

Screening Report

Proposed upgrade of Island View Seawalls in the Port of Durban

Report Prepared for

PRDW Consulting Port and Coastal Engineers

Report Number 511330/SR-02



Report Prepared by

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December 2017

Screening Report – Proposed upgrade of Island View Seawalls in the Port of Durban

PRDW Consulting Port and Coastal Engineers

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Executive Summary

Background

The Port of Durban is the largest and best equipped container terminal in the southern hemisphere and is Africa's busiest port. Furthermore, it is South Africa's leading container, liquid bulk and vehicle port providing a variety of facilities including break bulk, a multi-purpose terminal, dry bulk, ship repair, navy, fishing, recreational activities and cruise liner docking. This port is of national importance as it services not only the local Durban and KwaZulu-Natal (KZN) hinterland but also the Gauteng and Southern African hinterlands.

Transnet National Ports Authority (TNPA) have identified the need to upgrade the Island View seawalls in the Port of Durban. PRDW Consulting Port and Coastal Engineers (PRDW) have appointed SRK Consulting (South Africa) (Pty) Ltd (SRK), on behalf of TNPA, to undertake a screening assessment to identify all environmental permits, approvals and regulatory requirements.

This report constitutes the screening report.

Summary of findings

The Island View Complex and study area stretches from the Port inner entrance channel, along the Bluff south quay walls and sea walls to the Island View quay walls and sea walls. It includes the Island View berths 1 to 9, and extends along the Navy boundary adjacent to Island View by Salisbury Island. The project area includes the entire Island View channel and turning basin.

The FEL 2 Pre-Feasibility Study undertaken by PRDW for this project identified the damaged areas that require immediate repair and upgrade. The FEL 2 study considered eleven (11) alternative solutions for repair and upgrade of the Island View seawalls, which were work-shopped with TNPA, following which it was unanimously agreed that rock revetments are the most effective and the preferred method of protecting the Island View shoreline. The advantages of rock armour include that it is a very common and robust shoreline protection solution, it is cost effective when suitable rock material is available, it allows for movement and settlement, and it absorbs wave energy. There are however certain areas along the shoreline where access is restricted (i.e. under or between berths) and where very steep slopes (greater than 1:1.5) warrant alternative forms of protection (e.g. where sheetpiles are required to stabilise banks and rip-rap is required for scour protection). The project will also include dredging to facilitate the required upgrades. Dredged material will be used to fill scour holes in the basin, which may otherwise undermine the integrity of the slopes and berth structures.

The proposed works will all take place within the existing (developed) areas of the Port of Durban and adjacent marine environment. The presence of sensitive terrestrial and aquatic habitats within and surrounding the study area were determined based on existing datasets, the findings of which are presented in Table ES-1.

Table ES-1: Presence of sensitive terrestrial and aquatic habitats

Dataset	Study Area	Surrounds
eThekweni Municipality D'MOSS	Entire aquatic area of the Port of Durban is classified as 'Estuary'	No other open space zones directly adjacent to the study area
Ezemvelo KZN Wildlife TSCP	100% transformed	Biodiversity Priority Area 1 along southern boundary of study area
SANBI National Biodiversity Assessment: Terrestrial Habitats	Entire Port of Durban and surrounding area classified as critically endangered	
National Freshwater Ecosystem Priority Area (NFEPA)	Entire Durban bay classified as a National Freshwater Ecosystem Priority Area	

Dataset	Study Area	Surrounds
1: 100 year floodlines	Outside 1: 100 year floodlines of three major rivers feeding the Durban bay	

Legal Review

The review of environmental legislation identified the following legislation as relevant to the proposed upgrades:

- National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the Environmental Impact Assessment (EIA) Regulations (2014) promulgated in terms of the NEMA;
- National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (NEM: ICMA);
- National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA); and
- KwaZulu-Natal Planning and Development Act, 2008 (Act No. 6 of 2008) (PDA).

Conclusions

Based on the screening assessment undertaken, SRK has determined the following with respect to the need for environmental authorisations or permits:

- Based on the fact that the proposed activities take place inside an existing Port, does not increase the development footprint of the Port, and a setback for the port has not been defined, no Environmental Authorisation is required for this project.
- No Dumping at Sea Permit, or any other applications will be required in terms of the NEM:ICMA, as no waste will be disposed of at sea. However, should the proposed utilisation of the material in the Port no longer be considered feasible, DEA:O&C will once again need to be consulted to confirm the acceptability of, and permitting requirements for alternative options;
- No applications will be required in terms of the National Water Act;
- An online application and Notice of Intent to Develop will need to be submitted to SAHRA as soon as possible, following which they will determine the need for any further heritage studies; and
- Planning approval will be required from eThekweni Municipality EPCPD, however the information requirements to inform such approval remain uncertain and confirmation has been requested from the EPCPD.

Table of Contents

Executive Summary	ii
Disclaimer.....	vi
1 Introduction	1
2 Background	1
3 Approach.....	3
3.1 Authority consultation.....	3
4 Understanding of the project	4
4.1 Background.....	4
4.2 Upgrades proposed and extent of development footprint.....	4
4.3 Construction methodology	8
4.4 Utilisation/Disposal of Dredged Material	9
5 Baseline description of the project area	11
5.1 Broad baseline description.....	11
5.2 Sensitive terrestrial habitats.....	11
5.2.1 eThekweni Municipality D'MOSS	11
5.2.2 Ezemvelo KZN Wildlife TSCP	12
5.2.3 National Biodiversity Assessment: Terrestrial Habitats	12
5.3 Sensitive aquatic habitats	16
5.4 Heritage resources.....	18
6 Legal Review.....	22
6.1 National Environmental Management Act	22
6.1.1 Environmental Impact Assessment Regulations.....	22
6.1.2 National Environmental Management: Integrated Coastal Management Act.....	22
6.2 National Heritage Resources Act.....	23
6.3 KwaZulu-Natal Planning and Development Act.....	23
6.4 Additional applicable legislation	25
7 Conclusions.....	25
8 References	27
Appendices	28
Appendix A: Detailed Legal Review.....	29
Appendix B: Minutes of the Meeting with Department of Environmental Affairs: Oceans and Coast (DEA:O&C)	37
Appendix C: Drawings	38

List of Tables

Table 4-1: Summary of potential volumes of material to be excavated during construction.....	8
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Table 5-1: Berth Structure Ages (based upon as-built information received)	18
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List of Figures

Figure 2-1: Map showing project study area within the Port of Durban	2
Figure 4-1: Example of a rock revetment	5
Figure 4-2: Proposed upgrades to the seawall and revetments (refer to Appendix C for an enlarged version) 6	6
Figure 4-3: Basin and seawall	7
Figure 4-4: Schematic illustration of the section view of a typical seawall between the berths (current and future).....	7
Figure 4-5: Options for the storage of dredge spoil in Island View Terminal (refer to Appendix C for an enlarged version)	10
Figure 5-1: Map showing eThekweni Municipality Durban Municipal Open Space System (D'MOSS)	13
Figure 5-2: Map showing Ezemvelo KZN Wildlife (EKZNW) priority conservation areas	14
Figure 5-3: Map showing South African National Biodiversity Institute (SANBI) National Biodiversity Assessment terrestrial habitats	15
Figure 5-4: Map showing National Freshwater Ecosystem Priority Areas (NFEPA) wetlands and estuaries, and eThekweni rivers and floodplains	17
Figure 5-5: Schematic of Berth 1 As-Built	19
Figure 5-6: Island View heritage plan (refer to Appendix C for an enlarged version)	20
Figure 5-7: Durban Harbour Map – 1950 (TNPA)	21
Figure 5-8: Durban Harbour Maps – 1964 (TNPA)	21

Disclaimer

The opinions expressed in this Report have been based on the information supplied to SRK Consulting (South Africa) (Pty) Ltd (SRK) by PRDW Consulting Port and Coastal Engineers (PRDW). The opinions in this Report are provided in response to a specific request from PRDW to do so. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which SRK had no prior knowledge nor had the opportunity to evaluate.

1 Introduction

SRK Consulting (South Africa) (Pty) Ltd (SRK) has been appointed by PRDW Consulting Port and Coastal Engineers (PRDW) to provide Environmental Advisory Services for the upgrade of the Island View seawalls in the Port of Durban, as proposed by Transnet National Ports Authority (TNPA).

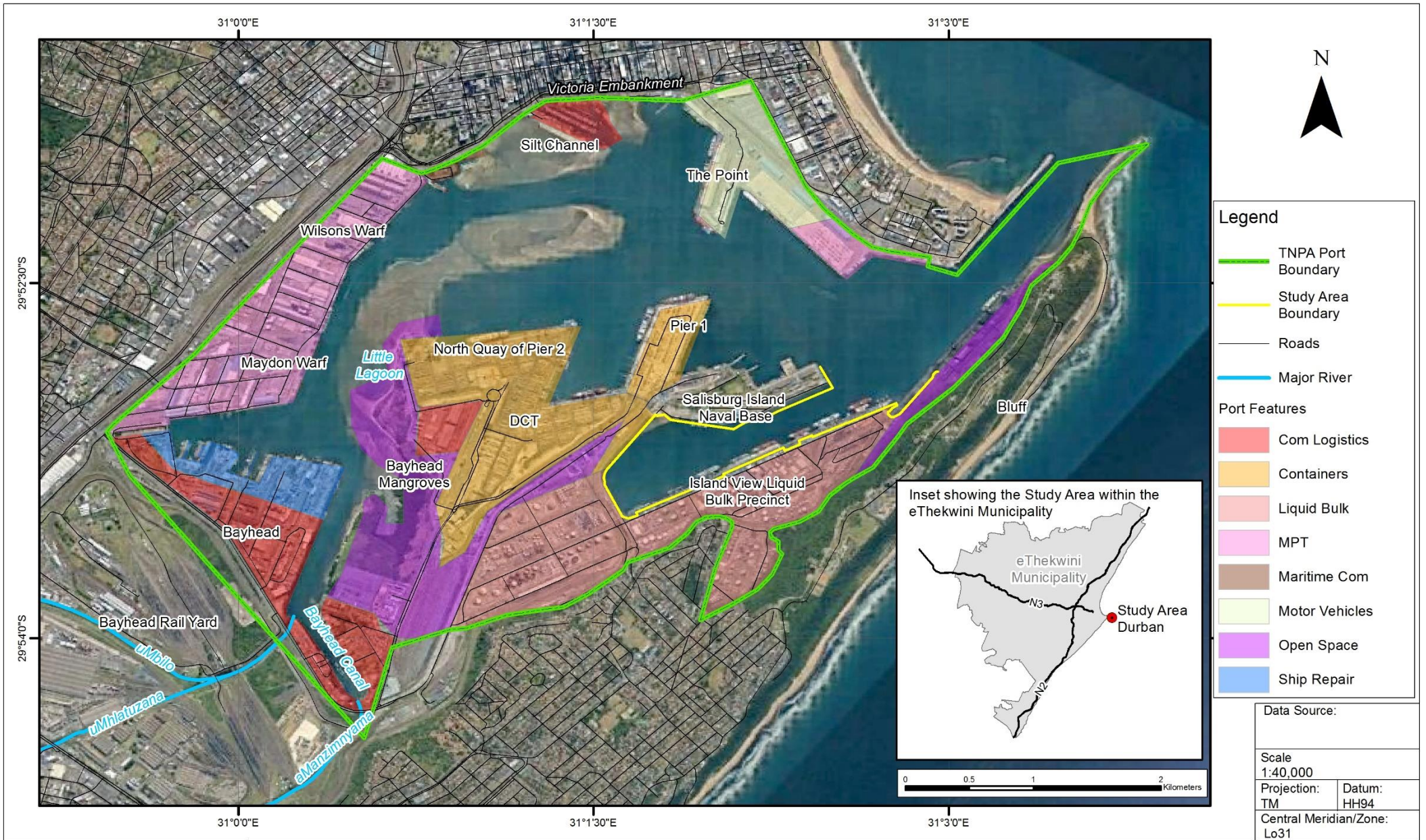
The first component of SRK's scope includes the preparation of a screening report, this report, to identify all environmental permits, approvals and regulatory requirements.

2 Background

The Port of Durban is the largest and best equipped container terminal in the southern hemisphere and is Africa's busiest port. Furthermore, it is South Africa's leading container, liquid bulk and vehicle port providing a variety of facilities including break bulk, a multi-purpose terminal, dry bulk, ship repair, navy, fishing, recreational activities and cruise liner docking. This port is of national importance as it services not only the local Durban and KwaZulu-Natal (KZN) hinterland but also the Gauteng and Southern African hinterlands.

The Island View Complex (Island View) is located on the southern side of the Port of Durban approximately 2.5km from the harbour mouth which is situated to the north-east. Island View consists of one dry bulk berth with a terminal capacity of 1.3 million tonnes per annum (Mtpa), one break bulk berth with a terminal capacity of 0.22mtpa and seven liquid bulk berths with a total terminal capacity of 17.1Mtpa. The Transnet Durban to Gauteng pipeline originates at a pump station at Island View Complex, and the Coastal Terminal for the New Multi-Products Pipeline (NMPP) has also been developed in Island View. The gas trunk line also terminates at Island View.

The Island View Complex and study area stretches from the Port inner entrance channel, along the Bluff south quay walls and sea walls to the Island View quay walls and sea walls. It includes the Island View berths 1 to 9, and extends along the Navy boundary at Salisbury Island. The project area includes the entire Island View channel and turning basin. Refer to Figure 2-1 for the project area and extent of shoreline considered.



Legend

- TNPA Port Boundary
- Study Area Boundary
- Roads
- Major River

Port Features

- Com Logistics
- Containers
- Liquid Bulk
- MPT
- Maritime Com
- Motor Vehicles
- Open Space
- Ship Repair

Data Source:

Scale
1:40,000

Projection: TM Datum: HH94

Central Meridian/Zone: Lo31

Date: 02/10/2017 Compiled by: STBOD

Project No. 511330 Fig No. 2-1

Revision: A 02/10/2017



ISLAND VIEW SEAWALLS AND REVETMENT UPGRADE

MAP SHOWING PROJECT AREA WITHIN THE PORT OF DURBAN

3 Approach

SRK undertook the following steps in determining the environmental permits, approvals and regulatory requirements:

- Develop a project understanding:
 - Initiation meeting with PRDW and TNPA;
 - Undertake numerous discussions with PRDW via teleconference;
 - Review of the FEL 2 Pre-feasibility Study Report;
 - Correspondence with PRDW to understand the findings of the FEL 2 study;
 - Review layout plans and design specifications.
- Develop an understanding of baseline environment through review of existing maps to identify sensitive environmental features on site and surrounding the site. This included a review of available information and historical Environmental Impact Assessment (EIA) and Specialist reports available for the site. This also included communication with TNPA via PRDW;
- Undertake an environmental legal review to determine potential authorisations, permits and licenses required; and
- Compile a Screening Report, this report, that provides:
 - An overview of SRK's understanding of the proposed project;
 - An understanding of what potential environmental permits and/or licences will be required for the site;
 - A description of the site baseline that underpins the legal requirements, based on existing information.

3.1 Authority consultation

Based on the initial screening assessment undertaken, several uncertainties were identified with respect to the interpretation and applicability of various environmental laws. In order to definitively confirm the need for environmental authorisations or permits in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) EIA Regulations, National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (NEM: ICMA) and KZN Planning and Development Act, 2008 (Act No. 6 of 2008) (PDA), the following actions were undertaken:

- A meeting was held on 27 November 2017 with the Department of Environmental Affairs (DEA): Oceans and Coast (O&C) to discuss the proposed dredging and options for disposal or beneficial use of the dredged material (i.e. placement of dredged material in scour holes in the Port). The DEA:O&C confirmed that the placement of dredged material within scour holes within the Port does not require a dumping at sea permit, as this would not be considered disposal of waste at sea in terms of the NEM: ICMA (refer to Appendix B for the minutes of the meeting).
- Omar Parak of the EDTEA confirmed telephonically (15 December 2017) that a development setback line for the Port of Durban has not yet been defined.
- An enquiry was submitted to the eThekweni Municipality EPCPD on 28 November 2017 to confirm the Municipalities' requirements for approval of the project in terms of their mandate under the KwaZulu-Natal (KZN) Planning and Development Act, 2008 (Act No. 6 of 2008) (PDA). Confirmation of this is still awaited, although SRK believes that the EPCPD will merely require an Environmental Management Programme (EMPr) to be submitted for approval prior to commencement of construction.

4 Understanding of the project

4.1 Background

The Port of Durban, in line with the National Ports Plan, has identified Island View for reconstruction and modernisation in order to address safety concerns and to sustain the national fuel import programme. Recent failures of the seawalls protecting the Island View shoreline have triggered the need for the repair and upgrade of the seawalls. This project is focused on the upgrade of shoreline protection along the coastline, including the installation of scour protection in certain areas.

Seawall and revetment failures are attributed to a combination of increased wave energy, acting on the upper section of the revetment slope, and undermining of the slope caused by over dredging or propeller and bow thruster scour. The increased wave energy is attributed to the entrance widening and deepening. Scour holes on the seabed and shoreline slope are typically found between the Island View berths and are thought to be caused by propeller wash from ships leaving the berths.

The FEL 2 Pre-Feasibility Study undertaken by PRDW for this project identified the damaged areas that require immediate repair and upgrade. The FEL 2 study considered eleven (11) alternative solutions for repair and upgrade of the Island View seawalls, which were work-shopped with TNPA, following which it was unanimously agreed that rock revetments are the most effective and the preferred method of protecting the Island View shoreline. This is also the current coastal protection in place around the Island View terminal. The advantages of rock armour include that it is a very common and robust shoreline protection solution, it is cost effective when suitable rock material is available, it allows for movement and settlement, and it absorbs wave energy. There are however certain areas along the shoreline where access is restricted (i.e. under or between berths) and where very steep slopes (greater than 1:1.5) warrant alternative forms of protection (e.g. where sheetpiles are required to stabilise banks and rip-rap is required for scour protection) in addition to the basic rock revetments to be installed all along the shoreline.

4.2 Upgrades proposed and extent of development footprint

A rock armour revetment consists of suitably sized and graded rock material designed for the specific site conditions and design wave heights (see typical example in Figure 4-1). A suitable under layer consisting of a combination of smaller rock material and geotextile lining is essential for the required filter functionality and the retention of finer sediment particles behind the revetment. For the steeper and less stable shoreline slopes, steel sheetpiles are an effective means of stabilising and retaining the slopes at the toe of the slopes. Rock protection will also be added to this. This is a conventional method of improving slope stability in areas with bad geotechnical conditions or steep slopes and has already been used in a number of areas in Island View i.e. at Berths 3, 5 and 6.



Figure 4-1: Example of a rock revetment

During the FEL 3 design stage, areas were identified for the installation of revetments and sheetpiles and other areas identified where no work is required (Figure 4-2). The scope of the seawall upgrades includes all structures from the copeline to the revetment crest as shown in Figure 4-3. The combined structures consisting of revetment, dredged slope and intermittent sheetpiles is defined to be the seawalls along the basin edge. The footprint of this developed area is not expected to increase during the upgrade process. The area of the slope that is currently protected will stretch into deeper water along the gaps between the berths and some sheetpiles may be installed along the copeline between Berth 1 and the Bunker berth. For the rest of the area only the upgrade of the revetment on the higher slopes are envisaged, with a potential sheetpile installation along Salisbury Island should geotechnical slope stability risks become evident.

Due to the upgrading of the rock size on the revetment to accommodate the larger design waves associated with the (previous) widening of the entrance channel, the revetment thickness increases. In plan the development footprint remains the same since the structure does not terminate at the waterline, but stretches to the copeline or basin edge. Figure 4-4 provides a schematic illustration of the section view of a typical seawall between the berths. It shows that some of the dredged slope would be covered with rock and additional sheetpiles installed along the copeline. However, the width of the seawalls in plan view should stay constant.

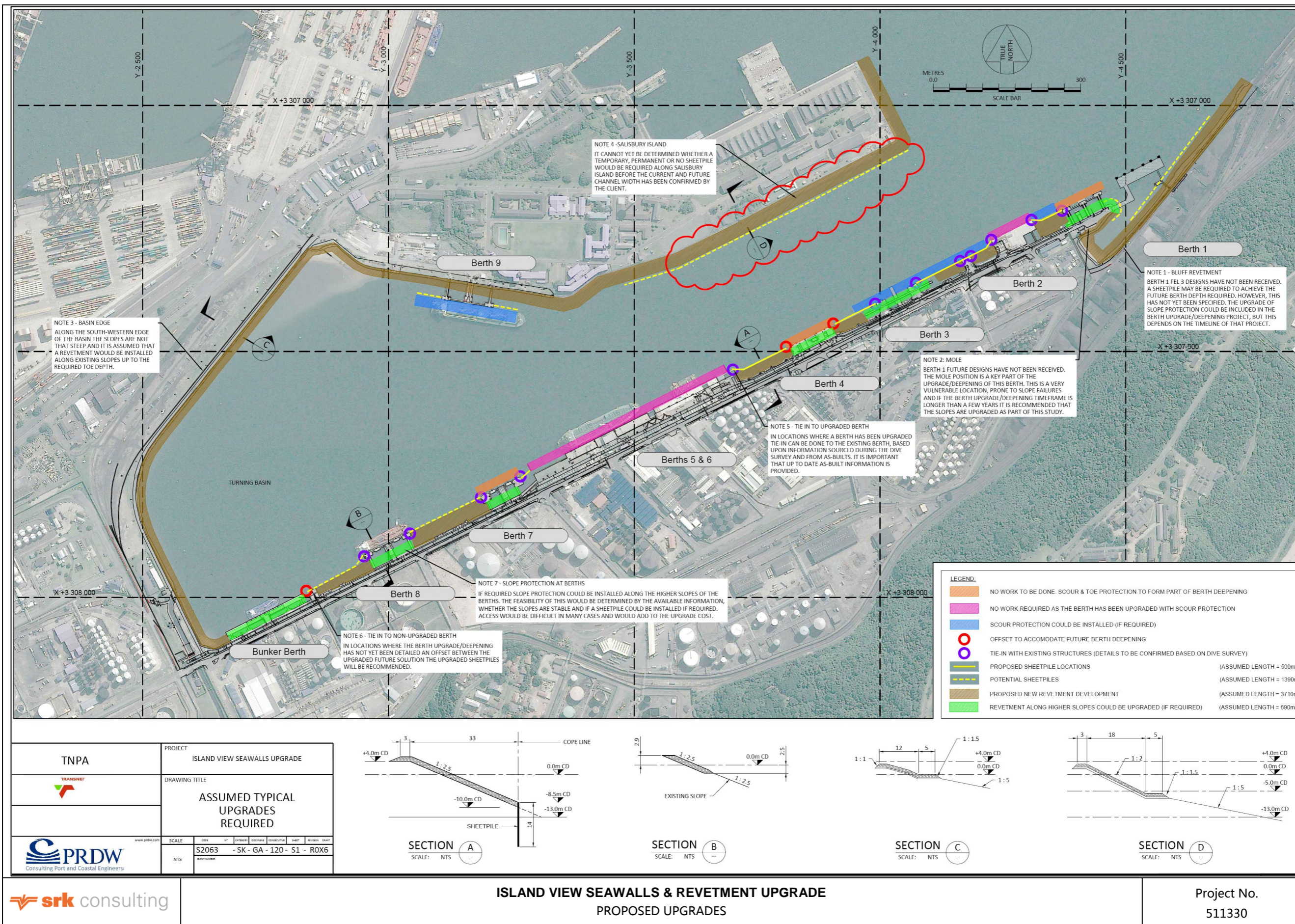


Figure 4-2: Proposed upgrades to the seawall and revetments (refer to Appendix C for an enlarged version)

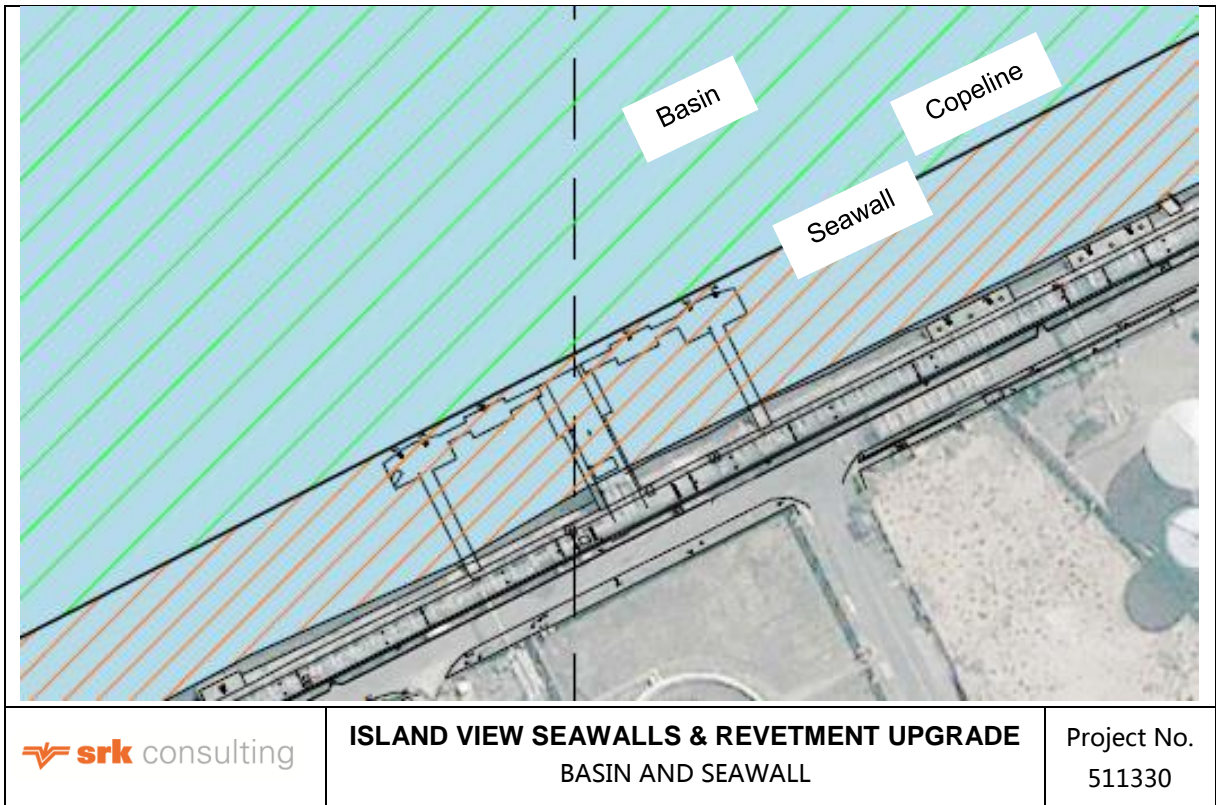


Figure 4-3: Basin and seawall

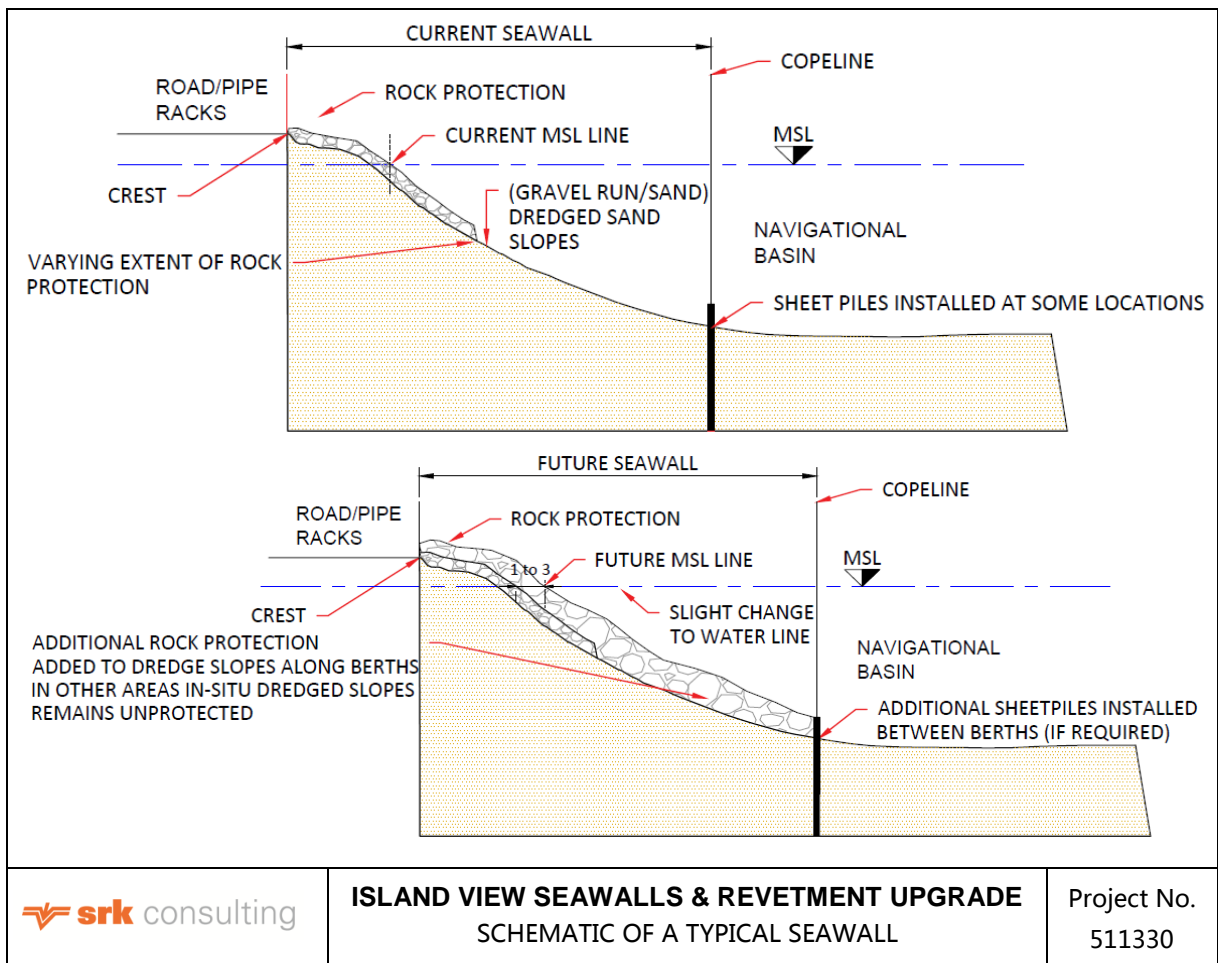


Figure 4-4: Schematic illustration of the section view of a typical seawall between the berths (current and future)

4.3 Construction methodology

The construction methodology envisaged for the revetments will be a combination of land and marine based techniques where there is landside access, such as for Salisbury Island. It is assumed that land based equipment will be able to construct a revetment up to 20m from the shore edge and to a depth of approximately -2m Chart Datum Port (CDP). Where the revetment slope is beyond the reach of land based equipment, marine based techniques will be adopted such as along Island View berths 1 to bunker.

The base of the new revetments adjacent to berths will need to be aligned with the berth cope alignment. The current slopes cannot be steepened and therefore a sheetpile will be installed at the toe of the structure to stabilise the slopes. Dredging (excavation) will take place to the advertised slope with some optional additional dredging to install scour protection alongside the sheetpile. This additional depth will fall within the general tolerance prescribed for maintenance dredging of 1.5 to 2 m.

For the landside construction, road worthy dump trucks will be used to transport filter and armour rock to sites that have road access. The rock will be dumped directly onto the revetment being constructed or stockpiled adjacent to the working area. A land-based excavator will be used to place and shape the revetment filter layer and armour layer. A long reach excavator will be used where required.

It is assumed that all land based operations will take place in previously disturbed areas and that no clearance of vegetation or disturbance of greenfield sites will be required. PRDW has also confirmed that the construction phase will not require or include the construction of infrastructure for utilities such water supply, electricity or access roads. There are some existing storm water outlets along the seawalls, but these will not be upgraded, just integrated into the revetment structure.

The following marine based steps will be undertaken for typical revetment upgrade for sandy/clayey slopes exhibiting material beyond the cope line and above the future dredge depth where slope stabilisation is required:

- 1) Filter and armour rock will be transported to and stockpiled at Salisbury Island behind Berth 9. A front-end loader will be used to load hopper barges from the Berth 9 mooring dolphin. The hopper barges will transport rock to the site and bottom dump the rock. A long reach excavator on a spud barge will be used to place, spread and profile the rock as required. A dive and hydrographic survey will be done to check the levels and profiles.
- 2) Sheetpiles will be driven into the sea floor via a marine based barge in order to stabilise the bottom of the slope.
- 3) Excavation of sandy/clayey material is required reach the advertised basin depth.
- 4) Where required, scour protection will be placed on the seabed seawards of the sheetpile.
- 5) The revetment layers (i.e. geotextile, filter and final layers) will then be placed on the slope.

Since the exact volumes of material to be excavated (see item 3 above) cannot yet be accurately determined, PRDW have identified three potential scenarios for the purposes of this screening exercise, as summarised in Table 4-1.

Table 4-1: Summary of potential volumes of material to be excavated during construction

Scenario	Total cut	Comment
Scenario 1: Best case	7 000m ³	Very likely that sheetpiles are required between the berths. Possibly sheetpiles are not required along Salisbury Island
Scenario 2: Middle ground	9 000m ³	Potential excavation with current channel
Scenario 3: Worst case	15 000m ³	Potential excavation if multibeam information varies significantly for current situation.

4.4 Utilisation/Disposal of Dredged Material

Various options for the utilisation or disposal of the dredged material were identified and considered by PRDW including:

- Beneficial use (to fill scour holes inside the port);
- Disposal on land;
- Disposal or temporary storage in the port; or
- Disposal at sea at TNPA's maintenance dredging disposal site.

The placement of dredged material in scour holes in the Island View Basin (refer to Figure 4-5) to reduce any risks of slopes or berth structures being undermined for the short term is the option preferred by DEA:O&C, as this would be a beneficial use of the material and would eliminate the need for disposal and thus a Dumping at Sea Permit.

Neither disposal on land nor disposal at sea were considered feasible options given the volumes of material to be dredged. The option of disposing of material behind a rock or sheetpile bund wall in the two embayments in the basin (refer to Figure 4-5) has been identified by PRDW as a possible future option for consideration. Should it be established during the project that the dredged material is not suitable for utilisation in the scour holes, the DEA: O&C will be contacted to confirm the permitting requirements for the alternative options.

Based upon the CSIR monitoring studies for 2016 and 2017 it is not anticipated that the material dredged would be contaminated.

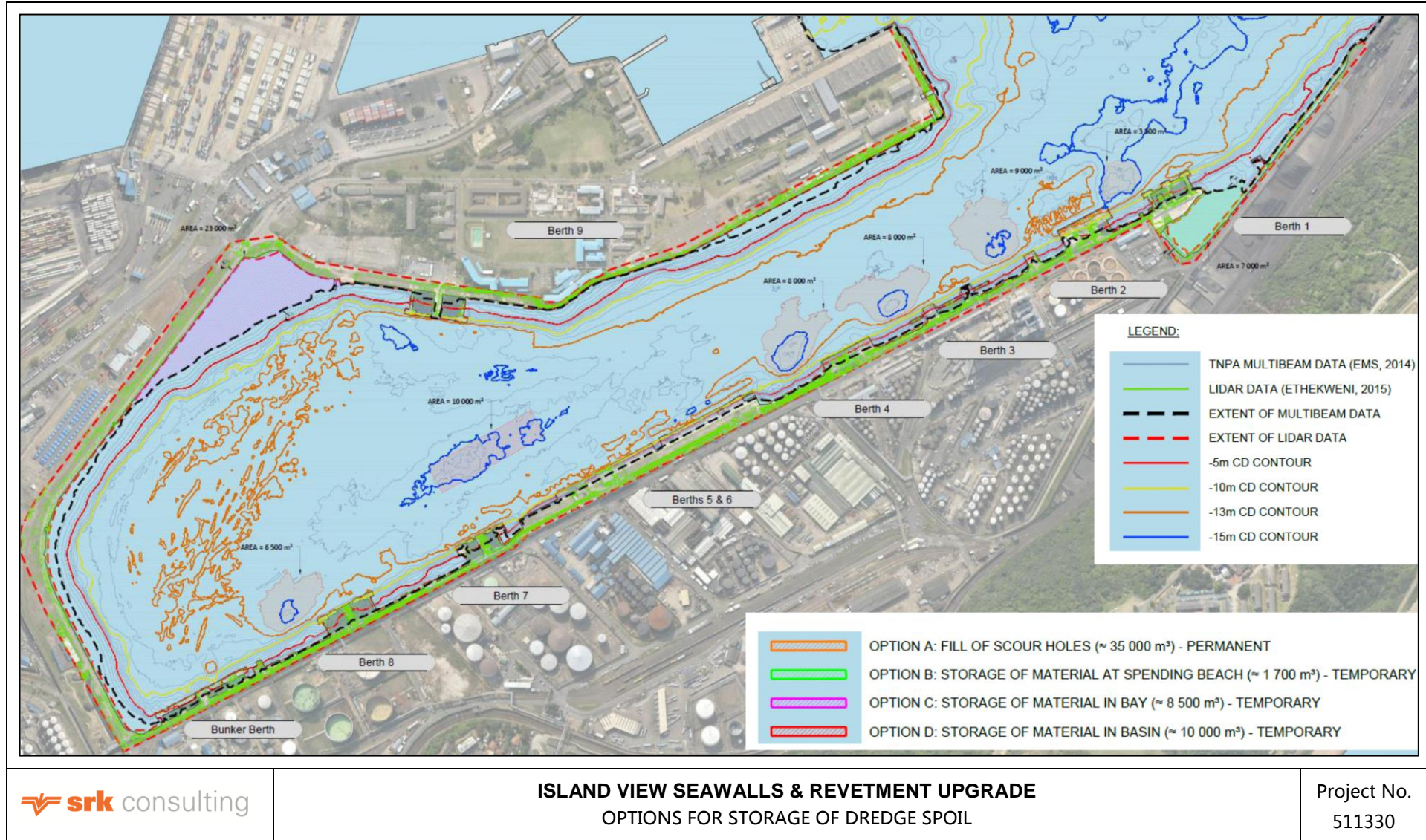


Figure 4-5: Options for the storage of dredge spoil in Island View Terminal

5 Baseline description of the project area

5.1 Broad baseline description

The geology of the surrounding area consists of the Berea formation leached, dune sands and harbour beds.

Harbour development in the bay has over the years resulted in a situation where almost the entire water area is now surrounded by docks and quays, where previously it represented an important natural feature in, what otherwise, is a coastline generally devoid of sheltered marine habitat.

Despite the physical environmental degradation due to harbour development, Durban Bay still retains a significant ecological function in terms of its sheltered marine habitats and nursery areas in the context of the eastern seaboard of South Africa.

The inter-tidal sheltered sandbanks in the Port of Durban act as a nursery for juvenile fish and provide a habitat for migrant wading birds. Other habitats of importance located within the Port include: grassland communities, rocky shores, inter-tidal and sub-tidal zones, soft shores and mangroves.

A variety of water bird species utilise the Bay and are dependent on the habitats within the Bay for their sustainability, particularly as the Bay is utilised for foraging and roosting. In addition, Red Data List bird species have been recorded in the Bay.

The Marinas, the beaches and uShaka Marine World are the key tourist areas in and around the Port. uShaka extracts salt water via a network of 60 wells located underneath the pier in front of uShaka. Rather than sucking up water directly from the sea and then treating it, uShaka has a well system which sucks up sea water from 5m below the beach sand. The sand acts as a filter to remove contamination. Therefore it is not anticipated that dredging activities would affect the quality of the water.

A review of existing biodiversity and conservation plans was undertaken to identify sensitive terrestrial and aquatic habitats. The review was undertaken primarily to determine whether this may have any implications with respect to permits and authorisations required, but also to inform (in future) the need for environmental management during construction.

5.2 Sensitive terrestrial habitats

To determine whether the site includes sensitive terrestrial habitats, the following data sets were considered and findings presented in the sub-sections below:

- eThekweni Municipality Durban Municipal Open Space System (D'MOSS) (2011);
- Ezemvelo KwaZulu-Natal Wildlife (EKZNW) (2011) KZN Terrestrial Systematic Conservation Plan (TSCP) database of priority conservation areas (also referred to as C-Plan);
- South African National Biodiversity Institute (SANBI) (2011) National Biodiversity Assessment Terrestrial Habitats.

5.2.1 eThekweni Municipality D'MOSS

D'MOSS is a system of open spaces, comprising of land and water that incorporates areas of high biodiversity value linked together in a viable network of open spaces. D'MOSS is a controlled area wherein, despite the underlying town planning zoning, development may not occur without having first obtained the necessary environmental authorisation or support from the Environmental Planning & Climate Protection Department (EPCPD) of the eThekweni Municipality. From a natural resource perspective, D'MOSS includes dams, estuarine environment, mangrove, forests, coastal and scarp

forests, wetlands and reedbeds. D'MOSS thus provides a unique opportunity to conserve many of South Africa's threatened ecosystems and species, within the eThekweni Municipal region.

As indicated in Figure 5-1, the project study area forms part of the DMOSS and is classified as 'Estuary' (which encompasses the entire aquatic area of the Port of Durban) with 'Forest', 'Thicket', 'Grassland', 'Marine' and 'Settlement' zones falling to the south-east of the study area.

Figure 5-1 also indicates the position of the coastal development setback line. It is noted that the development setback line for the port has not been defined eThekweni Municipality as this falls within the jurisdiction of the National DEA: O&C.

5.2.2 Ezemvelo KZN Wildlife TSCP

EKZNW uses the C-Plan programme as part of its TSCP to identify a provincial reserve system for KZN that satisfies specified conservation targets for biodiversity features. The C-Plan is an effective conservation tool when determining priority areas at a regional level and is used in KZN to identify areas of high conservation value. As indicated in Figure 5-2 the project study area lies within the area classified as '100% Transformed' with an area classified as 'Biodiversity Priority Area 1' located immediately adjacent to the site along the eastern boundary.

5.2.3 National Biodiversity Assessment: Terrestrial Habitats

The National Biodiversity Assessment (NBA) led by SANBI (2011) assigned 4 categories of sensitivity: Critically Endangered, Endangered, Vulnerable and Least Threatened to various habitat types.

As indicated in Figure 5-3, the project study area lies within the Critically Endangered category. These are habitat types where the area in good condition is less than the identified biodiversity target (20%). Conceptually, these are habitat types where there are very few remaining areas of pristine or natural habitat, and it is expected that important components of biodiversity pattern have been lost and that processes have been heavily modified

While the area has been identified as Critically Endangered, the assessment was prepared at a national level and it is acknowledged that the port is largely transformed.



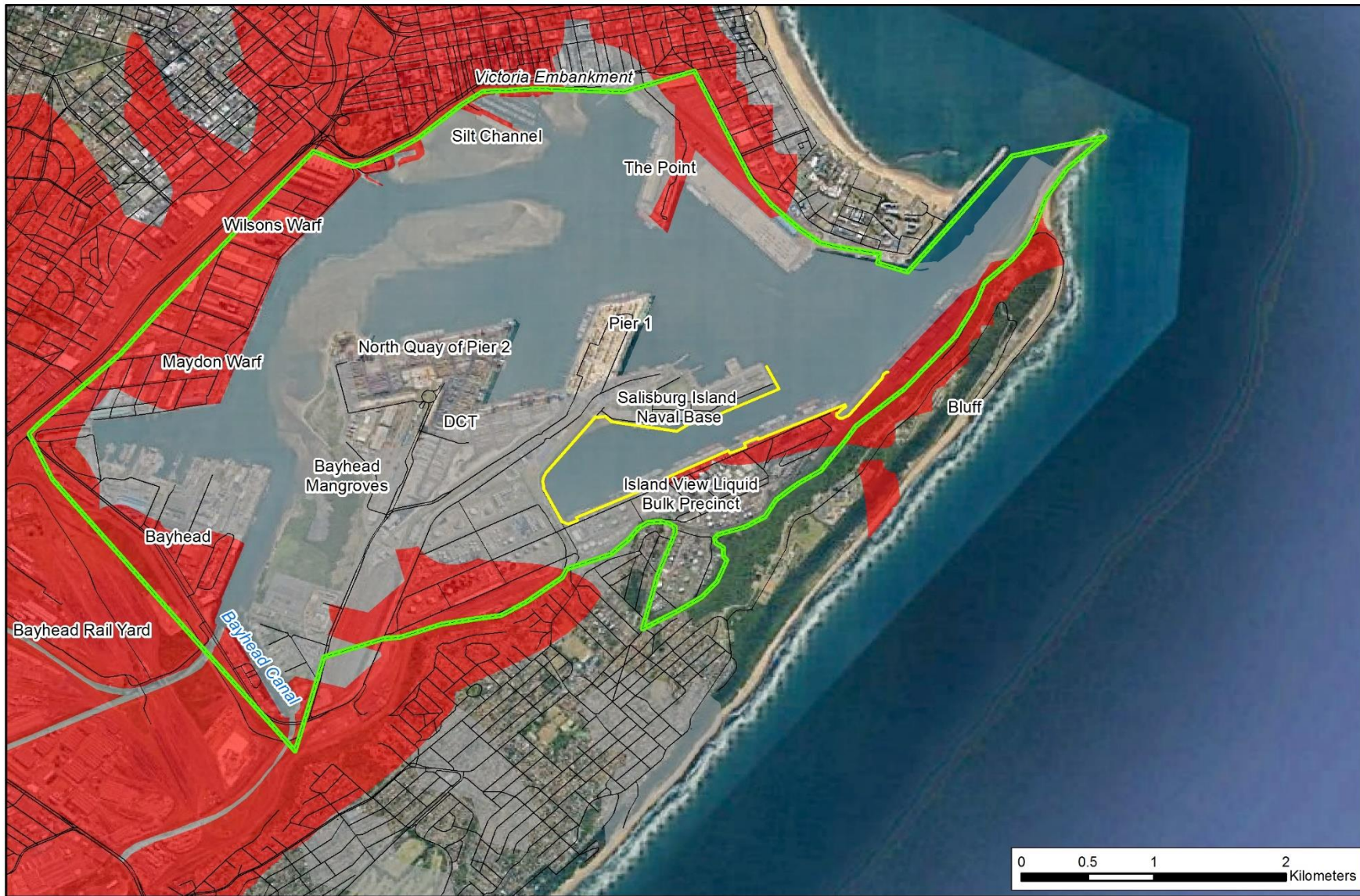
Legend

- TNPA Port Boundary
- Study Area Boundary
- Set Back Lines
- Roads

D'MOSS Zones

- Artificial waterbody
- Estuary
- Forest
- Grassland
- Marine
- Recreational
- Settlement
- Thicket

Data Source:	
D'MOSS 2011	
Scale 1:45,000	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo31	
Date: 02/10/2017	Compiled by: STBOD
Project No. 511330	Fig No. 5-1



Legend

- TNPA Boundary
- Study Area Boundary
- Roads

eKZNW Priority Conservation Areas

- 100% Transformed
- Biodiversity Priority Area 1

Data Source:	
eKZNW C-Plan 2010	
Scale 1:45,000	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo31	
Date: 02/10/2017	Compiled by: STBOD
Project No. 511330	Fig No. 5-2



**ISLAND VIEW SEAWALLS AND REVETMENT UPGRADE
MAP SHOWING EZEMVELO KWAZULU-NATAL WILDLIFE (EKZNW) PRIORITY
CONSERVATION AREAS**



Legend

- TNPA Port Boundary
- Study Area Boundary
- Roads

NBA Ecological Status

- Critically Endangered
- Least Threatened

Data Source: NBA 2011: Vegetation Map	
Scale 1:45,000	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo31	
Date: 02/10/2017	Compiled by: STBOD
Project No. 511330	Fig No. 5-3
Revision: A 02/10/2017	



ISLAND VIEW SEAWALLS AND REVETMENT UPGRADE
MAP SHOWING SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE (SANBI) NATIONAL BIODIVERSITY ASSESSMENT TERRESTRIAL HABITATS MAPPING

5.3 Sensitive aquatic habitats

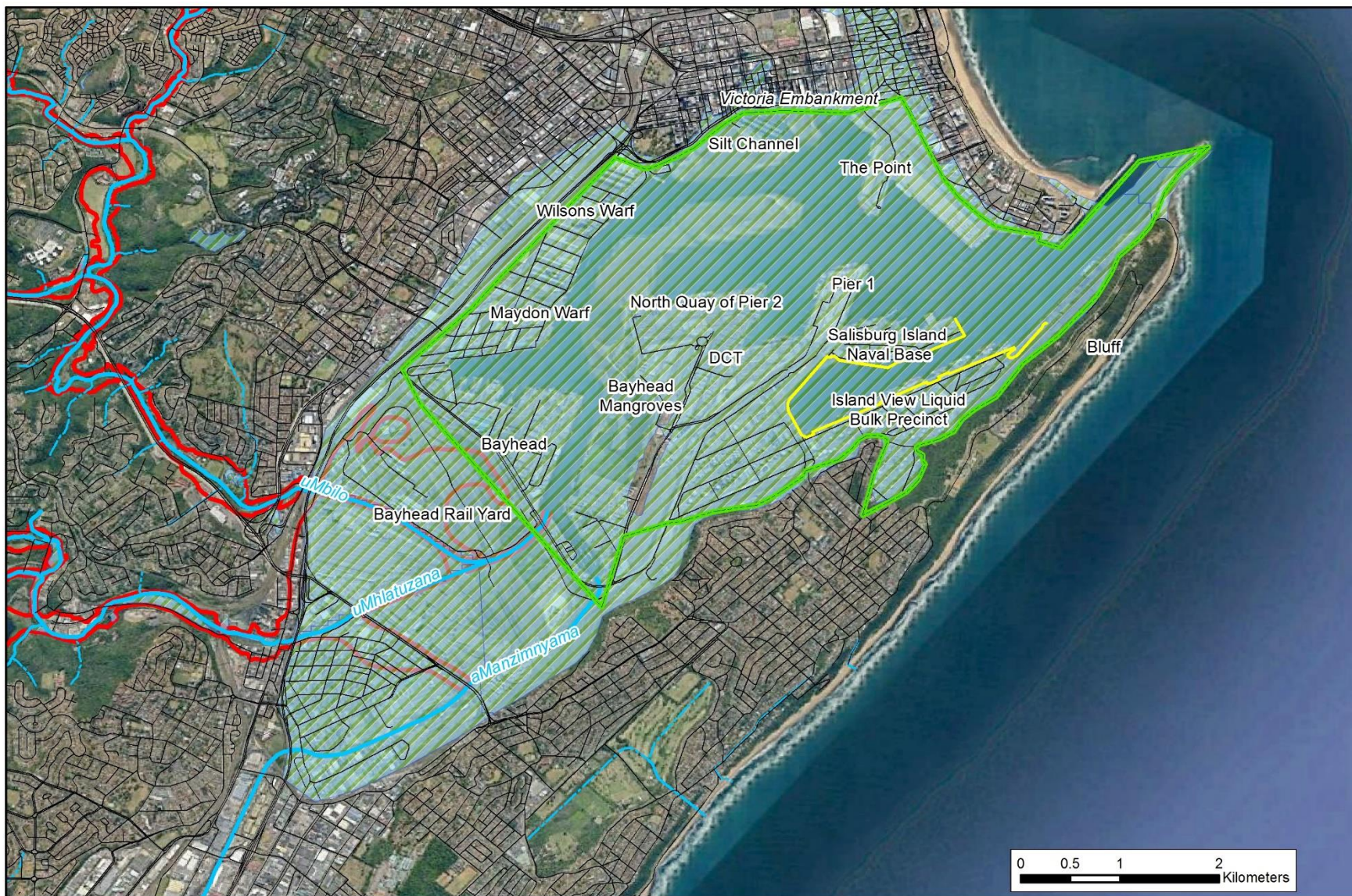
The Port of Durban, which incorporates the Durban Bay, is classified as a highly modified and degraded estuarine bay. Of all coastal habitats, estuaries (particularly those in KZN) are the most threatened. Freshwater is supplied to the Durban Bay estuary directly from three rivers namely, uMbilu, uMhlatuzana and aMamnzinyama, which receive runoff from industrial and residential areas. Furthermore, several storm water drains originating in the Durban Central Business District (CBD) enter the Bay at several localities including Bayhead, Victoria Embankment, Maydon Wharf and The Point (refer to Figure 2-1) (ERM/MER, 2012).

The Bay plays a role in providing ecosystem goods and services such as atmospheric management, waste dilution, flood mitigation and leisure activities, to name a few. The Little Lagoon area has exceptional biodiversity richness and is identified as a sensitive feature in the Port. Another sensitive site is that of the Bayhead Mangroves. Refer to Figure 5-1 for locations of sensitive sites, neither of which are situated in close proximity to the study area.

The identification of sensitive aquatic features in or around the study area was based on a review of, the following data sets:

- The National Freshwater Ecosystem Priority Areas (NFEPA) wetlands and estuaries (2011); and
- The eThekweni Municipality database of rivers and floodplains (2012).

Figure 5-4, indicates that the entire site is defined as a NFEPA estuary and the site lies outside of the 1:100 year floodlines of the three major rivers feeding the Durban Bay.



Legend

- TNPA Port Boundary
- Study Area Boundary
- Roads

Water Courses

- Major River
- Minor River
- - - Tributary

- NFEPA Wetlands and Estuaries
- 1: 100 year Floodline



Data Source:	
eThekweni: NFEPA	
Scale 1:60,000	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo31	
Date: 02/10/2017	Compiled by: STBOD
Project No. 511330	Fig No. 5-4



**ISLAND VIEW SEAWALLS AND REVETMENT UPGRADE
MAP SHOWING NATIONAL FRESHWATER ECOSYSTEM PRIORITY AREAS (NFEPA) WETLANDS
AND ESTUARIES AND e THEKWINI RIVERS AND FLOODPLAINS**

5.4 Heritage resources

PRDW undertook an investigation into the age of the existing structures (refer to Table 5-1 for a summary of the berth structure ages), based on as-built drawings available for the project area. Many of the berth structures were constructed in the 1940s, and are thus over 60 years old and considered heritage resources. The majority of the as-built drawings do not make reference to slope protection being installed.

Table 5-1: Berth Structure Ages (based upon as-built information received)

Berth no.	Constructed date	Upgraded date	Drawing		
			Date	As built	Source of information
1	1940	1985	1985	Yes	Candac construction
2 East	1942	2011	2009	No	Transnet Capital Projects
2 West	1942			No	No drawings
3		1992	1993	Yes	F.T. Pilkington & Partners
4			1986	Yes	Candac construction
5	1946	2013	2015	Yes	Transnet
6	1946	2007	2015	Yes	Transnet
7	1946	1977	1984	Yes	Unknown
8	1963		1963	Yes	Christiani & Nielson
9	1946		1963	Yes	Christiani & Nielson
Bunker			2010	No	Transnet

Figure 5-5 shows the as-built drawing received for Berth 1 (redrawn by PRDW, 2017). The piled wharf structure is expected to date back to the 1940s, but the slope below the structure may not have been protected at this stage and may not be of heritage value. The western caisson is assumed to date back to 1985 and is therefore not a heritage protected structure. This project's scope entails the upgrade and maintenance of the seawalls along the basin slope, but it excludes any work on the existing berth structures. There will, however, be construction work alongside and below these existing structures. Refer to Figure 5-6 for the PRDW heritage plan based upon the as-built information.

The scope also includes upgrading the revetment structures along the base. There are no design drawings or as-builts available for these structures. High level information can be found looking at old port maps from 1943, 1950 (Figure 5-7), 1963 and 1964 (Figure 5-8). The basin had only been constructed up to berths 5 and 6 by 1950 and the majority of the coastline appears to be sandy. By 1963 the whole basin appears to have been dredged and potentially initial revetments were installed at that stage. This implies that part the initial revetments could be over 60 years old, with the current versions and top rock probably having been installed much later.

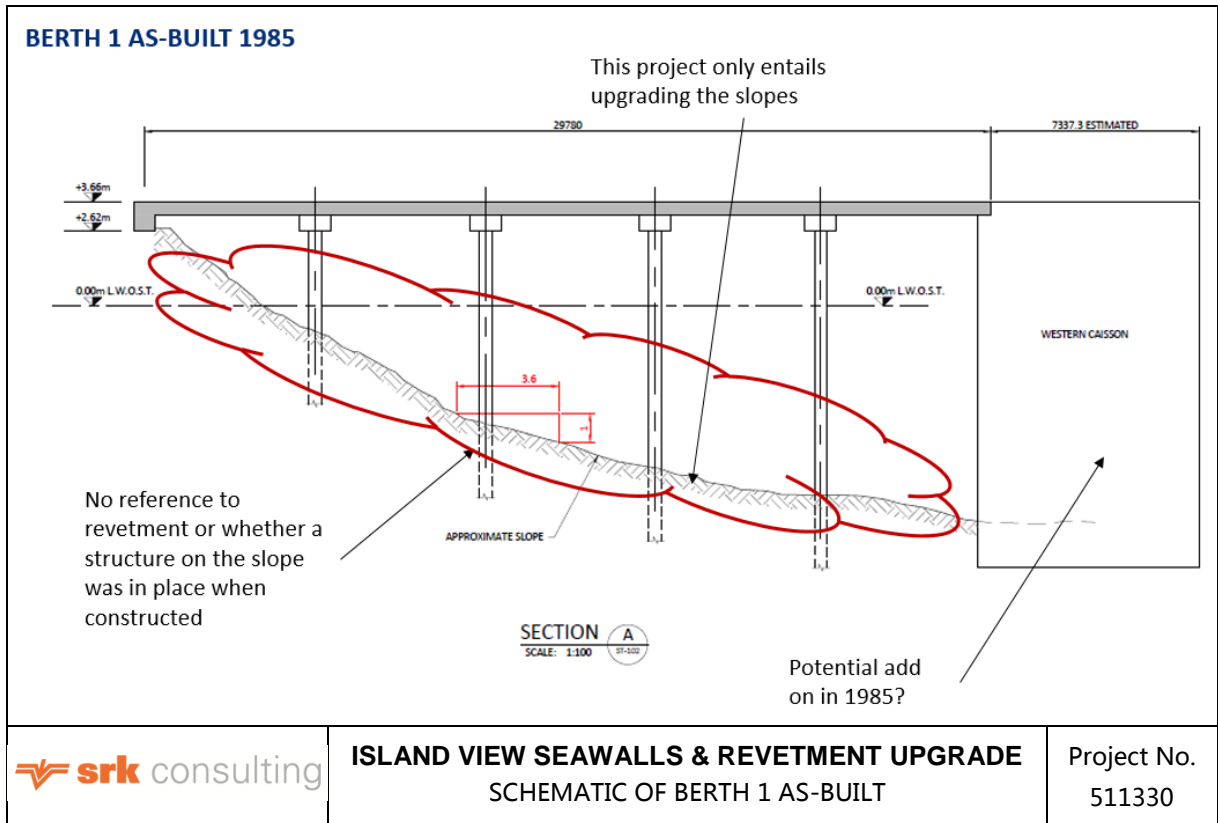
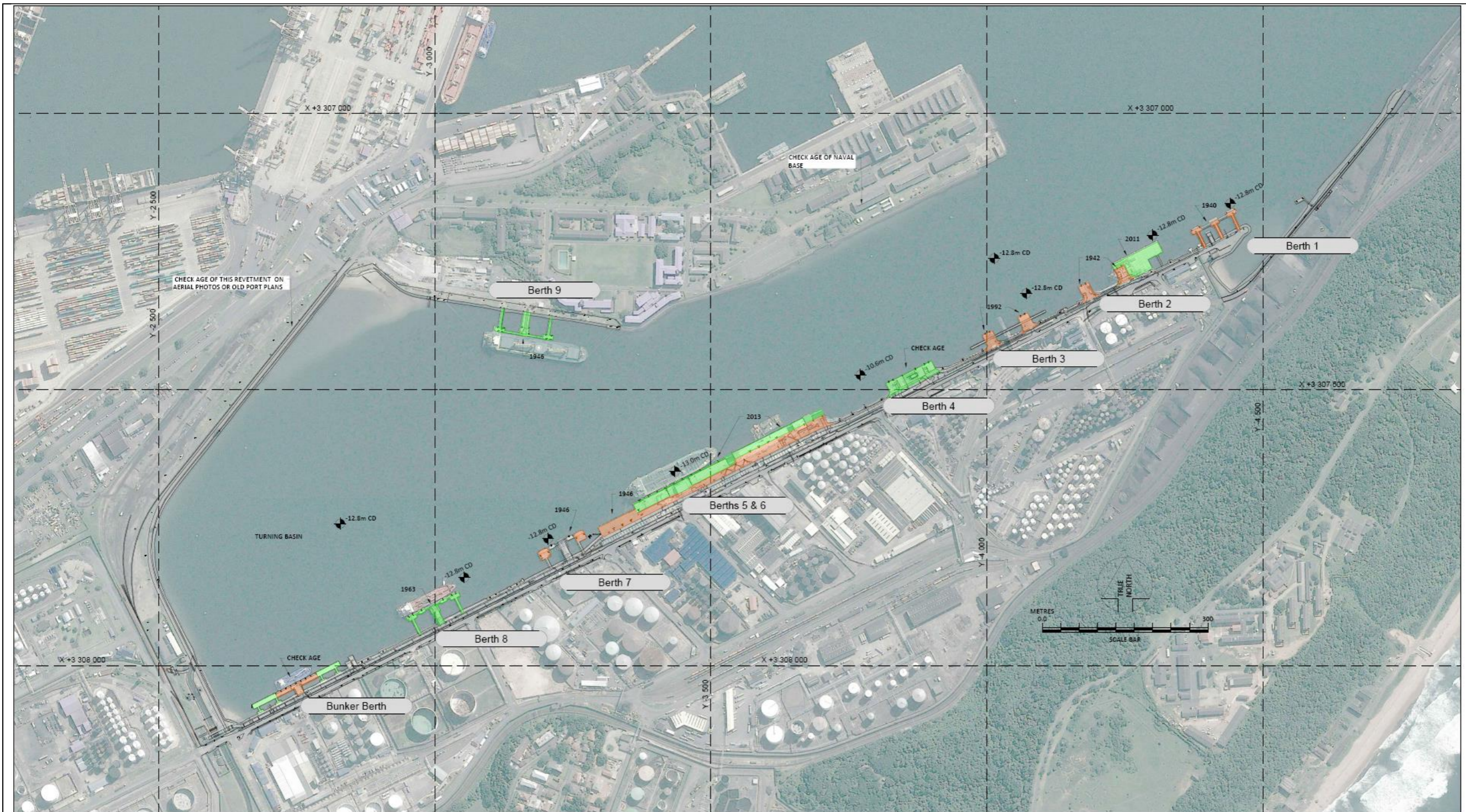


Figure 5-5: Schematic of Berth 1 As-Built



	PROJECT	ISLAND VIEW SEAWALLS UPGRADE														
	DRAWING TITLE	ISLAND VIEW HERITAGE PLAN														
	SCALE	<table border="1"> <tr> <td>DATE</td> <td>17</td> <td>REVISED</td> <td>REVISED</td> <td>REVISED</td> <td>REVISED</td> <td>REVISED</td> </tr> <tr> <td>S2063</td> <td>-SK - GA - 124 - S1 - R0</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	DATE	17	REVISED	REVISED	REVISED	REVISED	REVISED	S2063	-SK - GA - 124 - S1 - R0					
	DATE	17	REVISED	REVISED	REVISED	REVISED	REVISED									
S2063	-SK - GA - 124 - S1 - R0															
NTS																

LEGEND:
 OLDER THAN 60 YEARS
 YOUNGER THAN 60 YEARS

	ISLAND VIEW SEAWALLS & REVETMENT UPGRADE ISLAND VIEW HERITAGE PLAN	Project No. 511330
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Figure 5-6: Island View heritage plan (refer to Appendix C for an enlarged version)

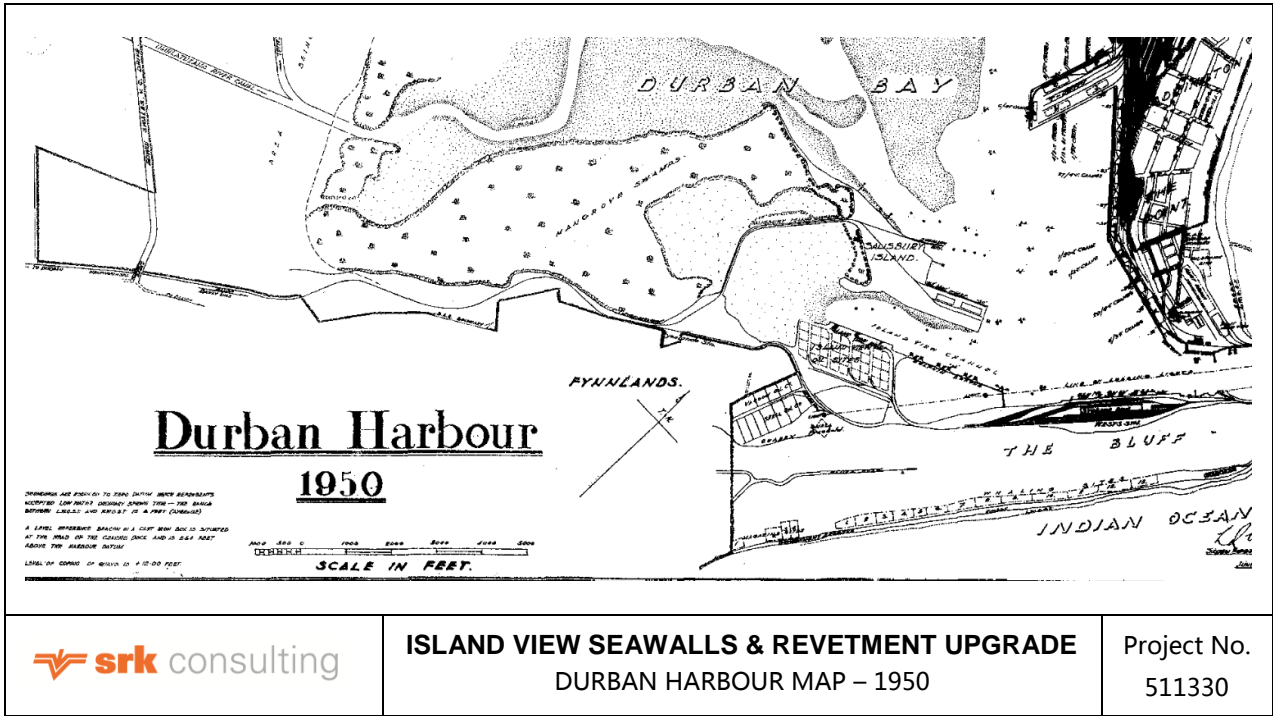


Figure 5-7: Durban Harbour Map – 1950 (TNPA)

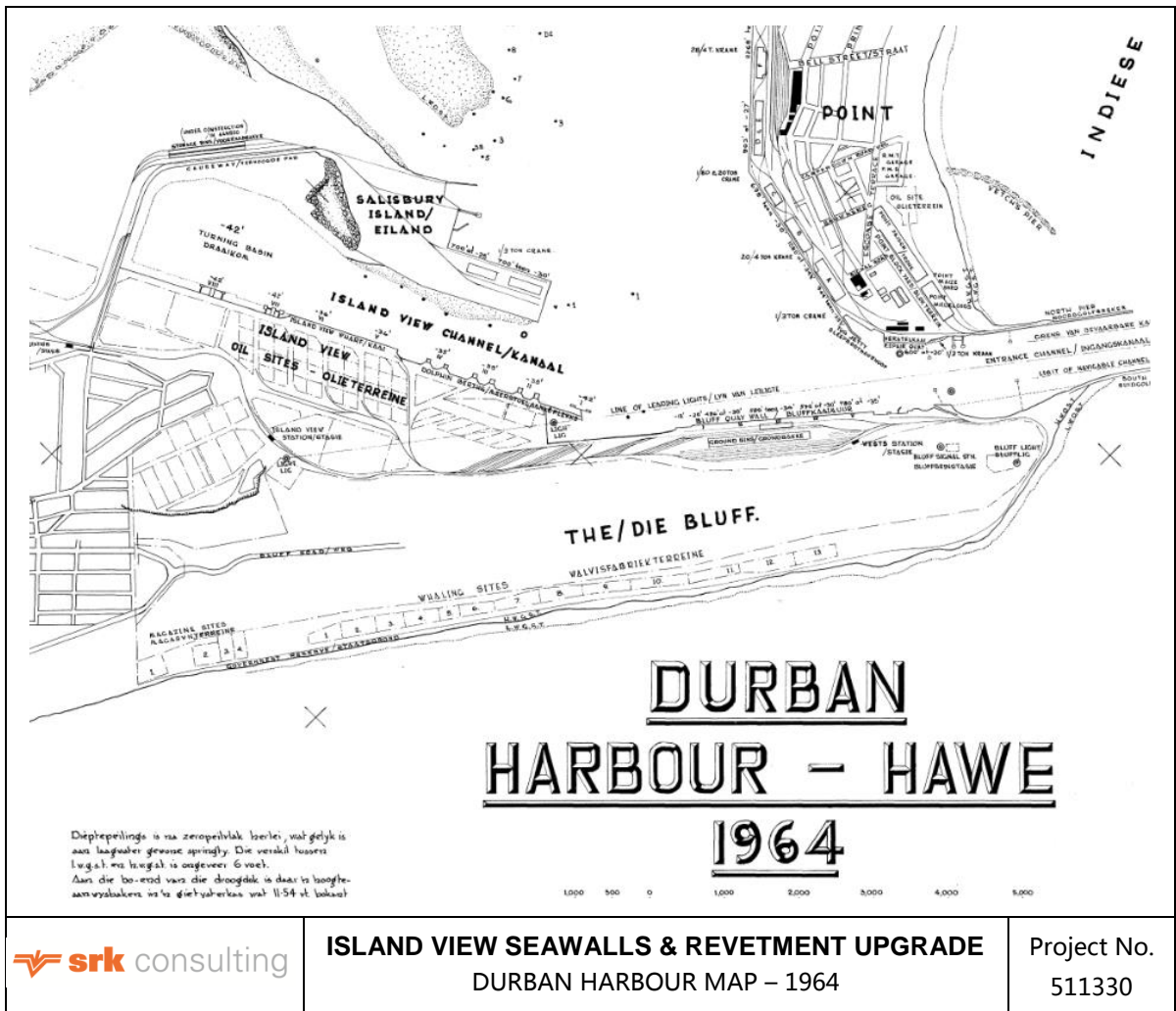


Figure 5-8: Durban Harbour Maps – 1964 (TNPA)

6 Legal Review

Key legislation that regulates environmental matters in relation to development projects (i.e. where environmental authorisations, permits or licences may be required) are discussed in terms of their applicability to the proposed project below.

6.1 National Environmental Management Act

The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) provides for co-operative governance by establishing decision-making principles on matters affecting the environment including:

- a) Sustainable development;
- b) Integrated environmental management;
- c) Polluter pays principle;
- d) Cradle-to-grave responsibility;
- e) Precautionary principle; and
- f) Involvement of stakeholders in decision making.

NEMA provides for the management and protection of environmental resources through *inter alia* the imposition of Environmental Authorisation requirements. Section 49 of NEMA outlines offences in terms of NEMA that include commencing with an activity without first having obtained Environmental Authorisation as detailed below. Section 49 of NEMA also details the penalties associated with offences that include fines, imprisonment or both.

The Competent Authority responsible for the administration and enforcement of the NEMA for Parastals such as TNPA is the National Department of Environmental Affairs (DEA).

6.1.1 Environmental Impact Assessment Regulations

NEMA identifies activities that require Environmental Authorisation. Activities listed in Listing Notice 1¹ and Listing Notice 3² require a Basic Assessment (BA) process, while activities listed in Listing Notice 2³ require Scoping and Environmental Impact Reporting (S&EIR, interchangeably referred to as a “full” EIA).

Based on the fact that the proposed activities take place inside an existing Port, does not increase the development footprint of the Port⁴, and a setback for the port has not been defined, no Environmental Authorisation is required for this project.

A review of the listed activities potentially triggered by this project, together with an explanation of why SRK believe these activities to be not applicable is provided in Table 1 of Appendix A.

6.1.2 National Environmental Management: Integrated Coastal Management Act

Enforcing Authority: Department of Environmental Affairs: Oceans and Coasts (DEA: O&C)

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (NEM: ICMA) provides for the integrated management of the coastal zone, including the promotion of social equity and best economic use, while protecting the coastal environment.

¹ Government Notice (GN) R983 of 2014, as amended by GN 327 of 2017

² GN R985 of 2014, as amended by GN 325 of 2017

³ GN R984 of 2014, as amended by GN 324 of 2017

⁴ SRK does not believe the development footprint of the Port will increase based on the Engineer's supporting evidence and the legal review undertaken by the TNPA legal team.

Chapter 8 of the Act establishes an integrated system for regulating the disposal of effluent and waste into the sea and in terms of Section 71, a dumping permit is required from the DEA: O&C for the dumping of waste at sea. TNPA holds a valid permit in terms of Chapter 8, Section 71 (1) (a), of NEM: ICMA. Reference: **DU- SA/03 MAINTENANCE** and **General Permit Number 05/2017**. The permit is valid until 31 March 2018.

The permit specifies the conditions under which the permit has been granted that include, but are not limited to, the location and extent of the dumpsite, the amount of material that may be dumped annually (620 000 m³) and limits the disposal to dredged material from maintenance dredging.

Although the project requires dredging of a small volume of material to facilitate seawall upgrades, and the option of disposing of the dredged material at the existing marine disposal site was considered, TNPA has taken the decision not to dump the dredged material at sea due to the volumes, but rather utilise it in the basin. Therefore, a dumping at sea permit will this not be required. This was confirmed by DEA:O&C at a meeting held on 27 November 2017 (see Appendix B).

Should the proposed utilisation of the material in the Port no longer be considered feasible, DEA:O&C will once again need to be consulted to confirm the acceptability of, and permitting requirements for alternative options.

6.2 National Heritage Resources Act

The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) requires the following:

- Section 34(1) – “No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority”.
- Section 38(1)(a) – “the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length”
- Section 38(1)(c)(ii) – “...any person who intends to undertake a development categorised as – any development or other activity which will change the character of a site exceeding 5 000 m² in extent must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development”.

The responsible authority, the South African Heritage Resources Agency (SAHRA), may require that a Heritage Impact Assessment (including archaeology and palaeontology) must be conducted prior to providing approval in terms of the NHRA.

Based on:

- the age of some structures requiring upgrade (over 60 years) and uncertainty regarding the age of some others (refer to Section 5.4); and
- previous indications by SAHRA that dredging and the placement of dredged material in an area exceeding 5 000m² may be considered as changing the character of the site;

SRK believes it is necessary to submit an online application to SAHRA, including the required Notice of Intent to Develop and information regarding the proposed works on structures which may be older than 60 years, based on which SAHRA will determine whether a permit and/or heritage authorisation will be issued, or whether additional information is required before they are able to take a decision.

6.3 KwaZulu-Natal Planning and Development Act

D'MOSS was previously only enforced as Council policy. The D'MOSS has however now been incorporated into the town planning scheme backed by the KZN Planning and Development Act, 2008 (Act No. 6 of 2008) (PDA). The Spatial Planning and Development Act, 2013 (Act No. 16 of 2013)

(SPLUMA) commenced on the 1 September 2014. While it also governs planning activities SPLUMA did not repeal the PDA and does not provide for the suspension thereof.

D'MOSS is a layer that overlies the underlying town planning scheme zoning. It is a controlled area wherein, despite the underlying zoning, development may not occur without having first obtained the necessary environmental authorisation or support from the Environmental Planning & Climate Protection Department of the eThekweni Municipality.

In terms of Clause 10 of the Durban Town Planning Scheme which deals with limitations to development due to Environmental constraints:

“(3) (a) No person shall, within a D'MOSS controlled area (as defined in clause 1) develop any land, or excavate or level any site, or remove any natural vegetation from, or erect any structure of any nature whatsoever, dump on or in or carry out any work upon such site without having first obtained the prior approval of the Council in terms of this sub-clause.

(b) No such approval shall be given unless the Head: Development Planning Environment and Management, after due examination, and subject to such conditions as he/she may specify, is satisfied that any such development, erection or other work referred to in paragraph (a) hereof can be carried out without materially and/or temporarily degrading, destroying, or negatively impacting on the integrity of the biodiversity and/or environmental goods and services found or generated within the said area.

(c) For the purpose of any examination referred to in paragraph (b), the applicant shall, where required by the Head: Development Planning Environment and Management submit such plans or other supporting documentation as the Head: Development Planning Environment and Management may require. Without affecting the generality of the foregoing, such plans and supporting documentation may be required by the Head: Development Planning Environment and Management to be certified as being correct by an appropriately recognised/registered Environmental Consultant.

(d) The conditions referred to in paragraph (b) hereof may be such as to: -

- (i) Restrict the form or nature of the building or structure;*
- (ii) Limit the size and/or shape of the building or structure;*
- (iii) Prescribe or restrict the materials of which the building or structure is to be constructed;*
- (iv) Determine the siting of any building or structure and of any soakpits or other drainage works;*
- (vi) Prohibit or control any excavation on the site, the construction of any roadways, paths and other garden features;*
- (vii) Prohibit or control the removal of any natural vegetation;*
- (viii) Control any other aspects which the Head: Development Planning Environment and Management considers to be desirable.*

(e) In any approval or any conditions as may be specified by the Head: Development Planning Environment and Management above, the applicant shall enjoy a right of appeal to the KwaZulu-Natal Planning and Development Appeal Tribunal as established in terms of Section 100(1) of the KwaZulu Natal Planning and Development Act No 6 of 2008.”

As indicated in Section 5.2.1 the Port forms part of the D'MOSS. Typically approval in terms of the PDA related to development within the D'MOSS is obtained during the EA process. Should the development not trigger a listed activity in terms of the NEMA EIA Regulations, requirements to obtain approval in terms of the PDA would need to be confirmed with eThekweni EPCPD. Typically however this includes an identification of sensitive areas, identification and assessment of potential impacts and the preparation of an Environmental Management Plan.

Assuming there are no activities triggering the need for EA in terms of the NEMA EIA Regulations, confirmation of the following will be required:

- Information required and application processes to be followed to obtain the required approval of the proposed development from eThekweni Municipality EPCPD; or
- Confirmation from TNPA on approval processes or previous approval obtained from EPCPD.

6.4 Additional applicable legislation

The following additional legislation was reviewed to determine whether it may be applicable to the project:

- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA);
- National Environmental Management: Air Quality Act, 2004 (Act. No. No 39 of 2004) (NEM: AQA);
- National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM: BA);
- National Water Act, 1998 (Act No. 36 of 1998) (NWA);
- Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA);
- KwaZulu-Natal Heritage Act, 1997 (Act No. 10 of 1997) (KZNHA).

No additional permits and/or licenses were identified as being required.

A brief summary of additional legislation reviewed is provided in Table 2 in Appendix A. Please note that this is not intended to be definitive or exhaustive, and serves to highlight key environmental legislation and requirements only. Although other legislation may be applicable to the proposed development, the list provided has been limited to those laws which require application processes that can be included in the scope of works covered in this proposal.

7 Conclusions

Based on the screening assessment undertaken, SRK has determined the following with respect to the need for environmental authorisations or permits:

- Based on the fact that the proposed activities take place inside an existing Port, does not increase the development footprint of the Port, and a setback for the port has not been defined, no Environmental Authorisation is required for this project;
- No Dumping at Sea Permit, or any other applications will be required in terms of the NEM:ICMA, as no waste will be disposed of at sea. However, should the proposed utilisation of the material in the Port no longer be considered feasible, DEA:O&C will once again need to be consulted to confirm the acceptability of, and permitting requirements for alternative options;
- No applications will be required in terms of the National Water Act;
- On online application and Notice of Intent to Develop will need to be submitted to SAHRA as soon as possible, following which they will determine the need for any further heritage studies; and
- Planning approval will be required from eThekweni Municipality EPCPD, however the information requirements to inform such approval remain uncertain and confirmation has been requested from the EPCPD.

Prepared by



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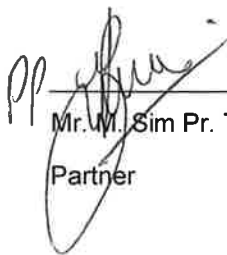
Reviewed by



Ms. S. Jones Pr. Sci. Nat.

Associate Partner

PP



Mr. W. Sim Pr. Tech. Eng.

Partner

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

8 References

ERM/MER (2012), *Bay of Natal Estuarine Management Plan Report*, prepared for eThekweni Municipality, Transnet National Ports Authority and the Department of Agriculture, Environmental Affairs and Rural Development.

PRDW (2014), *Pre-Feasibility Study Report for Upgrade of Island View Seawalls, Port of Durban*, prepared for Transnet National Ports Authority.

SRK (2013), *Strategic Environmental Assessment of the Transnet Long Term Planning Framework*, prepared for Transnet Capital Projects.

Appendices

Appendix A: Detailed Legal Review

Table 1: Listed Activities potentially triggered by the project

No.	Listed Activity	Comment
Listing Notice 1 (GN R983)		
12	<p>The development of (ii) infrastructure or structures with a physical footprint of 100m² or more; where such development occurs—</p> <ul style="list-style-type: none"> (a) within a watercourse; (b) in front of a development setback (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; <p>excluding—</p> <ul style="list-style-type: none"> (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; 	<p>The proposed upgrade of the revetments and seawalls may have a footprint greater than 100m². However, the upgrades will not occur within a watercourse (Note: while the port is defined as an estuary the NWA does not define an estuary as a watercourse), no setback line has been delineated for the port and the project area is not within 32m of a watercourse. This Listed Activity is therefore not triggered.</p> <p>In addition to the above, SRK does not believe the development footprint of the Port will increase based on the Engineer's supporting evidence and therefore the exclusion applies.</p> <p>Further to the above, the definition of "development" in the EIA Regulations excludes "any modification, alteration or expansion of such a facility, structure or infrastructure". The upgrades would therefore fall within this exclusion. This project should therefore not be considered a "development" and as such it is anticipated that this Listed Activity will not be triggered.</p> <p>Finding: Not applicable</p>
15	<p>The development of structures in the coastal public property where the development footprint is bigger than 50m², excluding—</p> <ul style="list-style-type: none"> (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies. 	<p>The proposed upgrade of the revetments and seawalls may have a footprint greater than 50m². However, based upon the decision taken by the National Council of Provinces in terms Section 27(4) of the NEM: ICMA on 17 March 2009 the Port is excluded from coastal public property and therefore this Listed Activity is not applicable. https://pmg.org.za/committee-meeting/9978/</p> <p>Furthermore, the definition of "development" in the EIA Regulations excludes "any modification, alteration or expansion of such a facility, structure or infrastructure". The upgrades would therefore fall within this exclusion. This project should therefore not be considered a "development" and as such it is anticipated that this Listed Activity will not be triggered.</p> <p>Finding: Not applicable</p>
17	<p>Development—</p> <ul style="list-style-type: none"> (ii) in an estuary; <p>in respect of—</p> <ul style="list-style-type: none"> (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures with a development footprint of 50m² or more 	<p>The proposed upgrade of the revetments and seawalls with rock armour and sheet piling (i.e. stabilising structures) will occur within an estuary.</p> <p>However, the definition of "development" in the EIA Regulations excludes "any modification, alteration or expansion of such a facility, structure or infrastructure". The upgrades would therefore fall within this exclusion. This project should therefore not be considered a "development" and as such it is anticipated that this Listed Activity will not be triggered.</p>

No.	Listed Activity	Comment
	<p>but excluding—</p> <p>(aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or</p> <p>(dd) where such development occurs within an urban area.</p>	<p>Further, as above, the upgrade is considered to fall within an existing port with no increase to the development footprint therefore exclusion (aa) applies.</p> <p>Finding: Not applicable</p>
18	<p>The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10m², within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where —</p> <p>(i) the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or</p> <p>(ii) such planting of vegetation or placing of material will occur behind a development setback.</p>	<p>The proposed upgrade of the revetments and seawalls will include the placement of more than 10m² of materials (i.e. filter, rock armour, geotextile layers, filter layer and final layer) for the purpose of preventing free movement of sand, erosion or accretion. This, however, will not occur within the littoral active zone and as such it is anticipated that this Listed Activity will not be triggered.</p> <p>Finding: Not applicable</p>
19A	<p>The infilling or depositing of any material of more than 5m³ into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5m³ from—</p> <p>(i) the seashore</p> <p>(ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater;</p> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <p>(f) will occur behind a development setback;</p> <p>(g) is for maintenance purposes undertaken in accordance with a maintenance management plan;</p> <p>(h) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</p> <p>(i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or</p> <p>where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</p>	<p>The proposed upgrade of the revetments and seawalls will require the excavation of more than 5m³ of sand as well as the placement of more than 5m³ of rock (and sand) within the boundaries of the Port.</p> <p>No setback line has been delineated for the port therefore exclusion (f) does not apply.</p> <p>The proposed upgrade will, however, occur within an existing Port and based on the Engineer's supporting evidence SRK believes that the development footprint of the Port will not increase and therefore the exclusion applies and this Listed Activity is not triggered.</p> <p>Finding: Not applicable</p>

No.	Listed Activity	Comment
48	<p>The expansion of—</p> <p>(i) infrastructure or structures where the physical footprint is expanded by 100m² or more; or</p> <p>where such expansion occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured</p> <p>excluding—</p> <p>(aa) the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such expansion activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such expansion occurs within an urban area; or</p> <p>(ee) where such expansion occurs within existing roads, road reserves or railway line reserves.</p>	<p>The proposed upgrade of the revetments and seawalls may involve the expansion of the existing revetments by more than 100m². However, the upgrades will not occur within a watercourse (Note: while the port is defined as an estuary the NWA does not define an estuary as a watercourse), no setback line has been delineated for the port and the project area is not within 32m of a watercourse. This Listed Activity is therefore not triggered.</p> <p>In addition, the Port falls within an urban area and therefore exclusion (dd) is applicable and this Listed Activity is not triggered.</p> <p>Finding: Not applicable</p>
52	<p>The expansion of structures in the coastal public property where the development footprint will be increased by more than 50m², excluding such expansions within existing ports or harbours where there will be no increase in the development footprint of the port or harbour and excluding activities listed in activity 23 in Listing Notice 3 of 2014, in which case that activity applies.</p>	<p>The proposed upgrade of the revetments and seawalls may involve the expansion of the existing revetments by more than 50m². However, based upon the decision taken by the National Council of Provinces in terms Section 27(4) of the NEM: ICMA on 17 March 2009 the Port is excluded from coastal public property and therefore this Listed Activity is not applicable. https://pmg.org.za/committee-meeting/9978/</p> <p>Finding: Not applicable</p>
54	<p>The expansion of facilities—</p> <p>(ii) in an estuary;</p> <p>in respect of—</p> <p>(d) rock revetments or stabilising structures including stabilising walls; or</p> <p>(e) infrastructure or structures where the development footprint is expanded by 50m² or more,</p> <p>but excluding—</p> <p>(aa) the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; or</p> <p>(bb) where such expansion occurs within an urban area.</p>	<p>The proposed upgrade of the revetments and seawalls will involve the expansion of the existing revetments in an estuary in respect of rock revetments and stabilising structures (i.e. sheet piling) and may be greater than 50m².</p> <p>The upgrade is considered to fall within an existing port with no increase to the development footprint therefore exclusion (aa) applies. Further, the port falls within an urban area and therefore exclusion (bb) is also applicable and this Listed Activity is not triggered.</p> <p>Finding: Not applicable</p>

No.	Listed Activity	Comment
55	Expansion— (ii) in an estuary; in respect of — (d) breakwater structures; but excluding the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.	The proposed upgrade of the revetments and seawalls will involve the expansion of breakwater structures within in an estuary. The upgrade is considered to fall within an existing port with no increase to the development footprint (based on the TNPA legal opinion and PRDW's supporting evidence) therefore this Listed Activity is not triggered. Finding: Not applicable
65	The expansion and related operation of— (ii) any other structure or infrastructure; on or along the sea bed, where the expansion will constitute an increased development footprint, excluding expansion of facilities, infrastructure or structures for aquaculture purposes.	The proposed upgrade of the revetments and seawalls will involve the expansion of the structures. The upgrade is considered to fall within an existing port with no increase to the development footprint therefore this Listed Activity is not triggered. Finding: Not applicable
Listing Notice 2		
14	The development and related operation of— (iii) any other structure or infrastructure — on, below or along the sea bed; excluding — (a) development of facilities, infrastructure or structures for aquaculture purposes; or (b) the development of temporary structures or infrastructure where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared.	The proposed upgrade of the revetments and seawalls will not occur on, below or along the sea bed and as such this Listed Activity will not be triggered. Furthermore, the definition of “ <i>development</i> ” in the EIA Regulations excludes “ <i>any modification, alteration or expansion of such a facility, structure or infrastructure</i> ”. The upgrades would therefore fall within this exclusion. This project should therefore not be considered a “ <i>development</i> ” and as such it is anticipated that this Listed Activity will not be triggered. Finding: Not applicable
Listing Notice 3		
14	The development of— (ii) infrastructure or structures with a physical footprint of 10m ² or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour. d. KwaZulu-Natal	The proposed upgrade of the revetments and seawalls will have a footprint greater than 10m ² . However, the upgrades will not occur within a watercourse (Note: while the port is defined as an estuary the NWA does not define an estuary as a watercourse), no setback line has been delineated for the port and the project area is not within 32m of a watercourse. This Listed Activity is therefore not triggered. The proposed upgrade will, however, occur within an existing Port and based on the Engineer's supporting evidence SRK believes that the development footprint of the Port will not increase and therefore the exclusion applies. Finding: Not applicable

No.	Listed Activity	Comment
	<ul style="list-style-type: none"> i. In an estuarine functional zone; vii. Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; viii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; xi. Inside urban areas: (cc) Areas seawards of the development setback line or within 100m from the high-water mark of the sea if no such development setback line is determined. 	
23	<p>The expansion of—</p> <ul style="list-style-type: none"> (ii) infrastructure or structures where the physical footprint is expanded by 10m² or more; <p>where such expansion occurs—</p> <ul style="list-style-type: none"> (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured <p>excluding the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p> <ul style="list-style-type: none"> d. KwaZulu-Natal iii. In an estuarine functional zone; vii. Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; viii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; xi. Inside urban areas: (cc) Areas seawards of the development setback line or within 100m from the high-water mark of the sea if no such development setback line is determined. 	<p>The proposed upgrade of the revetments and seawalls will have a footprint greater than 10m². However, the upgrades will not occur within a watercourse (Note: while the port is defined as an estuary the NWA does not define an estuary as a watercourse), no setback line has been delineated for the port and the project area is not within 32m of a watercourse. This Listed Activity is therefore not triggered.</p> <p>In addition to the above, SRK does not believe the development footprint of the Port will increase based on the Engineer's supporting evidence and therefore the exclusion applies.</p> <p>Finding: Not applicable</p>

Table 2: Additional legislation and requirements

Legislation	Overview and Requirements
<p>National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA)</p>	<p>Section 20(b): A Waste Management Licence (WML) must be obtained from the competent authority for projects that trigger activities listed in GN 921 of 2013. All applications must conform to the requirements of NEMA, with additional requirements with respect to stakeholder engagement (advertising) and the application must be accompanied by “such documentation and information as may be required by the licensing authority”. Waste management activities listed in Category A require a BA process, while Category B activities require an S&EIR process conducted in terms of NEMA. A separate application form must be submitted with the application for EA, and additional stakeholder engagement (advertising) applies to an EIA process for a WML application. The competent authority for WML applications is the National DEA for applications involving Parastatals.</p> <p>Requirements for this project:</p> <p>A WML is not required for this project as the material to be disposed of will not be disposed of on land but rather within the Bay or sea, which is controlled by the either the NEMA: EIA Regulations or NEM: ICMA (refer to Section 6.1.2).</p>
<p>National Environmental Management: Air Quality Act, 2004 (Act. No. No 39 of 2004) (NEM: AQA)</p>	<p>Section 21: Provides for the listing of activities that result in atmospheric emissions that have or may have a significant detrimental effect on the environment. An Atmospheric Emission License (AEL) from the licensing authority is required for these activities, which are listed in GN 893 of 2013 and include a range of combustion, manufacturing, petrochemical, carbonisation, metallurgical, mineral processing/handling, chemical, thermal treatment and pulp processes. All applications must conform to the requirements of NEMA and the application must be accompanied by “such documentation and information as may be required by the licensing authority”. A separate application form must be submitted at the beginning of the EIA process, and an Air Quality specialist study is likely to be required as part of the EIA. The licencing authority for AELs has an additional 60 days for decision making following the issue of the Environmental Authorisation.</p> <p>Requirements for this project:</p> <p>The project will not trigger any Listed Activities in terms of the NEM: AQA and will therefore not require an AEL.</p>
<p>National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM: BA)</p>	<p>The purpose of NEM: BA is to provide for the management and conservation of South Africa’s biodiversity and the protection of species and ecosystems that warrant national protection. Threatened or Protected Species (TOPS) Regulations (2007) and a National List of Ecosystems that are Threatened and in Need of Protection (2011) have been promulgated in terms of NEM: BA.</p> <p>Requirements for this project:</p> <p>The proposed upgrades are limited to highly transformed areas and will not involve the removal or disturbance of protected species or ecosystems and will therefore not require a permit or license.</p>
<p>National Water Act 36 of 1998 (NWA)</p>	<p>Section 21: Specifies a number of water uses that require Water Use Authorisation (WUA) – either via a Water Use Licence (WUL) or General Authorisation (GA) (issued in terms of Section 39 of the NWA) through a registration and application process – in terms of Section 22(1) of the Act. A WUA process must be conducted to obtain authorisation for any of these activities, unless the specific use is listed in Schedule 1 of the NWA or is an existing lawful use. The competent authority for WUAs is the Department of Water and Sanitation (DWS).</p> <p>For a WUL, DWS require an application, registration as a water user and the completion of a Technical Report which addresses all water uses in accordance with the requirements of Section 28 and Section 29 of the NWA, including a Section 27 motivation for the water uses. For GA, DWS require an application, registration as a water user and may require the completion of a Technical Report depending on the nature of the water use.</p> <p>In March 2017, DWS gazetted regulations stipulating the WULA process and timeframes. A pre-application enquiry meeting with DWS is required, and DWS must take a decision within 300 days of application. Similar to the EIA process, a considerable quantum of work will be required before formal submission of an application.</p> <p>Requirements for this project:</p> <p>The proposed project will be undertaken in an estuary, however, because the site is within a Port it falls outside of the jurisdiction of the NWA and therefore a WULA is not required.</p>
<p>Mineral and Petroleum Resources Development Act,</p>	<p>The MPRDA makes provision for equitable access to and sustainable development of South Africa’s mineral and petroleum resources and aims to, <i>inter alia</i>, provide for security of tenure in respect of prospecting, exploration, mining and production operations. The fundamental principles of the MPRDA are:</p>

Legislation	Overview and Requirements
2002 (Act No. 28 of 2002) (MPRDA)	<ul style="list-style-type: none"> • Petroleum resources are non-renewable; • Petroleum resources belong to the nation and the State is the custodian; • Protection of the environment for present and future generations to ensure sustainable development of the resources by promoting economic and social development; • Promotion of local and rural development of affected communities; • Reformation of the industry to bring about equitable access to the resources and eradicating discriminatory practices; and • Guaranteed security of tenure. <p>Requirements for this project: The proposed upgrades will not trigger the MPRDA.</p>
KwaZulu-Natal Heritage Act, 1997 (Act No. 10 of 1997) (KZNHA)	<p>The aim of the KZNHA is “<i>To provide for the conservation, protection and administration of both the physical and the living or intangible heritage resources of the Province of KwaZulu-Natal; to establish a statutory Council to administer heritage conservation in the Province; to determine the objects, powers, duties and functions of the Council; to determine the manner in which the Council is to be managed, governed, staffed and financed; to establish Metro and District Heritage Forums to assist the Council in facilitating and ensuring the involvement of local communities in the administration and conservation of heritage in the Province; and to provide for matters connected therewith</i>”.</p> <p>This Act is implemented by Amafa aKwaZulu-Natali/Heritage KwaZulu-Natal, the provincial heritage resources authority charged to provide for the conservation, protection and administration of both the physical and the living or intangible heritage resources of the province; along with a statutory Council to administer heritage conservation in the Province.</p> <p>Permission from the heritage authority, (national and/or provincial), will be required in appropriate circumstances, which may include the issue of the heritage resources identified and whether any formal protections under the statutes have been assigned to any resources which are located in the project area.</p> <p>Requirements for this project: This Act will only apply should the National HRA not apply.</p>

Appendix B: Minutes of the Meeting with Department of Environmental Affairs: Oceans and Coast (DEA:O&C)



Transnet National Ports Authority: Proposed Upgrades of Island View Seawalls – Port of Durban

Minutes of Meeting with DEA: Oceans and Coasts

Held: 2nd Floor, Antarctica and Islands Building, East Pier Road, V&A Waterfront, Cape Town on 27 November 2017 at 10h00

Attendees:	Ulric van Bloemestein	UB	Department of Environmental Affairs (DEA): Oceans and Coasts
	Nokuzola Sukwana	NS	DEA: Oceans and Coasts
	Vishern Beakam	VB	Transnet National Ports Authority (TNPA)
	Gus Hojem	GH	PRDW Consulting Port and Coastal Engineers (PRDW)
	Marli Geldenhuys	MG	PRDW
	Sharon Jones	SJ	SRK Consulting (SRK)
	Jessica du Toit	JD	SRK

1 Welcome and Introductions

- 1.1 Sharon Jones (SJ) welcomed everyone to the meeting regarding the proposed seawall upgrades at the Port of Durban and thanked them for attending. All meeting attendees introduced themselves.

2 Purpose of the Meeting

- 2.1 SJ explained the purpose of the meeting, which was:

- To provide an introduction to the project;
- To provide a description of the proposed dredging and dredge disposal options;
- To confirm the scope and validity of TNPA's existing dumping permit;
- To discuss options for use or disposal of dredge spoil; and
- To confirm whether any additional permits are required in terms of the National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEM:ICMA) and processes to be followed.

3 Project Motivation and Background

- 3.1 Vishern Beakam (VB) explained the reasons for the proposed seawall upgrades as follows:

- The port entrance has been widened, resulting in higher wave energy in the Island View area and therefore requiring an upgrade of the seawalls along the Island View shoreline;
- Damage to and deterioration of the existing seawall;
- Island View is a National Key point and it is critical that the terminal infrastructure such as pipe racks are suitably protected;
- Geotechnical conditions could pose health and safety risks due to the occurrence of sinkholes behind some berths; and
- Collapse of the revetment could jeopardise the integrity of the adjacent pipe racks.

4 Project Overview and Dredge Disposal Options

- 4.1 Marli Geldenhuys (MG) gave a brief overview of the proposed seawall upgrades and associated activities, including dredging to facilitate upgrades to the seawalls in certain areas. MG noted that although the dredging will only take six months, the entire upgrade project is likely to take 18 months.
- 4.2 MG explained that maintenance dredging (to the advertised depth) will be required (approximately 7000m³), with potential minor additional dredging for scour protection (approximately 2 000m³). Additional dredging for scour protection should still fall within the general maintenance dredging tolerance, i.e. if the basin depth is advertised at -12.8m CD dredging will always be below this level and with the equipment used it may well be up to 2m below this level. The scour protection therefore falls within this tolerance.
- 4.3 The following dredge disposal options were considered:
- Disposal on land (option eliminated due to volumes being very high for landside disposal (i.e. 600 to 900 truck loads would amount to significant cost and traffic impact);
 - Disposal at sea
 - Capital site: Option eliminated because the dredge volumes are too small to justify the licencing of a new dredge disposal site);
 - Maintenance site: Disposal at the current TNPA maintenance dredge disposal site (option eliminated as a standalone option as the dredge volumes are too small to warrant mobilising seagoing hopper barges unless material is first stored temporarily in the basin and then removed by Dredging Services); and
 - Utilisation in the Port: Placement of dredged material in scour holes within the Island View Basin (preferred option).
- 4.4 MG explained that the dredged material could be used to infill scour holes in the harbour basin, which may otherwise undermine the berth structures.
- 4.5 Ulric van Bloemestein (UB) noted that due to the low volume proposed and if the proposed dredging does not go beyond the extent of previous dredging (i.e. maintenance dredging), and if the proposed areas to be dredged fall within the area covered under TNPA's existing maintenance dredging permit, and the material dredged will be placed in scour holes to fulfil a purpose, then neither a dumping at sea permit nor any other application in terms of the NEM: ICMA will be required. Nokuzola Sukwana (NS) was in agreement with this statement. UB advised that TNPA's existing permit must be consulted to determine whether the areas proposed for dredging fall within the permit.
- 4.6 SJ noted that SRK will investigate the applicability of other legislation, including NEMA EIA Regulations and the National Heritage Resources Act 25 of 1999, to the proposed project. She further confirmed that if any public consultation was required, DEA:O&C would be a key commenting authority.
- 4.7 It was agreed that minutes of the meeting as well as an updated Screening Report as produced by SRK consulting would be submitted to DEA:O&C for their information and as a record of informing them of the project. SJ noted that the Screening Report would in all likelihood only be made available after the meeting minutes and presentation have been issued to them.

No further issues were raised and the meeting was closed.

Meeting closed at 11:00 am

Notes taken by: Jessica du Toit

Signed by: 
Sharon Jones

Date: 6 December 2017

Appendix C: Drawings

SRK Report Distribution Record

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