

# **Transnet SOC Limited**

**TPL**

**PROJECT No.: HO/1418**

**PART C3.2: SCOPE OF WORKS**

**EXTENSION OF CONCRETE BLOCK VALVE (BV06)  
CHAMBER WALL HEIGHT**

## C3.2 SCOPE OF WORKS

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# **PROTECTIVE BLOCK VALVE CHAMBER CONCRETE LIDS**

## **1 BACKGROUND**

Transnet Pipelines, a business unit of Transnet, is the largest multi-product pipeline operator in southern Africa, transporting hydrocarbons and methane-rich gas through a network of some 3 114 km of petroleum and gas pipeline infrastructure. The pipeline network runs across 5 different provinces in South Africa (KwaZulu-Natal, Free State, Gauteng, North West and Mpumalanga) ensuring security of supply to the inland market. The pipeline network consists of several pipelines of different capacities, transporting various products, such as crude oil, unleaded petrol, diesel, aviation turbine fuel and methane rich gas on designated routes. The pipelines have pump stations located en route and block valve chambers enclosing block valves which are used for safety and maintenance reasons to isolate sections of the pipeline during a shutdown, leakage or line rupture, thereby limiting the release of line content.

Pipelines operates in a regulated environment and is regulated by the National Energy Regulator of South Africa (NERSA) and governed by the Petroleum Pipelines Act, No 60 of 2003 and the Gas Act, No 48 of 2001. Almost all critical areas of the Pipeline business require regulatory sanction through the issuing of licenses.

## **2 PROBLEM STATEMENT**

Block Valve Chamber (BV06) is one of many chambers on the TPL Gas Pipeline. BV06 is in Durban, Avoca area and is situated at a low point, which results in rainwater flooding the chamber whenever it rains.

Depending on the quantity of rainfall, rainwater accumulates in the chamber which results in flooding of equipment enclosed in it, which includes valves and flanged pipe sections. These equipment are sometimes completely submerged in the rainwater which contains wash away material and other debris. Overtime, this results in rapid corrosion of the equipment, which greatly reduces its lifespan, limits operation, and inhibits access for maintenance purposes. It is therefore an unfavourable environmental condition for the equipment enclosed within the chamber.

## **3 PURPOSE**

The purpose of this contract is to outline the Employer's requirement as detailed in the scope of work section for the contractor to execute and also to indicate the part of the scope that TPL will execute internally as part of the complete solution of the problem to be addressed.

## **4 SCOPE OF WORKS**

### **4.1. CIVIL WORKS**

- 4.1.1. This contract scope requires a contractor to extend the concrete height of the block valve chamber.
- 4.1.2. Contractor shall extend the height of the block valve chamber according to the issued drawing. Refer to drawings PL 121496.
- 4.1.2.1. Extension of height concrete works shall be in-situ casting on site.
- 4.1.2.2. The Civil works shall involve but not limited to;
- Removal of the current steel lid,
  - Chipping the top surface of the chamber wall and removing the screed,
  - Scabble the concrete wall
  - Insert dowel bars and reinforcement for extending the height of the wall,
  - Shuttering and formwork,
  - Pouring of concrete mix and sampling of the mix for cube testing,
  - Stripping off the formwork &
  - Concrete curing and testing of concrete cube.
- 4.1.3. Concrete cube test results (7, 14 and 28 days) are required for the concrete extended wall before the chamber lids can be installed.
- 4.1.4. TPL shall then install the new concrete lids on the block valve chamber with a concrete extended wall height.
- 4.1.5. The steel lid that was removed on the chamber shall be taken by TPL.

### **4.2. SUPPLY**

- 4.2.1. Contractor to supply two mobile ablutions (portable toilets) for workers on site (One for males and one for females) for the duration of the contract. These ablation facilities shall be emptied on a weekly basis until completion of the Works (8 weeks).
- 4.2.1.1. The portable toilets shall be of flushing type with a holding tank of at least 200 litres.
- 4.2.2. Contractor to supply 24/7 security services for duration of the civil works on site (8 weeks). This shall include 2 security guards per shift, all required resources (see 4.2.2.4) and a guard house to accommodate them. The security guards are required to meet the following requirements:
- 4.2.2.1. Must be a South African citizen 18 years and older with a valid PSIRA Registration.
- 4.2.2.2. Two to three years' experience working as a security guard.
- 4.2.2.3. Grade 12 and Grade C (unarmed guards) qualifications with proficiency in English.
- 4.2.2.4. Security resources to be provided are two-way handheld radio (PTT-Push to talk Radio or normal two-way radio, a prepaid cell phone, occurrence book, pocketbook, access control register, tools register, vehicle search register, handcuffs, baton, rechargeable torch, PPE (Safety boots, shirt, trouser, helmet, wind breaker, safety belt and reflector jacket)
- 4.2.2.5. Duties entail access control, egress control, guarding and patrolling, asset protection, employee protection, report writing and preliminary investigation.

4.2.2.6. Should have first aid training level I, basic firefighting level I, knowledge of OHS Act and security Grade C training.

## 5 SITE

5.1 Block Valve Chamber number 06 (BV06) is on a Gas Pipeline in Durban, Avoca area at Sasol filling station on the KwaMashu Highway off-ramp from the N2.

5.2 A demarcation wall is built in front of the chamber to separate the TPL block valve chamber from the Sasol filling station. See image below for details:



**Figure 1: Sasol Filling Station, Demarcation Wall & TPL Block Valve Chamber**

5.3 Contractor security to guard the chamber at night after the current steel lid is removed until the chamber wall height is increased as specified and TPL installs concrete lids.

5.4 Contractor shall ensure that the site is barricaded at all times during execution of the works as the filling station is operational.

## 6 DRAWINGS

6.1 Contractor shall extend the height of the chamber according to the drawing provided by TPL.

6.2 Below is the drawing issued:

**Table 1: TPL Issued Drawings**

	<b>Drawing Name</b>	<b>Drawing No.</b>	<b>Purpose</b>
1	Avoca-Proposed Chamber Wall Extension	PL 121496 B	Extension of chamber wall height

6.3 Contractor must verify drawing dimensions on site.

6.4 The contractor shall submit Quality Control Data Pack and As-Built Drawings to TPL after completion of works in soft and hard copy formats.

## 7 Safety, Health & Environment Requirements

7.1 An HSE Compliance File shall be compiled and submitted for review and approval by the relevant TPL representative. Site access shall not be permitted until such relevant approval has been given. The submission shall include as a minimum:

- a. Signed 37(2) Agreement
- b. Valid Letter of Good Standing with the Compensation Fund
- c. Risk Assessment
- d. Method Statement
- e. Relevant appointments with proof competency where applicable
- f. ID copies and police clearance (NKP requirement)

Refer to attached Contractor Compliance File Assessment Checklist for other applicable requirements.

7.2 A Site Access Certificate shall be issued from TPL Project Manager to the Contractor to sign and accept the access. Under no circumstances will the contractor be on TPL site without the signed and accepted certificate.

7.3 Contractor screening is required to be conducted for Transnet Pipelines contractors.

The following needs to be submitted:

- Company registration certificate CK/CoR
- ID copies of directors
- SAP 91 Fingerprint of all directors.
- Copies of ID of employees who will be coming to our site.
- SAP 91 Fingerprint forms of employees who will be coming to our site.

This process takes 3 weeks to complete once all documents have been submitted with all the relevant information.

7.4 The Contractor shall also ensure that the correct PPE is worn at all times. The following PPE are required to enter the chambers at the supplier cost, but not limited to:

- Flame retardant overall or two-piece
- Hard hat / helmet
- Safety glasses
- Safety boots
- Harness

See attached TPL Personal Protective Equipment (PPE) SOP for any other applicable PPE requirements.

7.5 On site, a Risk Assessment must be conducted together with TPL personnel prior to installation works.

7.6 TPL permit-to-work processes will apply on-site.

7.7 Random alcohol tests are conducted and TPL adheres to Zero Tolerance to alcohol.

## **8 PROGRESS MEETINGS**

8.1 Project Progress Meetings shall be held on weekly basis after the Project Kick-Off meeting.

## **9 COMPLETION PERIOD**

9.1 The concrete height increment as per attached drawing and the supply and installation of the concrete lid on the chamber must be completed in a period of **eight (8) weeks**.

9.2 Contractor must submit a Schedule in both PDF & MS Project formats.

9.3 Normal working hours are as follows:

Monday to Friday: 07h30 to 16h00

9.3.1 Contractor must request to work out of normal working hours from the Employer's Project Manager when required.

9.3.2 The Contractor shall indicate to the Project Manager 24 hours in advance when he requires working outside of the normal working hours.

9.3.3 Allowance is to be made in planning for the issuing and receiving of permits whilst on site.

9.3.4 Rates for abnormal working hours must be indicated.

**10 SIGN OFF**

PROJECT No.: HO/1418 - EXTENSION OF CONCRETE CHAMBER WALL HEIGHT

**COMPILED BY:**



\_\_\_\_\_  
**Signature**

**Name:** Janie De Beer

**Designation:** Mechanical Engineer-In-Training

**Date:** 03/05/2024

**RECOMMENDED BY:**



\_\_\_\_\_  
**Signature**

**Name:** Thersshni Pillay

**Designation:** Principal Mechanical Engineer

**Date:** 7/5/2024