

Basic Assessment Report for the Proposed Upgrade of the General Maintenance Quay at the Port of Saldanha

Report Prepared for

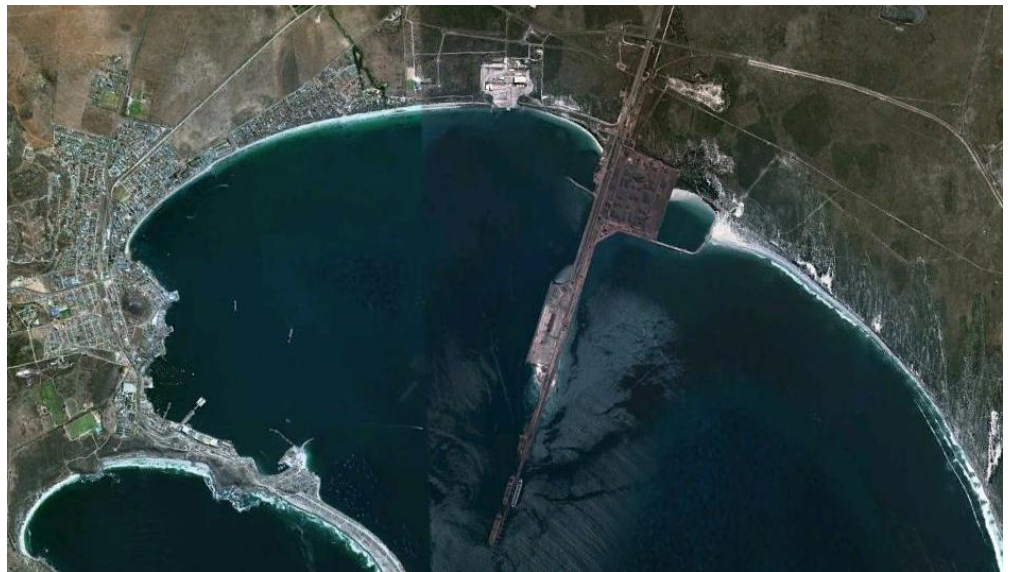
Transnet National Ports Authority



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Report Prepared by





environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

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14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section? YES ✓ NO
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

The Transnet National Ports Authority (TNPA) is proposing to upgrade the existing General Maintenance Quay (GMQ) and Rock Quay in the Port of Saldanha (see Appendix C: Figure 1) in order to accommodate off shore supply vessels to the West African Oil and Gas industry at the quay, thereby creating a new business opportunity supporting the oil and gas industry.

The existing GMQ was constructed in the early 1970's and consists of I-shaped precast concrete blocks stacked on top of each other to form the quay wall. The toe of the wall is founded at -11.70 m Chart Datum (CD) and the top of the quay level is at +3.80 m CD, resulting in an overall wall height of 15.50 m. The current overall length of the wall is 147.90 m, with the last 20 m on each end of the wall tapering down to foundation level. This, in effect, results in the usable surface only extending over 107.90 m of the quay wall.

The existing Rock Quay is situated approximately 50 m north of the existing GMQ and was constructed with steel sheet piles in the early 1970's. The existing sheet piles are in a state of disrepair and need to be replaced. In addition, the berth pocket has filled up with sediment over time and it is therefore unusable.

The 50 m gap between the GMQ and Rock Quay structures creates an embayment landwards of the existing quay.

TNPA's intention is to create a single length of continuous quay, approximately 300 m long, by joining the two structures. The proposed upgrades to the GMQ and Rock Quay include various components as described below.

Construction of new quay walls

The existing GMQ will be extended by 20 m on either end, a total of 40 m, by building up the tapered wing wall up to the existing capping level (see Appendix C: Figure 1 Section A and Figure 2). This will increase the usable quay surface to 147.90 m. In addition 150 m of new sheet piles will be installed. Of the 150 m, 100 m is required to replace the existing sheet piles at the Rock Quay (see Appendix C: Figure 1 Section C and Figure 4). The remaining 50 m is required to close the gap that exists between the two existing quay walls (see Appendix C: Figure 1 Section B and Figure 3). The area behind the 50 m of new quay wall will be reclaimed. The proposed upgrades will create one continuous length of quay wall approximately 300 m in length.

For the upgrades to the Rock Quay wall, a number of alternative quay wall options were considered (see Section A2c), and the sheet pile option was selected as the preferred solution for this project. Note that Contractors, in tendering, may propose alternative construction methods, although the parameters of these are not yet know.

As a result of the dredging required to reinstate the berth pocket at the Rock Quay (see below), it is possible that sediment from the beach between the Mossgas quay and GMQ will be eroded as sediment is deposited in the dredged berth pocket. Further, the existing revetment north of the existing Rock Quay (see Appendix C: Figure 1) will be disturbed during construction and will be

rehabilitated to ensure the stability of the embankment north of the Rock Quay. To avoid any potential coastal erosion along the shoreline west of the Rock Quay, TNPA will monitor the beach profile and, if necessary, undertake the required corrective action to stabilise the shoreline.

The upgraded quay will collectively be referred to as the GMQ.

Refurbishing the existing GMQ and Rock Quay and services

The area behind the GMQ and Rock Quay will be reprofiled to slope away from the quay.

Electrical and water services will be supplied, and new bollards and fenders installed.

Electrical Services

The diversified load estimated for the proposed development is 137 kVA. This is for high mast lighting (12 kVA) and quayside kiosks (125 kVA). Two new mini sub-stations will be constructed, and in order to allow for redundancy¹, 610 m of 280 kVA of supply infrastructure will be installed at the quay (see Appendix A2: Figure 5).

Water Services

Potable water and fire hydrants are to be connected to the existing water main system that currently supplies the site (see Appendix C: Figure 6).

Stormwater Management

The TNPA is currently in the process of updating the stormwater management plan for the Port of Saldanha, which includes the GMQ area. The new system will be geared to prevent contaminated stormwater runoff flowing into the sea adjacent to the quay, although a limited amount of runoff may occur from the quay wall. The new stormwater system will direct stormwater away from the quay towards land as surface runoff, thereby limiting the amount of runoff entering the sea. The system will collect water in a series of retention and evaporation ponds that will be used to store the runoff until it has evaporated or has been collected for reuse elsewhere at the Port. No discharge of stormwater into the sea will be allowed without the relevant authorisations to do so.

Dredging

Dredging is required to reinstate the berth pocket at the Rock Quay. The proposed dredging works include the removal of 15 000 m³ of sediment in a ~5 000 m² footprint, as shown in Appendix C: Figure 1. Dredging will be to -6.5 m CD for construction and initial operations (see below). The proposed dredging works extend into the active transport zone.

The dredged methodology will depend on the characteristics of the sediment to be dredged. Alternatives currently under consideration are discussed in Section 2c below. It is not anticipated that any blasting will be required.

Reclamation

Dredge material from the (initial) dredging will be deposited in the gap between the existing GMQ and Rock Quay (see Appendix C: Figure 1- Reclamation), to be used as fill material to reclaim this area. A new sheet pile wall will be installed between the existing GMQ and the Rock Quay, to act as a control weir allowing suspended materials to settle out once reclamation starts. Rubble and debris will then be removed from the reclamation area and disposed of at a registered landfill site. Dredging will then take place (including sampling and grading of dredge material). Dredge material that is suitable for reclamation will be deposited directly into reclamation area. Unsuitable dredge material

¹ Redundancy in electrical equipment is duplication of load equipment so that an alternative can be used in case one fails or needs to be maintained. Redundancy is built into electrical systems when electrical supply security is necessary, as will be the case at the GMQ.

(material that is too fine) will be stockpiled and blended with small volumes of imported fill prior to being used for reclamation. Following reclamation, a capping layer will be installed.

Excess dredge material, or material not suitable for reclamation, will be disposed of at a licenced landfill site.

Operational Phase

The upgraded GMQ will be leased to a third party user.

The upgrade of the GMQ, as proposed by the TNPA, is key to the development of the proposed Saldanha Bay Integrated Development Zone (IDZ). While it has not yet been confirmed, it is likely that the GMQ will be leased to a supplier of logistical services to the oil and gas industry. It is therefore expected that activities at the GMQ will be associated with logistical services (the supply and offloading of cargo) to vessels servicing this industry off the west coast of Africa – such as the resupply of industrial equipment and perishables.

The potential tenant’s vessels are self-sustaining, twin deck, multipurpose vessels with bow-thrusters and heavy lift cranes with approximate capacity of 120 tons and an average deadweight capacity of 7000 metric tons. The vessels can access smaller coastal and river ports with shallow drafts. With the proposed lengthening of the quay and associated works, the quay will be able to accommodate all of the potential tenant’s vessels. Berth functionality (including dredge depths) has been designed to accommodate vessels of this nature. Quay walls have been designed in such a way that further / deeper dredging to -8.5 CD in future² will allow for larger vessels to be accommodated at the GMQ in future.

The following assumptions relate to the operational phase:

- The quay will operate 24 hours a day, 365 days a year;
- ~ 25 vessels will use the quay annually; and
- No more than two ships will use the GMQ in a calendar week.

If specific activities associated with the tenants’ operations require authorisation in terms of any South African legislation (for example, waste management), this will be applied for separately.

The conservative estimate of annual trapping potential of the proposed dredged area at the GMQ is estimated to be ~10 000 m³/year. Maintenance dredging will be required during operations but is excluded from this application.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.544, 545 and 546	Description of project activity
GN R. 544 Item 16: The construction or earthmoving activities in the sea, an estuary, or within the littoral active zone or a distance of 100m inland of the high-water mark of the sea or an estuary, whichever is greater, in respect of (i) Fixed or floating jetties and slipways;	The existing revetment north of the existing Rock Quay will be disturbed during construction and will be rehabilitated.

² Excluded from the scope of this application and subject to a separate application for authorisation if required.

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<p>(ii) Tidal pools;</p> <p>(iii) Embankments;</p> <p>(iv) Rock revetments or stabilising structures including stabilising walls;</p> <p>(v) Buildings of 50 square meters or more; or</p> <p>(vi) Infrastructure covering 50 square metres or more.</p>	
<p>GN R. 544 Item 43: The expansion of structures in the coastal public property where the development footprint will be increased by more than 50 m², excluding such expansions within existing ports or harbours where there would be no increase in the development footprint or throughput capacity of the port or harbour.</p>	<p>The existing footprint of the GMQ (as measured from the base of the quay wall) will not increase, as existing foundations will be used and built up. The ~1 900 m² “gap” between the GMQ and the Rock Quay will be filled with dredge material, and this is likely to be considered an expansion of the existing footprint of port infrastructure, albeit into a degraded area already influenced by existing infrastructure and within the overall Port footprint .</p> <p>Vessels supplying the oil and gas industry will be able to dock at the GMQ following the upgrade. However, vessels docking at the GMQ will do so for cargo handling purposes and will not be involved in the import or export of the goods currently handled by the Port of Saldanha.</p> <p>An additional ~25 vessels will use the Port annually. The expansion is therefore likely to be interpreted as an increase in throughput capacity of the Port.</p>
<p>GN R. 544 Item 45: The expansion of facilities in the sea, an estuary, or within the littoral active zone or a distance of 100m inland of the high-water mark of the sea or an estuary for infrastructure by more than 50m² within existing ports and harbours where there will be an increase in the development footprint.</p>	<p>The existing footprint of the GMQ (as measured from the base of the quay wall) will not increase, as existing foundations will be used and built up.</p> <p>The ~1 900 m² “gap” between the GMQ and the Rock Quay will be reclaimed with dredge material / fill, and this is likely to be considered an expansion of the existing footprint of Port infrastructure, albeit into a degraded area already influenced by existing infrastructure and within the overall Port footprint.</p> <p>Vessels supplying the oil and gas industry will be able to dock at the GMQ following the modifications. However, vessels docking at the GMQ will do so for cargo handling purposes and will not be involved in the import or export of the goods currently handled by the Port of Saldanha.</p> <p>An additional ~25 vessels will use the port annually. The expansion is therefore likely to be interpreted as an increase in throughput capacity</p>

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	of the Port.
GN R. 544 Item 54: The expansion of an island, anchored platform or any other permanent structure on or along the seabed, where the expansion will constitute an increased development footprint.	The existing footprint of the GMQ (as measured from the base of the quay wall) will not increase, as existing foundations will be used and built up. The ~1 900 m ² “gap” between the GMQ and the Rock Quay will be filled, and this is likely to be considered an expansion of the existing footprint of Port infrastructure, albeit into a degraded area already influenced by existing infrastructure and within the overall Port footprint.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“alternatives”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Note: *The project entails the upgrade of existing infrastructure and alternatives sites are therefore not considered.*

Alternative 1 (preferred alternative)
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Description	Lat (DDMMSS)	Long (DDMMSS)
The existing GMQ and Rock Quay at the Port of Saldanha, and adjacent areas in Small Bay, Saldanha Bay.	33° 0' 6.77" S	17° 59' 45.62" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The project entails the upgrade of existing infrastructure and layout alternatives could thus not be considered.	33° 0' 6.77" S	17° 59' 45.62" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
<p>The proposed development will include the dredging of approximately 15 000 m³ of sediment from the berth area. The actual dredging methodology will be selected by the dredging contractor. The volumes of sediment to be dredged are considered too small to justify the mobilisation of large expensive dredging equipment and it is thus envisaged that small equipment will be used, such as a pontoon-mounted long-reach excavator, or a DOP-pump operated from a small semi-rigid powerboat.</p> <p>Both dredging methodologies will depend on sediment characteristics, although in the case that rock is encountered, neither would be suitable and an alternative method would need to be developed. Since the properties of the dredge material are not yet known, the preferred methodology cannot yet be determined.</p> <p>The two dredging alternatives, described briefly below for information, have been considered in the sediment transport assessment (attached as Appendix J3). The impacts presented in Section D of this BAR are applicable to either method and they have not been comparatively assessed.</p>
Alternative 1a
<p>DOP-pump: This hydraulic dredging method is likely to be the preferred method, as material can be pumped directly into the reclamation area. Dredging of stiff clays is not possible with this method. This method minimises dredging plumes.</p>
Alternative 1b
<p>Long-reach excavator: This mechanical method will require that dredged material is first placed onto an assisting barge before being rehandled to place it into the reclamation area. This method results in more significant dredging plumes, since the material is disrupted more vigorously.</p>

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
<p>Sheet Piles: The new quay walls will be constructed using sheet piles (see Appendix C: Figures 1 to 4). A number of alternative quay wall options were considered, and sheet piling was selected as the preferred alternative based on a multi-criteria analysis undertaken by the Engineers. Reasons for the sheet piles being favoured include that the existing quay walls would not need to be removed, thus limiting disturbance to the environment and reducing the overall cost of the upgrade.</p> <p>Other alternative designs for the construction of the quay wall that were considered are described briefly below (also see Appendix J2 for detailed analysis of alternatives). These alternatives are no longer considered viable and have not been assessed further in this Basic Assessment, but have been included below for the sake of completion.</p>
Alternative 2
<p>Mass Concrete Blockwall: The block wall would require significant volumes of concrete, making it the most material intensive alternative. Combined with the necessity to completely remove the existing wall and create a large foundation trench, this alternative has the highest cost per meter, and is not considered a viable option for further assessment.</p>
Alternative 3
<p>Reinforced Concrete Counterfort Wall: The counterfort wall presents a more efficient concrete gravity option than the blockwall. However, concerns have been expressed over the joints in the counterforts at the previous quay wall. This option also requires the complete removal of the existing</p>

wall and more extensive dredging to create the foundation trench than for the sheet pile option. In addition, extensive temporary works are required for the unit construction of this quay type. This alternative is thus also **not** considered a suitable alternative for further assessment.

Alternative 4

Reinforced Concrete Deck with Steel Tubular Bearing Piles: The deck on piles option provides an alternative to the material intensive gravity options discussed above. The use of steel tubular piles allows for grabbing out or chiselling through the tube to progress through the harder layers. This option also requires the full removal of the existing wall and extensive dredging to create the revetment slope. The heavy lift requirement for the deck structure results in heavy beams, a thick deck and a close pile spacing, which result in higher construction costs and a longer construction programme. This alternative is thus also **not** considered an option for further assessment.

e) No-go alternative

The no-go alternative equates the current status quo, whereby the existing GMQ is used to service small vessels infrequently. The Rock Quay would continue to be unproductive. No capital or maintenance dredging or service infrastructure would be required. Socio-economic benefits of the activity would be foregone, and biophysical impacts would not occur (see Section D and Appendix F for details of benefits and impacts).

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1³ (preferred activity alternative)

Dredge area:
Quay wall and reclaim:
Rock revetment:

Size of the activity:

	~5 000 m ²
	~5 000 m ²
	300 m ²

Alternative A2 (if any)

Alternative A3 (if any)

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Size of the site/servitude:

³ "Alternative A.." refer to activity, process, technology or other alternatives.

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Alternative A1 (preferred activity alternative)
Alternative A2 (if any)
Alternative A3 (if any)

~30 000 m ²

4. SITE ACCESS

Does ready access to the site exist?
If NO, what is the distance over which a new access road will be built

YES ✓	

Describe the type of access road planned:

n/a

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

Note: See Appendix A1 for Locality Map

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;

- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

Note: See Appendix A2 for Site Layout Plan

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Note: See Appendix A3 for Sensitivity Map

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Proponent's motivation:

The GMQ has a length of 107 m and is located approximately 80 m south of the Rock Quay. Although this quay has been founded at a depth of -11.7 m CD, the berth depth is approximately -8 m CD, resulting in the berthing capacity being restrictive. Hence the quay has been severely underutilized to date due to these restrictions.

The Port has received renewed interest for the utilization of the GMQ from potential tenants to use this quay infrastructure. The proposed tenant, who specializes in servicing the energy sector (i.e. oil and gas industries) in West Africa from the United States, Europe and South Africa, operates as a liner

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shipping company.

The motivation for the upgrade is therefore to provide the off-shore oil and gas industry maintenance and supply facilities with suitable Port infrastructure. The Port is strategically placed to add significant value to the industry especially in terms of a possible supply hub.

The Saldanha area has been targeted to establish a support industry to service the West African Oil and Gas fields. The Port of Saldanha has an inherent competitive advantage due to its location in relation to the West African Gas fields and its available space. This competitive advantage and positive prospects for the Port to develop as an oil and gas supply and ship / rig repair and maintenance hub was confirmed in the pre-feasibility study that undertaken by TNPA.

The oil and gas industry is composed of exploration, production on the oil field, maintenance of exploration drilling rigs and supply base to support the off shore activities. The private sector has invested approximately R150 million in establishing infrastructure in the Port of Saldanha to build new oil production platforms. Further investment stimulation for oil and gas related industries is expected with the upgrade of the GMQ.

The lengthening of the quay will further complement TNPA's growth strategy and give effect to the provision of the Ports Act which is to improve the productive use of port infrastructure as well as obtaining optimum value from existing infrastructure. The proposed refurbishment and upgrade of the quay to accommodate the oil and gas industry would further complement and be in line with the Port Development Framework Plan and Land Use Plan of the Port of Saldanha.

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES✓	NO	Please explain
The property falls within the boundaries of the Port of Saldanha and is already used as a GMQ.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES✓	NO	Please explain
The property falls within the boundaries of the Port of Saldanha and the proposed activities are Port related.			
(b) Urban edge / Edge of Built environment for the area	YES✓	NO	Please explain
The property falls within the boundaries of the Port of Saldanha and the proposed activities are Port related.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES✓	NO	Please explain
The property falls within the boundaries of the Port of Saldanha and the proposed activities are Port related.			
(d) Approved Structure Plan of the Municipality	YES✓	NO	Please explain
The property falls within the boundaries of the Port of Saldanha and the proposed activities are Port related.			

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<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	YES ✓	NO	Please explain
<p>The EMF is still being drafted and has not yet been adopted by the Department. The property however falls within the boundaries of the Port of Saldanha and the proposed activities are Port related. It is thus assumed that the activities will be in line with the EMF.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	YES ✓	NO	Please explain
<p>Prefeasibility studies for the Saldanha Bay IDZ recognise the West African Oil and Gas Sector as a key potential impetus to development in the IDZ. The study envisages an “oil supply base or hub”. The upgrade of the GMQ as proposed by the TNPA will be key to the growth of this sector in Saldanha Bay and in the IDZ.</p>			
<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	YES ✓	NO	Please explain
<p>The Saldanha Bay Local Municipality SDF and IDP (review 2010/2011) set out a number of economic development targets.</p> <p>Port expansion is listed as a key development opportunity in the municipality, noting that “<i>The availability of a large amount of undeveloped land, adjacent to and owned by the Port, presents a major opportunity for the future expansion of the Port</i>”. The GMQ upgrade therefore falls specifically within development priorities listed in the local SDF (SDF, 2011).</p> <p>Further, developing the back-of-port industrial corridor is seen as a means by which to achieve those targets, and this quay is expected to drive development in this area. The proposed project is therefore catered for in the current planning framework of the SDF conceptual industrial extension - concentrating industrial development into a distinct “Industrial Corridor” which extends northwards until the R45 and east- and westwards from the Sishen-Saldanha railway line (SDF, 2011).</p>			
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	YES ✓	NO	Please explain
<p>Economic development has been identified as an objective for the Saldanha Bay Local Municipality. Although the Saldanha Bay Municipality is one of the biggest contributors to the economy of the West Coast District Municipality (WCDM), unemployment rates are increasing due to the high population growth rate in the area. The proposed project will sustain ~50 employment opportunities (construction phase) and will create 10 – 20 direct permanent employment opportunities (operational phase). Direct employment will stimulate additional employment locally through the multiplier effect. Secondary industry that is expected to be promoted through the upgrade of the GMQ will further enhance the socio-economic benefit of the proposed works. This suggests that the development should take place at “this point in time”. Given that the development will take place within an existing port area, the development must therefore be considered as an appropriate land use.</p>			

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<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I⁴.)</p>	YES ✓	NO	Please explain
<p>TNPA's existing service supply systems (e.g. electricity, water etc.) have sufficient capacity to absorb the demands of the new services to be installed at the GMQ. Therefore, no additional supply will be required for the proposed development as demand for additional capacity will be negligible.</p> <p>TNPA have sufficient capacity for electrical supply to the upgraded quay as part of existing electrical supply agreements. The Port has two electrical feeds from Eskom. As indicated in the Eskom Accounts (see Appendix J1) the notified maximum demands (indicating available capacity) are 20 MVA, and 5 MVA respectively while the demand readings (indicating actual consumption) were 15,77 MVA and 4,105 MVA respectively during December 2012.</p> <p>The Port of Saldanha has a maximum water supply of 34 000 m³ per month allocated by the WCDM (see Appendix J1) in addition to which a Desalination Plant has recently been constructed at the Port to provide an additional 2 400 m³ per day (72 000 m³ per month for a 30-day month) once operating at full capacity. Water Accounts from the WCDM indicate a current consumption ranging between 59 000 and 77 000 m³ per month between October and December 2012. Written confirmation from WCDM regarding available capacity (taking into consideration the Desalination Plant in order to reduce municipal supplied water) will be requested during the public participation process and included in the Final BAR.</p>			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I⁵.)</p>	YES ✓	NO	Please explain
<p>The proposed development will not require any additional infrastructure from the Municipality. Electrical and water supply to the development will come from the existing network at the Port and additional internal service infrastructure will be installed by TNPA. Negligible additional traffic volumes will be placed on the road infrastructure because of the transport of supplies to and from the upgraded GMQ. Given that vehicle volumes will be low (less than 16 additional goods transport vehicles per month) significant delays to other road users are not expected. Comment by the Saldanha Bay Municipality in this regard will be obtained during the public consultation process, and will be included in the Final Basic Assessment Report (BAR).</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES	NO ✓	Please explain

⁴ Since Appendix I contains the specialist ToR, this information is included in Appendix J1

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8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES✓	NO	Please explain
The property falls within the boundaries of the Port of Saldanha and is already used as a GMQ.			
9. Is the development the best practicable environmental option for this land/site?	YES✓	NO	Please explain
Of the various quay wall construction options, the preferred alternative is considered to be the most environmentally practicable, cost effective alternative given that required dredge volumes are lower than the other alternatives, material use is the lowest, and that the least level of disturbance is required during construction as the existing quay walls do not need to be demolished. Given that the development will take place within the existing Port infrastructure and that industrial development stimulation is a recognised goal of local authorities, the development option is considered to provide the most benefit and cause the least damage to the environment as a whole, at a cost acceptable to society in the long term. In addition, the upgrade of the existing GMQ for this purpose negates the need for the development of a new quay elsewhere for the same purpose.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES✓	NO	Please explain
While biophysical impacts associated with this upgrade and associated dredging within an existing port area can be managed to within acceptable levels (see Section D and Appendix F), the socioeconomic benefit of investment stimulation associated with the promotion of an oil and gas supply hub is considered to be of high significance.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO✓	Please explain
The site is already used for similar activities.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO✓	Please explain
The site is already used for similar activities.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO✓	Please explain
The property falls within the boundaries of the Port of Saldanha and the proposed activities are Port related.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES✓	NO	Please explain
The aim of SIP5 is to develop the Saldanha-Northern Cape linked region in an integrated manner through rail and port expansion, back-of-port industrial capacity (including an IDZ) and strengthening maritime support capacity to create economic opportunities from the gas and oil activities along the African West Coast. The proposed works, therefore, are a direct furtherance of this development goal.			
15. What will the benefits be to society in general and to the local communities?	Please explain		
The benefits to local communities and society in general will be as follows:			

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<ul style="list-style-type: none"> • Notable, but relatively low levels of direct and induced business sales, value added and employment during the construction and operation of the facility; and • Promotion of industrial development and capital investment, as well as associated increased business sales and employment. 	
16. Any other need and desirability considerations related to the proposed activity?	Please explain
<p>The viability of establishing an IDZ in Saldanha Bay is being investigated so as to inform the final decision-making by the Saldanha Bay Municipality and the Western Cape Provincial Government on whether to apply for designation of an IDZ programme by the Department of Trade and Industry (DTI) at Saldanha Bay. The IDZ is a mechanism that coordinates planning for and implementation of mega infrastructure investments and serves to attract complementary investments, boosting manufacturing industrial development in the region (Saldanha Bay IDZ Feasibility Study, 2011). The upgrade to the GMQ is expected to significantly increase the viability of the IDZ through the stimulation of industries that would supply the West African Oil and Gas Sector.</p> <p>An increase in income generation for the local economy, through capital investment and employment generation in the municipality will be an important benefit for local communities.</p> <p>The upgrade of the GMQ is not expected to be associated with any opportunity costs as the facility is already used for similar purposes, and is located within an existing port area.</p>	
17. How does the project fit into the National Development Plan for 2030?	Please explain
<p>The proposed upgrade is at the existing Port of Saldanha. Trade and investment promotion and employment creation are key goals of the National Development Plan. The upgrade to the quay will, therefore, directly and indirectly promote the goals of the National Development Plan.</p>	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
<p>The general objectives of Integrated Environmental Management as set out in Section 23 (2) of the National Environmental Management Act (NEMA) Act 107 of 1998 include measures taken to:</p> <ul style="list-style-type: none"> • (a) promote the integration of the principles of environmental management into the making of all decisions which may have a significant effect on the environment; • (b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impacts, maximising benefits; • (c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them; • (d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment; • (e) ensure the consideration of environmental attributes in management and decision making which may have a significant effect on the environment; and • (f) identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management. <p>These objectives are taken into account in the Basic Assessment (BA) process that is being conducted as required in terms of the NEMA Environmental Impact Assessment (EIA) Regulations,</p>	

2010. Potential impacts have been identified, measures for mitigation are presented and a public participation process is being conducted as part of the BA process. The findings are presented in this draft BA Report (BAR) and are compliant with the objectives as set out in Section 23 of NEMA.

Planning approval is not required for the proposed development.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

The principles as set out in Section 2 of NEMA have been taken into consideration in the BA process. Where relevant, specific principles that have been addressed in the BAR include the following:

- (2) the development will open investment opportunities in the oil and gas sector. The development is expected to stimulate economic development and therefore improve the socio-economic wellbeing of the local population;
- (3) the works are relatively minor, are located within an existing port area, and will create temporary and permanent direct and indirect employment opportunities. The development will not result in any significant loss in biodiversity. The works can therefore be considered socially, environmentally and economically sustainable;
- (4) the BA process and the implementation of an Environmental Management Programme (EMPr) associated with the works will ensure that the disturbance of sensitive ecosystems, the loss of biodiversity and pollution and degradation of the environment is avoided, and that where this cannot be altogether avoided, impacts will be minimised and remedied (see Appendix G). Biophysical impacts associated with the project are limited in the context of the project location within an existing Port (see Section D).

The alternative selected involves the lowest consumptive use of construction materials, and entails the least amount of disturbance to the receiving environment of all alternatives screened prior to the BA process.

In terms of the EMPr drafted for the works, waste will be avoided and where it cannot be altogether avoided, it will be minimised, reused and recycled wherever possible and waste will be disposed of in a responsible manner. Only very small volumes of waste are expected to be associated with the works. Any negative impact on the environment and on people's environmental rights has been identified, minimised and mitigated as part of the BA process. Most notably, dredge material will be used for reclamation to reduce the amount of construction materials required for the upgrade, and to reduce the amount of waste generated during the construction phase.

The social, economic and environmental impacts of the development, including disadvantages and benefits, have been considered, assessed and evaluated as part of the BA process.

The participation of stakeholders is promoted through the appropriately scoped public participation process that forms part of the BA process.

The BA process has given specific attention to the potential negative impacts on the marine environment, and positive socio-economic impacts associated with the development.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998) and the NEMA Environmental Impact Assessment (EIA) Regulations (2006)	Environmental Authorisation (BA) required for listed activities	Department of Environmental Affairs (DEA)	Process underway
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	Record of Decision (RoD) required due to linear activities	Heritage Western Cape (HWC)	Process underway
Integrated Coastal Management Act (Act No 24 of 2008)	No application required, but comment required from relevant authority	DEA: Oceans and Coasts	During PPP
National Ports Act (Act 12 of 2005)	No requirements	DEA	n/a
Marine Living Resources Act, No. 18 of 1998	No requirements	DEA	n/a
National Environmental Management: Protected Areas Act, No 57 of 2003	No requirements - no marine protected areas will be affected	DEA	n/a

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If YES, what estimated quantity will be produced per month?

YES ✓	NO
50 tons (excl. excess dredged material)	

How will the construction solid waste be disposed of (describe)?

Waste produced during the construction phase will be typical construction rubble, including rock, sand, soil and concrete and will be disposed of at a licenced waste disposal facility or approval landfill site, as identified by the Contractor. Waste management requirements during the construction phase are detailed in the EMPr (Appendix G).

Construction waste and litter will be disposed of in weather and vermin proof bins / skips and will not

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be disposed of, burned, or buried on site. Bins / skips will be located at the site. Bins will be provided with lids and external closing mechanisms and will be emptied regularly. Any waste or litter will be collected immediately and a weekly clean-up of the site will be implemented.

Waste will be separated into recyclable and non-recyclable waste. Recyclable waste will be deposited into separate designated bins / skips and will be removed off the site for recycling. Hazardous waste will be separated from general waste (very low volumes, if any). Hazardous waste will be clearly marked and safely stored in areas designated for this purpose and waste storage areas will be kept tidy.

Where will the construction solid waste be disposed of (describe)?

General waste as well as any excess dredge material will be disposed of at a licensed waste disposal facility or approved landfill site.

Recyclable materials will be collected or delivered to a suitable recycling facility as specified in the EMPr.

Hazardous waste (if any is generated through, for example, accidental fuel spills) will be disposed of at a licensed hazardous waste disposal facility, and the hazardous waste disposal manifests shall be copied to the Environmental Control Officer (ECO – see EMPr, Appendix G) and retained for auditing purposes.

Will the activity produce solid waste during its operational phase?

YES ✓	NO
-------	----

If YES, what estimated quantity will be produced per month?

Unknown m ³

How will the solid waste be disposed of (describe)?

Volume of waste unknown. Waste may be produced by those making use of the quay, although lease agreements have not yet been made and there is thus no information available in this regard. Should the waste produced by any tenant trigger the need for an application in terms of the NEM: Waste Act, it will be the responsibility of the tenant to make such application.

Transnet does however have an Integrated Waste Management Plan (June 2012) and a Standard Operating Procedure (SOP 13) for Handling and Disposal of Ship Waste. These will both be applicable to any activities at the GMQ.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Construction waste and any excess dredge material (if applicable) will be disposed of at the Vredenberg Landfill Site.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

Unknown. Disposal certificates will, however, be required for any disposal of solid waste. No waste disposal at unauthorised sites will be allowed.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

YES	NO ✓
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If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

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Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO✓
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If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO✓
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If YES, what estimated quantity will be produced per month?

m ³	
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Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO✓
-----	-----

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO✓
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If YES, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

TNPA is in the process of updating the stormwater management plan for the Port and, as part of the process, TNPA is identifying potential uses for the captured stormwater, for example reusing water to clean conveyor belts or dust suppression etc. It is, however, not expected that waste water will be generated in the construction process.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO✓
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If YES, is it controlled by any legislation of any sphere of government?

YES	NO
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If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

Emissions will be limited to dust and exhaust emissions during construction activities, and exhaust emissions associated with 25 additional vessels per year during the operational phase.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO✓
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If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority.

Note: Given that the tenant of the upgraded GMQ has not yet been determined, it is not possible to confirm that future uses of the GMQ will not include waste management activities. If any waste management activities are eventually planned, the user will be responsible for securing the necessary licence for the activities that would be proposed.

e) Generation of noise

Will the activity generate noise?

YES ✓	NO
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If YES, is it controlled by any legislation of any sphere of government?

YES	NO ✓
-----	------

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the noise in terms of type and level:

Noise generation associated with the upgrade would largely be limited to the construction phase, during which time the installation of the sheet piles for the new quay, in particular, would be a source of noise. These activities are expected to occur over a period of approximately 3 months. Any activities which may result in higher than "normal" noise levels will be limited to normal working hours, unless otherwise agreed with the local authorities.

Noise associated with operational activities at the upgraded GMQ will be associated with vehicles, light machinery, cargo lifting equipment (cranes) and ship movements. These are not expected to result in significant noise levels, given the industrial context of the site and existing port related activities.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal ✓	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

0 litres

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES	NO ✓
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If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

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Given the nature of the development proposed, opportunities for energy efficient design measures are limited to options for outdoor lighting: only cost effective high pressure sodium lamps (maximum of 25 lux) will be used for outdoor area lighting.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None – electrical demand is for quay side kiosks and lighting. Energy demand is low in the context of the port operation.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): n/a

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? YES✓ NO
 If YES, please complete the form entitled “Details of specialist and declaration of interest” for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Western Cape
District Municipality	West Coast
Local Municipality	Saldanha Bay
Ward Number(s)	5 and 6
Farm name and number	Farm 1185
Portion number	-
SG Code	C04600120000118500000

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

The property is zoned as General Transport 1 which allows for “Port and related activities” and thus activities such as the upgrade and use of the GMQ are permitted.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required? NO✓

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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat ✓	1:50 1:20 ✓	–	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Note: the existing quay which will be refurbished is flat, while the beach on which the rock revetment is proposed has a slight gradient.

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input type="checkbox"/>	2.9 Seafront	<input checked="" type="checkbox"/>

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO ✓	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO ✓	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO ✓	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES ✓	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO ✓	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%) ⁵	YES ✓	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO ✓	YES	NO	YES	NO
An area sensitive to erosion	YES	NO ✓	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

⁵ As confirmed by SRK's geotechnical engineers, based on soil samples taken, some residual clays occur at a depth of 24 m. The nature of marine sediment will be tested during dredging.

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4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface✓	Building or other structure✓	Bare soil✓

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO✓	UNSURE
Non-Perennial River	YES	NO✓	UNSURE
Permanent Wetland	YES	NO✓	UNSURE
Seasonal Wetland	YES	NO✓	UNSURE
Artificial Wetland	YES	NO✓	UNSURE
Estuarine / Lagoonal wetland	YES	NO✓	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

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6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area ✓	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church	Agriculture
Retail commercial & warehousing✓	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN} ✓	Train station or shunting yard ^N ✓	Mountain, koppie or ridge
Heavy industrial ^{AN} ✓	Railway line ^N ✓	Museum
Power station	Major road (4 lanes or more) ^N	Historical building

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Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour✓	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity?

Train Station or Shunting Yard – Located to the north west of the proposed development. No impact on the shunting yard is anticipated as a result of the proposed development.

Railway Line – Located to the north of the proposed development. No impact on the railway line is anticipated as a result of the proposed development.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Medium / Heavy Industrial – The ArcelorMittal Saldanha Works Iron Ore Smelter is located to the north of the proposed development, and activities at the Port can also be described as industrial. No negative impact on industry is expected as a result of the development.

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

n/a

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO ✓
Core area of a protected area?	YES	NO ✓
Buffer area of a protected area?	YES	NO ✓
Planned expansion area of an existing protected area?	YES	NO ✓
Existing offset area associated with a previous Environmental Authorisation?	YES	NO ✓
Buffer area of the SKA?	YES	NO ✓

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES	NO✓
Uncertain	

n/a

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

The terrestrial and marine portions of the site have been significantly disturbed by previous development, and dredging operations, and it is thus extremely unlikely that any material of archaeological value would be encountered. The new water pipes and electrical installations follow the alignment of the existing road and railway line (see Appendix C, Figures 4 and 5) which are also highly disturbed areas and on land that was previously reclaimed.

The proposed development is also in keeping with the existing activities at the Port and will thus not affect the cultural landscape.

No specialist investigation was undertaken specifically for this project, although the Heritage Impact Assessment for TNPA Reverse Osmosis Plant, undertaken by the Archaeology Contracts Office in May 2008 included consideration of this general area. This report described the site as “a scruffy patch of land used for the ad hoc storage of rubble and stockpiles of building materials”. This report further states that there is no known maritime heritage in the area.

Allowance is however made in the EMPr for the correct handling and management in the case of chance finds of archaeological or paleontological material.

Will any building or structure older than 60 years be affected in any way?
 Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?
 If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

YES	NO✓
YES✓	NO

Note: The application will be submitted to Heritage Western Cape simultaneously to the public comment period for this Draft BAR. Proof of submission will be provided in the Final BAR.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Note that the economic baseline data presented in this section is based on information gathered during the 2007 StatsSA social survey of South African Households. Subsequent to the compilation of this baseline (late in 2012), 2012 Census data was released. Other than raw census data which is available, all economic baseline references for the Municipality (IDP, SDF, draft ICMP) are based on 2007 household survey data. While the data presented here is therefore somewhat dated, it is considered a representative and suitable economic baseline for the purposes of this report, and is sufficient to assess economic impacts associated with the upgrade of the GMQ.

Level of unemployment:

Figure 1 indicates that the WCDM has an unemployment rate of 15% (i.e. 15% of the economically active population who are actively seeking jobs are unemployed), while 85% of those seeking employment are employed.

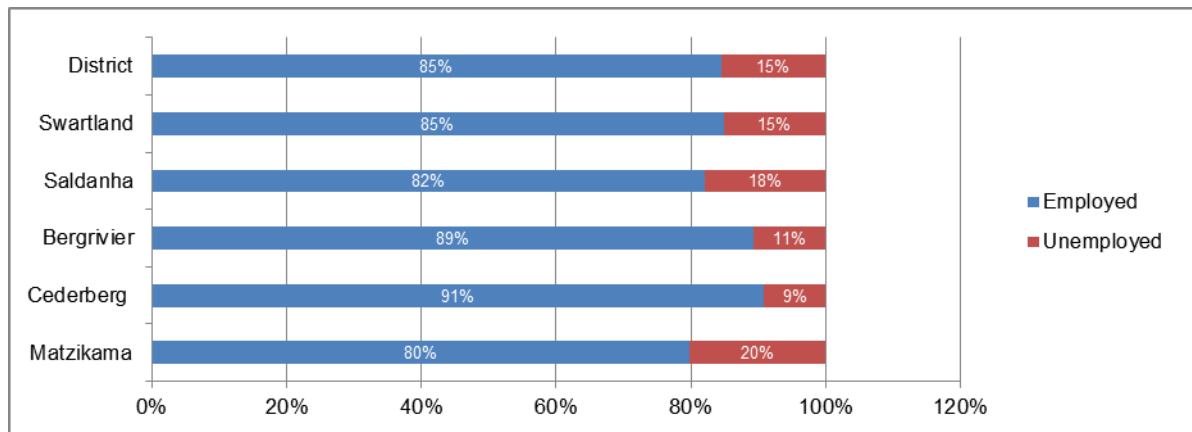


Figure 1: Employment in the WCDM

Source: StatsSA, 2007

Figure 2 indicates the sectoral contribution to employment in the WCDM for 2007⁶. It can be seen that nearly half of district employment was in the primary sector (47%), while the contributions to employment were 16%, 18% and 19% for the secondary, tertiary and quaternary sectors respectively. From Figure 2 it can be seen that the primary sector contributes proportionately more to employment numbers than the other sectors given its contribution to Regional Gross Value Added (GVA-R).

⁶ The division of labour refers to proportions of the labour force employed in the primary, secondary tertiary, and quaternary sectors. The primary sector includes people employed in agriculture (including fishing and aquaculture), forestry, fishery and mining. The secondary sector refers to manufacturing, construction, and energy production (electricity). The tertiary sector includes commerce, transport, and the financial institutions. The quaternary sector refers to public and private services.

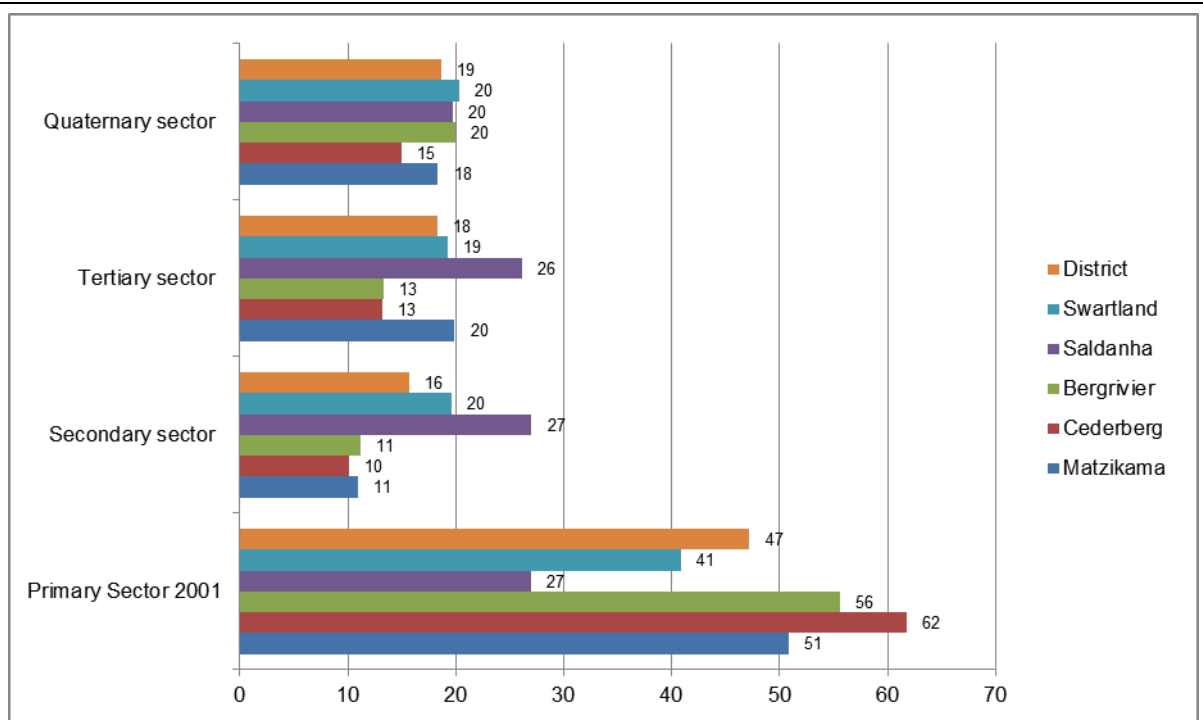


Figure 2: Sectoral Contribution (% of total people employed) to WCDM Employment (2007)

Source: StatsSA, 2007

Unemployment in the Saldanha Bay Local Municipality (SBLM) is higher than the district average (18% compared to 15% at district level) (see Figure 1). The relatively high unemployment rate is likely to be a function of a) the nature of the SBLM as a capital intensive and finance based economy, and b) the relatively low contribution of the labour intensive primary sector. Employment is distributed fairly evenly between the primary, secondary, tertiary and quaternary sectors (contributing 27%, 27%, 26% and 20% to local employment respectively). There are therefore far fewer jobs available in the primary sector than in other local municipalities in the WCDM (47% at district level - see Figure 2).

Economic profile of local municipality:

The population of the SBLM was 78 985 in 2007 and the population density is estimated to have been ~40 people / km² in 2009 which makes it four times more densely populated than the district (at a density of 9.06 people per km²) and the most populous of all local municipalities in the WCDM. As with all local municipalities in the WCDM, population numbers are dominated by the coloured community (57%) and consequently there are fewer members of black (14%) and white (28%) communities, and negligible numbers of people of Indian or Asian descent.

The GVA-R and GVA-R per capita for the SBLM was R3.3 billion and R41 750 respectively in 2007 (~35% of district GVA-R compared to ~6.5% of the total district area). Both SBLM GVA-R and GVA-R per capita are the highest of all WCDM local municipalities. The high population density and GVA-R for the local municipality are indicative of this well developed and urbanised municipality: capital intensive industry dominates the local economy. This interpretation is supported by the high contribution of the manufacturing industry to the local economy (26.7% GVA-R). Saldanha Works (operated by ArcelorMittal), a large steel processing plant located outside Saldanha Bay, is an example of the importance and scale of the manufacturing industry in the SBLM. The contribution of the Port of Saldanha to the local economy is reflected by the relatively high contribution of transport to

the local economy (~19% as compared to a district average of ~8%).

The agricultural sector contributes ~9% to the local economy (compared to ~20% at district level). The fishing and aquaculture industries are an important economic contributor the SBLM.

Although income per capita is comparatively high in the SBLM welfare levels are worse than those experienced at district level (24.4% and 22.3% respectively). While a large proportion of people in the SBLM earned no income (35%), fewer earned less than R3200 than any other local municipality in the district, and the SBLM had the highest proportion of their population earning a monthly income of more than R3200 (2007). These figures correspond with high unemployment coupled with high GVA-R per capita.

~99% of households in the SLM had access to piped water in 2007, ~96% had access to basic sanitation (flushing toilets), more than 96% had access to electricity and ~96% had their refuse removed by local government or a private contractor, similar to or slightly better than district averages. However, only 91% of households in the district were formal compared to the district average of 92%.

Level of education:

Figure 3 shows the level of education of the population of the WCDM (including local municipalities) in 2007. It can be seen that 64% of the district population over the age of 20 years either have no education (6%) or have not achieved grade 12 (58%). These figures indicate very low education levels in the district, and a key development strategy of district policy is skills development (IDP, 2011).

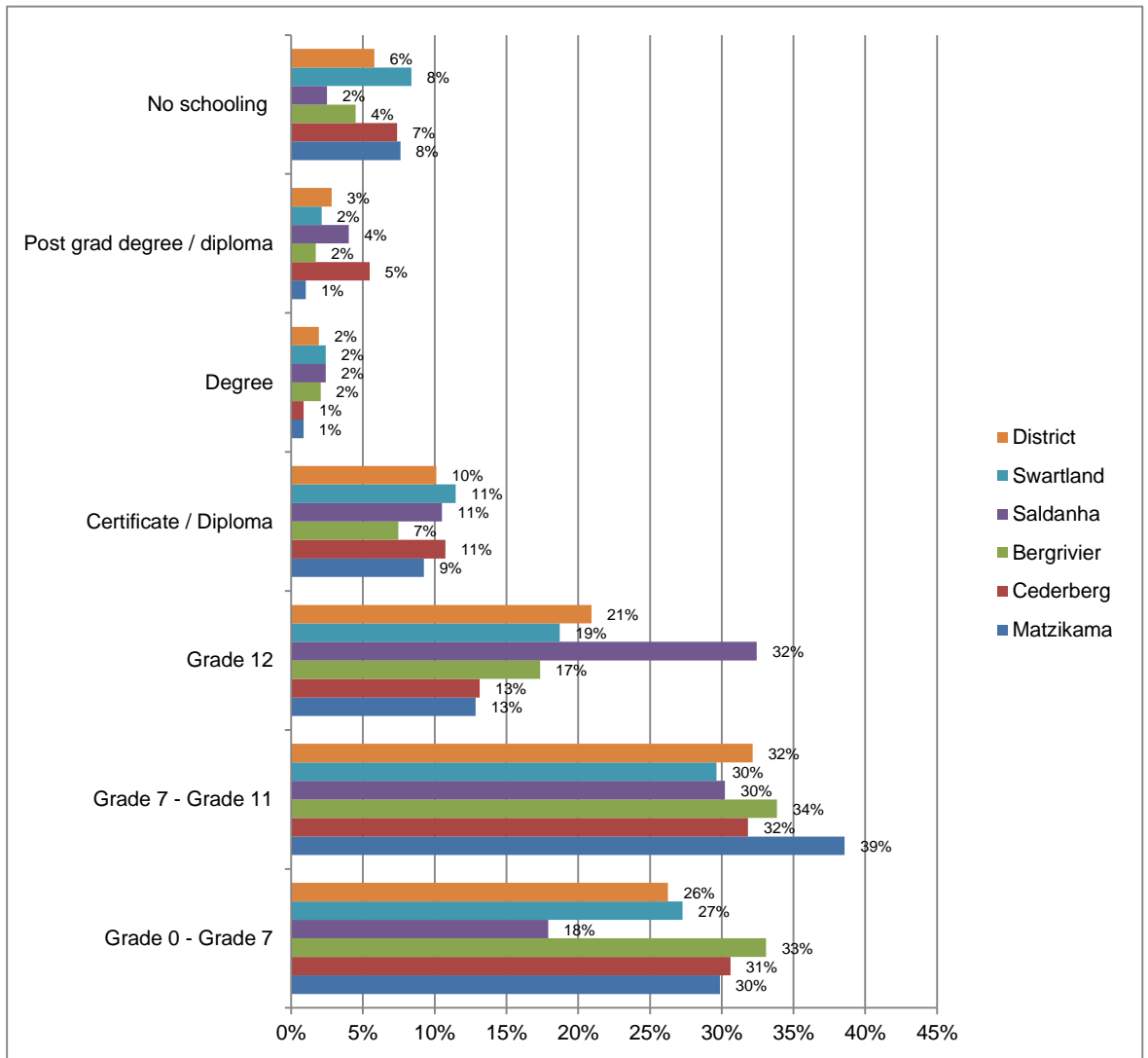


Figure 3: Education of the Population of the WCDM (over the age of 20 years)

Source: StatsSA, 2007

Education attainment in the SBLM is considerably higher than other WCDM local municipalities and consequently the district average: only 2% of the local population over the age of 20 years have no schooling (6% at district level) and only 48% of those with an education did not achieve Grade 12 (compared to the district average of 58%). 49% of the SBLM population over 20 years old achieved a matric pass or better.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

What is the expected yearly income that will be generated by or as a result of the activity?

Will the activity contribute to service infrastructure?

Is the activity a public amenity?

R145 000 000	
Not possible to determine at this stage	
YES	NO ✓
YES	NO ✓

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How many new employment opportunities will be created in the development and construction phase of the activity/ies?	10 to 20 direct employment opportunities Sustain ~50 existing jobs in the construction industry.
What is the expected value of the employment opportunities during the development and construction phase?	10% - 15% of the contract value i.e. R14 500 000 to R 21 750 000.
What percentage of this will accrue to previously disadvantaged individuals?	Unknown
How many permanent new employment opportunities will be created during the operational phase of the activity?	5 – 10 direct employment opportunities
What is the expected current value of the employment opportunities during the first 10 years?	Unknown
What percentage of this will accrue to previously disadvantaged individuals?	Unknown

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgjis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

- a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR) ✓	N/A

- b) **Indicate and describe the habitat condition on site**

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).

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Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	0%	
Degraded (includes areas heavily invaded by alien plants)	0%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	100%	The site is located within an existing port and iron ore handling facility and a GMQ and storage area. It has been significantly disturbed in the past.

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened	YES	NO ✓	UNSURE	YES	NO ✓	YES ✓	NO

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

Quay wall construction activities as well as dredging will take place in the portion of Small Bay, Saldanha Bay, directly adjacent to the existing GMQ. The following description of the marine environment is taken from the Marine Ecology Impact Assessment (Anchor Environmental, 2013) for the proposed GMQ upgrade. This section is hereby referenced.

Saldanha Bay

Saldanha Bay is South Africa's largest and deepest natural port and as a result has undergone extensive harbour development, and has been subjected to several bouts of dredging and marine blasting. Major developments within the bay include the construction of the Marcus Island causeway and the iron ore terminal, the establishment of a three small craft harbours, mariculture farms and several fish processing factories, while extensive industrial and residential development have become established around the periphery of the bay. Anthropogenic pollutants and wastes find their way into the bay from a range of activities and developments within the study area. These include dredging and port expansion, port activities, shipping, ballast water discharges and oil spills, municipal (sewage) and household discharges, discharge from fish processing factories, biological waste

associated with mariculture and storm water runoff.

Saldanha Bay and Langebaan Lagoon are also considered to be one of the biodiversity “hot spots” in South Africa and an area of exceptional beauty. A number of marine protected areas have been proclaimed at sites in and around the Bay, while Langebaan Lagoon and much of the surrounding land falls within the West Coast National Park. Saldanha Bay, due to its sheltered nature, also provides excellent conditions for water sport and fishing enthusiasts. Indeed, tourism has become an important industry for the town and is to a large extent dependent on the maintenance of a healthy marine environment. Saldanha Bay is the only natural sheltered embayment in South Africa and as a result it is regarded as a major area for mariculture (Stenton-Dozey et al. 2001, Anchor Environmental Consultants 2006, 2008, 2010, 2011). The bay was zoned to cater for mariculture operations in 1997 and approximately 1 000 ha were demarcated for mariculture (Stenton-Dozey et al. 2001). Mariculture operations situated within Saldanha Bay are dominated by mussel farming. The nearest mariculture farms to the site are located approximately 1.8 km to the south-west of the proposed dredge area.

The Site

Saldanha Bay was divided into Small Bay and Big Bay with the construction of the Iron Ore Terminal (IOT) in the 1970's. The GMQ is positioned in the north east corner of Small Bay at the base of the IOT. Construction of the IOT and the Marcus Island causeway altered the wave exposure zones evident in the Bay. The causeway increased the extent of sheltered and semi-sheltered zones in Small Bay with no semi-exposed degree of wave energy being present in this area (Luger et al. 1999). Local oceanographic conditions at the GMQ were discussed by PRDW (2012)⁷. The principle findings of this study were that wave conditions near the GMQ are relatively calm year-round, and that both tidal and wind-driven currents remain relatively mild (generally not exceed 0.15m/s) in both strong and weak wind conditions. The marine environment in the vicinity of the GMQ comprises sandy benthos. The State of the Bay monitoring studies (Anchor 2008, 2009, 2010 and 2011) have consistently found that Small Bay had been subjected to a greater extent of organic and trace metal contamination compared to Big Bay and Langebaan Lagoon. This has been attributed to the poor circulation and flushing in Small Bay in combination with organic and trace metal contamination by the surrounding industries and activities.

Activities in Small Bay have resulted in modification of invertebrate populations in certain areas. For example, previously significant numbers of the suspension feeder *Virgularia schultzei* were present, but these have since been replaced mostly by the deposit feeders such as *Polydora sp.* This is attributed to the change in habitat caused by organic deposition from effluent that is discharged to the bay and from the mariculture operations in the area, as well as changes in water circulation patterns associated with the harbour development (Jackson and McGibbon, 1991). The benthic macrofauna of the subtidal muddy sand substrates in Small Bay are generally characterised by opportunistic species, indicating that the communities in the area have been or are subject to ongoing disturbance (Anchor Environmental Consultants 2006, 2008, 2010, 2011). The benthic macrofaunal (organisms >1mm) community at the site nearest to the GMQ were characterised by the purple-lipped dog whelk *Nassarius speciosus*, the three legged crab (*Thaumastoplax spiralis*), the amphipod *Hippomedon normalis*, the polychaete *Nephtys hombergii*, and the tongue worm (*Ochateostoma capense*) in 2011. The carnivorous purple-lipped dog whelk *N. speciosus* is an opportunistic species that can tolerate anoxic conditions, and has been known to occur in high abundance under the mussel rafts (areas with high organic contamination) in Small Bay (Stenton-Dozey 2001). *N. hombergii*, is a burrowing predator that feeds on juvenile molluscs, crustaceans, other polychaetes, diatoms and detritus. *N.*

⁷ Prestedge Retief Dresner Wijnberg, 2012. Saldanha Bay Dredging and Sediment Transport Assessment: Technical Note. Report No. 1113/DTS/00. Prepared for Transnet National Ports Authority.

hombergii prefers to live in fine grained sediments, and the abundance of this species generally increases as grain size decreases. This species is also known to tolerate a low oxygen concentration (Fauchald and Bellan 2009).

The waters of Saldanha Bay and Langebaan Lagoon support a wide variety of fish species. Being sheltered, warm and rich in nutrients, the bay (particularly the shallow surf zone areas around the periphery of the Bay) is an important nursery area for the juveniles of many species. Monitoring of fish populations in the Bay was initiated by means of experimental seine-netting in 1986 but has only been conducted on a regular basis since 2006. Anchor Environmental Consultants (2012) report that surveys undertaken in 2011 recorded good recruitment of harders *Liza richardsonii*, as well as encouraging upward trends in the abundance of white stumponose, gobies and silversides in Big Bay. In Small Bay, however, where commercially important species like white stumponose have traditionally been most abundant, there have been clear signs of decline. 2011 saw the lowest blacktail density and the second lowest white stumponose density recorded to date. That Small Bay also happens to have experienced the highest levels of anthropogenic disturbance in the Saldanha Bay/Langebaan system is not considered to be coincidental.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Die Weslander (Local), Die Burger (Regional) and the Cape Times (Regional).	
Date published	To be published on Wednesday, 27 February 2013 (Weslander) and Thursday, 28 February 2013 (Die Burger and Cape Times).	
Site notice position	Latitude	Longitude
	32°59'46.10"S	17°59'57.67"E
Date placed	Will be placed on Wednesday, 27 February and Thursday, 28 February 2013.	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

Note: Proof of advertisements and site notices will be provided in the Final Report. Notices were placed simultaneous to the release of this draft document to the public for comment.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543.

Note: Notification of potential interested and affected parties included:

- The placement of advertisements notifying I&APs about the project, the availability of the draft BAR for public comment and providing details of a public open day.
- The placement of site notices at the entrance gates to the Port of Saldanha providing the same information as listed above.
- Written notification to key stakeholders and organs of state, including provision of an executive summary of the BAR.
- All notices were made available in English and Afrikaans.

The initial identification of key stakeholders (listed below) did not include any person unable to participate in the public participation process as identified in Regulation 54(2)(e) and no additional actions were required.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Gary James	Transnet National Ports Authority of South Africa (TNPA)	022 703 5460; Gary.james@transnet.net
Kobus Zandberg	Black Mountain Mining (tenant of land adjacent to the site)	023 240 0970; KZandberg@blackmountain.co.za
Andre Kruger	Councillor, Ward 6	022 772 2412; info@woh20.com or info@wowlangebaan.co.za
Frank Pronk	Councillor, Ward 5	022 714 3816; frank.pronk@saldanhabay.co.za

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Jaco Kotze	Langebaan Ratepayers Association	022 77 22 885; info@langebaanratepayers.co.za
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Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

Note: Proof of notification will be included in the Final BAR.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
This section of the report will be completed following the public comment period on the Draft BAR.	n/a

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
DEA: Oceans and Coast	Dr R Omar	021 819 2450	021 407 3009	mtshikot@environment.gov.za	PO Box 52126, Waterfront, 8002
West Coast District Municipality: Municipal Manager	Mr Henry Prins	022 433 8401		hfprins@wcdm.co.za	58 Long Street, Moorreesburg, 7310
Saldanha Bay Local Municipality: Municipal Manager	Mr Louis Scheepers	022 701 7000	022 715 1518	Louis@saldanhabay.co.za	Private Bag X12, Vredenburg, 7380

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DAFF: Fisheries Operations Support	Ms Sue Middleton	021 402 3409		suem@daff.gov.za	Private Bag X2, Roggebaai, 8012
DWA	Ms Wilna Kloppers	021 9507100		KloppersW@dwa.gov.za	Private Bag x16, Sanlamhof, 7532
CapeNature	Ms Alana Duffel-Canham	021 866 8029	021 866 1523	aduffel-canham@capenature.co.za	Private Bag X5015, Stellenbosch, 7599
SANParks	Mr Mike Slayen	021 712 2337	021 713 1542	michael.slayen@sanparks.org	Tokai Manor House, Tokai Road, Tokai, 7945

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

Note: Proof of notification will be included in the Final BAR.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

Note: A list of registered I&APs and copies of correspondence and minutes of meetings will be included in the Final BAR.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Construction and Dredging	Direct impacts:		
	Impact of noise disturbance on surrounding communities	Low	<ul style="list-style-type: none"> ▪ Limit construction activities to Mondays to Saturdays between the hours of 7:00 am and 6:00 pm, or in accordance with relevant municipal bylaws, if applicable. ▪ Limit piling or any other particularly noisy operations to normal working and daylight hours unless otherwise agreed with the authorities. ▪ Maintain construction equipment and vehicles in good working order to prevent unnecessary noise.
	Impact of emissions from construction activities on air quality	Insignificant	<ul style="list-style-type: none"> ▪ Stabilize exposed surfaces as soon as is practically possible. ▪ Avoid excavation, (and if applicable) handling and transport of materials which may generate dust under high wind conditions or when a visible dust plume is present. ▪ Locate stockpiles in sheltered areas where they are not exposed to the erosive effects of the wind. ▪ Limit vehicle speeds to 20km/h when traversing unconsolidated areas. ▪ Use appropriate dust suppression measures (i.e. spray unconsolidated areas with water) when dust generation is unavoidable. ▪ Sweep roads at site entrance and exit points regularly, to prevent the spread of mud / dust by construction vehicles.
	Delays to other road users associated with increased traffic	Insignificant	<ul style="list-style-type: none"> ▪ Confine all vehicles to designated access roads and parking areas. ▪ Ensure that drivers of construction vehicles, and Transnet Port security personnel are informed of security procedures for construction vehicles at the Port entrance, to avoid unnecessary delays. ▪ Ensure that construction vehicles abide by the speed limits.
	Loss of terrestrial vegetation and habitat	Insignificant	<ul style="list-style-type: none"> ▪ Limit clearing to those areas within the footprint of construction.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> ▪ Protect all indigenous non-invasive flora adjacent to site. ▪ Rehabilitate all areas disturbed through construction activities with the appropriate vegetation indigenous to the site.
	Disturbance of marine habitat within the dredge footprint	Very low	No mitigation possible
	Enhanced turbidity and sedimentation in surrounding habitat	Low	<ul style="list-style-type: none"> ▪ Avoid dredging under strong SE winds conditions. ▪ Institute continuous real-time monitoring of suspended sediment levels in the water column and use this to inform dredge operations. ▪ Avoid dredging in the deeper channel area.
	Nutrient release and associated algal blooms	Insignificant	
	Toxicity of trace metals and other contaminants in the dredged sediment to marine life	Low	<ul style="list-style-type: none"> ▪ Make allowance for a settling area and overflow system during reclamation activities, allowing sufficient time for the fines to settle out before dewatering. ▪ If sediment characteristics allow, employ hydraulic rather than mechanical dredging methods.
	Permanent loss of subtidal habitat due to new marine infrastructure	Low	No mitigation required.
	Impact of marine pollution during construction	Insignificant	<ul style="list-style-type: none"> ▪ Ensure no hydrocarbons leak from any vehicle. ▪ Inform & empower all staff about sensitive marine species & suitable disposal of construction waste and litter. ▪ Provide sufficient waste disposal facilities. ▪ Situate temporary fuel storage facilities as far from the coast as possible. ▪ Ensure contractor is suitably equipped to prevent and / or manage any accident hydrocarbon spills. ▪ Approve a procedure that dredge contractors must implement in the case of accidental marine fuel spills.
	Increased employment, income and skills development	Low (+ve)	<ul style="list-style-type: none"> ▪ Make the employment of 50% of the construction workforce from the Saldanha Bay Local Municipality a condition of contract. ▪ Use labour intensive construction methods where possible. ▪ Ensure that contractors submit a skills development plan as part of their tenders for the work proposed.
	Increased business sales and value added to economy	Low (+ve)	<ul style="list-style-type: none"> ▪ Purchase 50% of materials for construction produced in the Saldanha Bay Local Municipality, if locally available and competitively priced. ▪ Purchase materials from labour intensive industries where possible.
	Visual Impact of dredging activities	Very Low	<ul style="list-style-type: none"> ▪ Implement mitigation measures previously identified to limit the intensity and extent of dredge plumes
	Loss of cultural heritage resources	Very low	<ul style="list-style-type: none"> ▪ Report all exposed marine/terrestrial heritage remains to the Heritage Western Cape (HWC). Heritage remains uncovered/disturbed must not be disturbed further until approval has been obtained from HWC. ▪ Notify SAHRA should any graves or unmarked human burials be discovered. Do not disturb these sites further until approval has been obtained from SAHRA. Appoint an archaeologist to remove the remains at the expense of TNPA. ▪ Ensure that all Contractors and Sub-contractors are made aware of the potential existence of heritage resources (terrestrial and marine), and instructed on

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Activity	Impact summary	Significance	Proposed mitigation
			the correct procedure for preserving the integrity thereof.
	Indirect impacts: None Identified		
	Cumulative impacts:		
	Contribution to cumulative impacts on marine environment	Insignificant	No mitigation required
Operational Phase	Direct impacts:		
	Noise impacts	Insignificant	No mitigation required
	Impacts on air quality	Insignificant	No mitigation required
	Increased traffic	Insignificant	No mitigation required
	Visual Impacts	Insignificant	No mitigation required
	Impact on Coastline Stability	High	<ul style="list-style-type: none"> ▪ Develop and implement a shoreline monitoring programme to inform the need for and identification of suitable erosion prevention or corrective measures. ▪ Develop the monitoring programme in consultation with a suitably qualified coastal/marine engineer or specialist. ▪ Ensure that the proposed solution is subjected to the required authorization procedures prior to being implemented.
	Increased employment and income	Low (+ve)	No optimisation possible
	Increased business sales and value added to economy	Medium (+ve)	No optimisation possible
	Disturbance to other vessels and risk of collision due to additional shipping traffic	Low	<ul style="list-style-type: none"> ▪ Maintain established international safety and security procedures for vessel movements within Saldanha Bay. ▪ Ensure that vessel collision emergency response procedures are in place.
	Indirect impacts:		
	Stimulation of industrial development	Medium (+ve)	No optimisation possible
	Cumulative impacts:		
	Growth of regional economy	High	No optimisation possible
	Contribution to Increased Risk of ship collisions	Insignificant	<ul style="list-style-type: none"> ▪ Maintain established international safety and security procedures for vessel movements within Saldanha Bay. ▪ Ensure that vessel collision emergency response procedures are in place.
Alternative 2			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		

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Activity	Impact summary	Significance	Proposed mitigation
	Cumulative impacts:		
Alternative 3			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
No-go option			
	Direct impacts:		
	Loss of regional economic opportunity	Medium	No mitigation possible
	Indirect impacts:		
	-		
	Cumulative impacts:		
	-		

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

Details of the impacts associated with the proposed development are included in Appendix F and Section D1 above. Relevant observations with regard to the overall impact ratings, assuming mitigation measures are effectively implemented, are:

- The predicted *noise impacts* are rated as *low* during the Construction Phase, given the industrial setting of the site at which noise levels are already relatively high, and assuming that particularly noisy construction activities e.g. piling can be limited to daylight hours. The noise impacts during the Operational Phase are considered *insignificant*;

- The predicted *air quality impacts* are rated as *insignificant* during both the Construction Phase and the Operational Phase, provided that dust and vehicle emissions are managed;
- The predicted *traffic impacts* will largely be limited to the Port entrance and inside the site boundaries and are considered *insignificant* during both the Construction and Operational Phases;
- The predicted *loss of terrestrial vegetation and habitat* is considered *insignificant* given the disturbed nature of the site on which very little to no natural vegetation remains;
- The predicted impacts on the *marine environment* are rated as insignificant to low during the Construction Phase, although the long term erosion of the beach to the north of the GMQ is rated as an impact of high significance, and it is recommended that various mitigation options be investigated further, based on monitoring of shoreline erosion;
- The predicted *direct economic benefits* are generally rated as *low* although the long term indirect benefits associated with the stimulation of industrial development and contribution to growth of the regional economy are rated as *medium*;
- The predicted *visual impacts* associated with dredging and the creation of dredge plumes during the Construction Phase are considered to be *very low*, with *insignificant* visual impacts during the Operational Phase, given the setting within an existing Port; and
- The predicted impacts on heritage resources are considered very low, due to the disturbed nature of the site and low likelihood that any such resources exist in the area. Mitigation measures will however be put in place to deal with any chance finds.

The upgrade of the GMQ at the Port of Saldanha will entail so-called triple bottom line costs, i.e. social, environmental and economic costs. The triple bottom line is typically employed by companies seeking to report on their environmental, social and economic performance. The triple bottom line concerns itself with environmental (taken to mean biophysical) sustainability, social equity and economic efficiency.

SRK believes it will be instructive to reduce the decision factors to the key points which the authorities should consider. These points - social, environmental and economic – constitute the principal findings of the BA and, assuming that the recommended mitigation measures will be effectively implemented, are as follows:

1. The GMQ is located in the Port of Saldanha but is in need of rehabilitation to allow for utilisation to its full capacity.
2. The project will include the extension and replacement of the quay wall to join the existing GMQ with the existing Rock quay. The area between the two quays will need to be reclaimed. The project will also include dredging to reinstate the berth pocket and the refurbishment of the rock revetment on the beach to the north of the GMQ.
3. The tenant for the GMQ has not yet been finalised, although a tenant servicing the oil and gas industry off West Africa is most likely.
4. The potential environmental impacts associated with the proposed development considered in the BA process include visual, air quality, noise, physical marine and marine ecology, terrestrial ecology, visual, heritage and socio-economic impacts, as well as increased shipping. The proposed development is not projected to have unacceptably significant adverse impacts, and will have modest economic benefits. The contribution of the development to cumulative impacts in the area is negligible, apart from the positive contribution to regional development.
5. The proposed development is not considered fatally flawed based on any of these potential

impacts and the upgrade to the GMQ and associated dredging of the berth pocket would be acceptable.

6. A number of mitigation and monitoring measures have been identified which would allow for the minimisation and management of potential environmental impacts associated with the proposed development. These have been incorporated into an EMPr for the project, the implementation of which should be a condition of authorisation of the project.

Alternative B

Alternative C

No-go alternative (compulsory)

The No Go alternative is defined as the continuation of the status quo. This will constitute no change to the existing terrestrial or marine environments. Therefore, although negative biophysical and marine impacts associated with the proposed development will not occur, the economic benefits to the greater region associated with creating a platform through which to service the oil and gas sector would be forgone. If this platform is not developed it is likely that an oil and gas supply platform will be developed elsewhere, reducing the competitive advantage presented to the TNPA and its prospective clients.

Since the GMQ already exists, is located within existing Port infrastructure and activities associated with its upgrade are not out of character with typical port maintenance activities, negative biophysical impacts are considered both acceptable and manageable when mitigation is strictly applied.

The negative impact associated with the No Go alternative is considered to be of medium significance because of foregone regional economic opportunity, and no practical mitigation is considered possible without the works that are proposed in this application

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES ✓	NO
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

- Ensure that the following mitigation measures listed in the Impact Assessment Section are incorporated into the EMPr and implemented:
 - Limit construction activities to Mondays to Saturdays between the hours of 7:00 am and 6:00 pm, or in accordance with relevant municipal bylaws, if applicable.
 - Limit piling or any other particularly noisy operations to normal working and daylight hours unless otherwise agreed with the local authorities.
 - Maintain construction equipment and vehicles in good working order to prevent unnecessary noise.
 - Stabilize exposed surfaces as soon as is practically possible.
 - Avoid excavation, (and if applicable) handling and transport of materials which may generate dust under high wind conditions or when a visible dust plume is present.
 - Locate stockpiles in sheltered areas where they are not exposed to the erosive effects of the wind.
 - Limit vehicle speeds to 20km/h when traversing unconsolidated areas.
 - Use appropriate dust suppression measures (i.e. spray unconsolidated areas with water) when dust generation is unavoidable.
 - Sweep roads at site entrance and exit points regularly, to prevent the spread of mud / dust by construction vehicles.
 - Confine all vehicles to designated access roads and parking areas.
 - Ensure that drivers of construction vehicles, and Transnet Port security personnel are informed of security procedures for construction vehicles at the Port entrance, to avoid unnecessary delays.
 - Ensure that construction vehicles abide by the speed limits.
 - Limit clearing to those areas within the footprint of construction.
 - Protect all indigenous non-invasive flora adjacent to site.
 - Rehabilitate all areas disturbed through construction activities with the appropriate vegetation indigenous to the site.
 - Avoid dredging under strong south-east wind conditions.
 - Institute continuous real-time monitoring of suspended sediment levels in the water column and use this to inform dredge operations.
 - Avoid dredging in the deeper channel area.

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- Make allowance for a settling area and overflow system during reclamation activities, allowing sufficient time for the fines to settle out before dewatering.
- If sediment characteristics allow, employ hydraulic rather than mechanical dredging methods.
- Ensure no hydrocarbons leak from any vehicle.
- Inform & empower all staff about sensitive marine species & suitable disposal of construction waste and litter.
- Provide sufficient waste disposal facilities.
- Situate temporary fuel storage facilities as far from the coast as possible.
- Ensure contractor is suitably equipped to prevent and / or manage any accident hydrocarbon spills.
- Approve a procedure that dredge contractors must implement in the case of accidental marine fuel spills.
- Make the employment of 50% of the construction workforce from the Saldanha Bay Local Municipality a condition of contract.
- Use labour intensive construction methods where possible.
- Ensure that contractors submit a skills development plan as part of their tenders for the work proposed.
- Purchase 50% of materials for construction produced in the Saldanha Bay Local Municipality, if locally available and competitively priced.
- Purchase materials from labour intensive industries where possible.
- Report all exposed marine/terrestrial heritage remains to the Heritage Western Cape (HWC). Heritage remains uncovered/disturbed must not be disturbed further until approval has been obtained from HWC.
- Notify SAHRA should any graves or unmarked human burials be discovered. Do not disturb these sites further until approval has been obtained from SAHRA. Appoint an archaeologist to remove the remains at the expense of TNPA.
- Ensure that all Contractors and Sub-contractors are made aware of the potential existence of heritage resources (terrestrial and marine), and instructed on the correct procedure for preserving the integrity thereof.
- Ensure that the proposed solution is subjected to the required authorization procedures prior to being implemented.
- Maintain established international safety and security procedures for vessel movements within Saldanha Bay.
- Ensure that vessel collision emergency response procedures are in place.
- Monitor the beach profile to determine the extent and rate of shoreline erosion over the long term and if necessary undertake the required corrective action to stabilise the shoreline (after obtaining relevant authorisations). Develop the shoreline monitoring plan in consultation with a suitably qualified marine engineer/specialist.
- No discharge of stormwater into the sea will be allowed without the relevant permits.
- Provide disposal certificates for any disposal of solid waste at any site which is not an approved municipal landfill site. No waste disposal at unauthorised sites will be allowed.
- Incorporate all conditions of Authorisation posed by DEA or any other authority into the Final EMPr.

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- Implement the EMPr to guide design, construction and operational activities and to provide a framework for the on-going evaluation of environmental performance.
- Should the proposed method of construction of the quay wall differ from the sheet pile method assessed in the BAR, any additional impacts will need to be identified and suitable mitigation measures proposed. DEA&DP and DEA will need to be notified of the proposed change to the project description and may request additional assessment if necessary to understand any impacts.
- Ensure that adequate response mechanisms are in place and corrective action is taken to address any instances of non-compliance with the EMPr and other requirements.
- Obtain any other permits and authorisations that may be required.
- Appoint a suitably qualified and experienced Environmental Control Officer (ECO) to oversee all construction activities and ensure compliance
- Ensure that the final quay wall design and associated method statements are reviewed by the ECO to ensure that the associated impacts are not more significant than assessed in the BAR. Notify DEA and DEA&DP in writing of any proposed changes to the Project Description.
- Do not extend the rock revetment beyond the existing footprint, unless the potential impacts have been considered and required authorisations are in place.
- Prior to maintenance dredging, ensure that the impacts are fully understood and can be mitigated as far as possible, noting that the impacts have not been assessed in this BAR. It is recommended that TNPA develop an EMPr, to be approved by the relevant authorities, for all maintenance dredging required within the Port of Saldanha if one is not already in place. This should be done prior to the start of any maintenance dredging associated with the GMQ.
- Include in the contract of any tenants of the GMQ the need to obtain any authorisations required for the activities they propose, as well as abiding by the conditions of the EMPr applicable to the Operational Phase.

Is an EMPr attached?

YES ✓

NO

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Sharon Jones

NAME OF EAP

PP
SIGNATURE OF EAP

M. C. Law

21/02/2013
DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information