



PART 3: SCOPE OF SERVICES

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C3.1	PRE-FEASIBILITY STUDIES FOR THE ENTRANCE CHANNEL WIDENING & DEEPENING, NAVIGATIONAL STUDIES, PIER 1 CONTAINER TERMINAL, INFILL DCT BASIN AND NEW MAYDON WHARF CONTAINER TERMINAL FOR THE PORT OF DURBAN	33
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1 EXECUTIVE OVERVIEW

Transnet National Ports Authority (TNPA) plays a critical role in the logistics business through its eight commercial Ports located in the various provinces in South Africa (SA). To improve its service offering, TNPA will undertake critical projects to create the necessary port capacity ahead of demand.

The KwaZulu-Natal Logistics Hub (KZN-LH) Programme has been created within TNPA to focus on the delivery of these critical projects in the Durban and Richards Bay Ports.

Some of the key projects for the Programme include:

- New Navy Base and Satellite Station
- New Container Terminals
- Expansion of Dry Bulk Facilities & New Dry Bulk Terminals
- New LNG Terminal
- Road and Rail upgrades
- Entrance Channel expansions

The Programme will roll out a significant number of projects in the coming years. These projects have varying development stages when measured against the different project phases within the Transnet Project Lifecycle Process (PLP). A significant number of projects require pre-feasibility studies to be completed in the short term.

Figure 1 below shows projects included in the current scope from the Master Plan.



Figure 1: DURBAN MASTER PLAN OVERVIEW LAYOUT



The scope of this pre-feasibility study shall solely focus on Entrance Channel Widening and Deepening, Navigational Studies, Pier 1 Container Terminal Phase 1 & 2, Infill DCT Basin, and Terminal Layout for the New Maydon Wharf container Terminal.

Pre-feasibility studies herein will consider the widening and deepening of the existing entrance channel to the Port of Durban. The study will investigate various options for the new entrance channel keeping in mind the spacial restrictions and climate changes.

This study considers pre-feasibility development for the following projects:

- Entrance Channel Widening and Deepening
- Pier 1 Phase 1 Container Terminal
- Infill DCT Basin
- Pier 1 Phase 2 Container Terminal
- New Maydon Wharf Container Terminal – Landside terminal development

For navigation, the impact on the current aids to navigation need to be investigated to understand the suitability and any upgrades required should the channel be expanded. The possibility of installing luminous range leading lights and leading lights that are capable of measuring distance need to be explored. The project will also include the navigational studies for the entire port to



ensure that the expansion considers any impact. To initiate this development, TNPA will require pre-feasibility design studies to be undertaken.

The *Consultant* shall mobilise, undertake and complete the pre-feasibility Study for the Durban Entrance Channel Expansion, Island View Channel, Pier 1 container terminal, Infill DCT Basin and also undertaking specialist studies on the Maydon Wharf Channel deepening and looking at the suitability of the proposed New Maydon Wharf Container Terminal.

2 DESCRIPTION OF SERVICES

2.1 THE OBJECTIVE OF THE SERVICES

The project's main objective is to conduct a pre-feasibility study for the expansion of the Durban Entrance Channel, Island View Basin, Pier 1 Container Terminal, Infill DCT Basin, and Terminal Layout for the New Maydon Wharf Container Terminal. Also, specialist studies will be carried out on deepening the Maydon Wharf Channel, contributing to the ongoing Maydon Wharf Channel study.

The objectives of the Services are as follows:

- a) Provide a new cost effective **widened and deepened entrance channel** for the Port of Durban to accommodate larger vessels.
- b) The **Bluff turning basin** might be impacted by the entrance channel deepening and widening therefore the impact should be assessed.
- c) **Expansion of Pier 1 container terminal** to a capacity of 3,2m TEUs, construction of Berths and infilling using both dredged and imported material. The Navy station situated at Salisbury Island will be relocated; however, this package has been excluded from this project.
- d) **Infill DCT basin** using both dredged and imported material to create an additional berth and increasing terminal capacity to 4,4m. TEUs.
- e) **New Maydon Wharf Container Terminal Layout** increasing terminal capacity to 1,6m TEU's.
- f) Conduct specialist studies for Maydon Wharf Channel Deepening to determine the impact of larger vessels on moored vessels at the Maydon Wharf berths.
- g) Allow safe navigation into the Port at all times during the construction of the new entrance channel and all other construction services taking place simultaneously.
- h) Port navigational studies: Safe navigation to the various port precincts.
- i) Minimise environmental impacts.
- j) Reduce port congestion during construction and post construction.



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- k) Evaluation of existing e-navigation technologies and introduce new technologies where necessary.

The *Consultant* must undertake amongst other generally accepted project management requirements:

- a) Undertake Specialist Studies including e-navigation
- b) Produce pre-feasibility engineering designs which must include sustainable development designs.
- c) Produce cost estimates for the project.
- d) Prepare all relevant reports across all disciplines for a Gate Review.
- e) Manage its service providers.
- f) Engage stakeholders.
- g) Provide monthly progress requirements.

2.2 SCOPE OF THE SERVICES SUMMARY

The *Consultant* shall be responsible for providing and managing the necessary resources, technology and specialists required to carry out all aspects of the Services for each of the projects contained in this pre-feasibility study, viz. Entrance channel deepening and widening, Navigational Studies, Pier 1 Container Terminal phase 1 & 2, Infill DCT Basin, and Terminal Layout for the New Maydon Wharf container Terminal.

The *Consultant* scope of services for each of the projects includes, but are not limited to:

- Provision of pre-feasibility level of engineering, design, and project management services, along with providing project support services for the various projects.
- Confirmation and compilation of the design basis, study reports, design criteria and the scope and accompanying documents.
- Review existing study reports, if available, and conduct additional studies if information is required.
- Develop and confirm the operating philosophy (Design Vessel, Vessel Navigation within the Port)
- Investigate the impact of the channel widening and deepening on the berths by conducting studies such as vessel mooring and others for the entire port.
- Familiarisation with the standards, procedures and procurement policies and all other governance requirements for both TNPA and local authorities.
- Management of the verification of underground services project boundaries and project limitations.
- Review historical geotechnical investigations.



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- Identification of permits for all statutory requirements.
 - Verification of the existing as-built drawings of infrastructure and services where available.
 - Verification of any agreements between TNPA and Local Authorities, if applicable.
 - Produces plot plan/s for the proposals and seek Employer's review and approval.
 - Conduct Vessel Traffic Assessment for the Port of Durban with reference to standard operating procedures (SOP)
 - Identification and the development of the aids to navigation from the landside and quayside for the entire port.
 - Evaluate existing e-navigation technologies, including electronic chart display and information systems, Automatic identification System (AIS), and other relevant tools.
 - Identify options for each initiative listed in the scope of services ie. Entrance channel deepening & Widening, Pier 1 container terminal phase 1 & 2, Infill DCT Basin and New Maydon Wharf Container Terminal).
 - Costing of each option that is identified.
 - All possible solutions must be analysed clearly indicating advantages and disadvantages for each option.
 - Identify the best suitable option using a multi criteria analysis or any other acceptable decision-making tool for each initiative listed in the scope of services.
 - Generation of engineering and design of the works to a pre-feasibility level of design (as per Transnet's PLP) for each of the projects.
 - Verification of the list of work packages and finalization thereof for each of the projects.
 - Compilation of the project estimate per initiative listed in the scope of services including the related Bill of Quantities (BOQs) for the whole project.
 - Documentation including the assumptions which form the basis of the cost estimate.
 - Provision of detailed and realistic cash flow plan in line with the proposed schedule for each of the projects.
 - Identify project, operational & business risks and compile a risk register.
 - Provision for the involvement of the Employer in the design and risk reviews.
 - Engineering interface meetings and the generation of the minutes for all the meetings.
 - TNPA and Local Authority's interface meetings and the generation of the minutes for all the meetings.
 - Production of the basis of the schedule.
 - Maintenance of a document control process.
 - Maintenance of a document review procedure whereby documents are formally reviewed by identified internal stakeholders and representatives.
 - Production of project monthly reports as per prescribed dashboard format.
 - Implementation of change management.
 - Development of a risk management plan.



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- Knowledge management - production of a record of key learning's experienced (generate lessons learned) – Skills development and transfer to TNPA employees.
 - Performance of Quality Assurance (QA) on the pre-feasibility work.
 - Presentation slides for monthly progress.
 - Chair monthly progress meeting and produce records of the meeting.
 - Production of artistic impressions for each initiative listed in the scope of services.
 - Produce and submit all PLP reports and documentation. (see annexure A)
 - Provide inputs to the business case development for all of the projects.
 - Submission of reports, drawings, and documents.
 - Produce and present the constructability methodology report for all projects. The task at hand is to generate and deliver a constructability methodology report.
 - Identification and assessment of potential risks associated with construction and operational phases for all the projects, including geotechnical instability, weather events, and safety concerns.
 - Supply of project close-out documentation.
 - Closeout of this pre-feasibility study.

2.3 SPECIALIST STUDIES TO BE UNDERTAKEN BY THE *CONSULTANT*

The following specialist studies will be scoped, managed, and executed by the *Consultant* during this pre-feasibility phase for the various projects:

1. Numerical modeling for the channels and basins.
2. Vessel navigational studies for the channels and basins within the port (Full bridge simulation on final selected option).
3. Sediment transport for the entrance channel.
4. Desktop Geotechnical investigations and review of historical borehole data for all projects.
5. Sea level rise, its impacts on the port's infrastructure (Proposed new entrance channel & proposed new terminals), mitigations, and appropriate pre-feasibility designs.
6. Conducting moored vessel studies to assess the impact of environmental conditions and vessels movement within the port on vessels moored along the quay side for all current and proposed new terminals.
7. Environmental Specialist studies as identified during the screening phase as per Transnet PLP concept and pre-feasibility stages guidelines.
8. Comprehensive investigation into opportunities related to e-navigation in maritime operations (Luminous range leading lights, leading lights capable of measuring distance) and production of a new nautical chart for the port.



Success of this pre-feasibility project assignment depends on the *Consultants* ability to:

- Carefully select resources with the required experience, skills, and attitude,
- Efficiently mobilize the necessary resources,
- Work closely with TNPA for any relevant information, guidance, and support,
- Effectively manage sub-consultants and specialists,
- Foster team integration,
- Manage conflict and a changing business environment.,

In addition, for effective execution, the *Consultant* shall:

- Supply all necessary tools, techniques, and support.
- Gather relevant data from internal stakeholders under the guidance and support of TNPA.

2.4 SUBMISSION OF PROPOSAL

The *Consultant* must submit a comprehensive proposal, responding to the scope of service and how it will be implemented. The *Consultant* must respond to all requirement listed in the Scope of Services (SoS) document. Responding to some of the requirements, will not be accepted.

2.5 AWARD OF THE CONTRACT

Transnet will enter into an NEC PSC option A contract for this project.

3 DELIVERABLES

The *Consultant* shall produce pre-feasibility design reports, drawings, study reports, schedules, cost estimates, constructability sequencing, risks and assumptions associated with each of the projects (Entrance channel deepening and widening, Navigational Studies, Pier 1 Container Terminal phase 1 & 2, Infill DCT Basin, and Terminal Layout for the New Maydon Wharf container Terminal).

a) Level of design for this pre-feasibility Study

- Produce designs to a pre-feasibility level and engineering design reports to select the most suitable option using a multi-criteria assessment tool (MCA) for the proposed key structure and layout for the works.



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- Prepare and submit all PLP Gate Review documents and requirements for the feasibility phase.

b) Geotechnical investigation

The *Consultant* will undertake all desktop geotechnical investigation for all landside and waterside infrastructure for each of the projects. The scope includes but not limited to:

- Review historical information.
- Conduct desktop study.
- Submit draft interpretative report for review.
- Submit final interpretative report.

c) Surveys

The *Consultant* will undertake a desktop study on required topographical surveys.

d) Engineering model and operating philosophy

An engineering design model and operating philosophy for the Entrance channel deepening and widening, Navigational Studies, Pier 1 Container Terminal phase 1 & 2, Infill DCT Basin, and Terminal Layout for the New Maydon Wharf Container Terminal will be required to be developed for each of the projects. The *Consultant* will contract for appropriate specialists if required to undertake the required scope of services. Transnet in conjunction with the Harbour Master will provide the relevant guidance and support to achieve the required performance standards. A simulation will be undertaken to understand, finalise and document the operational requirements for the Channels and Island View Turning basin.

e) Numerical Modelling, Desktop Modelling and Navigational studies

Numerical modelling will be undertaken for the channels and basins, desktop modelling and navigational studies will be undertaken for each of the initiatives listed in the scope of services. A full bridge simulation is another key requirement that will be required for the final selected option.

f) Vessel Mooring Studies

Mooring studies are essential for every berth within the port. The *Consultant* will engage relevant specialists if needed to conduct these necessary studies.



g) Develop preliminary estimates

Prepare and complete the cost estimates for each of the projects within this scope of services based on the pre-feasibility designs. Based on the risk profile, a contingency value will be determined at this stage for the total project cost. Noting that there may be a sufficiently large forex component for material and labour, allowances will be made accordingly for the forex portion of the cost estimate. This estimate will become the basis for developing the project's business case.

h) Hazop Study

The *Consultant* will undertake a project specific Hazard and Operability Study (HAZOP) and incorporate equipment/vessels that are mandatory for the safe operations during construction of the Entrance Channel. The *Consultant* is further required to note that the Port Marine Operations i.e., vessel movement in the channels will not be severely affected by the construction activities of the new channel. The *Consultant* makes provision for participation of the *Employer* in the HAZOP study which must incorporate the following but not limited to:

- Engineering and constructability design, construction equipment/vessel functionality and safety.
- Violations of environment, health and safety Act, construction regulations and engineering standards.
- A plan to limit Marine operations disruptions and construction disruptions resulting in loss of productivity during construction.
- Produce recommendations and HAZOP procedures to be adopted for next feasibility design phase of the project.

i) Work Break-down structure

The *Consultant* will develop a preliminary work breakdown structure for the proposed infrastructure developments for each project listed in the scope.

j) Project schedule

Prepare and complete the level 3 project schedule for each of the projects based on the preliminary design. Based on the risk profile, sufficient time allowance will be made to baseline the schedule for full project execution for each project in the scope. This schedule will become the basis for project's business case.



k) Business case inputs

Provide pre-feasibility study information and inputs to the development of the feasibility business case.

l) Supply 3D rendered drawings

The 3D rendered drawings are critical tools for engaging internal and external stakeholders. This requirement is expected to be completed once sufficient detail has been developed by the *Consultant* and accepted by the Employer.

m) Environmental

The *Consultant* will have to compile all relevant environmental outputs as per the Transnet PLP concept and pre-feasibility stages guide.

3.1 OTHER DELIVERABLE AND SPECIALIST STUDIES

The *Consultant* is required to deliver to the *Employer* as a minimum the following:

1. Design Basis Report
2. All pre-feasibility designs
3. Schedule showing critical project milestones
4. Project cost estimate
5. Monthly progress reports
6. Draft PLP reports for review
7. Study Reports
8. Final Report

4 MANAGEMENT OF THE CONTRACT

The *Consultant* will not advertise the contract or the project to any third party, nor communicate directly with the media (in any jurisdiction) whatsoever without the express written notification and consent of TNPA.



The *Consultant* will obtain the permission and approval of TNPA before engaging any media or Stakeholder.

5 THE REQUIRED RESOURCES

The *Consultant's* team shall as a minimum comprise the following key staff:

- a) Team Leader/Supervisor (BSc / BTech, Pr. Eng / Pr. Tech)
- b) Engineers (Marine engineer – Port & Coastal) (BSc / BTech, Pr. Eng / Pr. Tech)
- c) Master Mariner (Certified as a Master Mariner/ **Pilot (Licensed Pilot)**)
- d) Quantity Surveyor [BSc / BTech in the Quantity Surveying, Professional Registration with (SACQSP)]
- e) Scheduler (National Diploma or Higher in Built Environment)
- f) Environmental Manager (EAPASA registered) and Environmental Specialists (SACNASP)

6 GENERAL

- a) The Service Provider shall note that this is a delivery-based contract, hence deliverables shall be completed and accepted by TNPA before any payment can be made.
- b) Payments will be made to the service provider as per the Activity Schedule.
- c) The Service Provider shall submit a draft report to TNPA for comments prior the submission of the final report.
- d) All drawings shall be submitted electronically in a PDF format and in native files where applicable compatible to AutoCAD and Civil Designer, reports shall be provided in Microsoft format.



7 QUALITY ASSURANCE REQUIREMENTS

Engagement	Reports required	Relevant/applicable documents
Weekly or as required	To be advised after award of contract	To be confirmed
Face-to-face	Electronic (editable) and hardcopy	

The onus rests on the Consultant to produce work which conforms to the quality requirements stated in the contract and provided for in the task orders. The Consultant should, at his own expense, institute a QC system and provide experienced technical staff together with all transport, instruments and equipment to ensure adequate supervision and positive control of the works at all times.

- The *Consultant* should submit his proposed Quality Control Procedures (QCPs) for *Employer's* approval. Once the QCP is approved it should form part of this work's information. Site access will not be permitted until the QCP is approved.
- The *Consultant* should similarly review and accept (where they have authority to do so) quality documentation provided by the contractors contracted with Transnet.
- The *Consultant* and delegated project managers should report on the contractor's quality making specific reference to compliance, deviation, risk identification, mitigation proposals and actions.
- It is recorded that material provided by the *Employer* to the *Consultant* for the services may include designs done by others. The *Consultant* should obtain approval from the *Employer's* representative (owner's team representative) before any design reviews or checks are undertaken.
- Where material is "free-issued" the *Consultant* should undertake normal quality review process as if the material was not "free-issued", unless otherwise instructed by the *Employer*. The *Consultant* should report to the *Employer* any concerns he may have with the material for the *Employer's* decision.



7.1 CONTRACT QUALITY MANAGEMENT PLAN REQUIREMENTS

The *Consultant* prepares the Engineering and Design Quality Plan (EDQP), the scope and contents of which are determined by the nature of the services. The *Consultant* submits the EDQP to the *Employer* four weeks after contract date for acceptance.

The EDQP:

- a) Indicates the interface with the *Consultant's* quality system and applicable documents, such as procedures and work instructions
- b) Establishes communication channels between the *Consultant* and the *Employer* in respect of quality and the integration of such with the prescribed contract communication channels
- c) Indicates how all sub-consultants of engineering and design will be monitored
- d) Identifies items or activities for which specific QC plans will be prepared (e.g. MFDs if applicable)
- e) Identifies the specifications, drawings and acceptance criteria for material for which QC plans are not required
- f) Identifies the areas or processes requiring special controls
- g) Identifies the quality records pertaining to the services and how they are controlled and retained
- h) Identifies the *Consultant's* management representative and personnel responsible for the QC activities and their relationship to the *Consultant's* management structure
- i) Identifies the documents which are to be submitted to the *Employer* and the frequency of submission
- j) Indicates the *Consultant's* quality monitoring programme.
 - The *Consultant* ensures that a QC plan that is covering review and checking of all items procured and supplied in terms of this contract are produced by all suppliers and issued to the *Employer* for acceptance.

The QC plan indicates the following:

- a) The identification of the item of equipment or materials
- b) A list of the sequence of operations including review and checking
- c) The identification of the specification, drawing or procedure for each item of equipment
- d) The acceptance criteria with reference to the appropriate technical specification; in house, national or international standard or codes and the relevant clause number
- e) The inspection points the *Consultant* has nominated as hold and witness points
- f) Provision for inspection points nominated by the *Employer*, and/or authorized inspection authority/QC agency for hold and witness points



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- g) Provision for review and checking status indication
 - h) Inspection records which are generated by the *Consultant* and kept available for inspection by the *Employer*.

7.2 CHECKING, REVIEW AND ACCEPTANCE NOTIFICATION

The *Consultant* gives at least two weeks advance notice to the *Employer* of hold or witness points on QCP

NOTE: More notice at least eight weeks is required if the supplier is not locally situated.

Notification for hold and witness points includes:

- Contract number
- Items to be inspected and nature of inspection (e.g. transfer of material identification numbers prior to cutting)
- QCP reference number and operation number
- Location of inspection
- Time and date of inspection
- Contact person's name.

7.3 NON-CONFORMANCES

The *Consultant* prepares Non-Conformance Reports (NCRs) for any non-conforming aspect of the item being inspected or documentation which forms part of the permanent quality records.

The *Consultant* submits these reports to the *Employer* for attention.

NCRs from any source issued to the *Consultant* or supplier are copied to the *Employer* who will issue an instruction in regard to the NCR.

The *Consultant* responds by stating the:

- Cause
- Corrective action
- Action taken to prevent recurrence
- Effective date.

The *Consultant* may apply for a concession to deviate from the stipulated requirements, specifications or codes, or when a non-conforming item or documentation is deemed by him to still be suitable for repair, rework or use as is. The *Consultant* uses applications for concession forms for this process.

The *Employer* issues a concession certificate if the NCR or documentation is suitable for repair, rework or use as is or the specification can be reasonably relaxed in the interests of all stakeholders. The *Employer* issues a concession only in exceptional circumstances.



7.4 CONTROL OF DEFECTS, CORRECTIVE ACTION AND STOP WORK ORDERS

Consultant's defect notification report

The *Consultant* prepares defect notifications for all defects in respect to the item of equipment, material, deliverables or documentation in which there is a defect. These form part of the permanent quality records.

The *Consultant* submits these reports to the *Employer* for review. The *Employer* initiates defect notifications and corrective action requests covering defects in respect to the work, deliverables or documentation or system failures.

- The *Consultant* responds by providing the following:
- Cause of the problem
- Proposed corrective action to resolve the problem
- Action taken to prevent recurrence of the problem
- Effective date of corrective action
- Corrective action request requirements.

Non-compliance with the requirements of a corrective action request will result in the issue of a stop work order.

7.5 STOP WORK ORDERS

The *Employer's* representative is authorized to issue a stop work in respect of an item of equipment or at any time for any portion of the work that does not comply with the codes or specifications.

When such an order is issued the supplier immediately stops work in the specified area and does not resume until the *Employer's* representative issues a written instruction for work to recommence.

7.6 RELEASE OF EQUIPMENT FOR DELIVERY

The *Consultant's* engineering manager releases all items of equipment and deliverables for delivery.

No items of equipment or deliverables to be reviewed by the *Employer's* representative or inspection team as required by QCP is released for inspection unless it has been released by the *Consultant's* engineering manager.

8 SERVICES EXECUTION

8.1 TEMPORARY WORKS, SITE SERVICES & CONSTRUCTION CONSTRAINTS

- a) The Service Provider shall make provision for traffic accommodation during the study.



8.2 EMPLOYER'S SITE ENTRY AND SECURITY CONTROL, PERMITS, AND SITE REGULATIONS:

- a) The Service Provider must comply with the Employer's Site entry and Port security control, permits and Site regulations. The Employer provides coded ID cards to all Contractors' employees for access/egress of personnel, plant, material, and equipment within the Site boundaries. Access to site is only issued once both the environmental and the health and safety site access certificates have been issued once both the environmental and the health and safety files have been approved by the Employer.
- b) Access must be subject to the Transnet National Ports Authority security requirements and regulations, which states that "access should be obtained for all the Service Provider personnel at Permit Office. The Service Provider must make a cost and time allowance for obtaining the necessary permits, including labour and transportation within his rates. All Service Provider personnel must at all times wear their security identity (ID) card so as to be easily identifiable as being employed by the particular company concerned.
- c) The Service Provider must ensure that all materials, machinery, or equipment brought by him onto the premises are recorded at the main gate(s) and/or checkpoint(s). Failure to do this may result in a refusal by the Employer to allow the materials, machinery, or equipment to be removed from the premises.

8.3 THE SERVICE PROVIDER COMPLIES WITH THE FOLLOWING:

- a) The Service Provider and his employees must enter and leave the premises only through the main gate(s) and/or checkpoint(s) designated by the Employer. The Service Provider must ensure that employees always observe the security rules of the Employer and must not permit any person who is not directly associated with the work from entering the premises.
- b) The Service Provider and his employees must not enter any area of the premises that is not directly associated with their work.



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- c) The Service Provider shall ensure the safe passage of Service Provider traffic to and around the Site and Working Areas at all times that includes providing flagmen, protective barriers, signage, etc. for protection, direction, and control of traffic.

8.4 RESTRICTIONS TO ACCESS ON SITE, RAIL TRACKS, ROADS, WALKWAYS, AND BARRICADES:

The Service Provider is specifically excluded from entering the Employer's Operational Areas which are adjacent to the Site and Working Areas. The Service Provider plans and organises his work in such a manner so as to cause the least possible disruption to the Employer's operations.

- a) The Service Provider ensures the safe passage of Service Provider traffic to and around the Site and Working Areas at all times that includes providing flagmen, protective barriers, signage for protection as well as route and control of traffic.
- b) The Service Provider ensures that any of his personnel, labour and Equipment moving outside of his allocated Site and Working Areas does not obstruct the operations of the Port. To this end, access routes are allocated and coordinated by the Project Manager.
- c) The Service Provider ensures that all his construction personnel, labour and Equipment remains within his allocated and fenced off construction area.
- d) All Service Provider personnel working within Port must comply with Transnet National Ports Authority's operational safety requirements and be equipped with all necessary PPE, high visibility apparel. A floating apparel must be provided when work is conducted within two meters (behind the yellow line) of the quay wall.

8.5 THE SERVICE PROVIDER COMPLIES WITH THE FOLLOWING [REQUIREMENTS OF THE EMPLOYER]:

- a) Access to the works for Service Provider personnel must be through the Port



entrances. Movement of construction vehicles must be managed to ensure that other users are not delayed through the operational area. Construction activities must be barricaded to always allow safe use of the road areas. No additional payment must be made, and it must be deemed to be included in the rates of the relevant items.

- b) The speed limit in most internal roads within the Port of Durban is 40km/h unless otherwise indicated, compliance with these regulations are enforced and must be complied with, access cards/permit will be revoked if found to be non-compliant.
- c) The speed limit at quayside areas within the Port of Durban is 20km/h unless otherwise indicated, compliance with these regulations are enforced and must be complied with, access cards/permit will be revoked if found to be non-compliant.

8.6 PEOPLE RESTRICTIONS ON SITE; HOURS OF WORK, CONDUCT AND RECORDS:

The Service Provider keeps daily records of his people engaged on the Site and Working Areas (including Sub-contractors) with access to such daily records available for inspection by the Project Manager at all reasonable times.

8.7 THE SERVICE PROVIDER COMPLIES WITH THE FOLLOWING HOURS OF WORK FOR HIS PEOPLE (INCLUDING SUBCONTRACTORS) EMPLOYED ON THE SITE:

Normal working hours are between 08:00 and 16:30 Mondays to Fridays. It is required that the Service Provider will work outside the stated normal working hours, the Service Provider must obtain written permission at least 24 hours before the execution of the traffic counting exercise. TRANSNET NATIONAL PORTS AUTHORITY will not unreasonably withhold permission.

8.8 HEALTH AND SAFETY FACILITIES ON SITE

- a) The Service Provider shall provide a First Aid Box and appoint a competent person.



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- b) All vehicles entering the operational site must be roadworthy, maintained in good order and be equipped with the necessary licences and safety requirements. All vehicles shall have operational reversing alarms. Operators must be trained and competent and authorised to operate the vehicle.
 - c) The Service Provider shall display a sign prominently at his Site, all emergency contact numbers pertaining to procedures in the event of fire and emergencies.
 - d) The Service Provider shall barricade all open pit or working sites according's required.
 - e) The Service Provider personnel must be subject to all safety procedures and regulations as laid down by TNPA Health and Safety Specification.
 - f) In the event of fire on work site, the Service Provider must provide the first response to minor fires and inform TNPA personnel of the fire, then vacate the site immediately in compliance to the Service Provider evacuation procedure. Any major fires must be immediately reported to the TNPA Fire Department for intervention.
 - g) The Service Provider must note that smoking must not be allowed on the site within 30m of Building(s), it must only be allowed in designated and clearly marked smoking areas. No open fires must be lit anywhere on site.
 - h) The Service Provider must be responsible for ensuring the satisfactory and safe condition of all power tools and equipment. All electrically powered equipment must be compliant to OHS Act Standards. The use of electrically powered equipment must be subject to the prior approval of TNPA.
 - i) All Occupational Health and Safety Act and Construction Regulations pertaining to the work being carried out must be adhered to. The Service Provider employees must always be supervised by a Competent Supervisor appointed in writing in terms of the regulations of the Occupational Health and Safety Act and made aware of his responsibilities. The Project

Manager reserves the right to judge the competence of the appointed Supervisor for the task being performed before and during the progress of the work.
 - j) The Service Provider must enter into and execute an Agreement with the



Employer as provided for under Section 37(2) of the Occupational Health and Safety Act (1993). The Agreement must be in the form of the pro-forma included elsewhere in this document.

- k) All Service Provider staff and labour working within port shall comply with the Employer's operational Health and Safety requirements and shall be equipped with all necessary PPE, high visibility apparel and, when working within two meters of the quay wall, floating apparel.

8.9 CO-OPERATING WITH AND OBTAINING ACCEPTANCE OF OTHERS

The Employer (including the agents of the Employer) operates on Site during the entire duration of the Contract period.

- a) The Employer shall from time to time appoint an Agent(s) or other Service Provider (s) to act on his behalf during the entire contract duration and the Service Provider must cooperate in accepting instructions when required.
- b) The Service Provider shall make provision for continuous traffic movement during site work.
- c) The Employer's normal operations, maintenance and other construction contracts must continue during the currency of this contract. It is possible, therefore that the site may become congested at times and careful co-ordination is thus essential in order to minimise disruptions to all parties.
- d) Alternative site routes for emergency vehicles must be discussed with the Project Manager during the compulsory meeting.
- e) The Service Provider provides a name-board. The sites will be identified and instructed by the Project Manager.

8.10 ENVIRONMENTAL CONTROLS, FAUNA & FLORA, DEALING WITH OBJECTS OF HISTORICAL INTEREST:

- a) The Service Provider must take particular note of the environmental requirements contained in the environmental approvals, permits and licenses and the Employer's Environmental SOPs.



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- b) The Service Provider must take every precaution to avoid damage to vegetation adjacent to the works. Any damage caused is to be repaired at the Service Provider expense.
 - c) Waste must not be stored onsite, all waste material must be stored in the waste receptacles and transported to the relevant registered landfill site by an approved waste service provider. Safe disposal certificates must be provided to the Employer.
 - d) The Service Provider has no title to all materials arising from excavation and demolition in the performance of the works with title to such materials remaining with the Employer. The Project Manager must instruct the Service Provider how to label, mark, set aside and/or dispose of such materials for the benefit of the Employer in accordance with ECC3 Clause 73.1

8.11 THE SERVICE PROVIDER COMPILES THE EMPR WHILE CONDUCTING THE WORKS. EMPR MUST INCLUDE, BUT NOT LIMITED TO:

- a) Introduction and Company Profile (Outline what the company is about and what activity it intends to do).
- b) Policy: Environmental policy statement of commitment.
- c) Roles and Responsibilities, i.e., identify and describe responsibilities for environmental management and reporting including contact details.
- d) Environmental Awareness and Training, i.e., briefly describe what training initiatives and programs are in place to ensure staff members are aware of the environmental responsibilities.
- e) Operational activities, these must be site specific and must relate to one or more of the following:
 - Waste minimization and management
 - Water pollution
 - Emergency situations
 - Closure: The EMP must commit to a Closure Plan that will identify impacts and outline remediation measures.



8.12 WASTE MANAGEMENT

Waste is bound to be generated during the execution of the works. The Service Provider must:

- a) Make provision of properly labelled waste receptacles, i.e., hazardous waste, recycled waste etc.
- b) Disposable waste material must be taken to a relevant permitted landfill site by the qualified waste management company that has Transnet waste disposal license. Safe disposal certificates must be provided to the Employer.
- c) If the waste is contaminated or hazardous it must be taken by Hazardous Waste Management Company to the hazardous waste disposal site. The Service Provider must submit proof of correct disposal to the Project Manager.
- d) Service Provider must ensure that high level of housekeeping is maintained at all times and the site is kept tidy daily.
- e) Service Provider must comply with all legal and other environmental requirements including the specifications.

8.13 PUBLICITY AND PROGRESS PHOTOGRAPHS

- a) The Service Provider does not advertise the Contract or the project to any third party, nor communicate directly with the media (in any jurisdiction) whatsoever without the express written notification and consent of the Project Manager.
- b) The Service Provider obtains the permission and approval of the Project Manager before erecting any notice boards or using the details of the contract in any advertising media.
- c) The Service Provider provides a complete digital photographic record of the progress on site and in the testing laboratory to the Project Manager, weekly or as an when required as part of the Service Provider programme narrative report.

8.14 SERVICE PROVIDER EQUIPMENT

All equipment/materials to be supplied by the Service Provider will comply with the



relevant standard specifications. Any tools, test equipment, and devices needed for investigation, and testing shall be provided by the Contractor.

The Service Provider keeps daily records of his Equipment used on Site and the Working Areas (distinguishing between owned and hired Equipment) with access to such daily records available for inspection by the Project Manager at all reasonable times.

8.15 EQUIPMENT PROVIDED BY THE EMPLOYER

No equipment will be provided by the Employer.

9 MEETING REQUIREMENTS

9.1 PROJECT KICK-OFF MEETING

- i. The consultant co-ordinates the project kick-off meeting to take place within two weeks of the starting date.
- ii. The agenda of the kick-off meeting is agreed between the *Consultant* and the *Employer*. The *Consultant* chairs the meeting and produces the minutes of the meeting.
- iii. The project teams of the *Consultant* and the *Employer* attend the kick-off meeting. The meeting will start with a combined session of the full teams and then split off into smaller teams consisting of various disciplines to clarify issues. The duration of this meeting should not be more than one working day.
- iv. Meeting to be held at an agreed venue.

9.2 PROJECT PROGRESS MEETINGS

- i. Meetings to be held on a "once a month" basis for the period of sixteen (16) months. The agenda of the meeting is agreed between the *Consultant* and the *Employer*. The consultant chairs the meeting and produces the minutes of the meeting.
- ii. Meetings to be held at the *Employer's* premises/agreed office. Virtual meetings will also be considered should that be the case.



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- iii. The *Consultant* follows up proactively on all the action list.
 - iv. Separate meetings shall be held to discuss compensation events on a weekly basis for the construction phase (or as agreed) and a compensation events register should be developed and managed by the *Consultant* and be issued to *Employer's* representative on weekly basis (or as agreed depending on the project phase)

9.3 REPORTING

The *Consultant's* provides a monthly progress report which contains the following amongst other things:

- i. Executive summary
- ii. Activities completed during current reporting period per discipline.
- iii. Activities in progress during current reporting period.
- iv. Activities to be undertaken during the next reporting period per discipline.
- v. Areas of concern
- vi. Accepted programme, updated programme, and sequence of work. Level 3 bar chart indicating progress against the plan consistent with the network.
- vii. The program showing actual critical path clearly.
- viii. Recovery plan (when applicable)
- ix. Man-hour progress/productivity reports and graphs based on earned man-hours, including:
- x. Budgeted cost of work scheduled, budgeted of worked performed, actual cost of work performed.
 - Consumer price index vs. Schedule performance index graph.
 - Estimate at completion.
 - Cost variance percentage and cost variance value.
 - Schedule value percentage and cost schedule variance time.
 - Cost report including cash flow forecast.
- xi. Cost control
- xii. Planning/progress report



- xiii. Lists of deviation/variations - compensation event register event register and early warning register.

10 ANTICIPATED TIMELINES AND KEY ACTIVITIES FOR THE SERVICES

Description	Forecast date
Engineering and Specialist Studies	
Present to <i>Employer</i> the current Operating Philosophy for vessel for the Port of Durban with gap analysis.	July 2024
Present the engineering design model options	August 2024
Present desktop modeling wave action/loading results	November 2024
Navigational full bridge simulation for the final selected option	November 2024
Numerical Modeling and Desktop Modeling of the channels and basins	November 2024
Present the following concept designs: <ul style="list-style-type: none"> Expansion of the entrance channel, breakwaters, and sand trap, with consideration given to the reclamation and reuse of existing armor units. Pier 1 Container Terminal Infill DCT Basin 	January 2025
Presenting of specialist study outcomes	January 2025
Presenting detailed constructability plan to keep the entrance channel operational and other port operation.	February 2025
Presenting engineering design and reports for all projects. PLP Gate Review Reports and Supply 3D rendered drawings.	July 2025
Completion of Services	
Gate Review	September 2025
Finalize Reports	October 2025



The **Contract** will be completed within sixteen (16) **months** of award. A **monthly progress meeting** with the *Consultant* will be established to track progress, manage risks and issues, seek direction and formulate decisions.

11 CONTRACT CHANGE MANAGEMENT

For ease of communication, standard templates shall be used for contract change management. The *Consultant* shall forward all correspondence with respect to contract change management, i.e., early warnings and notifications of compensation events, on the standard templates provided.

Records of Claims, Payments & Assessments of Compensation Events must be kept by the *Consultant*.

The *Consultant* shall keep at all times the following records for the *Employer's Agent* to inspect:

- Records of people and equipment within the working areas
- Records of Sub-*Consultants* appointed by the *Consultant*

12 PROCUREMENT

12.1 CODE OF CONDUCT

- The *Employer* aims to achieve the best value for money when buying or selling goods and obtaining services. This however must be done in an open and fair manner that supports and drives a competitive economy. Underpinning our process are several acts and policies that any supplier dealing with the *Employer* must understand and support. These are:
- The Transnet Detailed Procurement Procedure (DPP);
- Section 217 of the Constitution - the five pillars of Public PSCM (Procurement and Supply Chain Management): fair, equitable, transparent, competitive and cost effective.
- The Public Finance Management Act (PFMA);
- The Broad Based Black Economic Empowerment Act (BBBEE);
- The Anti-Corruption Act
 - This code of conduct has been included in this contract to formally apprise the *Consultant* of the *Employer's* expectations regarding behaviour and conduct of its suppliers.
 - Prohibition of Bribes, Kickbacks, Unlawful Payments, and Other Corrupt Practices
 - The *Employer* is in the process of transforming itself into a self-sustaining State-Owned Enterprise, actively competing in the logistics industry. Our aim is to become a world class, profitable, logistics organisation. As such, our transformation is focused on adopting a performance culture and to adopt behaviours that will enable this transformation.



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- The *Employer* will not participate in corrupt practices and therefore expects its suppliers to act in a similar manner.
 - The *Employer* and its employees will follow the laws of this country and keep accurate business records that reflect actual transactions with and payments to our suppliers.
 - Employees must not accept or request money or anything of value, directly or indirectly, to:
 - Illegally influence their judgement or conduct or to ensure the desired outcome of a sourcing activity;
 - Win or retain business or to influence any act or decision of any decision stakeholders involved in sourcing decisions; or gain an improper advantage.
 - There may be times when a supplier is confronted with fraudulent or corrupt behaviour of the *Employer's* employees. We expect our Suppliers to use our "Tip-offs Anonymous" Hot line to report these acts (0800 003 056).
 - The *Employer* is firmly committed to the ideas of free and competitive enterprise.
 - Suppliers are expected to comply with all applicable laws and regulations regarding fair competition and antitrust.
 - The *Employer* does not engage with non-value adding agents or representatives solely for the purpose of increasing BBBEE spend (fronting)
 - The *Employer's* relationship with suppliers requires us to clearly define requirements, exchange information and share mutual benefits.
 - Generally, Suppliers have their own business standards and regulations. Although the *Employer* cannot control the actions of our suppliers, we will not tolerate any illegal activities. These include, but are not limited to:
 - Misrepresentation of their product (origin of manufacture, specifications, intellectual property rights, etc.);
 - Collusion;
 - Failure to disclose accurate information required during the sourcing activity (ownership, financial situation, BBBEE status, etc.);

12.2 CONFLICTS OF INTEREST, RESTRAINT OF TENDERING

A conflict of interest arises when personal interests or activities influence (or appear to influence) the ability to act in the best interests of the *Employer*.



Should the Consultant produce tender/bid documents arising from this contract, the Contractor shall be precluded from competing in the associated bidding process; or offering any services directly / indirectly to Contractors that offers the Contractor an unfair advantage or places Transnet at risk during the bidding and/or execution/construction phases.

Consultants previously involved in the development of the Business Case for this services or preparation of this bid document shall be precluded from tendering on the above scope of services.

13 THE CONSULTANT'S INVOICES

- a) When the *Employer's Agent* certifies payment (see NEC PSC Sub-Clause 51.1) following an assessment date, the *Consultant* complies with the *Employer's* procedure for invoice submission.
- b) The invoice must correspond to the *Employer's Agent* assessment of the amount due to the Consultant as stated in the payment certificate.
- c) Invoices must be submitted by the 18th day of the month (with costs projected to the 25th of the month).
- d) The invoice states the following:
 - Invoice addressed to Transnet Limited;
 - Transnet Limited's VAT No: 4720103177;
 - Invoice number;
 - Registered name of the *Consultant*;
 - Address (Physical and Postal) of the *Consultant*;
 - The *Consultant's* VAT Number; and
 - The Contract number;
- e) The invoice contains the supporting detail:



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- The amount paid to date;
 - Amount for payment (excluding VAT);
 - VAT amount;
 - Amount for payment (including VAT);
 - Any retention monies to be deducted from the invoice;
 - Any interest payable;
 - Escalation formula used where applicable;
 - Settlement discount;
 - Proof of ownership of Materials supplied;
 - A statement is to accompany each invoice
 - The invoice is presented either by post or by hand delivery or via email by the 25th day of the assessment month. Statements must accompany invoices.
 - Invoices submitted by post are addressed to:
Transnet National Ports Authority
Queens Warehouse
237 Mahatma Gandhi Road
Durban
4000
For the attention of *the Employers Agent: TBC*
 - invoices submitted by hand are presented to:
Transnet National Ports Authority
Queens Warehouse
237 Mahatma Gandhi Road
Durban
4000
For the attention of *the Employer's Agent: TBC*
 - The invoice is presented as an original.



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- The *Consultant* ensures that the *Employer* has his correct banking information to make the electronic payment transfer.
 - All payments are provisional and subject to audit. The Consultant preserves his records for such a period of time as legislation requires, but in any event not less than five (5) years.
 - The Employer deducts any amount owed by the Consultant to the Employer from any amount payable by the Employer to the Consultant.



LIST OF ANNEXURES

Annexure – Gate review overview

Annexure B- Contractor documentation submittal requirements standard (DOC-STD-0001)

Annexure C - Revision of Technical Documents (ENG-GL-0103 REV 0C)

Annexure A - Project Development and Execution – Engineering CAD Standards0 (ENG-STD-0001)

Annexure B - Standard Operating Procedure for Construction Environmental Management

Annexure C - Minimum Environmental Requirements for Construction (009-TCC-CLO-SUS-11385)

Annexure D - TIMS Policy

Annexure E - Health and Safety Guidelines (HAS-GL-0001)

Annexure F - Governing Codes, Standards and Specifications