



**RFP FOR THE PROVISION WATER QUALITY MONITORING AT THE PORT OF PORT ELIZABETH AND NGQURA CONTAINER TERMINAL FOR FOUR (4) YEARS ON AN AS AND WHEN REQUIRED BASIS BUT NOT EXCEEDING ONCE A MONTH, FOR TRANSNET SOC LTD (REG. NO. 1990/000900/30) OPERATING AS TRANSNET PORT TERMINALS (HEREINAFTER REFERRED TO AS "TPT").**

## **ANNEXURE B: SCOPE OF WORK**

### **1. BACKGROUND**

- Transnet Port Terminals requires the services of a professionally trained and duly qualified Service Provider to conduct:
  - Storm water, Drinking water and Effluent (waste) water quality monitoring at the Port of Port Elizabeth and Ngqura Container Terminal; and
  - Ground and Surface Water Monitoring services of Fourteen (14) Boreholes and Four (4) surface water points located in the Bulk (Manganese) Terminal at the Port of Elizabeth.
- A competent Service Provider, with the requisite experience in Water Quality Monitoring, will undertake the service.
- **The service provider to inform SHEQ department when coming to take samples in the terminal and upon receiving a go ahead from SHEQ they can visit the terminal.**
- **The service provider is required to invoice only for work done that month e.g. should only invoice when samples are taken for that month.**
- **Storm water samples should be taken when there is visible flowing water inside the storm water channels in order to obtain a representative sample.**
- It is necessary for the Service Provider to familiarize themselves with TPT processes, including procedures and related TPT legal obligations.
- The Service Provider shall assume total responsibility for all systems within this contract, and shall ensure the operability, maintainability and quality of all work conducted according to specific TPT requirements and standards.
- The Service Provider shall be responsible for, but not limited to, the provision of a safe working environment during its operation at the Port of Port Elizabeth and Ngqura Container Terminal.
- Procure all tools and consumables necessary required for water quality monitoring.

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- Transnet Port Terminals (TPT) needs to ensure that the water quality management is applied in terms of best management practices to an acceptable standard and to incorporate all applicable legislation.

## 2. OBJECTIVE

The objective of this contract is to monitor long-term trends and to assess whether activities of TPT (PE and NCT) are impacting on the surrounding and subsurface environment. Also, it is TPT's intention to comply with applicable legislations.

## 3. OUTPUTS:

- The service provider with recommendations in a report format will do all analysis, interpretation and monthly reporting of the monitoring results.
- The service provider will be responsible for the collection of samples on an as and when required basis but not exceeding once a month.
- Drinking water samples to be taken every 6 months (NCT only).
- All analysis must be done at a SANAS Accredited Laboratory
- The service provider is responsible for providing calibration certificates for equipment used for the analysis at the laboratory.
- The service provider is responsible for reporting the condition of the sludge sampling points to TPT-PE/NCT SHEQ Managers with recommendations after each visit.
- The service provider is responsible for maintaining the said usable condition of the sampling points to ensure that a sample may be collected in the sampling frequency.
- Service provider is required to inform TPT PE/NCT-SHEQ Managers of any defects identified during sampling or if there is any oil separator, which is out of order during sampling.
- The service provider is responsible to inform SHEQ Managers when coming to do effluent and stormwater monitoring in order to be accompanied at times.
- Service provider is responsible to inform SHEQ Managers of deviations or non-compliances with legal requirements within the sampling month
- Service provider is responsible to give recommendations to SHEQ Managers e.g. change of sampling points where necessary.
- Service provider is responsible to inform SHEQ Managers immediately of any legal updates.
- Service provider is responsible to supply SHEQ Managers with annual report and present it on Annual Management Review meetings for each terminal which will attended by TEAMS or Face to Face.

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#### 4. AREAS TO BE COVERED:

##### **Port of Port Elizabeth**

- Quayside Storm Water Drains (4x sampling points)
- Three Oil Separators (Straddle Carriers, Workshop 17 and Bulk Technical)
- Ground and Surface Water Monitoring services of Fourteen (14)

##### **Ngqura Container Terminal**

- Technical and Quayside Storm Water Slot-Drains (8x sampling points)
- 5 x drinking water samples (sampling points)

For Stormwater monitoring the service provider must submit samples to a SANAS accredited laboratory for analysis of the following parameters:

- PH units
- Electrical Conductivity
- Suspended Solids
- Oils & Grease
- Chemical Oxygen
- Cadmium as Cd (Soluble)
- Chromium as Cr (soluble)
- Copper as Cu (soluble)
- Iron (Soluble)
- Manganese Mn
- Lead as Pb (soluble)
- Zinc as Zn (soluble)

For effluent monitoring the service provider must submit samples to a SANAS accredited laboratory for analysis of the following parameters:

- PH
- Electrical Conductivity
- Fats, Oils & Greases
- Suspended Solids
- Chemical Oxygen Demand

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- GROUP 1 (Total collective concentration <50 mg/l)
- Chromium (expressed as CrO<sub>3</sub>)
- Copper (expressed as Cu)
- Zinc (expressed as Zn)
- GROUP 2 (Total collective concentration <15 mg/l)
- Cadmium (expressed as Cd)
- Lead (expressed as Pb)
- Color of water sample



**Fig:1 NCT Storm water sampling points**

**For drinking water**, sampling must be conducted according to the SANS 241:2011 standard, analysis of the following parameters must also be done additional to SANS 241:2011 parameters:

- Trihalomethanes
- Geosmin
- 2-methylisoborneol (MIB-2)

NB: Service provider may advise on alternative or equivalent standards to be used for analysis from their experience as field experts.

Sample ID	Location	Latitude co-ordinates	Longitude co-ordinates
NW-02	Canteen	33°48'23.14 S	25°40'47.73 E
NW-04	Security	33°48'21.50 S	25°40'26.68 E
NW-07	Hauler Zone	33°48'29.27 S	25°40'50.49 E
NW-09	North Rail	33°48'32.66 S	25°40'56.38 E
NW-11	Quay Side	33°47'51.22 S	25°40'52.70 E



**Fig 2: NCT Drinking water sampling points**

**5. Borehole Description**

Currently, there are Fourteen (14) boreholes, small diameter (50mm OD uPVC), up to 4m below ground level. These are located at strategic positions across the Bulk (Manganese) Terminal (Figure 1 below). There is two (2) additional boreholes situated outside the terminal – to ascertain water quality in areas outside the Bulk (Manganese) Terminal. The boreholes are located in order to determine potential upgradient impacts migrating with groundwater beneath the site, as well as to assess offsite migration of groundwater contaminants potentially arising onsite. There are four (4) surface water monitoring points located along the boundary of the Bulk (Manganese) Terminal.

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#	Latitude	Longitude
MW1	33° 58.260'S	25° 38.545'E
MW2	33° 58.215'S	25° 38.473'E
MW3	33° 58.178'S	25° 38.428'E
MW4	33° 58.107'S	25° 38.368'E
MW5	33° 58.053'S	25° 38.388'E
MW6	33° 58.058'S	25° 38.467'E
MW7	33° 58.128'S	25° 38.532'E
MW8	33° 58.175'S	25° 38.575'E
MW9	33° 58.235'S	25° 38.582'E
MW10	33° 58.183'S	25° 38.622'E
MW11	33° 58.118'S	25° 38.568'E
MW12	33° 58.080'S	25° 38.522'E
MW13	33° 58.027'S	25° 38.472'E
MW14	33° 57.982'S	25° 38.498'E

Figure 3: Coordinates of wells at Bulk (Manganese) Terminal

**6. Surface water Monitoring**

- Service Provider will be required to conduct surface water monitoring on an as and when required basis but not exceeding once a month.
- The Service Provider to use the current surface water quality sampling points (Figure 2).
- The methodology of monitoring will include but not limited to the following:
- Physical condition of each surface water sampling location; Field parameters, including pH, dissolved oxygen, conductivity, total dissolved salts, temperature, etc;
- Water samples to be from below the surface of the water at a point judged to be most representative at the time of sampling;
- Quality assurance and quality control.

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Figure 4: Surface water monitoring points

**7. Groundwater Monitoring**

- Service Provider will be required to conduct groundwater monitoring on a monthly basis or as when required by TPT.
- The methodology of monitoring will include but not limited to the following:
- Physical condition of the monitoring wells; Measuring of groundwater levels in existing monitoring wells;
- Removal of debris from groundwater to obtain representative samples;
- Well head parameters, including pH, dissolved oxygen, conductivity, total dissolved salts, temperature, etc. ;
- Collection of groundwater samples and Analysis of water samples

**8. Data Analysis and Reporting**

- Following completion of sampling wells and on receipt of analytical data, a report must be submitted to TPT. The report must include but not limited to the following:
  - Fieldwork methodologies; and ○Interpretation of analytical data;

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- All analytical data must be compared with the Water Quality Standard: SANS 241:2006; Department of Water Affairs publication – South African Water Quality Guidelines for Coastal Marine Waters (Volume 1, 2 and 3); and any other applicable legal requirements including international guidelines.

## 9. Responsibilities

- The Service Provider will be responsible for the Monthly Water Quality Monitoring of the boreholes as per Figure 1 and 2, as well as the additional two boreholes.
- The Service Provider will be responsible for utilising the correct and accepted technical methodology to collect the water samples for the groundwater and surface water monitoring points as per Figure 1 and 2.
- The Service Provider will ensure all collection methodology is correct and the samples are not contaminated by incorrect storage and or transportation procedures.
- The service provider is responsible for the analysis, interpretation and monthly reporting of the monitoring results in a report format.
- The service provider is responsible for submitting, presenting and articulating the monitoring results in a format required by Transnet Port Terminals (PE and NCT).
- The service provider is responsible for reporting the condition of the boreholes / sampling points to TPT SHEQ Managers (PE and NCT) with recommendations after every visit.
- The service provider is responsible for maintaining the said usable condition of the ground water wells to ensure that a sample may be collected in the sampling frequency.

## 10. Monitoring Well List:

- pH
- EC (mS/m)
- CaCO<sub>3</sub>
- NH<sub>3</sub>
- N
- Cl
- F
- Al
- As
- NO<sub>3</sub>
- SO<sub>4</sub>
- Ba

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- Be
- Cd
- Cr
- Co
- Cu
- Fe
- Pb
- Mg
- Mn
- Mo
- Ni
- K
- Na
- Sr
- V
- Zn



Figure 5: Diagram showing Borehole locations

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## 11. MINIMUM REQUIREMENTS:

- Service Provider to provide assurance of the experience and qualification/s of the water quality specialist/s and or personnel to be assigned to TPT (supporting documents i.e. CV's and Qualifications – minimum degree/diploma water quality with sampling experience of not less than a year).
- The Service Provider must provide a method statement and safe working procedure stating how the job will be conducted. The method statement should include the following: environment, quality, safety, health and specifics of the job e.g. stormwater etc incl. resources.
- The Service Provider must submit an organizational structure, indicating management, supervision and proposed personnel.
- Vehicle used on this contract to be licensed, registered, roadworthy and serviced timeously [minimum one vehicle].
- The Service Provider, to supervise and ensure the overall quality of service, will provide an Area Operations Manager.
- The bidder should have a minimum of three years in water monitoring experience.
- The lab that the bidder is going to use during the analysis process must be SANAS 17025 accredited.
- The service provider should have General public liability insurance to the value of R10 million.
- The bidder has to submit a risk assessment specific to water quality monitoring.
- The bidder has to provide its employees with Personal Protective Equipment (PPE). The issue register, which is completed and signed, by the employee and employer will requested as proof.
- All equipment to be used must have valid calibration certificates.
- The service provider to submit an Operational plan clearly outlining how long it will take to send the report to TPT. TPT requires a minimum of 30 days or less from the last day of sampling.
- The bidder must, upon award, submit a SHE file to the SHEQ department for approval and will be subject to audits periodically. The SHE file must cover the following areas:
  - SHE Policy Statement
  - Risk Assessment specific to this scope of work
  - Method Statement
  - Relevant legal appointments
  - Valid letter of Good Standing from the Workmen's Compensation Commissioner
  - Safety plan
  - Environment Plan
  - Medical certificates of personnel to be used from Occupational Health Practitioner of the proposed personnel.

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**12. DELIVERABLES:**

- Produce at least one Annual report that must include information for the year under review (i.e. annual year end of the company). The report must be submitted to TPT not later than 30 days after the end of each reporting period. The annual report must include, amongst others, the following items:
- Monthly review of the progress of the terminals against legislative requirements
- Provide continuous sound and practical advice with monthly reports on innovative solutions / technologies with the aim of reducing negative environmental impact.
- Compile a presentation summing up the annual results with recommendations and present at the TPT Management Review meetings annually.

**13. COMPLY WITH THE FOLLOWING LEGISLATION:**

- Transnet Port Terminals Operational Environmental Management Plan
- Sewage Acceptance by-law
- National Health Act
- National Water Act
- SANS Drinking Water Standards
- SANS 241
- Nelson Mandela Municipality Water Services By-Law

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Vuyani Mtati [SHEQ Manager PE]

25/10/2023

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Date

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Cecilia Cecilia Zweni [SHEQ Manager NCT]

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Date