricultural land.
	Loss of grazing land	Temporary and/or permanent land take.	Yes	Construction of the proposed Project will result in the loss of grazing land.
Farm holdings	Severance/fragmentation of farm holdings and loss/change in access	Temporary and/or permanent land take.	Yes	Construction of the proposed Project will cause temporary and/or permanent severance/fragmentation of land and/or disruption to the means of access to land
Soil	Degradation of soil	Soil handling during the construction of the proposed Project.	Yes	The proposed Project could cause the loss of, or improvements to, soil functions due to degradation during soil handling or land use change. This would impact soils supporting agriculture and ecological sites of importance, and soil carbon.

Potential Impacts During Operation

23.6.2 **Table 23.4** identifies the potential impacts on Agriculture and Soils related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 23.4 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Agricultural land	Loss of agricultural land / soil sealing	Temporary and/or permanent land take.	No	During the operation phase of the proposed Project, further loss of agricultural land is not likely to occur.
	Land use change	Temporary and/or permanent land take.	Yes	Post construction, there is the potential that some of the loss of land could be reversed where temporary structures are removed and land returned to prior use as agricultural land.
	Loss of grazing land	Temporary and/or permanent land take.	Yes	Post construction, there is the potential that some of the loss of land could be reversed where temporary structures are removed and land returned to prior use for grazing.
Farm holdings	Severance/fragmentation of farm holdings and loss/change in access	Temporary and/or permanent land take.	Yes	Post construction, there is the potential that some of the loss of land could be reversed where temporary structures are removed, reversing some of the severance/fragmentation of farm holdings and loss/change in access.
Soil	Degradation of soil	Soil handling during the construction of the proposed Project.	Yes	During the operation phase of the proposed Project, further soil degradation is not likely to occur.

23.7 Mitigation

23.7.1 The utilisation of standard mitigation measures during the design and construction phases of the proposed Project would ensure potential impacts on agricultural and woodland resources and interests could be avoided or reduced. At present, it is not possible to identify what and how mitigation measures would be specifically applied. However, it is anticipated that these would include:

- A design approach which minimises the area of permanent and temporary uses of land as far as practicable.
- A managed termination of occupancy of agricultural land required for construction purposes to enable farming interests to adapt practically to the changed circumstances.
- The adoption of industry good practice in the conservation, handling and re-use of soil resources.
- The adoption of a Project Code of Construction Practice which includes measures for the avoidance of unnecessary disruption to ongoing agricultural (and forestry) operations.

23.8 Approach to Assessment and Data Gathering for ES

Assessment Methodology

23.8.1 The assessment methodology has been developed using IEMA guidance (IEMA, 2022a), HS2's London-West Midlands Environmental Statement Technical Appendices (HS2, 2013) and the A30 Chiverton to Carland Cross Environmental Statement's Agricultural impact assessment (Highways England, 2018).

Value of Receptors

23.8.2 The value/sensitivity of agriculture and soils receptors for the assessment will be determined by the criteria set out in **Table 23.5**.

Table 23.5 Sensitivity criteria for agriculture and soils assessment

Value/sensitivity	Aspect	Description
Very high	Soils supporting agricultural production	BMV soils/land (ALC Grades 1 and 2)
	Soils supporting ecological habitats	Soils supporting protected features in European sites (e.g., SAC, SPA, Ramsar), National Parks, Ancient Woodland

Value/sensitivity	Aspect	Description
	Soil carbon	Peat soils.
	Agriculture environmental standards	Land managed organically.
	Agricultural land use	Areas of land in which the enterprise is wholly reliant/fully dependent on the spatial relationship of land to key agricultural infrastructure (e.g. intensive livestock production such as dairy cattle or irrigated cropping and field-scale horticulture); and
High	Soils supporting agricultural production.	BMV soils/land (ALC Subgrade 3a).
	Soils supporting ecological habitats.	Soils in UK designated sites (e.g., UNESCO Geoparks, SSSI, AONB), native forests, semi-natural vegetation
	Soil carbon	Peaty soils.
	Agriculture environmental standards.	Land managed in accordance with higher-level stewardship scheme or higher-tier countryside stewardship scheme land management agreements.
	Agricultural land use.	Areas of land in which the enterprise is dependent on the spatial relationship of land to key agricultural infrastructure (e.g. intensive livestock production such as dairy cattle or field-scale horticulture); and
Medium	Soils supporting agricultural production.	ALC Subgrade 3b soils/land.
	Soils supporting ecological habitats.	Soils in non-statutory designated sites (e.g., LNR, LGS, SNCI), non-native forests.
	Soil carbon	Organic mineral soils.
	Agriculture environmental standards.	Land managed in accordance with entry-level stewardship or mid-tier countryside stewardship scheme land management agreements.

Value/sensitivity	Aspect	Description
	Agricultural land use.	Areas of land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure (e.g. combinable cropping and grazing livestock, other than dairying); and Access between land and key agricultural infrastructure is required on a reasonably frequent basis (e.g. weekly).
Low	Soils supporting agricultural production.	ALC Grades 4 and 5 soils/land.
	Soils supporting ecological habitats.	Soils in non-designated notable habitats, agricultural soils.
	Soil carbon	Mineral soils.
	Agriculture environmental standards.	Land maintained in accordance with cross compliance standards.
	Agricultural land use.	Areas of land in which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure; and
Negligible	Soils for biomass production.	Soils outside agricultural land (non-agricultural or urban).
	Soils for ecological habitats.	Soils outside any of the habitats identified above.
	Soil carbon	n/a
	Agriculture environmental standards.	n/a
	Agricultural land use.	Areas of land which are infrequently used on a non-commercial basis.

Magnitude of Change

23.8.3 The magnitude of an impact for the agriculture and soils assessment will be determined by the criteria set out in **Table 23.6**.

23.8.4 Agricultural land-take is considered both at a regional level and on a holding-specific basis.

23.8.5 Professional judgement may be used in certain cases to modify the magnitude of change. This would take into account the spatial and temporal extent of effect, e.g. where only limited volumes of soils are affected, a magnitude of change may be reduced. For soil receptors, the resilience of the soils to structural damage during handling (as explained in **Section 23.1**) will also be considered. Any such modifications will be explained and justified within the assessment of effects.

Table 23.6 Magnitude criteria for the agriculture and soils assessment

Magnitude of change	Aspect	Description
Major	Soils	Permanent, irreversible sealing or loss of one or more soil functions (including downgrading of ALC) over an area of more than 20ha
	Land-take (regional)	Permanent loss of >20 ha of agricultural land through sealing or direct acquisition.
	Land-take (holding)	Permanent land-take of >15 % or temporary land-take of >25 % of the holding.
	Severance	No access available to severed land.
	Infrastructure	Permanent loss of building or other key agricultural infrastructure.
	Land management standards	Permanent impact on land management standards or agreements which compromises environmental objectives.
	Agricultural land use	High degree of disruption to cultivation patterns, high risk of change in land use.
Moderate	Soils	Permanent, irreversible sealing or loss of one or more soils functions (including downgrading of ALC) over an area between 5ha and 20ha
	Land-take (regional)	Permanent loss of 5–20 ha of agricultural land through sealing or direct acquisition.
	Land-take (holding)	Permanent land-take of 5–15 % or temporary land-take of 15–25 % of the holding.
	Severance	Access available to severed land via public highway.
	Infrastructure	Temporary loss or disruption to use of key agricultural infrastructure that is integral to land use.

Magnitude of change	Aspect	Description
	Land management standards	Temporary impact on land management standards or agreements which compromises environmental objectives.
	Agricultural land use	Moderate degree of disruption to cultivation patterns, moderate risk of change in land use, small changes to the woodland over a wide area or a noticeable change over a limited area.
Minor	Soils	Permanent, irreversible sealing or loss of one or more soil functions (including downgrading of ALC) over an area of less than 5ha, or a temporary, reversible loss of one or more soil functions
	Land-take (holding)	Permanent land-take of <5 % or temporary land-take of 5–15 % of the holding.
	Severance	Access available to severed land via private way.
	Infrastructure	Loss or disruption to use of agricultural infrastructure that is not material to land use.
	Land management standards	Temporary impact on land management standards or agreements that do not compromise environmental objectives.
	Agricultural land use	Minimal degree of disruption to cultivation patterns, minimal risk of change in land use, very minor changes to the woodland over a wide area or minor changes over a limited area.
Negligible	Soils	No discernible loss, reduction or improvement of soil functions that restrict or decrease restrictions to current or proposed land use
	Land-take (holding)	Temporary land-take of <5 % of the holding.
	Agricultural land use	No discernible disruption to cultivation patterns or risk of change in land use, very minor changes to the woodland over a wide area or minor changes over a limited area.

Data Gathering

23.8.6 The following data will be gathered to further refine the baseline information for the project:

- Forestry and woodland scheme data (Forestry Commission).
- Agri-environment scheme data (Natural England).
- Other land-based scheme data (Natural England).
- Agricultural Statistical Data (Defra).

23.8.7 In addition to the sources of information set out in the 'Baseline data' section of this chapter it is proposed to collect the following additional data which will be used to inform the baseline for the purpose of the assessment:

- Farm business interviews to understand baseline agricultural land use and management for each potentially affected holding.
- Site-specific ALC survey in accordance with MAFF (1988) ALC classification guidelines.

24 MAJOR ACCIDENTS AND DISASTERS

24.1 Introduction

24.1.1 The topic of Major Accidents and Disasters (MA&Ds) was introduced into EIA as a result of EU Directive 2014/52/EU to assess potentially significant adverse effects of a development on the environment deriving from its vulnerability to risks of relevant major accidents and/or disasters.

24.1.2 In the context of EIA, MA&Ds are defined (IEMA, 2020a) as:

- **Major Accident**: an event (such as a major road traffic accident or train derailment) that threatens immediate or delayed serious environmental effects to human health, welfare and/or the environment and requires the use of resources beyond those of the applicant or its appointed representatives to manage.
- **Disaster**: may be a natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident.

24.1.3 This section considers the vulnerability of the proposed Project to risks with respect to MA&Ds and considers the existing measures in place to minimise those risks and proposes to scope this topic out of the EIA.

24.2 Relevant Policy, Legislation and Guidance

24.2.1 In addition to the policy and legislation presented in **Section 3**, the following policy and legislation is relevant to this topic:

- The Control of Major Accident Hazards (COMAH) Regulations 2015 (as amended).
- The Planning (Hazardous Substances) Regulations 2015.
- Health and Safety at Work etc Act 1974 (HSWA) and regulations made thereunder.
- The Construction (Design and Management) (CDM) 2015 Regulations.

24.2.2 Guidance and information relevant to the assessment of MA&D is provided in *Major Accidents and Disasters in EIA: A Primer* (IEMA, 2020a). This document contains definitions of key terms and provides guidance on an assessment methodology to EIA practitioners, through screening, scoping and assessment stages.

24.2.3 The assessment considers a list of accidents and disasters compiled from the National Risk Register (HM Government, 2025) as well as those sources listed in **Table 24.1**.

Table 24.1 Summary of the main elements of the proposed Project

Title	Date
Cabinet Office (2013). Emergency response and recovery. [online] GOV.UK.	2013
Cabinet Office (2025). The Amber Book: Managing Crisis in Central Government. [online]	2025
IFRC (2021). Disaster Risk Management Policy From Prevention To Response And Recovery. [online]	2021

24.2.4 The Health and Safety Executive (HSE) is the statutory consultee responsible for advising whether these risks are at an acceptable level. The two main considerations for HSE are:

- Does the proposed Project have the potential to cause a major accident (e.g. does the development require a hazardous substances consent (HSC) and, in this context, will it be within the scope of the COMAH Regulations (http://www.hse.gov.uk/comah/) and, if not, could the development impact on a COMAH site).
- Whether the proposed Project is vulnerable to potential major accidents (e.g. is it within a consultation zone around a major hazard site or pipeline).

24.3 Study Area

24.3.1 The study area for MA&D includes consideration of risks within the proposed Project itself and how the proposed Project may affect MA&D risks at neighbouring sites.

24.4 Description of Existing Environment

The proposed Project

24.4.1 Due to the nature and location of the proposed Project it may introduce risks associated transport (road, rail and sea), the storage of materials and sea level rise/flooding. However, the proposed Project will not handle significant quantities of hazardous substances and so will not have the potential to cause a major accident or disaster through the presence or handling of hazardous materials. These risks are considered in **Table 24.2** and **Table 24.3**.

Neighbouring Sites

24.4.2 The proposed Project is located adjacent to Marchwood Military Port (operating as SGL) which is listed on the COMAH website as being subject to the COMAH Regulations as a Lower Tier establishment. SGL holds quantities of hazardous substances that could cause a fire/explosion over the threshold which fall into Category O1 - O3 in Schedule 1 Part 1 of the COMAH Regulations and, therefore, has the required measures in place to prevent or react to a major accident.

24.4.3 A Lower Tier establishment is required to have a Major Accident Prevention Policy that outlines the approach to controlling risks, an internal emergency plan and a Safety Management System. Unlike Upper Tier sites they are not required to produce a full Safety Report or have an external emergency plan. Operators must take all measures necessary to prevent major accidents and to limit their consequences for people and the environment. This is achieved through appropriate plant design, process control, mitigation measures and emergency procedures.

24.4.4 In the case of SGL, there are existing safeguarding zones set within the Explosives Working Procedures document, which accompanies the Explosives Licence. The safeguarding zones move slightly depending on the location of the International Maritime Organisation (IMO)/International Maritime Dangerous Goods (IMDG) Class 1-9 (explosives) as they are transported around the site. The safeguarding zones are classified by the different activities or buildings that maybe undertaken or provided in each zone. For example, the safeguard zones within the site place limits on the form and construction of buildings. The Explosives Licence does not allow the manufacture or storage of explosives on the site.

24.4.5 The import and export of these explosives, by land or sea, is regulated through The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009, for which the HSE is the competent authority, and the IMDG Code.

24.4.6 In line with the Government's aim of fully utilising Marchwood's Port's facilities, SGL has stored commercial cargo since 2016 which has involved receipt, storage, loading and unloading of commercial cargo including automotive, project cargo, break bulk and containers. The management and handling of explosives in proximity to regular cargo handling, as well as significant commercial and recreational activities in Southampton Water, is not therefore a new practice at SGL, and the measures enforced ensure the chance of any accident is ALARP.

24.5 Future Baseline

24.5.1 The future baseline environment, in the absence of the proposed Project, with respect to MA&Ds, the land within ABP's ownership would continue to be held on a short-term tenancy basis for agricultural use. Existing facilities and operations in this area, and the associated risks outlined above would remain unchanged and therefore it is unlikely the risk posed by each type of accident or disaster, and whether this accident or disaster type is likely, would change.

24.6 Potential Impacts

Potential Impacts During Operation

24.6.1 **Table 24.2** identifies the potential impacts of MA&Ds related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 24.2 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Location risk	Project activity	Scoped into EIA	Justification
Biological hazards: epidemics	Potential transmission risk to workforce or public	x	x	No	No elevated epidemiological exposure; no high-risk activity or setting.
Biological hazards: animal/insect infestation	Operational disturbance or health nuisance from pests	x	x	No	Low baseline risk; no ecological support for infestation.
Animal plagues and pests (INNS)	Spread via ballast water, hull fouling, or contaminated equipment	x	✓	No	The risk will be assessed in detail in Marine Ecology (**Section 7**), Terrestrial Ecology (**Section 12**) and in the WFD compliance assessment. Consequently, an assessment of this risk within an MA&D chapter would simply duplicate those assessments and is therefore not considered to be required.
Earthquakes	Structural damage, operation interruption	x	x	No	The proposed Project is not located in a seismically active region.
Mass movements	Ground instability affecting facility layout	x	x	No	The proposed Project is not located in a seismically active region. Ground improvement works with suitable fill will be undertaken over which the proposed Project will be built.

Receptor	Impact Pathways	Location risk	Project activity	Scoped into EIA	Justification
Volcanic eruptions	Ash fall or vibration disruption	x	x	No	There are no nearby volcanic hazard zones
Severe Weather: Storms & Tidal Surges	Flooding risk; disruption of infrastructure and port activity	✓	✓	No	The estuarine location increases vulnerability to flooding and extreme weather events. Design levels of the proposed Project will be established using the most recent data on sea level rise and in consultation with the Environment Agency. Flood risk to be assessed in Water Resources and Flood Risk (**Section 18**). Resilience to climate change to be assessed in Climate Change (**Section 25**). An assessment of this risk within an MA&D chapter would simply duplicate these proposed assessments and is therefore not considered to be required.
Severe weather: drought	Water supply limitation	x	x	No	No significant water use; low exposure
Severe weather: extreme temperatures	Safety hazard for workers; equipment performance	x	x	No	Temperatures expected to remain within tolerable ranges; standard controls apply

Receptor	Impact Pathways	Location risk	Project activity	Scoped into EIA	Justification
Floods	Groundwater and surface water flooding	✓	✓	No	As above, design will allow for sea level rise and will take into account the existing watercourses to ensure these watercourses continue to function naturally. The assessment of this risk will be undertaken in **Section 18** and **Section 25** and an assessment of this risk within an MA&D chapter would simply duplicate these proposed assessments and is not therefore considered necessary.
Wildfires	Risk to personnel, property and air quality	x	x	No	Lack of combustible vegetation and context limit exposure.
Poor air quality events	Health impacts, visibility issues	x	x	No	The proposed Project presents a low risk for air quality events. Any required mitigation required will be established in the assessment on Air Quality (**Section 15**) and could include emission controls. Regional air quality is not at significant risk.
Transport accidents	Collisions, navigational risks, logistical delays	x	✓	No	A comprehensive Traffic Assessment and Navigational Risk Assessment will be carried out to inform the ES and will consider effects on transport and risks of collision as a result of the presence of the proposed Project.

Receptor	Impact Pathways	Location risk	Project activity	Scoped into EIA	Justification
					Adherence of the proposed Project and other operators to the Marine Safety Code and other procedures, such as the Maritime Coastguard Agency's Marine Guidance Notes and the IMDG Code ensures the risk remains low. An assessment of this risk within an MA&D chapter would simply duplicate the other proposed assessments and is not therefore considered to be required.
Industrial accidents	Spills, fires, chemical releases affecting health, environment or operations	✓	✓	No	Continued adherence at SGL to COMAH Regulations will require the operator of SGL to share information with the proposed Project to ensure a 'domino effect' would not take place with operations at the proposed Project. The risk of the proposed Project causing an industrial accident within SGL is considered to be low given the existing emergency plans and measures in place at SGL which are reviewed and updated on a yearly basis. The proposed Project will be required to adhere to standards and guidance related to the storage of Electric Vehicles, and the implementation of wider Environmental Management Systems, and

Receptor	Impact Pathways	Location risk	Project activity	Scoped into EIA	Justification
					emergency protocols to manage the risk. An assessment of this risk within an MA&D chapter is not considered to be required.
Electricity / gas / water / sewerage failures	Utility disruption affecting port operations	x	✓	No	Infrastructure upgrades and contingency plans mitigate failure risk.
Urban fires	Asset damage, health risks	x	✓	No	Fire prevention and suppression systems will be embedded in operational design.
Famine/food security	Supply chain disruption	x	x	No	No involvement in food production or critical food systems
Displaced populations	Social impacts or pressure on facilities	x	x	No	No residential displacement or migration effects
Complex emergencies	Multi-dimensional crises impacting safety and logistics	x	x	No	Operational scope does not intersect with humanitarian response risk
Terrorist incidents	Security threats, infrastructure sabotage	x	x	No	Standard security measures and national protocols mitigate risk
Cyber attacks	Interruption of IT systems, navigation, and safety	x	x	No	National frameworks and port cybersecurity protocols offer sufficient control

Receptor	Impact Pathways	Location risk	Project activity	Scoped into EIA	Justification
Disruptive industrial action	Workforce availability and safety concerns	x	x	No	Labour arrangements and contingency planning reduce likelihood and impacts
Public disorder	Safety, access limitations	x	x	No	Controlled access and land use make public disorder unlikely
Severe space weather	Disruption to satellite navigation or communications	x	x	No	Operational systems are not heavily dependent on vulnerable technologies

24.7 Assessment Approach

24.7.1 The initial risk assessment undertaken in **Table 24.2** indicates some risks have the potential to occur, either due to the location of the proposed Project or its proposed use. The risks to the proposed Project, or that may occur as a result of the proposed Project, are summarised in **Table 24.3** along with the assessments that will be undertaken to determine the severity of these risks and, where necessary, propose mitigation measures. It is considered the existing controls and proposed assessments set out below will adequately assess the risks such that an additional assessment in an MA&D chapter is not necessary and it is proposed that this topic is scoped out of the ES.

Table 24.3 Summary of MA&D scoping

Risk	Assessment
Spread of invasive, non-native species	Risk to be assessed in the Marine Ecology and Terrestrial Ecology ES chapters.
Storms and tidal surges	Risk will be assessed in the Flood Risk Assessment, Water Resources and Flood Risk and Climate Change ES chapters
Floods	
Poor air quality events	Risks to air quality during the construction and operation of the proposed Project will be assessed in the Air Quality ES chapter.
Transport accidents (road, rail and vessel)	Risks associated with transport will be assessed in the Transport Assessment and Navigation Risk Assessment, which will be reported in the Traffic and Transport and Commercial and Recreational Navigation ES chapters.
Industrial accidents	The risk of an event associated with industrial and urban accidents during construction is minimised as far as possible by the adherence of SGL to existing emergency plans required by COMAH which demonstrate internal and external risks are ALARP. The proposed Project will be required to adhere to standards and guidance related to the storage of Electric Vehicles, and the implementation of wider Environmental Management Systems, and emergency protocols to manage the risk.

25 CLIMATE CHANGE

25.1 Introduction

25.1.1 This section considers the scope of potential impacts of the construction and operation phases of the proposed Project on climate change. It provides an overview of the existing environment and presents the proposed methodology and approach to assessing effects related to climate change in the ES.

25.1.2 The climate change aspects considered within this section comprise two assessments:

- A GHG emissions assessment, to determine the effects of the proposed Project on atmospheric emissions and their contribution to climate change.
- A CCR assessment, to determine the potential effects of climate change on the proposed Project.

25.2 Relevant Policy, Legislation and Guidance

25.2.1 The climate change chapter of the ES will be prepared with reference to the requirements set out in paragraph 3.3.3 of the NPSfP, which highlights that new port infrastructure should minimise emissions of GHGs, and be adapted to the potential impacts of climate change. This is discussed in the following sections of the NPSfP:

- Section 4.12, which considers the effect port developments may have on GHGs. It emphasises the impact may be beneficial to net emissions (paragraph 4.12.1) and the importance of good design in mitigating emissions (paragraph 4.12.7). It also highlights some of the aspects that should be covered in the ES (paragraphs 4.12.4 and 4.12.5).
- Section 4.13, which considers climate change adaptation and stipulates that the impacts of climate change and adaptation measures are considered in an ES.

25.2.2 Where relevant, Chapter 14 of the NPPF will also be considered, which highlights that the planning system should support the transition to net zero and account for climate change impacts to new developments.

25.2.3 The New Forest District Council Local Plan 2016-2036 Part 1: Planning Strategy includes policies relating to the climate change, which will be considered in the assessment. In particular, the New Forest District Planning for Climate Change Supplementary Planning Document (2024c) identifies the following two key policies from the Local Plan that developers should address in planning applications:

- Policy STR1: Achieving sustainable development, which highlights new developments should minimise risks to climate change effects, and future proof for climate change.
- Policy ENV3: Design quality and local distinctiveness, which discusses measures to improve resource efficiency and climate change resilience.

25.2.4 In addition, the following relevant policy and legislation will be considered in the assessment:

- The Climate Change Act 2008 and the Climate Change Act 2008 (2050 Target Amendment Order 2019).
- The Department for Transport's Maritime Decarbonisation Strategy (2025a).

25.2.5 The GHG assessment will be undertaken having regard to the following guidance documents:

- Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA, 2022b).
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (World Resources Institute and World Business Council for Sustainable Development, 2015).
- PAS 2080: Carbon Management in Buildings and Infrastructure (British Standards Institution, 2023).
- Port Emissions Toolkit (GloMEEP, 2018).

25.2.6 The CCR assessment will be undertaken having regard to the following guidance documents:

- IEMA's 'Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation' (2020).
- European Commission's 'Technical Guidance on the Climate Proofing of Infrastructure in the Period 2021-2027' (2021).
- C40 Cities: Climate Change Risk Assessment Guidance (2018).

25.3 Study Area

GHG Assessment

25.3.1 All GHG emissions will affect the same receptor, the global atmosphere, as opposed to directly affecting any specific local receptor. Emissions which are released due to activities related to the proposed Project will have the same effect on the concentration of GHGs in the atmosphere, regardless of where they occur, therefore

the study area of the GHG assessment is not geographically defined. This is in line with the approach outlined in IEMA's guidance (IEMA, 2022b).

25.3.2 The scope of the GHG assessment will include quantifying direct and indirect GHG emissions from a defined boundary arising from the proposed Project over its construction and operation phases. The boundary for the assessment will be defined at PEIR, with reference to the PAS 2080:2023 framework (British Standards Institution, 2023) and IEMA guidance (IEMA, 2022b). The boundary of the GHG assessment will include emission sources that take place within the Scoping Boundary, as well as defined upstream and downstream activities, such as embodied carbon from materials used to build the proposed Project, and waste disposal. In addition, the requirements of the NPSfP, particularly when quantifying emissions from ships whilst in the port and in transit, and inland transport will be accounted for when defining the study area.

CCR Assessment

25.3.3 The scope of the CCR assessment will include evaluating the vulnerability and resilience of the proposed Project and its receptors to the effects of climate change. Therefore, the study area for the CCR assessment is geographically bound and defined by the Scoping Boundary.

25.3.4 The temporal boundary of the CCR assessment will be defined by the construction phase and design life of the proposed Project. As described in **Section 1.3**, the physical assets of port infrastructure will have an initial design life ranging from 50 to 100 years, following which they will be maintained as appropriate, therefore the assessment of impacts on the port infrastructure receptors will encompass a temporal boundary to the maximum extent of this range, given this will be when the greatest potential effects of climate change are likely to occur.

25.4 Description of Existing Environment

Data Sources

25.4.1 The key data sources set out in **Table 25.1** have been used to gather the baseline information on climate change and inform the scoping study for the GHG and CCR assessment.

Table 25.1 Key data sources

Title	Date
ABP Annual Report and Financial Statements for the Year Ended 31 December 2024	2025g
Ready for Tomorrow ABP Sustainability Strategy, Associated British Ports	2023
Provisional UK greenhouse gas emissions statistics 2024, Department for Energy Security and Net Zero (DESNZ)	2025a
UK local authority and regional greenhouse gas emissions statistics, 2005 to 2023, DESNZ	2025b
UK Climate Change Risk Assessment 2022, Department for Environment, Food & Rural Affairs	2022

GHG Baseline

25.4.2 The GHG baseline can be formed on a geographical basis (i.e. activities within the Scoping Boundary) or on an activity basis (i.e. emissions from current activities in the absence of the proposed Project).

25.4.3 The proposed Project would be situated predominantly on greenfield and reclaimed coastal land, where current emission activities are associated with agricultural (grazing) use on a short-term tenancy basis. A detailed inventory of current activities within the area of the proposed Project will not be possible, therefore an accurate quantification of baseline GHG emissions on a geographical basis will not be undertaken. The GHG emissions baseline can therefore be contextualised on an activity basis, using GHG emissions data from ABP as well as sectoral and national GHG emissions, which will be used to define the current baseline in the PEIR.

25.4.4 ABP reports its Scope 1 and 2 emissions associated with its annual operations across the UK. Emissions in 2024 were 37,008 tonnes of carbon dioxide equivalent (CO_2e), of which 72% were direct emissions from its UK sites and assets (Scope 1), and the remaining 28% were emissions from purchased electricity from the grid (Scope 2). This is a reduction of 6% compared to its 2023 emissions of 39,492 tonnes of CO_2e.

25.4.5 The UK's 2023 annual net territorial GHG emission figure is estimated to be 385 million tonnes of CO_2e (DESNZ, 2025a), of which shipping accounts for 11.2 million tonnes of CO_2e, or 3% of UK emissions (CCC, 2025). The UK's Sixth Carbon Budget was the first to include international shipping emissions, reflecting the share of emissions from shipping, and the need to decarbonise the sector.

CCR Baseline

25.4.6 Climate change is expected to affect various environmental parameters, including seasonal temperatures, precipitation and sea level. The Government produced its latest UK Climate Change Risk Assessment in 2022 (Defra, 2022b), the third assessment to be produced for the UK following the first release in 2012 and second in 2017. The report concluded that among the most urgent risks for the UK resulting from these changes are flooding and coastal change risks to communities, businesses and infrastructure.

25.4.7 Existing climate data for the period 1991 to 2020 were obtained from the Southampton, Mayflower Park station, which is considered to have representative weather conditions for the proposed Project. Climate data for Southampton, Mayflower Park station, which is representative of the study area, are provided in **Table 25.2**.

Table 25.2 Existing climate at the Southampton, Mayflower Park station for the period 1991-2020 (Met Office, 2025)

Climate Variable	Units	Southampton, Mayflower Park	UK average
Maximum temperature (average over 12 months)	°C	15.5	12.8
Minimum temperature (average over 12 months)	°C	8.0	5.5
Days of air frost	days	26.1	53.4
Rainfall	mm	818.6	1162.7
Days of rainfall ≥ 1 mm	days	119.6	159.1

25.5 Future Baseline

GHG Assessment

25.5.1 The GHG assessment will require the establishment of a ‘do-nothing’ scenario, which will be aligned with a future baseline, and will be used to contextualise the outcomes of the assessment. The ‘do-nothing’ scenario will be developed in line with the principles of the IEMA guidance (IEMA, 2022b), and will be established using the same approach to determine the current baseline (i.e. on an activity basis, rather than geographical, as discussed in paragraph 25.4.3).

25.5.2 The future baseline, or ‘do-nothing’ scenario will be established on the basis that the Port of Southampton would continue its operations assuming that the proposed

Project is not constructed. As the need for the proposed Project is in relation to the requirement to address an increase in future demand, wider context on a sectoral and national basis will be considered in order to form a reasonable 'do-nothing' scenario. This may include alternative options to address the increase in future demand, and future GHG projections for the maritime sector in the UK.

CCR Assessment

25.5.3 Future climate projection data within the UK are available through the UKCP18 database. The data contains summary statistics of future changes over land for all countries, administrative regions and river basin regions in the UK for climate periods between 2020 – 2029. Data are available at the 5th, 10th, 50th, 90th and 95th percentiles, for low (RCP2.6), medium (RCP4.5 and RCP6.0) and high emissions (RCP8.5) scenarios.

25.5.4 Projected climate change data for the main climate parameters were obtained from the UKCP18 database (Met Office, 2022) and displayed in **Table 25.3**. The data are for the South East England River basin, for the 50th percentile model output results for RCP6.0, a medium emissions scenario, relative to a baseline of 1981-2000. This data, available until 2099, shows the likely changes to the climate parameters during the initial 50 - 100 year design life of the proposed Project.

Table 25.3 Climate change projection data

Change in climate parameter	2020-2039	2030-2049	2040-2059	2050-2069	2060-2079	2070-2089	2080-2099
Mean annual temperature (°C)	0.8	1	1.3	1.6	2	2.5	3
Mean winter temperature (°C)	0.7	0.9	1.1	1.4	1.6	2	2.4
Mean summer temperature (°C)	1.1	1.3	1.7	2.1	2.6	3.4	4.2
Mean winter precipitation (%)	8	10	10	9	14	19	20
Mean summer precipitation (%)	-6	-9	-13	-14	-18	-25	-33

25.5.5 The data in **Table 25.3** show that the mean annual temperature could increase, with a more pronounced seasonal rainfall pattern, with more rainfall in the winter and less in the summer. The climate data suggests that future conditions are anticipated to be warmer, with drier summers and wetter winters.

25.6 Potential Impacts

Potential Impacts During Construction

GHG Assessment

25.6.1 The assessment will quantify GHG emissions sources arising from the proposed Project, based on the PAS 2080 lifecycle modules for 'pre-construction' and 'construction' activities. PAS 2080 lifecycle modules define the stages used to account for carbon emissions across the whole life of a built asset, from early concept through to end-of-life, enabling consistent and comprehensive measurement of carbon impacts.

25.6.2 Emission sources that are likely to occur during construction of the proposed Project include embodied carbon in materials arising from the supply and manufacture of materials, emissions from transport and construction activities such as from marine vessels, road vehicles and on-site use of plant and equipment requiring fuel and electricity. Loss of sequestered carbon and blue carbon resulting from construction activities have also been considered at this stage.

25.6.3 **Table 25.4** identifies the potential impacts on GHG emissions related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

CCR Assessment

25.6.4 **Table 25.4** also identifies the potential impacts to CCR related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 25.4 Potential impacts during construction and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Global atmosphere	GHG emissions	Preliminary studies, design and engineering	No	Emissions from design and engineering activities are not likely to be significant. It is anticipated that most works will be office-based.
		Supply and manufacture of materials	Yes	Embodied carbon in materials are emissions arising from the raw material extraction, processing and manufacturing of materials used for the proposed Project. These are likely to be a large contributor to construction phase emissions.
		Transport to and from the construction site	Yes	Emissions resulting from fuel consumption from the movement of materials, equipment and personnel to and from the proposed Project construction site will be included in the assessment.
		Construction activities	Yes	Emissions resulting from fuel and electricity consumption by onshore plant and equipment, and marine vessels and dredgers during construction activities will be included in the assessment.
	Loss of sequestered carbon	Construction	Yes	There will be direct loss of habitat due to activities within the footprint of the proposed Project, which could result in loss of sequestered carbon. These potential effects have been scoped in.
	Loss of blue carbon (a term used to define	Construction	Yes	Intertidal and subtidal habitat disturbance or loss due to activities within the proposed Project's

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
	carbon captured by marine and coastal ecosystems)			footprint (predominantly capital dredging), resulting in loss of blue carbon. These potential effects have been scoped in.
CCR Assessment: Human and port infrastructure receptors	Climate change impacts from climate hazards during construction	Construction	Yes	Construction activities for the proposed Project have the potential to be vulnerable to climate hazards related to both extreme weather events, such as flooding and storms and chronic climatic change, such as temperature change. Assessing resilience ensures that the construction for the proposed Project can withstand these conditions, minimising delays, costs, and safety risks.

Potential Impacts During Operation

GHG Assessment

25.6.5 This section identifies the key impact pathways that will be considered further in the GHG assessment for the operation phase. The assessment will quantify GHG emission sources arising from the proposed Project, based on the PAS 2080 lifecycle modules for operation.

25.6.6 Emissions sources considered in scoping include emissions from operation of the proposed Project, such as from road vehicles and plant and equipment requiring fuel and electricity, maintenance and repair activities, as well as the loss of sequestered carbon and blue carbon resulting from operation activities.

25.6.7 **Table 25.5** identifies the potential impacts on GHG emissions related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

CCR Assessment

25.6.8 **Table 25.5** also identifies the potential impacts to CCR related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 25.5 Potential impacts during operation and proposed scope of the EIA

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
Global atmosphere	GHG emissions	Maintenance and repair	Yes	Emissions resulting from fuel and electricity consumption by vessels, road vehicles, buildings, plant and equipment used during maintenance activities of the proposed Project are not likely to be a large contributor to operation phase emissions. However, these emissions will be assessed where possible.
		Operational fuel and electricity use	Yes	Emissions resulting from the fuel and electricity consumption by buildings, vessels, rail, road vehicles, plant and equipment used during operation will be assessed.
	Loss of sequestered carbon	Operation and maintenance activities	Yes	The loss of habitats that could have the potential for continued loss of sequestered carbon during operation. These effects have been scoped in.
	Loss of blue carbon	Operation and maintenance activities	No	The construction phase assessment will account for the impact of the loss of stored blue carbon in the study area. There will only be minor activities during the operation phase that could result in additional loss of blue carbon stores, such as maintenance dredging near the berths, and any loss is likely to be very minor when compared to the impacts already identified in the construction phase. Blue carbon emissions have therefore been scoped out of the operational phase assessment.

Receptor	Impact Pathways	Project activity	Scoped into EIA	Justification
CCR Assessment: Human and port infrastructure receptors	Climate change impacts from climate hazards during operation	Operation and maintenance activities	Yes	During operation, the proposed Project infrastructure and operation and maintenance activities have the potential for continuous exposure to climate hazards. Evaluating resilience informs the development of robust maintenance plans and emergency response plans and ensures the longevity and reliability of port infrastructure and the safety of operation personnel.

25.7 Mitigation

25.7.1 The proposed Project will seek to incorporate mitigation measures throughout each phase of the design to minimise carbon emissions during construction and operation.

25.7.2 ABP has published its 'Ready for Tomorrow' strategy, which includes net zero as a key theme, and sets out a roadmap to achieve net zero by 2040, through initiatives such as:

- the generation and use of renewable energy, including onsite renewable generation where possible;
- incorporating the use of low carbon construction materials where possible;
- replacing diesel equipment and vehicles with electric alternatives; and,
- use of alternative drop-in fuels, such as biodiesel, where electric alternatives do not exist or are not feasible.

25.7.3 Mitigation specific to reducing GHG emissions arising from the proposed Project will be identified, as appropriate and proportionate to the potential impacts, and will be reported on in the ES.

25.7.4 Resilience measures to adapt to future climate change will be incorporated into the design of the proposed Project. Such measures will be targeted towards parameters such as flood risk, storms and extreme temperatures. These measures will be embedded into the design and further required mitigation measures will be recommended following Step 4 of the CCR assessment will be provided (see **Section 25.8**).

25.8 Approach to Assessment and Data Gathering for ES

GHG Assessment

25.8.1 As discussed in **Section 25.3,** a clear boundary for the assessment will be established to reasonably determine the effects on carbon emissions associated with the proposed Project, with upstream and downstream effects assessed as necessary. The boundary will include emissions released from activities within the Scoping Boundary, as well as activities that are linked to the proposed Project, such as marine vessel and road vehicle movements. A clear justification and explanation for the boundary for the assessment will be included in the chapter.

25.8.2 GHG emissions will be calculated using a standard calculation-based methodology, which involves multiplying activity data collected by ABP with the

representative emission factors, and where applicable, load and global warming potential (GWP) factors. Industry benchmarks and assumptions based on professional judgment will be used where data gaps exist.

25.8.3 As discussed in **Section 25.3**, all GHG emissions will affect the same receptor, the global atmosphere, as opposed to directly affecting any specific local receptor. The receptor's sensitivity will be characterised as high, given that any net reduction of carbon emissions will support decarbonisation efforts, in line with national and international climate commitments.

25.8.4 The magnitude of impact is not defined, as the significance of effect for the GHG assessment is not determined by the magnitude of emissions alone (IEMA, 2022b). However, carbon emission values will be calculated and expressed as tonnes of CO_2e. GHG emissions will be calculated using a lifecycle approach in alignment with the PAS 2080 modules and presented for each phase of the proposed Project as outlined in **Section 25.6**.

25.8.5 Significance criteria for the assessment will be adapted from IEMA's guidance (2022b), which recognises that: *'when evaluating significance, all new carbon emissions contribute to a negative environmental effect. However, some projects will replace existing development or baseline activity that have higher carbon profiles. The significance of a project's emissions should therefore be based on its net impacts, which may be positive, negative or negligible'.*

25.8.6 The IEMA guidance provides relative significance descriptions to assist assessments of carbon emissions in an EIA context. Section VI of the updated guidance (IEMA, 2022b) describes five distinct levels of significance (major adverse, moderate adverse, minor adverse, negligible and beneficial), which are not based solely on whether a project emits carbon emissions, but on how the proposed Project makes a relative contribution towards achieving a science-based transition towards net zero. For the purposes of the EIA, major adverse, moderate adverse and beneficial effects will be considered as significant.

CCR Assessment

25.8.7 The CCR assessment will be informed by historical observations and future projects of climate variables. The spatial resolution of the baseline data collected for the CCR assessment will provide representative coverage of the study area and the wider southern region of the UK.

25.8.8 The current and projected regional climate baseline will be defined under a range of scenarios using the UK Climate Projection publications (UKCP) database. This information will be used to define the vulnerability of the proposed Project and its

potential impacts to projected climate change during the construction phase and design life of the proposed Project.

25.8.9 To characterise the future baseline climate, representative time slices will be identified in alignment with the proposed Project's construction and operation phases. Climate change projection data will be presented for each time slice to reflect changes in climate change severity over time and capture the likely climate conditions at each phase of the proposed Project.

25.8.10 The initial stages of the assessment will involve a screening exercise of climate hazards which the proposed Project may be vulnerable to and are likely to result in climate change impacts. If deemed necessary, a detailed risk assessment will be undertaken on impacts which are material to the proposed Project to evaluate likely significant effects with respect to climate change resilience.

25.8.11 For the purpose of the CCR assessment, the following key terms will be adopted, which are defined as follows:

- Climate variable: a measurable, monitorable aspect of the weather or climate such as temperature or wind speed.
- Climate hazard: a weather or climate-related event or trend in climate variable, such as storms or heat waves, which has potential to do harm to receptors.
- Climate change impact: an impact from a climate hazard, such as asset damage or failure, which affects the ability of the receptor to maintain its functions or purpose.

25.8.12 It is anticipated that the potential for likely significant effects from climate change impacts would be highest over the proposed Project's initial 50 – 100 operational lifetime, given its duration and alignment with longer-term climate change, which will therefore be the main focus of the CCR assessment. Given the short duration of the construction phase, which is likely to take place within the next 10 years where climate conditions are unlikely change relative to the present day, a high-level CCR assessment will be undertaken only. An overview of the step-by-step approach is provided below, based on the IEMA assessment guide (2020):

- Step 1: Identifying receptors, climate variables and hazards: key climate hazards relevant to the CCR assessment study area and the receptors which they affect will be identified based on the design information and a review of the current and future climate baseline and other available literature sources. In addition, climate variables used to quantify or contextualise the hazards will also be selected.

- Step 2: Climate vulnerability assessment: Vulnerability is defined as the degree of response to a change in the environment and the capacity to accommodate or recover from change, and is considered to be a function of sensitivity and exposure. Climate change impacts only arise when receptors are vulnerable to climate hazards. A vulnerability assessment will be undertaken whereby only hazards categorised as medium or high vulnerability will be taken forward in the CCR assessment. Hazards with low vulnerability will be screened out, and a non-significant effect will be concluded.
- Step 3: Climate risk assessment: The magnitude of the climate change impact, or the climate risk, will then be evaluated based on its likelihood and consequence. For climate risks identified as medium, high or extreme, additional mitigation measures will be proposed proportionate to the degree of risk, and the residual risk will be reassessed.
- Step 4: Resilience rating: The effect significance of the CCR assessment will be determined using a matrix-based approach by considering the residual risk identified in Step 3 and a resilience rating based on the preparedness and adaptive capacity of the proposed Project to the climate change impact. The higher the resilience rating, the higher the capability of the proposed Project to tolerate and manage the residual climate risk.

Data Sources

25.8.13 The data sources set out in **Table 25.6** will be used to characterise the existing environment and inform the assessments, which primarily consist of publicly available datasets and reports from government and industry sources.

Table 25.6 Key data and information sources for climate change

Dataset	Year	Description
GHG Assessment		
DESNZ's Greenhouse Gas Reporting Conversion Factors	2025	Emission factors suitable for UK-based operations for various activities such as fuel consumption.
Inventory of Carbon and Energy (ICE) Database v4.0	2024	Emission factors for embodied carbon in materials used during construction and replacement or repair activities.
CCR Assessment		

Dataset	Year	Description
The Met Office's UK Climate Projection Database and supporting reports	Various	Climate change projection data and summaries for the UK for carious climate variables such as air temperature and precipitation.
The Met Office's UK Climate Averages and Regional Climate Summaries	Various	Historical climate observations and current climate conditions for the UK.
Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment report	Various	Current state of knowledge on climate science and possible climate futures.
Marine Climate Change Impacts Partnership (MCCIP) Reports	Various	A collection of evidence reviews and summary reports on climate change effects in the marine environment.

26 WASTE

26.1 Introduction

26.1.1 This section describes the proposed scope of the ES chapter in relation to the potential wastes that may be generated through the construction and operation of the proposed Project and how that waste may be managed.

26.2 Relevant Policy, Legislation and Guidance

26.2.1 Waste policy and, consequently, Waste Hierarchy Assessments (WHA) are strongly governed by the waste hierarchy set out in Article 4 of the Waste Framework Directive (2008/98/EC). The Directive provides a general duty to ensure that waste is dealt with in an environmentally friendly way. To do this, the waste hierarchy ranks waste management options according to what is best for the environment and comprises the following in order of most to least favoured (top to bottom):

- Prevention.
- Re-use.
- Recycling.
- Other re-use.
- Disposal.

26.2.2 The proposed Project has the potential to generate waste during the construction and operation phases, including as a result of the capital dredging required during the construction phase and any maintenance dredging that is required during the operational phase.

26.2.3 The NPSfP (DfT, 2012) (a draft update of which is currently under consultation) provides advice on the management of waste in Section 5.5. It states that waste management arrangements need to be set out and a Site Waste Management Plan (SWMP) prepared. In addition, the “proposed waste recovery and disposal system for all waste generated by the development and an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arisings in the area for at least five years of operation” also need to be outlined. The NPSfP encourages the minimisation of volume of waste produced and sent for disposal.

26.2.4 The assessment in the ES will be undertaken following the methodology set out in the IEMA guide to Materials and Waste in Environmental Impact Assessment

(IEMA, 2020b). It will also take account the following local policies with regards to waste:

- New Forest Local Plan (2016-2036).
- Hampshire Minerals and Waste Local Plan.

26.3 Potential Impacts

Future Baseline

26.3.1 In a future baseline scenario with respect to waste, there are unlikely to be any activities on the site which would result in the production of waste that would require the use of landfill capacity.

Potential Impacts During Construction

26.3.2 **Table 26.1** identifies the potential impacts on waste related to the construction phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

Table 26.1 Potential impacts during construction and proposed scope of the EIA

Impact Pathways	Scoped into EIA	Justification
Waste arising from extraction, processing and manufacture of construction components and products	No	Waste arising from the extraction, processing and manufacture of construction components and products that would be used during construction of the proposed Project would be produced in manufacturing facilities with their own waste management plans, facilities, and supply chain (and are outside of the geographical scope of the assessment).
Changes in available landfill capacity	Yes	Due to the limited information available at this stage, and the uncertainty about the nature and management of potential mitigation measures, the implications of waste generation during construction of the proposed Project in the context of available landfill capacity is scoped into the assessment.

Impact Pathways	Scoped into EIA	Justification
Other environmental impacts associated with the management of waste from the proposed Project.	No	The effect of wastes generated during construction occur off-site when waste is removed from the proposed Project site. Consequently, effects are largely limited to the waste facilities operated by waste management companies, and these off-site effects are scoped out of the EIA. However, effects caused by movements of vehicles transporting waste to these facilities will be addressed within the traffic and transport, air quality and noise and vibration assessments.
Materials arising from capital dredging	No	The majority of the capital dredged material would not be brought onshore for disposal (offshore disposal at a licensed disposal site is proposed). The effects associated with that disposal will be assessed in other assessments, namely coastal processes and geomorphology, marine water and sediment quality, marine ecology, coastal ornithology, commercial and recreational navigation and archaeology and cultural heritage.
Materials arising from capital dredging	Yes	The beneficial use of some of the capital dredged material will be considered as part of the proposed Project, such as part of any environmental enhancement of foreshore areas. The assessment of the suitability of the dredged material for this purpose is scoped into this assessment.

Potential Impacts During Operation

26.3.3 **Table 26.2** identifies the potential impacts on waste related to the operation phase of the proposed Project, including the justification for either scoping in or scoping out impact pathways from the EIA.

26.3.4 Although waste will be generated during operation, it is anticipated this will be dealt with through standard site waste management planning and ABP's waste management processes. No hazardous wastes would arise in terms of types of waste or quantity.

Table 26.2 Potential impacts during operation and proposed scope of the EIA

Impact Pathways	Scoped into EIA	Justification
Changes in available landfill capacity	Yes	Due to the limited information available at this stage, and the uncertainty about the nature and management of potential mitigation measures, the implications of waste generation during operation of the proposed Project in the context of available landfill capacity is scoped into the assessment.
Materials arising from maintenance dredging	No	Maintenance dredged materials would not be brought onshore for disposal (offshore disposal at a licensed disposal site is proposed). The effects associated with that disposal will be assessed in other assessments, namely coastal processes and geomorphology, marine water and sediment quality, marine ecology, coastal ornithology, commercial and recreational navigation and archaeology and cultural heritage.

26.4 Approach to Assessment

26.4.1 The waste hierarchy sets a priority order for dealing with waste to determine the most sustainable management option for all wastes prior to removal from where they are produced or held. Driving waste up the waste hierarchy is an integral part of the Waste Management Plan for England (Defra, 2021) and National Planning Policy for Waste (DCLG, 2014). It is also a legal requirement to demonstrate that the waste hierarchy has been considered before it is recovered or disposed.

26.4.2 Overall, it is considered that potential environmental impacts associated with waste will be managed by regulatory obligations, best practice construction processes and the use of non-regulatory principles. However, due to the quantities and types of waste that are likely to be produced, a waste assessment will be included in the EIA process.

26.4.3 The waste assessment will be guided and informed by the following standards and guidance documents:

- IEMA guide to: Materials and Waste in Environmental Impact Assessment (IEMA, 2020b).
- CIRIA Publication C741: Environmental Good Practice on Site Guide (Fourth Edition) (Charles & Edwards, 2015).
- The Definition of Waste: Development Industry Code of Practice (the CoP) (Version 2) (CL:AIRE, 2011).
- Guidance on applying the Waste Hierarchy (Defra, 2011b).
- Guidance on applying the waste hierarchy to hazardous waste (Defra, 2011c).
- Technical Guidance WM3: Waste Classification - Guidance on the classification and assessment of waste (Joint Agencies, 2018).
- Guidance on Waste recovery plans and permits (Environment Agency, 2023).
- Waste & Resources Action Programme (WRAP) Aggregates Quality Protocol (Environment Agency, 2015).
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009b).
- Model Procedures for the Management of Land Contamination (Contaminated Land Report (CLR) 11) (Environment Agency, 2004).

26.4.4 There is no industry-accepted method for assessing the implications of waste during construction or operation. However, an assessment of wastes will be required following the principles identified in the NPSfP, The National Planning Policy for Waste (DCLG, 2014) and the Hampshire Minerals and Waste Plan (Hampshire County Council, 2013b) to demonstrate that the:

- likely impact of the proposed Project on existing waste management facilities, and on sites and areas allocated for waste management, is acceptable and does not prejudice the implementation of the waste hierarchy and / or the efficient operation of such facilities;
- proposed Project makes sufficient provision for waste management and promotes good design to secure the integration of appropriate waste management facilities within the Project; and,
- handling of waste arising from the construction and operation of Project maximises reuse / recovery opportunities and minimises off-site disposal.

26.4.5 The proposed approach will examine the management of waste arising from the construction and operational phases of the proposed Project. The proposed assessment methodology will involve:

- assessing the estimated generic quantities of the various waste streams generated;
- identifying the potential waste management options in accordance with the waste hierarchy; and,
- assessing the impact in the context of the capacity of local and regional waste infrastructure.

26.4.6 Measures to ensure compliance with national legislation and local policies will be identified, particularly relating to requirements associated with the management of any contaminated material.

26.4.7 An outline SWMP will be produced, providing a quantification of estimated waste arisings and identifying potential savings and measures to minimise waste. The outline SWMP will record any decisions given to materials resource efficiency in designing and planning construction (e.g. design decisions, construction method, materials employed) to minimise the quantity of waste produced on site.

26.4.8 For each waste produced, the outline SWMP will identify the proposed waste management option, including re-use, recycling, recovery or disposal. The outline SWMP will include provision for responsible personnel and their associated roles, waste reduction methods, waste recycling and reuse methods, disposal options and policy compliance. This is anticipated to be incorporated into the outline Construction Environmental Management Plan (CEMP), along with the recommendations from the waste assessment to promote waste minimisation at source. The CEMP and SWMP will then be produced by the contractor as part of discharging the DCO conditions.

26.4.9 With regard to the operational phase, the assessment will identify the predicted types and quantities of waste that would be produced, waste storage requirements and proposed waste management measures to reduce impacts on receiving waste management infrastructure in accordance with the waste hierarchy.

26.4.10 The waste assessment, comprising the above, will be prepared in the form of a Waste Technical Report, to be included as a technical appendix to the ES.

27 POTENTIAL CUMULATIVE EFFECTS

27.1 Introduction

27.1.1 Cumulative effects refer to the combined effects of the proposed Project alongside other existing, consented or reasonably foreseeable developments, as well as potential within-Project in-combination effects that may arise from different sources and that could affect the same receptor.

27.2 Cumulative Effects

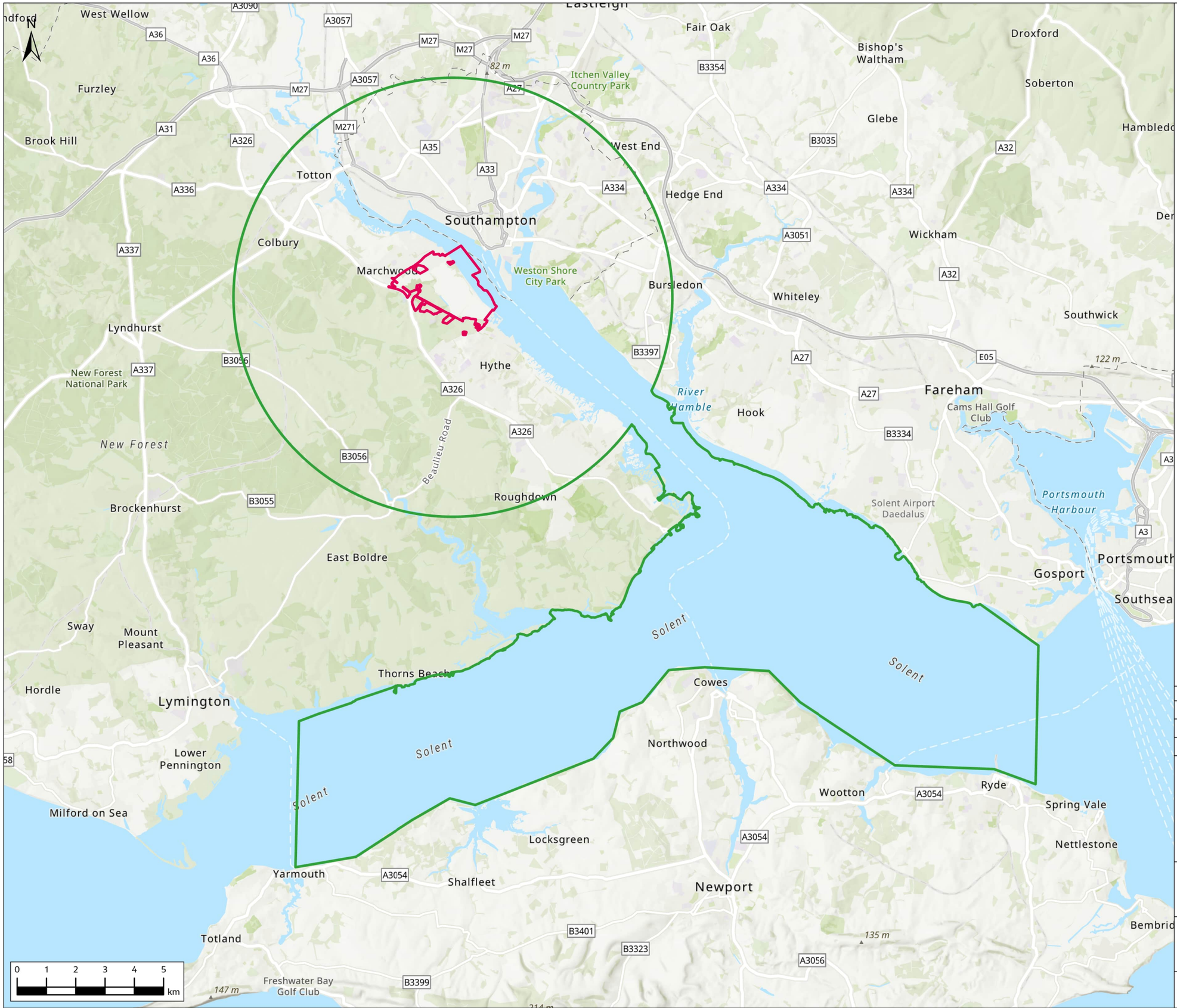
27.2.1 Cumulative effects may occur when multiple projects, or activities, affect the same receptors in space or time, resulting in additive, synergistic, or antagonistic effects. The cumulative effects assessment (CEA) will be undertaken in accordance with Planning Inspectorate Advice Notes Nine and 17.

Identification of a 'Long-list' of Plans or Projects

27.2.2 An indicative search area within the terrestrial and marine environments is presented in **Figure 27.1**. This search area represents the combined study areas of all the topics discussed in the topic sections within which an initial search of plans and projects will be undertaken to establish a 'long list' of other existing and or approved developments that may be relevant to the CEA.

27.2.3 The Planning Inspectorate's Advice Notes Nine and 17 provide guidance on the plans and projects to be considered in the CEA, including:

- projects that are under construction;
- permitted applications not yet implemented;
- submitted applications not yet determined;
- projects on the Planning Inspectorate's register of Projects;
- developments identified in relevant Development Plans (including emerging Development Plans, with increasing weight given as they progress toward adoption), acknowledging that information on such proposals may be limited; and,
- sites identified in other policy documents as developments reasonably likely to come forward.



Legend

- Project Boundary
- Zone of influence



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, Ordnance Survey, NASA, NGA, USGS

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	05/09/2025	Initial Issue	RM	GLD	MS	MS

Scale @ A3: Scale: 1:125,000 DO NOT SCALE

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ABP | ASSOCIATED BRITISH PORTS

Project: SOLENT GATEWAY 2

Drawing Title: INDICATIVE AREA OF SEARCH TO INFORM LONG LIST OF PLANS AND PROJECTS

Drawing No.: S6585-MDEC-ZZ-ZZ-DG-EC-0100049

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FIGURE 27.1

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27.2.4 Where it is helpful to do so, the development status of other projects will be categorised into 'Tiers', which will also reflect the availability of information for those projects to be used in the CEA. This approach is based on the three tier system as advised in the Planning Inspectorate's Advice Note Nine), as follows:

- Tier 1:
  - Projects under construction.
  - Permitted applications (whether under the Planning Act 2008 or other regimes) but not yet implemented.
  - Submitted applications whether under the Planning Act 2008 or other regimes but not yet determined.
- Tier 2:
  - Projects on the Planning Inspectorate's register of projects where a scoping report has been submitted.
  - Port masterplan proposals at an advanced stage.
- Tier 3:
  - Projects on the Planning Inspectorate's register of projects without a scoping report.
  - Projects identified in adopted or emerging Development and Local Plans.
  - Projects in other policy or strategy documents (e.g. Solent Freeport, South Marine Plan) that are reasonably likely to come forward.

27.2.5 Projects which are sufficiently implemented during the site-specific surveys for the proposed Project will be considered as part of the baseline for the EIA. Where possible the proposed Project will seek to agree with stakeholders the use of as-built project parameter information (if available) as opposed to consented parameters to reduce over-precaution in the CEA.

Identification of a 'Short-list' of Plans or Projects

27.2.6 Only projects which are reasonably well described and sufficiently advanced to provide information on which to base a meaningful and robust assessment will be included in the 'short-list' of plans and projects to be considered in the CEA. A 'short-list' of plans and projects will, therefore, be established that meet the following criteria:

- Project is a Tier 1 or 2 project. Tier 3 projects will be included in the short list only if sufficient publicly available information exists for an assessment to take place.
- The project will have a temporal overlap over construction or operation with the proposed Project.

- The scale and nature of the project is likely to cause effects that would spatially overlap with effects arising from the proposed Project.

Scope of the CEA for Individual Environmental Topics

27.2.7 Once the short-list of plans and projects is established the individual technical topics will further refine the list of plans and projects that should be considered in the CEA for that topic.

27.2.8 For some topics, such as those involving assessment of highly mobile or migratory species or shipping, the CEA will likely cover a broad geographic area and include a wide range of plans and projects. For other topics where receptors or impact ranges are more spatially fixed the CEA will likely be more narrowly focused.

27.2.9 The scope of the CEA will, therefore, be determined on a topic-by-topic basis, in consultation with relevant stakeholders as the EIA progresses.

27.2.10 It is intended that screening of plans and projects to include in the CEA will be undertaken for the proposed Project in 2026 and will be consulted upon with the relevant stakeholders for each topic.

27.3 In-combination Effects

27.3.1 The CEA will include assessment of the inter-relationship of effects on individual receptors. The objective will be to identify where the combination of individual residual effects (potentially arising from different effect pathways, for example direct habitat loss, noise disturbance and air quality effects) may impact a single receptor, potentially resulting in a net effect of greater significance that the effects in isolation and potentially requiring different or additional mitigation.

27.3.2 When considering the potential for effects to combine, it is assumed that if, in isolation, no residual impact is determined then there is no potential for a significant impact when combined with other effects. However, where a residual impact is assessed as being of negligible or greater significance, the potential for in-combination effects will be assessed.

28 ABBREVIATIONS AND ACRONYMS

Acronyms	Full text
ABP	Associated British Ports
ADT	Articulated Dump Trucks
AEZ	Archaeological Exclusion Zone
AIS	Automatic Identification System
AL1	Action Level 1
AL2	Action Level 2
ALC	Agricultural Land Classification
AONB	Areas of Outstanding Natural Beauty
APIS	Air Pollution Information System
AQASR	Air Quality Annual Status Report
AQMA	Air Quality Management Area
ARN	Affected Road Network
AWI	Ancient Woodland Inventory
BAP	Biodiversity Action Plan
bCD	below Chart Datum
BMV	Best and Most Versatile
BP	British Petroleum
BPM	Best Practicable Means
CCR	Climate Change Resilience
CCTV	Closed Circuit Television
CD	Chart Datum
CEA	Cumulative Effects Assessment
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CEH	Centre for Ecology and Hydrology
CEMP	Construction Environmental Management Plan
CERC	Cambridge Environmental Research Consultants
CHA	Competent Harbour Authority
CIEEM	Chartered Institute of Ecology and Environmental Management
CoCP	Code of Construction Practice
COMAH	Control of Major Accident Hazards
CRA	Central Reception Area
CRTN	Calculation of Road Traffic Noise
CSPR	Core Strategy Partial Review
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs

Acronyms	Full text
DfT	Department for Transport
DHI	Danish Hydraulic Institute
DTM	Digital Terrain Model
EcIA	Ecological Impact Assessment
eDNA	Environmental DNA
EIA	Environmental Impact Assessment
EMS	European Marine Site
EPP	Evidence Plan Process
EPS	European Protected Species
EqIA	Equality Impact Assessment
EQS	Environmental Quality Standards
ES	Environmental Statement
EU	European Union
EV	Electric Vehicle
FM	Flexible Mesh
FPOR	First Point of Rest
FRA	Flood Risk Assessment
FTTC	Fibre to the Cabinet
GCN	Great Crested Newt
GD	General Directions
GES	Good Environmental Status
GHG	Greenhouse Gas
GI	Ground Investigation
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GtGP	A Guide to Good Practice on Port and Marine Facilities
GWDTE	Ground Water Dependent Terrestrial Ecosystem
H&H	High and Heavy
ha	hectares
HAA	Heavy Anti-Aircraft
HASB	Harbour and Safety Board
HAT	Highest Astronomical Tide
HAZID	Hazard identification
HBRC	Hampshire Biological Records Centre
HCC	Hampshire County Council
HD	Hydrodynamic
HGV	Heavy Goods Vehicle
HM	His Majesty's

Acronyms	Full text
HoPI	Habitat of Principal Importance
HOS	Hampshire Ornithological Society
HRA	Habitats Regulations Assessment
HSC	Hazardous Substances Consent
HSE	Health and Safety Executive
HSI	Habitat Suitability Index
HW	High Water
IALA	International Organization for Marine Aids to Navigation
ICB	Integrated Care Board
ICZM	Integrated Coastal Zone Management
IEMA	Institute of Environmental Management and Assessment
IFCA	Inshore Fisheries and Conservation Authority
INNS	Invasive non-native species
IR	Internationally rare
IROPI	Imperative Reasons of Overriding Public Interest
ISO	International Standards Organisation
JCNA	Joint Cultural Needs Assessment
JCP	Joint Cetacean Protocol
JNCC	Joint Nature Conservation Committee
km	Kilometre
km^2	Square kilometre
LCA	Landscape Character Area
LCRM	Land Contamination Risk Management
LED	Light-emitting Diode
LGS	Local Geological Site
LiDAR	Light Detection and Ranging
LIR	Local Impact Report
LLA	Local Lighthouse Authority
LNR	Local Nature Reserve
LNtM	Local Notice to Mariners
LOA	Length Overall
LOAEL	Lowest Observed Adverse Effect Level
LPS	Local Port Services
LSE	Likely Significant Effects
LVIA	Landscape and Visual Impact Assessment
LW	Low Water
m	Metre

Acronyms	Full text
M+F	Merchant Ships and Fishing Vessels
m^2	Square metre
m^3	Cubic metre
MAFF	Ministry of Agriculture, Fisheries and Food
mAOD	Above Ordnance Datum
MARNIS	Marine Navigation Information System
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MDL	Marina Developments Limited
MGN	Marine Guidance Note
MMO	Marine Management Organisation
MOD	Ministry of Defence
MPA	Marine Protected Area
MPS	Marine Policy Statement
MSMS	Marine Safety Management System
MSOA	Middle layer Super Output Area
MT	Mud Transport
MW	Megawatt
NBN	National Biodiversity Network
NCA	National Character Area
NERC	Natural Environment Research Council
NFDC	New Forest District Council
NFNPA	New Forest National Park Authority
NH_3	Ammonia
NHS	National Health Service
NMBAQC	National Marine Biological Analytical Quality Control
NMOC	National Maritime Operations Centre
NNG	Night Noise Guidelines
NNR	National Nature Reserve
NO_2	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NR	Nationally Rare
NRA	Navigational Risk Assessment
NRMM	Non-Road Mobile Machinery

Acronyms	Full text
NS	Nationally Scarce
NSIP	Nationally Significant Infrastructure Project
NSN	National Site Network
NSR	Noise Sensitive Receptors
NVC	National Vegetation Classification
NVZ	Nitrate Vulnerable Zone
OCoCP	Outline Code of Construction Practice
OCP	Organochlorine Pesticides
OS	Ordnance Survey
OSCP	Oil Spill Contingency Plan
PAHs	Polycyclic Aromatic Hydrocarbons
PBDE	Polybrominated Diphenyl Ethers
PCB	Polychlorinated Biphenyls
PCSM	Preliminary Conceptual Site Model
PD	Pilotage Directions
PDI	Pre-Delivery Inspection
PEC	Pilotage Exemption Certificate
PEIR	Preliminary Environmental Information Report
PEXA	Practice and Exercise Area
PHE	Public Health England
PINS	Planning Inspectorate
PM_{10}	Particulate Matter
PMSC	Ports & Marine Facilities Safety Code
PPV	Peak Particle Velocity
PRA	Preliminary Risk Assessment
PRoW	Public Rights of Way
pSAC	possible Special Area of Conservation
pSPA	potential Special Protection Area
QL	Quick Lightning
RBMP	River Basin Management Plan
RIGS	Regionally Important Geological Sites
RNLI	Royal National Lifeboat Institution
Ro-Ro	Roll-on Roll-off
RVEI	Road Verge of Ecological Importance
SAC	Special Area of Conservation
SCC	Southampton City Council
SCOS	Special Committee on Seals

Acronyms	Full text
SEPD	Southern Electric Power Distribution
SG2	Solent Gateway 2
SGL	Solent Gateway Limited
SGN	Southern Gas Networks
SHA	Statutory Harbour Authority
SINC	Site of Importance for Nature Conservation
SLR	Strategic Land Reserve
SMRU	Sea Mammal Research Unit
SNCB	Statutory Nature Conservation Bodies
SO_2	Sulphur Dioxide
SOAEL	Significant Observed Adverse Effect Level
SOLFIRE	ABP Southampton Emergency Plan
SoPI	Species of Principal Importance
SOTONSAFE	Port of Southampton Off-Site Reactor Emergency Plan
SPA	Special Protection Area
SPUNG	Southampton Port Users Information and Navigation Guidelines
SPZ	Source Protection Zone
SSC	Suspended Sediment Concentration
SSD	Solent and South Downs
SSSI	Sites of Special Scientific Interest
STER	Short-term Ecological Receptor
SuDS	Sustainable Drainage Systems
SVOC	Semi Volatile Organic Compounds
SWMP	Site Waste Management Plan
TB	Tuberculosis
TBT	Tributyltin
TOC	Total Organic Carbon
TraC	Transitional and Coastal Waters
TSHD	Trailing Suction Hopper Dredger
UK	United Kingdom
UKBAP	United Kingdom Biodiversity Action Plan
UKCP	UK Climate Projection
UNESCO	United Nations Educational, Scientific and Cultural Organization
UXO	Unexploded Ordnance
VDV	Vibration Dose Value
VHF	Very High Frequency
VOC	Volatile Organic Compounds

Acronyms	Full text
VTS	Vessel Traffic Services
WCA	Wildlife and Countryside Act
WER	Water Environment Regulations
WFD	Water Framework Directive
WHA	Waste Hierarchy Assessment
WHO	World Health Organization
WRAP	Waste & Resources Action Programme
WSI	Written Scheme of Investigation
WWII	World War II
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

Glossary

Term	Definition
Acid deposition	Acid deposition refers to the process by which acidic substances, primarily sulfur dioxide (SO_2) and nitrogen oxides (NO_x), are released into the atmosphere and then deposited back to the Earth's surface through precipitation (rain, snow, fog) or as dry particles and gases. This environmental phenomenon can lead to the acidification of soils, lakes, and streams, harming ecosystems, buildings, and human health. It is commonly known as "acid rain" when it occurs through wet deposition.
Adjustment factor/ model verification	An adjustment factor used during model verification is a numerical correction applied to the outputs of air quality dispersion models to improve their agreement with measured concentrations at monitoring sites. Model verification is a critical step in ensuring that modelled pollutant concentrations are representative of real-world conditions. The adjustment factor is calculated by comparing modelled concentrations with monitored data - typically from automatic or diffusion tube monitoring sites. If the model consistently under- or over-predicts concentrations, a factor is derived (often as a ratio of monitored to

Term	Definition
	modelled values) and applied to scale the model outputs accordingly.
ADMS 6 model	The ADMS 6 (Atmospheric Dispersion Modelling System version 6) model is an advanced air dispersion model developed by Cambridge Environmental Research Consultants (CERC). It is used to simulate the impact of industrial and other pollution sources on air quality. ADMS 6 is a gaussian plume model and incorporates detailed representations of atmospheric boundary layer physics and chemistry, making it suitable for regulatory, planning, and environmental assessment purposes.
ADMS-Roads model	ADMS-Roads is a specialised atmospheric dispersion modelling system developed by Cambridge Environmental Research Consultants (CERC) for assessing air pollution from road traffic sources. It is designed to model pollutant concentrations at a street-scale resolution.
Aggregates	Sand, gravel and crushed rock suitable for use in the construction industry for mixing with a matrix to form concrete, macadam, mortar or plaster, or used alone as in railway ballast, unbound road-stone or graded fill.
Air Quality Annual Status Report	An Air Quality Annual Status Report (ASR) is a formal document produced each year by local authorities in the UK as part of their statutory duties under the Local Air Quality Management (LAQM) framework. The ASR provides a comprehensive overview of air quality within a local authority's area, including monitoring data for key pollutants and assessment of compliance with national air quality objectives, progress updates on actions outlined in Air Quality Action Plans (AQAPs), evaluation of trends, exceedances, and areas of concern and recommendations for future monitoring or mitigation measures. The ASR is submitted to Defra and the relevant devolved administrations and is used to inform national policy,

Term	Definition
	public health strategies, and local planning decisions. It also supports transparency and public engagement by making air quality information accessible to residents and stakeholders.
Air Quality Management Area	An Air Quality Management Area (AQMA) is a location where a local council has found that air pollution levels are too high and may harm people's health. If the air in a certain area doesn't meet national standards, the council must officially declare it as an AQMA. This could be just a few streets, a larger part of a town or city or even an entire borough. Once declared, the council must create an Air Quality Action Plan to improve air quality in that area. This might include changes to traffic flow, encouraging cleaner transport, or other measures to reduce pollution. AQMAs are part of the UK's efforts to protect public health and the environment under the Environment Act 1995.
Air Quality Objective	An Air Quality Objective is a target set by the UK government to help protect people's health and the environment from air pollution. It defines the maximum amount of a pollutant (such as nitrogen dioxide or fine particles) that is allowed in the air over a certain period of time - such as an hour, day, or year. These objectives are used by local councils to check if the air in their area is clean enough. If pollution levels go above the objective too often, the council must take action to improve air quality. Air Quality Objectives are part of the UK's national air quality strategy and help track progress in reducing pollution.

Term	Definition
Ammonia	In air quality terms, ammonia is a gas mainly released from agricultural activities, such as livestock farming and fertiliser use. It is a reactive nitrogen compound that can combine with other pollutants in the atmosphere - like nitrogen oxides (NO_x) and sulphur dioxide (SO_2) - to form fine particulate matter ($PM_{2.5}$). Ammonia also contributes to nitrogen and acid deposition, which can damage sensitive ecosystems by altering soil and water chemistry. Reducing ammonia emissions is a key part of improving air quality and protecting both human health and the environment.
Ancient tree	A tree that has passed maturity, is very old in comparison to other trees of the same species and are in the third and final stage of their life. Common characteristics include a small canopy, wide trunk, and hollowing.
Ancient woodland	Woodland that has existed continuously since at least 1600 AD in England and Wales (1750 in Scotland), supporting rich biodiversity.
Ancient woodland indicator	Plant species strongly associated with ancient woodland, used to identify and assess such habitats (e.g. bluebell, wood anemone).
Annual Average Daily Traffic	Annual Average Daily Traffic is a way of measuring how busy a road is. It shows the average number of vehicles that travel on a road each day over the course of a full year. This includes all types of vehicles - cars, vans, lorries, buses, and motorcycles.
Annual mean	The annual mean is the average level of a pollutant in the air over a full calendar year. It is calculated by taking regular measurements throughout the year and working out the average. In air quality, this helps show how much pollution people or ecological receptors are exposed to over time. It is used to check whether the air meets national health standards - especially for pollutants such as nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$). If the annual mean goes above (exceeds) the legal limit, it

Term	Definition
	can lead to action being taken to improve air quality in that area.
Annualised	In air quality, annualised refers to the process of estimating a full-year (annual) average concentration of a pollutant using data collected over a shorter period - usually less than 12 months. This is done when monitoring data is incomplete or only available for part of the year. To annualise the data, adjustment factors are applied based on long-term trends from nearby continuous monitoring sites. This helps provide a more accurate estimate of what the pollutant levels would have been over the entire year. Annualised data is often used in Local Air Quality Management (LAQM) reports to assess compliance with annual mean air quality objectives, especially for pollutants like nitrogen dioxide (NO_2).
Aquifer	Bedrock or superficial deposits which can contain or transmit groundwater.
Aquifer (Secondary A)	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Atmospheric dispersion modelling	Atmospheric dispersion modelling is a scientific method used to predict how air pollutants move and spread in the atmosphere. It helps estimate pollution levels from sources such as road traffic or industrial installations by using computer models that simulate meteorological conditions and terrain.
Aviation archaeology	The remains of crashed aircraft and archaeological material associated with historic aviation activities.

Term	Definition
A-weighting LA or LpA, LWA, Obsolete – dBA, dB(A)) Similar – C-weighting LC or LpC, LWC	The human ear does not sense all frequencies of sound equally. Our sensitivity is at a maximum at around 2 kHz and steadily decreases above and below. Below 20 Hz and above about 20 kHz, we cannot hear at all. Within its operating limits, a precision measurement microphone measures all frequencies the same so the output it produces does not reflect what we would actually hear. The A-weighting is an electronic filter that matches the response of a sound level meter to that of the human ear. When A-weighted the Sound Pressure Level Lp becomes LpA (or LA) and the Sound Power Level LW becomes LWA. It used to be common to identify that a level was A-weighted by writing dB(A) or dBA instead of dB. These terms are now obsolete and should not be used as they conflict with other, non-acoustic, uses of decibels The response of the human ear varies depending on how loud the sound is. A-weighting matches the response of a sound level meter to human hearing at low levels (~ 40-90 dB). For higher levels there are other weightings the most common of which is the C-weighting.
Axiophyte species	A "worthy plant" plant species regarded as reliable indicators of high-quality important conservation habitat, such as ancient woodlands or species-rich meadows
Badger latrine	Small pits dug by badgers near territorial boundaries, used for depositing faeces as scent markers.
Badger setts	Underground tunnel systems excavated by badgers, with multiple entrances and chambers for shelter and breeding. Often found in woodlands, scrub, and hedgerows, particularly arable field margins.
Baseline conditions	Existing conditions and past trends associated with the environment in which a proposed activity may take place
Bathymetry	The measurement of depth of the water and the topography of the seabed
Beam trawls	Fishing net towed along the seafloor to target fish living in or on sand and muddy seabed environments

Term	Definition
Bedrock Geology	The main mass of rocks forming the Earth that are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.
Benthic habitats	Habitats associated with the bottom of a body of water
Bias adjusted	In the context of Local Air Quality Management (LAQM), bias adjusted refers to the correction applied to nitrogen dioxide (NO_2) diffusion tube monitoring results to improve their accuracy. Diffusion tubes can systematically under- or over-read pollutant concentrations compared to automatic reference monitors. To correct this, a bias adjustment factor is calculated - typically using data from co-location studies, where diffusion tubes are placed alongside automatic analysers. This factor is then applied to the annual mean results from other diffusion tube sites to ensure consistency and reliability.
Biochemical oxygen demand	Amount of oxygen needed by bacteria and other microorganisms to break down organic material under aerobic (with oxygen) conditions
Biomass	The weight of living organisms
Blue carbon	Organic and inorganic carbon that is captured and stored by the marine and coastal ecosystems.
Breeding bird	A bird species recorded as nesting, laying eggs, or rearing young within a site or survey area.
Capital dredging	Dredging to a depth not previously dredged, or to a depth not dredged within the last 10 years
Carbon dioxide equivalent (CO2e)	Carbon dioxide equivalent is a term for describing different greenhouse gases in a common unit. The unit takes the different global warming potentials of greenhouses gases into account. CO_2e is signifies the amount of CO_2 which would have the equivalent global warming impact.
Chart Datum	Usually close to the lowest tide level that can occur under normal meteorological conditions and is the level to which tidal levels and predictions are measured

Term	Definition
Clean Air Zone	A Clean Air Zone is a designated area where targeted actions are taken to improve air quality. These zones are introduced by local authorities to reduce pollution - especially nitrogen dioxide (NO_2) - in places where legal air quality limits are being exceeded. There are two main types of Clean Air Zones: Charging CAZs: Vehicles that do not meet minimum emission standards must pay a fee to enter the zone. Non-charging CAZs (less common): Focus on other measures like traffic management or promoting cleaner transport, without charging vehicles.
Climate	The general weather conditions prevailing over a long period of time, which include seasonal averages and extremes.
Climate change impact	An impact from a climate hazard which affects the ability of the receptor to maintain its functions or purpose.
Climate change projection	A possible climate outcome defined by the modelling of various climate variables.
Climate change resilience	The ability of a project and its receptors to prepare for, respond to, recover from and adapt to changes in the climate in a manner that ensures it retains much of its original function and purpose.
Climate hazard	A weather or climate-related event or trend in climate variable, which has potential to do harm to receptors such as increased precipitation or storms.
Climate variable	A measurable, monitorable aspect of the weather or climate conditions such as temperature and wind speed.
Coastal lagoon	A shallow body of water separated from a larger body of water by a narrow landform such as sandbars or barrier islands
Competent Harbour Authority	Harbour authorities that have been given statutory powers relating to the provision of pilotage in their waters
Concentration	The quantifiable amount of a substance in the surrounding air, water, food or sediment.
Constituent	One of the harmonic elements in a mathematical expression for the tide-producing force and in corresponding formulas for the tide or tidal current. Each

Term	Definition
	constituent represents a variation in the relative positions of the Earth, Moon, and Sun.
Construction dust	Construction dust refers to airborne particles released during activities such as demolition, land clearing, earthworks, and building construction. These particles can vary in size and composition and may include: Deposited dust: larger particles that settle on surfaces, causing soiling and nuisance. Suspended dust: finer particles that remain in the air and can affect human health and ecosystems. Particulate matter (PM_{10} and $PM_{2.5}$): very small particles that can be inhaled into the lungs and are linked to respiratory and cardiovascular problems.
Construction Environmental Management Plan	A structured plan, used for the construction phase of a project, that outlines the mitigation, monitoring and management requirements arising from an EIA.
Cumulative effects	Combined effects of multiple developments or the combined effect of individual impacts (e.g. where different project elements in different locations have a cumulative impact on a particular feature)
Current	Flow of water.
Day grab	Two stainless bucket sections which are mounted within a stainless steel frame to collect benthic sediment samples
Dead wreck	A wreck which has not been detected by repeated surveys and is therefore considered not to exist.
Decibels dB	The decibel is not a true measurement unit nor is it exclusive to acoustics. The decibel is a logarithmic ratio of two values of a variable. Decibels are used because they can represent very wide ranges of ratios (from trillionths and billionths to billions and trillions) with a small range of decibel values. Decibels can be used to represent measured values by using a known reference value in the ratio. When using decibels to measure something it is therefore important to specify what variable is actually being measured and what reference level has been used. This is done by adding a reference value statement in the form “dB re x units”, where the units indicate the variable being measured and

Term	Definition
	x is the reference value. Decibels are used in acoustics because the human ear responds to sound in a logarithmic way and the quantities measured in acoustics vary over wide ranges. However, decibels are used in acoustics to measure several different things which it is important not to confuse with each other. To avoid confusion there is a notation system that identifies what a decibel value is for. The notations take the form of an italic capital letter and some subscript characters. The capital identifies the general type of value and the subscripts give specific details of what is being represented. Lxxx denotes a level (i.e. a value measured in dB by comparison with a reference value); Because decibels are logarithmic they have to be added, subtracted, multiplied, divided and averaged using different techniques from normal numbers.
Detection Limit	The smallest concentration or amount of a substance that can be reported as present with a specified degree of certainty by a definite, complete analytical procedure.
Diffusion tube	A diffusion tube is a small, simple device used to measure air pollution - especially nitrogen dioxide (NO_2) - over time. It works by passively collecting gas from the air without needing electricity or moving parts. As they are low-cost and easy to use, diffusion tubes are widely used across the UK as part of the Local Air Quality Management (LAQM) system. Their results are often bias adjusted to improve accuracy when compared with automatic monitoring stations.
Directivity	The amount by which a source radiates more sound in one direction than another.
Dissolved Oxygen	The amount of oxygen in solution.
Distribution	The geographical presence of a feature. This can depend on factors such as climate and altitude.
District-level importance	A level of ecological importance in impact assessments, signifying that a habitat or species population is significant at the local authority/district scale.
Dredging	The mechanical removal of sediment from the seabed.

Term	Definition
Driver Delay	Junction modelling software packages will be used to model junction delay and therefore estimate increased vehicle delays
Dunes	The accumulation of windblown sand on the backshore, usually in the form of small hills or ridges.
Dust soiling	Dust soiling refers to the visible accumulation of dust particles on surfaces such as windowsills, cars, buildings, and vegetation. It is typically caused by activities that release large amounts of dust into the air - such as demolition or construction activities. In air quality assessments, dust soiling is often considered alongside airborne particulate matter (PM_{10} and $PM_{2.5}$) to evaluate the overall impact of dust emissions. Effective site management and mitigation measures - such as water suppression and screening - can help reduce dust soiling.
Ebb	Period when the tide is falling.
eDNA surveys	Environmental DNA sampling is where water is tested for traces of DNA to detect species presence (in this case great crested newts).
Effect	Outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow. See also 'Impact'.
Effluent	A complex waste material (e.g. liquid industrial discharge or sewage) that may be discharged into the environment.
Embodied carbon	Embodied (or embedded) carbon or emissions are the greenhouse gas emission associated with the manufacturing of construction or infrastructure materials (i.e., material extraction, material processing, transport to manufacturer, manufacturing) and the transport of those materials to the project site.
Emergent vegetation	Aquatic plants rooted in water but with stems/leaves emerging above the surface (e.g. reeds, bulrush).
Epifaunal	Animals living on the surface of the seabed or a riverbed, or attached to submerged objects or aquatic animals or plants.
Erosion	The removal of sediment from the seabed by water movement resulting in a lowering of bed levels or the landward retreat of a shoreline due to this process.

Term	Definition
Estuary	An inlet within the coastline where saltwater from the sea and fresh water from the land mix.
European Marine Site	Special Areas of Conservation (SAC) and Special Protection Areas (SPA) that are covered by tidal waters and protect some of our most important marine and coastal habitats and species of European importance.
Eutrophication	Enrichment of waters with nutrients, primarily phosphorus, causing abundant aquatic plant growth. Frequently resulting in oxygen depletion below the surface layer of a water body.
Exploratory Hole	A drilled or excavated hole used to provide information on the characteristics of the local geology.
Fetch	Distance over which a wind acts to produce waves - also termed ‘fetch length’.
Field Capacity Days	The duration in days when soils remain at field capacity, the state in which rainfall has saturated the soil, excess gravitational water has drained away, and the downward movement of water has largely ceased.
Fouling of ships hulls	The undesirable accumulation of marine organisms, such as algae, barnacles, and mussels, on a ship's underwater surfaces, primarily the hull
Fluvial	Relating to stream or river processes
Fluvial Flooding	When flows within watercourses exceed the capacity of the watercourse causing out of bank flows.
Foreshore	Intertidal area below highest and above lowest tide level.
Freshwater	Water that has no salt content and is therefore not saline.
Geoarchaeology	The application of earth science principles and techniques to the understanding of the archaeological record. Includes the study of soils and sediments and of natural physical processes that affect archaeological sites such as geomorphology, the formation of sites through geological processes and the effects on buried sites and artefacts.
GIS	Geographical Information System. A database of information which is geographically orientated, usually with an associated visualisation system.

Term	Definition
Glacial/interglacial	A glacial period is a period of time within an ice age that is marked by colder temperatures and glacier advances. Interglacial correspond to periods of warmer climate between glacial periods. There are three main periods of glaciation within the last 1 million years, the Elsterian, the Saalian and the Weichselian which ended about 12,000 years ago. The Holocene period corresponds to the current interglacial.
Gravel	Beach material, coarser than sand but finer than pebbles (2-4mm diameter). Note that 'gravel' beaches commonly contain material in range from 2-256mm.
Grazing marsh	Lowland pasture or meadow, usually drained and managed for grazing or hay, intersected by ditches (often important for birds and invertebrates).
Greenhouse gas	A greenhouse gas is a gas that traps heat in the atmosphere and causes the greenhouse effect, also known by the collective shorthand "carbon".
Ground Gas	Naturally occuring or human-made gases that accumulate in pores in the soil.
Groundwater	Water present beneath Earth's surface in rock and soil pore spaces and in the fractures of rock formations
Habitat	The place or type of site where an organism or population naturally occurs. Often used in the wider sense referring to major assemblages of plants and animals found together.
Habitats of Principal Importance	Habitats of Principal Importance (HoPI) – Habitats listed under Section 41 of the NERC Act 2006 in England as priorities for conservation (successors of UKBAP habitats).
Halophytic vegetation	Plant communities adapted to grow in salty environments such as saltmarshes and saline soils.
Hazard	A substance, operation or piece of equipment which has the potential to cause harm to people or the environment
Health Inequalities	Health inequalities are avoidable, unfair, and systematic differences in health between different groups of people
Heavy Duty Vehicle	A Heavy Duty Vehicle is a type of road vehicle designed to carry large loads or passengers and typically includes vehicles greater than 3.5 tonnes gross vehicle weight, such as heavy goods vehicles (HGVs), buses, and

Term	Definition
	coaches. These vehicles are generally larger, heavier, and more powerful than cars or vans, and they often run on diesel engines.
High Water (HW)	The maximum height reached by a rising tide.
Highest Astronomical Tide	The highest tide height that can be expected to occur as a result of astronomic (i.e. relative positions of the earth, sun and moon) forcing conditions. Meteorological influence (wind, atmospheric pressure) can increase or decrease the expected maximum tide height.
Historic Seascape Character	The attributes that contribute to the formation of the historic character of the seascape
Holocene	The current geological epoch, encompassing the present interglacial period that began 11,700 years ago
HSI assessments	HSI assessments – Habitat Suitability Index assessments; a scoring system (0–1) used to evaluate habitat quality for great crested newts.
Hydrodynamic	The processes and science associated with the flow and motion in water produced by applied forces.
Impact	Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow. See also 'Effect'.
Index	A value based on the mathematical processing of raw data
Indicator	A value used to indicate the likelihood of a particular response of effect, e.g. $L_{10,18hr}$ is an index based on statistical processing of sound pressure data that is used as an indicator for road traffic noise response.
Infaunal	Aquatic animals that live in the substrate at the bottom of a body of water.
Inshore	Areas where waves are transformed by interaction with the seabed.
The Institute of Sustainability and Environmental Professionals	A global professional body for individuals and organisations working in environmental management and sustainability. Formally called The Institute of Environmental Management and Assessment.
Intergovernmental Panel on Climate Change	A United Nations body responsible for assessing the science related to climate change and providing policymakers with regular scientific assessments.

Term	Definition
Intertidal	The foreshore or area of seabed between high water mark and low water mark which is exposed each day as the tide rises and falls. Also called the littoral zone.
Invasive non-native species	Species that are not indigenous to the site and that can seriously affect local ecosystems.
Invertebrate	Animals which lack a vertebral column / backbone
Journey Amenity	Amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width and separation from traffic
$L_{eq,T}$ $L_{Aeq,T}$ T = measurement time, e.g. $L_{Aeq,5min}$	The equivalent continuous sound pressure level over period T ($L_{eq,T}$), The A-weighted equivalent continuous sound pressure level over period T ($L_{Aeq,T}$). This is effectively the average sound pressure level over a given period. As the decibel is a logarithmic quantity the L_{eq} is not a simple arithmetic mean value. The L_{eq} is calculated from the raw sound pressure data. It is not appropriate to include a reference to the FAST and SLOW time constants in the notation
Level	Used to describe values measured in decibels
Lichens	Plant-like organisms made of fungi and algae, often used as bioindicators of air quality and habitat condition.
Light Duty Vehicle	A Light Duty Vehicle is a road vehicle designed primarily for transporting people or light goods. This category includes cars, vans, and light commercial vehicles - typically those with a gross vehicle weight of up to 3.5 tonnes.
L_{max} L_{Amax} L_{AFmax}	The maximum instantaneous sound pressure level (L_{max}), The A-weighted maximum instantaneous sound pressure level (L_{Amax}) The A-weighted maximum instantaneous sound pressure level with a FAST time constant (L_{AFmax}). This is the highest instantaneous sound pressure level reached during a measurement period.

Term	Definition
L_{min}, L_{fmin}	The opposite of the L_{max} is the minimum instantaneous sound pressure level or L_{min} etc. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
LN,T LAN,T LAFN,T N = %age value, 0 100 T = measurement time e.g. LA90, LA10, LAF90, 5 min	The percentage exceedence sound pressure level (LN,T), The A-weighted percentage exceedence sound pressure level (LAN,T), the A-weighted percentage exceedence sound pressure level with a FAST time constant (LAFN,T). This is the sound pressure level exceeded for N% of time period T. eg. If an A-weighted level of x dB is exceeded for a total of 6 minutes within one hour, the level will have been above x dB for 10% of the measurement period. This is written as LA10,1hr = x dB. LA0 (the level exceeded for 0 % of the time) is equivalent to the LAmax and LA100 (the level exceeded for 100 % of the time) is equivalent to the LAmin. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
Local Lighthouse Authority	A port, harbour, or other authority responsible for providing and maintaining local aids to navigation, such as buoys and beacons, within its specific jurisdiction.
Loudness	The human perception of the level of sound
Low Emission Zone	A Low Emission Zone (LEZ) is a designated area where access by vehicles is restricted based on their emissions. The aim is to reduce air pollution - especially from traffic - by encouraging the use of cleaner vehicles. In a LEZ, vehicles that do not meet minimum emissions standards (usually based on Euro engine standards) may be charged or fined for entering the zone.
Low water (LW)	The minimum height reached by a falling tide.

Term	Definition
Lp LpA (or LA) LAF, LAS	The instantaneous sound pressure level (Lp) The A-weighted instantaneous sound pressure level (LpA or LA) This is the root mean square size of the pressure fluctuations in the air. This level can fluctuate wildly even for seemingly steady sounds. To make sound level meters easier to read the values on the display are smoothed or damped out. This is effectively done by taking a rolling average of the previous 0.125 s (FAST time constant) or the previous 1 s (SLOW time constant). The letters F or S are added to the subscripts in the notation to indicate when the FAST or SLOW time constant has been used. These are often omitted but it is good practice to include them.
Made Ground	An area where the pre-existing (natural or artificial) land surface is raised by artificial deposits. The purpose of the made ground is unspecified.
Main River	Main Rivers are usually large rivers or streams that are designated under the Water Resources Act (1991) and are shown on the statutory Main River Map. They are managed by the Environment Agency, which carries out construction, maintenance and improvement works to manage flood risk.
Maintenance dredging	Dredging concerned with the preservation of navigational channels and berths.
Marine isotope stage	Marine isotope stages are alternating warm and cool periods in the Earth's paleoclimate, deduced from oxygen isotope data reflecting changes in temperature derived from data from deep sea core samples.
Maritime archaeology	The remains of boats and ships and archaeological material associated with prehistoric and historic maritime activities.
Mean High Water Springs (MHWS)	MHWS is the average of the heights of two successive high waters during a 24 hour period.
Mesolithic	10000 to 4000 BC The Middle Stone Age, falling between the Palaeolithic and Neolithic and marking the beginning of a move from a hunter gatherer society towards a food producing society.

Term	Definition
Mitigation	Measures taken to reduce potential negative/adverse impacts.
Modelling	Computer simulation of estuarine and oceanic physical processes.
Morphology	The structure and form of the land.
Mudflats	Expanses of mud which are periodically exposed at low tide often found adjacent to saltmarshes.
Nanotesla	A unit of measurement of a magnetic field, equal to one billionth of a tesla.
National Vegetation Classification	A classification system describing plant communities in the UK by species composition.
Net Zero	Net Zero is achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removal over a specific period.
New Forest Perambulation	Officially defined boundary or territory of the New Forest, established by historical perambulations which were ceremonial walks taken to record and assert those boundaries.
Nitrate Vulnerable Zone	Areas designated as being at risk from agricultural nitrate pollution
Nitrogen deposition	Nitrogen deposition refers to the process by which nitrogen compounds - mainly from air pollution - settle onto land or water surfaces. These compounds, such as ammonia (NH_3) and nitrogen oxides (NO_x), are released into the air from sources like agriculture, road vehicles and industry. They eventually return to the ground through rain (wet deposition) or as dry particles and gases (dry deposition). In air quality and environmental assessments, nitrogen deposition is important because it can damage sensitive ecosystems, especially in protected nature sites, leads to soil and water nutrient imbalances, harming plant and animal life and contributes to acidification and eutrophication, which can reduce biodiversity.

Term	Definition
Nitrogen dioxide/ nitrogen oxides	Nitrogen dioxide is a gas with the chemical formula NO_2. It is one of the main air pollutants in urban areas and is part of a group of gases known as nitrogen oxides (NO_x), which also includes nitrogen oxide (NO). NO_2 is mainly produced by the burning of fossil fuels - especially from vehicle engines, industrial processes, and heating systems. In air quality assessments, NO_2 is important because it can irritate the lungs and worsen respiratory conditions like asthma. Long-term exposure is linked to reduced lung function and other health problems. It contributes to the formation of ground-level ozone and particulate matter, which are also harmful to health and the environment. NO_2 levels are monitored across the UK, and there are legal limits set to protect public health. Local authorities use tools like diffusion tubes and automatic monitors to measure NO_2 and take action when levels are too high.
Noise	No strict definition and is often used interchangeably with sound; however, it is usually taken to mean unwanted sound
Non-Road Mobile Machinery	Non-Road Mobile Machinery (NRMM) refers to mobile equipment and vehicles that are not intended for transporting passengers or goods on public roads. This includes machines like construction equipment (e.g. excavators, bulldozers), industrial tools, generators, and agricultural machinery that use internal combustion engines. Effective regulation and maintenance of NRMM are key to improving air quality and protecting public health during construction and industrial activities.
Numerical modelling	Refers to analysis of coastal processes using computational models.
Nursery ground	Habitats that enhance the growth and survival of juveniles.
Offshore	The zone beyond the nearshore zone where sediment motion induced by waves alone effectively ceases.
Ordinary Watercourse	Rivers, streams and ditches that are not Main Rivers are called ‘ordinary watercourses’. Lead local flood authorities

Term	Definition
	and internal drainage boards carry out flood risk management work on ordinary watercourses.
Ordnance Datum (OD)	Vertical reference point used in surveying and mapping to measure elevation
Otter holts/couches	Holts are underground dens used by otters for resting or breeding, often found along riverbanks; couches are day-time, above-ground resting sites, and may simply be an area of flattened vegetation.
Otter trawls	A large fishing net that is dragged behind a vessel mainly used to catch demersal fish living above the seafloor
Outlier sett	A smaller, usually less frequently used badger sett within a territory, often consisting of only a few holes.
Palaeoenvironmental analysis	The study of sediments and the organic remains of plants and animals to reconstruct the environment of a past geological age.
Palaeogeographic feature	Features seen within sub-bottom profiler data (buried) and multibeam bathymetry data (sea floor) interpreted as representing prehistoric physical landscape features such as former river channels (palaeochannels).
Palaeolithic	500000 to 10000 BC The Old Stone Age defined by the practice of hunting and gathering and the use of chipped flint tools. This period is usually divided into Lower, Middle and Upper Palaeolithic.
Particulate Matter	Term for solid particles and liquid droplets suspended in air. PM_{10} and $PM_{2.5}$ are commonly reported and have a particle diameter of 10 micrometres (or less) and 2.5 micrometres (or less), respectively.
Pebbles	Beach material usually well-rounded and between about 4mm to 75mm in diameter.
Pelagic	The water column of coasts, open oceans and lakes
Pelagic	Term applied to organisms of the plankton and nekton which inhabit the open water of a sea or lake.
Perennial vegetation	Any plant that persists for several years, usually with new herbaceous growth from a part that survives from growing season to growing season.
Pilotage Exemption Certificate	A requirement under a Compulsory Pilotage Driection, where the Master or bona fide Deck Officer operates

Term	Definition
	within the compulsory pilotage area without an authority Pilot
Pleistocene	The previous geological epoch, the period 2.58 million to 11,700 years ago, characterised by glacial and interglacial periods.
Population	A collection of individuals (plants or animals), all of the same species and in a defined geographical area.
Qualification levels	Qualification levels mentioned are aligned with the National Qualification Levels in England, Wales and Northern Ireland.
Quaternary	The current geological period, divided into the Pleistocene and Holocene epochs, and characterised by a series of glacial and interglacial cycles.
Ramsar site	Areas designated by the UK Government under the International Ramsar Convention (the Convention on Wetlands of International Importance).
Ranging	Where a moored vessel will move significantly in relation to the quay or jetty, caused by wind or vessel wake generated waves.
Reclamation	An area of land converted from the sea usually involving conversion of intertidal or subtidal areas to supratidal areas.
Risk	The likelihood of a specified level of harm occurring within a specified period of time
Roosting	Settling or congregating for rest or sleep.
Salicornia	A genus of flowering plants that grow in salt marshes, on beaches, and among mangroves.
Saline lagoons	Areas of shallow coastal water separated from the sea by shingle, sand or rock, but with some seawater exchange; a UK BAP Priority Habitat.
Salinity	The total amount of solid material in grams contained in 1 kilogramme of sea water when all the carbonate has been converted to oxide, the bromine and iodine replaced by chlorine, and all organic matter completely oxidized.
Saltmarsh	Flat areas of finely deposited silts that are occasionally inundated by seawater and dominated by salt tolerant (halophytic) communities of plants. Located in the intertidal zone.

Term	Definition
Saltpans	Depressions within saltmarshes that retain saline water after tidal flooding, supporting specialised halophytic species.
Seabed features	Features seen on the seafloor in the sidescan sonar or multibeam bathymetry data which are interpreted to represent heritage assets, or potential heritage assets. Also includes magnetic anomalies which may represent shallow buried ferrous material of archaeological interest
Seabed prehistory	Archaeological remains on the seabed corresponding to the activities of prehistoric populations that may have inhabited what is now the seabed when sea levels were lower.
Seasonally inundation grasslands	Grasslands periodically flooded during wet seasons, supporting wetland flora and fauna adapted to temporary inundation.
Sediment transport	The transportation of sedimentary particles by water or air
Seine net	A fishing net which hangs vertically in the water with floats at the top and weights at the bottom edge, the ends being drawn together to encircle the fish.
Severence	Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery
Shingle	A loose term for coarse beach material, a mixture of gravel, pebbles and larger material, often well-rounded and of hard rock (e.g. chert, flint, etc.) with a modal grain size exceeding 5mm.
Silt	Sediment particles with a grain size between 0.004mm and 0.062mm, i.e. coarser than clay particles but finer than sand.
Siltation	The process of fine, soil-like particles (silts and clays) settling out of suspension and accreting on the sea bed.
Site of Special Scientific Interest	An area of land which is of special interest for its flora, fauna, geological, geomorphological or physiographical features
Slack water	The period of low or zero current speed near the time of turning of the current between flood and ebb tides.
Soil Wetness Class	A system used to characterise soil profiles based on the typical duration and depth of waterlogging each year

Term	Definition
Sound	Used to describe the physical phenomenon of the transmission of energy through gaseous or liquid media via rapid fluctuations in pressure.
Sound Power Level LW	This is the total amount of sound produced by a source. It cannot be measured directly but it can be calculated from Sound Pressure Level measurements in known conditions. It can be used to predict the Sound Pressure Level at any point. Sound Power Level is expressed in decibels with a reference level of 1 pW (LW in dB re 1 pW). In the US a reference of 100 fW is sometimes used
Sound Pressure Level Lp	This is the basic measure of how much sound there is at a given location. It is a measure of the size of the pressure fluctuations in the air that we perceive as sound. Sound Pressure Level is expressed in decibels with a reference level of 20 Pa (Lp in dB re 20 Pa)
Source Protection Zone	Zones which show the level of risk to a groundwater source from contamination, designated by the Environment Agency.
Special Area of Conservation	A designated area protecting habitats and species identified in Annexes I and II of the Habitats Directive
Special Protection Area	A designated area protecting one or more rare, threatened, or vulnerable bird species listed in Annex I of the Birds Directive
Spit	A narrow accumulation of sand or shingle, lying generally in line with the coast, with one end attached to the land, the other projecting into the sea or across the mouth of an estuary.
Spring tide	Tides of increased range or tidal currents of increased speed occurring semi-monthly as the result of the Moon being new or full.
Stakeholder	An organisation or individual with a particular interest in the project.
Statistical Neighbours	A statistical neighbour is an area or local authority identified as having similar characteristics to another, used for benchmarking and comparison purposes
Statutory Harbour Authority	Statutory bodies responsible for the management and running of a harbour

Term	Definition
Subtidal	A marine environment that is below low water and is always covered by water.
Superficial Deposits	The youngest geological deposits formed during the most recent period of geological time, resting on older deposits or rocks referred to as bedrock.
Surface Water Flooding	Surface water flooding occurs when rainwater does not drain away through normal drainage systems or soak into the ground, but lies on or flows over the ground instead.
Telemetry tags	Tags which are attached to an animal to determine its location through detection of a signal from a transmitter
Tidal current	The lateral movement of water associated with the rise and fall of the tides.
Tidal Flooding	When flooding occurs due to extreme tidal conditions as a result of high tides, storm surges and wave actions.
Tidal limit	The point to which the tide reaches in an estuary, the end of the saltwater intrusion.
Tidal prism	Volume of water entering and leaving an estuary during each tide, i.e. the difference between low water volume and high-water volume.
Tidal range	Vertical difference in high and low water level.
Tide	The periodic rise and fall of the water resulting from gravitational interactions between Sun, Moon, and Earth (see also tidal current).
Trace metals	Metallic elements found in very small, but measurable, amounts in the environment and biological tissues
Trackout	Trackout refers to the dirt, mud, soil, or other debris that is unintentionally carried out of a construction site or other disturbed land by vehicles or equipment. This material typically adheres to tyres or other parts of machinery and is deposited onto adjacent paved surfaces such as roads where it then dries out and is resuspended by other vehicles using the road network.
Trail cameras	Motion-triggered cameras used for remote wildlife monitoring without disturbance.
Turbidity	Turbidity is the measure of relative clarity of a liquid and is a measurement of the amount of light that is scattered by the material in the water

Term	Definition
UKBAP Priority Habitat	Habitats identified under the UK Biodiversity Action Plan (now 'Habitats of Principal Importance' under the NERC Act 2006) as being most threatened and requiring conservation action.
Unproductive Strata	Predominantly bedrock or superficial deposits with low permeability that have negligible significance for water supply or river base flow.
Upper saltmarsh	The higher zone of a saltmarsh, less frequently inundated by tides, supporting salt-tolerant plants adapted to periodic flooding.
Vascular plant	Plants with specialised tissues (xylem and phloem) for conducting water and nutrients, including ferns, grasses, trees, shrubs, and flowering plants.
Veteran tree	A tree of great age, size, or condition that provides unique habitats for wildlife, often with features such as hollow trunks, cavities, or deadwood.
Water depth	Distance between the seabed and the still-water level.
Water level	The height of the water surface (the average value if waves are present) which may vary over time due to the rise and fall of the tide.
Water vole burrows	Tunnels excavated by water voles along banks of rivers, ditches, or wetlands, usually with visible entrances near the waterline, containing nesting chambers and providing shelter to raise young and protect against predators and floods.
Waterbirds	Birds that live on or around water
Weighted	Values modified to reflect sensitivities at particular frequencies.
Wet grasslands	Lowland habitats on poorly drained, wet, or waterlogged soils subject to high water tables or seasonal flooding, supporting a range of wetland plant and animal species.
Written Scheme of Investigation	Specific document forming the agreement between the Applicant, the appointed archaeologists, contractors and the relevant stakeholders seaward of MHWS. The document sets out the methods to mitigate the effects on all the known and potential archaeological receptors.

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