SECTION 2: PROJECT DESCRIPTION AND MOTIVATION

Transnet is nearing completion of the upgrade in capacity of the iron ore handling facility from 18 MTPA to 38 MTPA[3]. Environmental approval has recently been granted for Phase 1B[4], the expansion of the ore handling capacity to 45 MTPA. Transnet is now applying to the Department of Environmental Affairs and Tourism (DEAT) for approval of the next phase of the proposed expansion, which will increase the handling capacity to 93 MTPA. Transnet views the upgrade as part of the development of an internationally competitive iron ore export Port at Saldanha. The strategic importance of the iron ore handling facility for the country as a whole and the economic growth it could provide is considered desirable, and is expected to have a positive impact on the South African economy.

2.1 PROJECT BRIEF

2.1.1 Phase 2 EIA process in relation to previous EIA processes

This expansion is being undertaken as a follow-up to recent expansions, which have taken place since 2002 (see Table 2). It is therefore imperative that this project be seen in the context of the past, present and future operations of the port in general, and the bulk iron ore handling facility in particular.

Table 2: Summary of EIA authorisation process of the Iron Ore Handling Facility (BTS) upgrades

Phase	Authority Reference Numbers	Status	Maximum Throughput
1A	DECAS Record of Decision (RoD) Ref: A24/16/226 – March 2002	▪ Construction phase nearing completion ▪ Current throughput = 32 MTPA	38 MTPA
1B	DEAT RoD Ref: 12/12/20/237 - August 2006. Final decision of the Minister overruling the appeal was issued – 15 March 2007	▪ Construction Phase commenced	45 MTPA
2	DEAT Application Ref: 12/12/20/806 – May 2006	▪ EIA Plan of Study for Scoping (PoSS) submitted to DEAT & DEA&DP ▪ PoSS approved - 25 August 2006 ▪ Scoping exercise completed on submission of this report	93 MTPA

2.1.2 Current Operations

The iron ore terminal at Saldanha functions as the export harbour for iron ore that is mined in the Sishen district of the Northern Cape Province. The iron ore mines are predominantly owned by Kumba Resources and Assmang. Currently 32 MTPA of iron ore is transported by rail from Sishen to Saldanha. Of the total, 1.8 MTPA are consumed by the Mittal Steel smelter located at Saldanha Bay. The remainder of the iron ore (30 MTPA) is exported via the Port of Saldanha to the international market.

The current operations of the Sishen – Saldanha Export Corridor are outlined as follows (see Figure 2):

- Iron ore is transported by rail over a distance of approximately 860 km from Sishen and Beeshoek, in the Northern Cape, to the iron ore export facility at Saldanha Bay in the Western Cape.

- At Sishen, the iron ore is loaded on trains consisting of 228 wagons (85/100 tonnes combinations). These trains are drawn by various combinations of electric locomotives and diesel-electric locomotives. The journey from Sishen to the Salkor Rail Yard, situated about 5 km north of the iron ore handling facility, lasts for approximately 19.5 hours over the single railway line.

- Interim shunting/handling of trains takes place at the Salkor Rail Yard.

- From the Salkor Rail Yard, the wagons are drawn by diesel locomotives to the two existing Tipplers at the bulk terminal.

- Dust is suppressed using water that is sprayed onto the open rail trucks immediately before discharge into the Tipplers. Spraying also occurs along roads and along the conveyor belt at transfer points up to the Sampling Plant.

- The ore is off-loaded from the iron ore rail trucks at one of the two Tipplers at the ore handling facility. Each Tippler is housed in a building designed to extract dust generated during offloading, which includes a dust extraction cartridge filter plant.

- From the Tipplers the ore is transported via an open conveyor belt to the Stockyards.

- Three Stacker Reclaimers (there will be four following completion of Phase 1B), that use a bucket reclaiming system, stack the ore from the conveyor belt into stockpiles in accordance with predetermined configurations, ore grade and customer requirements (see Photo Plate 2).

- The Stacker Reclaimers are also used to reclaim the ore, using a bucket loading system, from the stockpiles onto open conveyor belts that feed the ship loading system when an iron ore carrier ship arrives at the port.

- The ore is transported to the ship loading facilities on open conveyor belts via a sampling plant where the quality of the ore is tested. Usually, no further water is sprayed onto the ore after the sampling plant. Should the ore begin to dry for any reason between leaving the sampling plant and reaching the next transfer point, a small amount of water could be further applied. Moisture content and size grading is tested at the sampling plant.

- One or both of the two ship-loaders then loads the ore from the conveyor belts into the holds of the iron ore carrier ships for export.

Transnet is currently planning to enclose some of the conveyor belts and also to install a more sophisticated moisture measuring and water spraying system. This forms part of the dust mitigation programme for Phases 1A and 1B.

The current iron ore handling process is illustrated in Figure 2 below. This process will generally remain the same after the proposed Phase 2 upgrade, although additional facilities and infrastructure will be required in order to increase capacity.

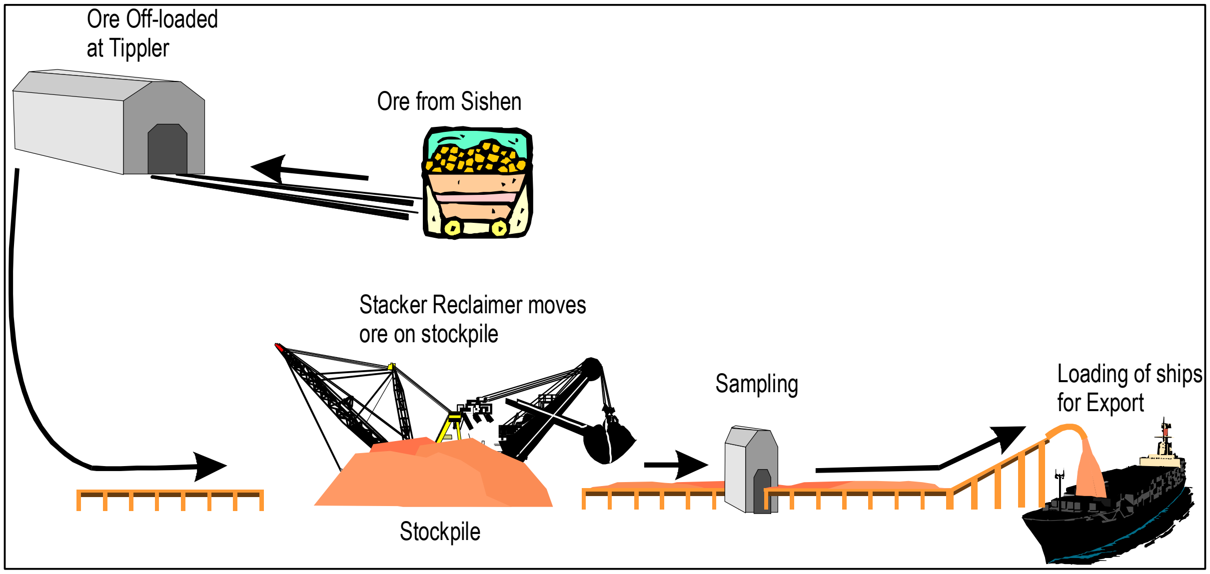

Figure 2: Illustration of the iron ore handling process at the iron ore export terminal.

Photo Plate 2: One of three existing Stacker Reclaimers with associated conveyors

2.2 PROJECT MOTIVATION

As a State-owned Enterprise, Transnet's mandate is to reduce the cost of doing business in South Africa, whilst remaining profitable by reducing costs, improving efficiencies and investing in infrastructure as well as upgrading ageing rolling stock (State of the Nation Address, 2005). To this end therefore, Transnet has committed R65 billion for capital investment over the next 5 years. One area where the investment is to be made is the expansion of the iron ore handling facility at Saldanha.

Transnet views the upgrade as part of the development of an internationally competitive iron ore export port. There is an increase in iron demand globally especially in China and India. Transnet therefore intends to capitalise on the current demand by increasing its throughput of iron ore to the international market. Transnet is seeking environmental approval from the relevant authorities for proposed expansion to 93 MTPA in order to meet this increase in demand for iron ore. The business case for the viability of these tonnages is based on the estimated output from the mines in Sishen, as well as the foreign exchange earnings that South Africa could gain if the expansion of the iron ore export facility is geared to satisfy the currently vibrant global demand for iron ore.

The strategic importance of the iron ore expansion facility for the country as a whole and the economic growth it will provide makes this a desirable development that will have a positive impact on the South Africa economy. The project could also have a positive effect on the Saldanha and Western Cape economies, through spin-offs and secondary benefits in the local economy. The economic impact of the expansion will be better understood and contextualised by means of an in-depth analysis of the economic aspects of the project. This study is to be undertaken in the EIA phase.

2.3 PROJECT DESCRIPTION

The additional iron ore throughput will require the expansion of both the rail side and port side operating infrastructure. This project deals with the further expansion of the ore terminal facility located within the Port of Saldanha (port side infrastructure), as well as the rail link between the Salkor Rail Yard and the port. The scope of this application does not include any upgrades to the railway between Sishen/Beeshoek and the rail infrastructure north of the Salkor Rail Yard at Saldanha. The detailed drawings in Appendix B1 show the proposed terminal layout alternatives, indicating the proposed Tippler positions, Stockyard layouts, Conveyor layouts, Ship Loading Berths and Ship Loaders. The design is currently at the feasibility stage, which entails planning and screening to select potentially viable alternatives. However the findings of the EIA will inform the final design, in order to ensure that the layout minimises environmental impacts.

2.3.1 Phase 2 Expansion Proposal

The planned expansion of the iron ore handling facility will be undertaken in two stages: i.e. expanding infrastructure to cater for 67 MTPA (Phase 2A), and to cater for 93 MTPA (Phase 2B). The proposed Phase 2 upgrade will entail the following:

2.3.1.1 Upgrades between the Port and the Salkor Rail Yard (to the Vredenburg bridge), located 5km north of the port

- A departure/arrival yard suitable for 420 wagon trains;
- A new or extended locomotive workshop for the shedding and preparation of locomotives;
- Plant and equipment for (and possible extension of) the existing locomotive heavy maintenance workshop and facilities;
- Standing facilities for locomotives;
- Additional rail lines and sidings (up to 8 in total) from Salkor Rail Yard to the new Tipplers at the Iron Ore Handling Facility;
- Equipment, plant and other railway infrastructure necessary to support the operation of the railway;
- New or modified bridges, culverts, roads, earthworks and other infrastructure to accommodate the additional lines and changes to the Salkor Rail Yard; and
- Operational and administrative buildings and associated services infrastructure.

Upgrades of the railway line, from the Vredenburg bridge (to the north of the Salkor Rail Yard) to the Sishen and Beeshoek mines do not form part of this application. The only component of this application pertaining to rail infrastructure between the iron ore handling facility and Sishen/Beeshoek is the expansion of the Salkor Rail Yard and associated infrastructure. The remainder of the rail upgrade is being dealt with in a separate EIA that is being conducted concurrently with this EIA (DEAT Application Ref. No. 12/12/20/826).

2.3.1.2 Upgrades to the Iron Ore Handling Infrastructure

This can be broadly grouped into the infrastructure supporting operations on the rail side (as discussed above in 2.3.1.1) and the infrastructure on the port side, which includes:

- Iron ore handling facilities for up to three new Stockyards. Three alternative locations are identified in the scoping report and would require either ;
  - Possible backfilling of the existing reclamation dam and further reclamation of the sea into the Big Bay making use of as much dredged material as possible to reduce disposal volumes (Option 1).
  - Possibly cutting into the dune area behind the current Stockyard area (Option 2);
  - Possible backfilling of the existing reclamation dam area (formerly used for mariculture, although it has always been identified for future Stockyard expansion) (Option 3);
- New conveyor systems (from the new Tipplers to stockpiles);
- Disposal of dredged material (up to approx. 11 million m^3) at a disposal site to be determined as part of this study;
- Storm water management infrastructure;
- Municipal water supply infrastructure; and
- Electrical power supply infrastructure.

The port side infrastructure can be further divided into Train Side, Ship Side, Stockyard, Marine Infrastructure and General Infrastructure.

i) Train Side Infrastructure

The Train Side operation consists of the delivery of ore and the separation of trains containing ore parcels of different grades. For the separation of parcels, three elements are required namely: the Wagon Tipplers, the Stockyard Feed Conveyors, and the Stacking Systems.

The fixed train-side infrastructure required is as follows:

- Rail sidings (up to eight);
- Two new Tipplers (nos. 3 and 4) including sub- and super-structures, the construction of which will require blasting;
- Up to three new Stockyards (nos. 5, 6 and 7). The Stockyards will be constructed using reclamation material and/or bulk fill engineering material. Roads, track slabs and utilities will be built on this material. Where necessary, engineering material will be imported from on-site construction areas, borrow pits or commercial sources;
- New Conveyor lines to the Tippler-Stockyard system; and
- Up to three new Stacker Reclaimers (nos. 5, 6 and 7) or alternatively a combination of separate Stackers and Reclaimers to provide the same capacity. **Note that the Stacker Reclaimer is the interface between the Rail Side and the Port Side operations**.

For the extension of the Stockyards area (addition of Stockyards number 5, 6 and 7), three alternative areas are being considered. Refer to Figures 15, 16 and 17 which show the detailed layouts of the alternatives proposed. Option one (Figure 15) will be an extension to the south; the second option (Figure 16) is an extension to the north of the existing Stockyards, and the third option (Figure 17) will be to the east. An engineering feasibility study is being undertaken to further define the infrastructure required for each layout. The alternative layouts are discussed in greater detail in Section 7.

ii) Ship Side Infrastructure

The Ship Side consists of Stockyard Reclaiming operations, Transfer Conveyor systems, Sampling systems, and the Ship Loaders. The following are required:

- New Conveyor systems;
- A new iron ore sampling plant;
- Up to two new Ship Loaders (Nos. 3 and 4);
- 2500 tonne buffer bins on each Conveyor system, one per feed stream (up to four);
- Relocation of the oil pipeline to accommodate the alignment of additional Conveyors;
- Bulk services; and
- Associated infrastructure.

On the marine side, the development of the port requires:

- Provision of access for ships, which will require dredging and blasting for ship approach channels.;
- Dredging to a depth of -21 m CD on the south-eastern side (Big Bay side) of the present causeway and ore jetty;
- Providing the superstructure for up to two new Berths for ore carriers alongside the pier. The construction of the two new Berths will include (but is not limited to) dolphin structures, with fire protection equipment. and
- Bunkering services; bulk services and administrative and operational buildings (including security controls).

The following construction activities for the dredging and reclamation works will be undertaken in the marine environment:

- Reclamation of Stockyard areas through the deposition of dredged material, including the requisite settlement areas, overspill weirs and silt screens;

- Associated reclamation works behind the Berths, to accommodate access around the sampler building and conveyor installations on the quay;
- Bund wall/Seawall protection along reclaimed works;
- Construction of temporary Berths for delivery / landing of the new Stacker Reclaimers at existing reclamation dam; and
- Reclamation on the Small Bay side of the quay for road widening.

Lay down area: For all three Stockyard alternatives the designated contractors' lay down and construction areas have been identified (see detailed diagrams in Appendix B1). An access road from the lay down area to the site is also required.

Tipplers: Both existing Tipplers are located within the port boundary, in close proximity to and southeast of the main port entrance gate). The construction of Tippler No. 2 was completed in December 2005. The two existing Tipplers are bordered on the west by the main port entrance road and rail lines and on the east by the Haul Road. The ideal position for the new Tipplers is considered to be approximately 760m north of the Divisional Road MR 559, which passes over a rail bridge, and between the existing link line and the Mittal Steel boundary fence. This position has been developed through an engineering screening study, details of which are included in Appendix B3.

Road upgrades and alterations

To accommodate the location of the new Tipplers, new feeder lines are required from the Salkor Rail Yard to the Tipplers and from the Tipplers into the port. A number of important design criteria for the track layouts determine the potential influence that the alignment of the tracks could have on Mittal Steel's property, the Haul Road and neighbouring bridge structures. Appendix B1 contains an annotated aerial photograph of the existing and proposed roads and bridges.

These design criteria include amongst others:

- A maximum gradient of 1 in 800 for a length of 1.6km before and after the Tipplers; and
- Curves on the tracks must have a minimum radius of 1000m and a maximum radius of 5000m.

The proposed track layout has implications for neighbouring roads and bridges. These implications include:

Road Upgrades:

(i) Proposed upgrade and surfacing of the Haul Road that goes into the port and is parallel to the tracks. The section of the road to be upgraded is approximately 1.8km to a width of 6m (no shoulder).

(ii) Deviation of the Haul Road in the vicinity of Mittal Steel's weighbridge. This deviation needs to cater for a 6m wide road over a length of 400m. It encroaches on Mittal Steel's property, and the weighbridge and security gate will need to be moved, while the factory's haul road access will be slightly deviated (see Appendix B1).

(iii) The gravel maintenance road between the proposed new bridge (see below) and the existing Duferco Bridge is to be upgraded and integrated into a linking road bridge (below).

Bridges

(i) The Langebaan Road - MR 559 Road bridge - is to be cut through the embankment to lay foundations for the rail tracks underneath the bridge. This will require temporary road closure for approximately 3 months.

(ii) Demolition of the Duferco Bridge is likely to occur if it is not possible to extend its span to allow for 8 more tracks and if the new bridge (described in iii) is built.

(iii) Construction of a new combined bridge structure linking the Haul Road, the Duferco access and the traffic from Mittal Steel. This new combined bridge structure would also cater for the traffic from Namaqua Sands. This new bridge is to be built about 400m north of the proposed position of the new Tipplers.

Surface water drainage will be required for all new roads and bridges.

The proposed location for the new Tipplers number 3 and 4 is planned for north of the MR 559 Road Bridge, east of the Haul Road and west of the Conveyors feeding Mittal Steel Products to accommodate the railway line. The major advantage of this location is that it is within the existing rail corridor on Transnet property and thus minimises the impact on public roads, reduces traffic flow congestion within the port and reduces the impact of noise in the bay area.

Berths: The final berth design configuration will be determined amongst others, by the type of Ship Loaders to be used. Ship Loaders that are being evaluated are the linear, radial and travelling types or a combination of these. The berth design will be for 300 000 tonne ships at 19m drafts and with a maximum length of 300m. Berth layout options are presented in Appendix B1 for the various types of Ship Loaders being considered.

Proposed dredging operations

In order to accommodate the above expansion requirements, NPA plans to dredge the approach channel into the bay, to the east of the quay (Big Bay side). At present the port services ships with a capacity of up to 340 000 tonnes (i.e. 340 000 DWT). It is expected that the dredged area will enable the port to accommodate the manoeuvring of bulk carriers, thus providing greater flexibility and optimising the flow of shipping traffic in the bay. The volumes of dredge material to be generated and the excess volume to be disposed of (depending on the stockyard configuration option) are presented in Table 3.

The initial design approach was to provide entrance channel depths to accommodate some of the largest ships in the world. Further studies now suggest that the anticipated number of larger ships to call at Saldanha is lower and that the largest ships can be accommodated by some of the existing infrastructure which has deeper channels. Dredging depths have since been revised to accommodate the ‘Capesize” class vessels (less than 300 000 DWT). This decision has subsequently led to a reduction in the volumes of dredging required. The turning circle has been eliminated and the dredge depth is now –21m CD. Thus Table 3 presents revised dredge volumes to that originally presented in the Draft Scoping Report. The estimated volume of dredge material to be disposed of depends on the stockyard configuration alternative selected. Dredging of the channel will be limited to a width of 350m at the Jetty (300m at the entrance).

Table 3: Estimated volumes of dredge material to be generated in the channel and excess disposal volumes for each stockyard alternative.

Dredging – Channel width 350m at the Quay (300m at entrance), 300m Turning Circle to -16m ML:

	Volume m³		
	Phase 2A	Phase 2B	TOTAL
Dredge volume in Basin	3,489,000	2,391,000	5,880,000
Rock volume in Basin	Minimal	90,000	90,000
TOTAL	3,489,000	2,481,000	5, 970,000
Allow BULKING FACTOR - 20%	697,800	496,200	1,194,000
TOTAL VOLUME	4,186,800	2,977,200	7,164,000

Layout Option 1: which will include the Reclamation Dam, West Extension and Causeway:

	Volume m³ (to +2m MSL before hardstanding)		
	Phase 2A	Phase 2B	TOTAL
Reclaim Dam	1,450,000	N/A	1,450,000
Extension West	2,100,800	2,341,000	4,442,000
Causeway for Berths	636,000	636,000	1,272,000
TOTAL	4,186,800	2,977,000	7,164,000
DISPOSE EXCESS FILL VOLUME	0	0	0

Layout Option 2: Dune Area plus Dredge – Excess material Reclamation Dam, and Causeway for Berths Reclamation of West Extension Excluded:

	Volume m³		
	Phase 2A	Phase 2B	TOTAL
Dune Area			6,885,000
Dredge Volume plus Bulking			7,164,000
Reclaim Dam			-1,450,000
Access South of Dam			-226,500
Extension West			N/A
Causeway for Berths			-1,272,000
TOTAL			11,100,500
DISPOSE EXCESS FILL VOLUME			11,100,500

Layout Option 3: Reclaim Dam and Causeway:

	Volume m³ (to +2m MSL before hardstanding)		
	Phase 2A	Phase 2B	TOTAL
Reclaim Dam	1,450,000	N/A	1,450,000
Access South of Dam	226,000	N/A	-226,000
Causeway for Berths	636,000	636,000	-1,272,000
TOTAL	2,312,000	636,000	2,948,000
DISPOSE EXCESS FILL VOLUME	1,874,800	2,341,200	4,216,000

Notes: a) A bulking factor of 20% has been assumed from dredging to reclamation.
b) Excess not reduced for material unsuitable for reclamation.

Disposal of excess dredge material

The intention is to investigate three alternative means for the disposal of the excess dredge material in the EIA phase, namely: in-land disposal, disposal at sea and reuse in reclamation works within the port. The volume of material to be dredged from the sea will depend on the results of the final geotechnical report, i.e. rock and depth profiles, etc.

The first option for disposal of dredge surplus being considered is to make use of the suitable material by stockpiling it in-land. During the EIA Phase, a study will determine potential locations, pre-treatment requirements prior to disposal, handling process prior to and during transportation to the site and landownership of the potential disposal sites. This study will enable the feasibility of the inland option to be assessed. Should it prove feasible, then the study will be developed further to assess the impacts of this option.

As a second option, offshore disposal will also be considered. This option requires that the EIA investigate the environmental and permitting requirements of the identification, characterisation and eventual use of such sites.

As a third option, opportunities exist for disposal of dredged material in reclamation areas within the port. Further land is required to accommodate up to three additional Stockyards as identified in Figures 15, 16 and 17. Also, long-term port expansion planning indicates that there will be a future need for reclamation material, and a potential nett shortage.

Reclamation and handling of dredge material

Site investigations indicate that there are soils to be dredged that may contain a relatively high percentage of fines. It is assumed that these may not be discharged to the sea in any significant quantity and will, therefore, have to be contained in the reclamation area, or nearby, during the reclamation process.

The calculated dredging quantity is 3.49 million m^3 for Phase 2A, with an additional 2.48 million m^3 for Phase 2B, i.e. a total of 5.97 million m^3. The possibility exists for the dredging operations to be undertaken in one or two phases, i.e. dredging for one new berth to cater for 67 MTPA and dredging of the second new berth to cater for 93 MTPA. Depending on the Stockyard alternative selected, it is proposed that the dredged material from the initial dredge operations (Phase 2A) be used to fill the reclamation dam, and partially fill the reclamation into the sea (Big Bay). In practice, it could be managed so as to fill a portion of the bunded area to the final level, and to use the balance as a settling pond. This would require de-silting at a later stage if the reclamation of the area is to be completed (PRDW, 2007).

The following description is applicable to Stockyard layout Options 1 and 3 as Option 2 (Dunes) does not require reclamation for Stockyard purposes (only a small amount is necessary for berth, Conveyor and access road purposes).

Earthworks and preparation of reclaimed areas: The degree to which the reclamation needs to be compacted will depend on the envisaged end-use, and the time that the fill would have to consolidate naturally before being loaded. It is expected that the reclaimed areas would be used in the near future for service loading from ore stockpiles (approximately 600 kPa). It therefore follows that some form of ground improvement will be required to accelerate the consolidation process. An allowance has been made in the estimates for dynamic compaction to be carried out over the full area of reclamation. However, additional settlement is expected to occur in underlying soils, and this may require additional treatment such as deep vibro-compaction, wick drains, or other improvement techniques.

Revetment

A new revetment will be required to contain any new reclamation area into Big Bay. This will be designed as a breakwater construction (i.e. a free standing trapezoidal rock rubble mound), and will be constructed prior to placing dredged material within this area. The section has been designed to accommodate the 1:100 year significant wave height of 2.3 m, which will require rock armour graded between 3 and 6 tonne. Some of the core rock could be obtained from the dredged granite rock, which would be beneficial. Revetment bund material is to be sourced from a quarry. A geotextile filter will be placed on the inner face of the rubble mound to contain fill material.

Blasting operations

Blasting is required to remove Cape Granite which has been identified in the dredge area (estimated volume is 90 000 m^3). Calcrete is present in abundance in the overlying formations, but it is expected that this can be dredged without the need for blasting. Impacts of blasting will be assessed further in the EIA phase.

v) General Infrastructure

General infrastructure that will be required for the Phase 2 expansion will include:

- Road infrastructure – such as access roads, bridges and culverts – this includes the possible alteration of the MR 559 road over the rail bridge;

- Provision of Sewerage infrastructure – The provision of sewerage services in the area is the responsibility of the Saldanha Bay Local Municipality, which falls under the West Coast District Municipality. The port expansion will connect to the existing sewage network. An application for the connection to these systems will be submitted to the Saldanha Bay Local Municipality.

- Solid Waste removal – Arrangements will be made with the relevant Local Authority (Saldanha) for the disposal of solid waste. It is envisaged that Transnet will collect waste within the port and deliver the waste to a designated landfill site.

- Fire fighting services;

- Control and communication infrastructure;

- Increase in the capacity of the Eskom Iscor Substation by the addition of transformers and substation yard electrical equipment. Re-routing of the Eskom transmission feeder lines in the vicinity of the Eskom Iscor Substation.

- Miscellaneous buildings, including substations, toilet facilities, workshops, storage sheds, etc;

- Storm Water Control: Storm water will be managed as surface run-off. Excess water will flow in open drains to evaporation storage ponds. Evaporation ponds will be strategically placed to eliminate long drainage paths. Runoff from roads will drain into open v-drains, which will terminate in the evaporation ponds. Storm water pipes will be designed for a 1 in 5 year flood event. The evaporation ponds will be designed for a 1 in 20 year flood event.

- Water Supply: The current water consumption for the Bulk Terminal is approximately 11Ml/month. The Bulk Terminal has an approved application for the consumption of up to 34Ml/month from the West Coast District Municipality. The water from the Municipality is of potable water quality. The forecasted increase in water requirements for Phase 2 shows that approximately 134Ml/month could be required, the majority of the water being required for dust suppression. Due to the scarcity of water in the West Coast region additional water sources have been investigated. These options are discussed in Appendix B3 and include amongst others, additional potable water, reclaimed sewage, groundwater abstraction and reverse osmosis (RO). Further to this feasibility study, Transnet proposes to develop the RO option. It is the intention to proceed with a separate EIA application that will run in parallel to this Phase 2 EIA so that desalinated water can be used for the current and future operations.

Construction workforce

Transnet estimates that 50-70% of the construction labour force will be recruited locally and the remainder of the labour will generally come from outside the area, should higher skills categories not be readily available in the local communities.

Local job opportunities should therefore be in the region of about 300. Strict protocols will apply to the secondment of labour from outside of the area. Contractors will be required to provide on-the-job training to local labour in order to upgrade existing skills.

2.3.2 Environmental Requirements

In terms of good practice and design standards, various environmental installations are proposed for the infrastructure that are currently being investigated and commissioned. This will include but not be limited to:

- Transfer chute water spray systems;
- Stockpile water spray systems;

- Chemical additive systems;
- Wind sheeting for Conveyors;
- Dust plants for Tipplers; and
- Brake car on the rail wagons.

2.3.3 Security

It is proposed that the entire perimeter of the port be secured with a perimeter fencing system. Additional access security will be provided at the berths in accordance with the ISPS (International Shipping and Port Security Code).

2.3.4 Stormwater Management

Following a site visit and meeting which took place on 11 October 2005, the Department of Water Affairs and Forestry (DWAF) requested that an Integrated Water and Waste Management Plan (IWWMP) be compiled. This document should detail the procedure to manage waste and water in an integrated manner throughout the entire construction and operation of the facility. The IWWMP is to be compiled in the EIA phase of this study.

2.3.5 Road Infrastructure

The provincial road, R27, is the main entrance into Saldanha from Cape Town. The R399 runs from Saldanha to Vredenburg and Velddrif. The MR 559 road bridge connects to the R84. This road bridge leading to the main access to the port must be upgraded to accommodate the new railway lines entering the port.

In spite of the extensive area of the site, the internal vehicular activity on site is relatively low. The internal roads are kept to a minimum width. Access to the site is obtained through a security gate. The EIA phase will include the final details on the upgrade of the MR 559 road bridge upgrade for the additional rail lines going into the port.

A detailed Traffic Impact Assessment will form part of the EIA which will indicate the traffic counts and the importance and significance of the proposed bridge upgrade. Detailed layout maps will also be provided indicating the major existing and proposed infrastructure of the roads and railways to be upgraded.

2.4 APPROACH TO THE SCOPING PROCESS

2.4.1 Authority Consultation

Authority consultation plays an integral role in any EIA process. The authorities guide the process through highlighting the necessary legislative requirements and key areas of concern. An initial site visit took place on 4 May 2006, with the applicant, the environmental consultant, DEAT and DEA&DP. At an additional meeting with DEAT and DEA&DP held on 23 August 2006, the authorities stipulated that the EIA process was to extend to a full EIA as opposed to culminating in a Scoping Report. The cumulative impact of the proposed expansion, especially in the historical context of previous upgrades, was also to be given due importance in the EIA. Minutes of these meetings are attached in Appendix A1.

2.4.2 Approval of Plan of Study for Scoping

A Plan of Study for Scoping was accepted by the DEAT on 25 August 2006 (Reference Number: EIA 12/12/20/806). A comprehensive EIA of the proposed expansion is to be undertaken, looking at the cumulative impacts of expanding the facility to cater for 93 MTPA. Also, feasible alternatives are to be considered, identified, and investigated. A number of interested and affected parties/sectors were to be consulted, with their comments included in the Scoping Report (refer to Appendix B4).

2.4.3 Environmental Assessment Process

This Scoping Report represents the initial identification of key issues or concerns as highlighted by the relevant authorities, specialist consultation, interested and affected parties (I&APs) and the professional judgement of the Environmental Assessment Practitioners (EAPs).

In addition, Scoping allows for the identification of the anticipated impacts, particularly those that will require detailed specialist investigations. The results of the specialist studies will form the basis for a full assessment of the impacts in the EIA Report.

2.4.4 Description of the Baseline Terrestrial Environment

The baseline environment (or existing environmental status) of the study area represents the prevailing environmental conditions prior to the proposed development. Independent specialists on the marine and terrestrial components of the environment have been appointed to determine the status quo of the environment. Baseline information was gathered through visual inspections of the site and its surroundings, desktop studies, extensive literature reviews as well as preliminary specialist input. The study (as part of the EIA) will be reviewed by other specialists to ensure objectivity.

The baseline information serves as a reference point to scientifically measure or professionally judge the future changes to the environment based on impacts associated with the proposed expansion.

2.4.5 Impact identification methodology

The identification of environmental impacts is a multi-faceted process, which combines quantitative and qualitative descriptions and evaluations. It involves the application of scientific measurements and professional judgement to determine the significance of environmental impacts associated with the proposed project. The process involves consideration of *inter alia*: the purpose and need or the desirability of the project; views and concerns of interested and affected parties: general public interest; and environmental legislation and guidelines.

The assessment of the impacts will be undertaken during the EIA phase in order to determine the significance of each impact on the environment. This will be accompanied with the recommended mitigation measures.