

Document Title:

WORKS INFORMATION

Project Title:

Tarlton Sealants Replacement and Slab Repairs

REVISION: 05

TABLE OF CONTENTS

1. Introduction.....	4
2. Background.	4
3. Problem statement.	5
4. Purpose.....	5
5. Description of the works.	5
6. General requirements.	9
7. Health and Safety Management.	11
7.1 Health and Safety Standard	11
7.2 Contractor 's General Requirements for Health and Safety	11
7.3 Contractor compliance File Requirements (Minimum Requirement)	13
7.4 Contractor compliance File Requirements (Minimum requirements).....	14
8. Environmental Management Requirements	14
9. Security Screening.....	16
10. Record keeping.	17

1. Introduction.

Transnet Pipelines (TPL) is the largest multi-product operator in Southern Africa, transporting hydrocarbons and methane-rich gas through a network of 3 800 km of petroleum and gas pipeline infrastructure. The pipeline network runs across 5 provinces in South Africa (KwaZulu-Natal, Free State, Gauteng, North West and Mpumalanga) ensuring security of supply to the inland market. Along the pipeline are pump stations located on route. The pipeline network consists of different pipelines of different dimensions and travelling on various routes. The pipeline crosses several rivers along the route to its various locations.

Transnet 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 licences. The Pipeline is classified as an Essential Infrastructure, in terms of the Criminal matters amendment Act (Act 18 of 2015). The pipelines are designed and maintained as per ASME B31.4 & 8.

2. Background.

Based in Krugersdorp, Tarlton Depot is a delivery station distributing fuel to South Africa and Botswana market via rail and road. There are various bunded areas within the depot; these include tank farms, road loading gantry, manifolds, Refractionator plant, etc. A bunded area is a containment structure made up of a bund floor and a bund wall. It is designed to prevent the accidental release of hydrocarbon liquids from storage tanks, pipelines, and other containers within these manifolds. Bunded areas also help protect the environment by preventing the contamination of soil, groundwater, and nearby water structures in the event of a spill or leakage. They are a crucial component of environmental risk management in the depot. In the case of a spill, the spill is collected from the bunded areas and contained in the spill basin, which then makes it easier for the depot to clean up and respond to spills when they occur. These bunded areas are constructed with joints, which are designed to allow for movement of the concrete due to temperature fluctuations, settling of structures, and other factors. The joints are fitted with sealants, which are flexible and acts as a waterproofing barrier, preventing water and hydrocarbon infiltration into the ground. Therefore, the condition of the bund floors in Tarlton operations depot has deteriorated and requires remedial work to restore their condition, so they are fit for use with no environmental risk.

3. Problem statement.

The bunded area is designed to contain spillages within the depot. Existing bund floors and have cracks, and the sealants are worn out, which has compromised the containment of bunded areas. As such, the bunded area is no longer able to fulfil its primary purpose of containing and confining hydrocarbon liquids from environment contamination. This will also affect the structural integrity and longevity of Tarlton tank farm, IRP tank farm and Refractionator plant bunded areas.

4. Purpose.

The purpose of this document is to outline the scope of work that must be undertaken by the service provider for replacing joint sealants, fixing cracked slabs, replacing the damaged manhole cover, and repairing damaged slabs at Tarlton operations depot.

5. Description of the works.

5.1 Material Specification:

5.1.1 A multi flow cementitious multi-purpose applied concrete repair mortar with the following specifications:

- Characteristics
 - High early compressive strength
 - High final compressive strengths.
 - Sulphate resistant.
 - Good adhesion to concrete.
 - Good abrasion resistance.
 - Very low shrinkage.
 - Good surface finishing.
 - Ready to mix with water.
 - Excellent workability.
 - Applied manually or mechanically (wet spray).
 - High pH passivates steel reinforcement.
 - Does not contain chlorides or other corrosion promoting additives Application Areas.
 - Durability in aggressive environments.
- Uses

-
- Repair of spalling and damaged concrete in infrastructure and superstructure works. Restoration work.
 - Horizontal concrete repairs.
 - Compressive strength at 28 days.
 - 50 MPa or above.
 - Layer thickness
 - Should be able to cover up to 80 mm.
 - Application temperature
 - 5°C to 30°C
- 5.1.2 A two-component structural repair epoxy mortar with the following specifications:
- Characteristics
 - Designed for concrete repair and restoration.
 - Needs no priming.
 - High Strength.
 - Resistant to oils, fuels, water, dilute chemicals.
 - Curing time
 - 12 hours at 25°C
 - Overcoating time
 - 8 to 24 hours at 25°C
 - Application temperature
 - 10°C to 40°C
 - Uses
 - Repairing and patching defects in concrete such as honeycomb and spalls.
 - Layer thickness
 - Up to 25mm
- 5.1.3 Stormwater manhole cover with the following specification:
- Material: Heavy duty steel.
 - Load Carrying Capacity: 24 tons.
 - Dimensions: 1,1 m x 1,1 m.
 - Mesh Pattern: Mesh pattern designed to effectively allow passage of stormwater whilst preventing ingress of debris.
 - Surface treatment: The grating should be anti-slip and hot-dip galvanized to ensure durability and protection from corrosion.

5.1.4 Sealant Backing Cord, 22mm Diameter.

5.1.5 Silicone Joint Sealant with the following properties:

- Characteristics
 - Self-levelling, no tooling required.
 - Flows into irregular joint widths and does not require tooling.
 - Movement capability 100% extension and 50% compression.
 - Ultra-low modulus.
 - Weather and UV resistant.
 - Fuel resistant-short term exposure.
 - Cold applied, ready-to-use as supplied. No heating or special preparation.
 - Does not require a primer.
- Composition
 - One-part, cold applied, self-levelling silicone.
- Applications
 - Can be used for concrete-to-concrete pavement joints.
 - Can be used in new construction, repair, or remedial applications.
 - Can be used to seal irregularly shaped and spalled joints.

5.2 Repair works

The contractor shall provide material and labour for the following:

5.2.1 Repair the damaged slabs:

- I. Clear the slab for any dust and debris.
- II. Carefully grind 10 mm off the top of the slab and remove any loose concrete particles without damaging other slabs and joint sealants.
- III. Mix and pour the cementitious multi-purpose applied concrete repair mortar to match the height of existing slabs, in accordance with the manufacturer's instructions.
- IV. Cure the cementitious multi-purpose applied concrete repair mortar in accordance with the manufacturer's instructions.

5.2.2 Replace sealant joints in the Tank Farms (IRP and Tarlton):

- I. Carefully remove the existing joint sealants.
- II. Clean and prepare all expansion joints.

- III. Inspect all expansion joints for damages.
- IV. Mix and apply the two-component structural repair epoxy mortar to damaged expansion joints in accordance with the manufacturer's instructions, where required.
- V. Insert a sealant backing cord into the expansion joint openings.
- VI. Inject a silicone joint sealant into all the expansion joint openings in accordance with the manufacturer's instructions.
- VII. Allow the joint sealant to cure in accordance with the manufacturer's instructions.

5.2.3 Repair cracks on the Road Loading Area:

- I. Clean the road loading area slab to remove dirt, dust, sludge, oil, and contaminants.
- II. Ream the crack 20 mm wide and 10 mm deep with an angle grinder.
- III. Remove dust and other loose particles using a wire brush and a vacuum.
- IV. Mix and apply the two-component, structural repair epoxy mortar into the cut-out crack in accordance with the manufacturer's instructions.
- V. Smooth the two-component, structural repair epoxy mortar.
- VI. Allow the two-component, structural repair epoxy mortar to cure in accordance with the manufacturer's instructions.

5.2.4 Replace the manhole cover at the Road Loading Area:

- I. Remove the existing damaged manhole cover using appropriate tools and equipment.
- II. Clean the manhole frames and inspect them for any damage and wear.
- III. Fix damages or wear if required.
- IV. Place the new steel stormwater manhole cover onto the frame, ensuring proper alignment and fitting.

5.2.5 Repairing cracks and spalling in the Concrete Separator

- I. Drain the water from the concrete separator
- II. Clean the concrete separator thoroughly to remove dirt, dust, sludge, oil and contaminants.
- III. Ream the cracks 20mm wide and 10mm deep with an angle grinder.
- I. Remove all loose and deteriorated concrete in the concrete separator using a chisel and hammer or angle grinder.
- IV. Remove dust and other loose particles using a wire brush and a vacuum.

- V. Mix and apply a two-component structural repair epoxy mortar to the reamed cracks and spalled areas, in accordance with the manufacturer's instructions.
- VI. Allow the two-component, structural repair epoxy mortar to cure in accordance with the manufacturer's instructions.

5.2.6 Rehabilitation of the stormwater channel

- I. Break out and remove all damaged and loose concrete screeds above the stormwater channel
- II. Remove all loose, cracked or spalled concrete around the channel using a chisel and hammer or angle grinder.
- III. Clean the surface thoroughly using a wire brush and vacuum.
- IV. Ream the cracks 20mm wide and 10mm deep with an angle grinder.
- V. Mix and apply a two-component structural repair epoxy mortar to the reamed cracks and spalled areas, in accordance with the manufacturer's instructions.
- VI. Once the two-component structural repair epoxy mortar has cured, install formwork to contain the new screed.
- VII. Mix and pour 25 MPa structural concrete screed with 13mm aggregate, matching the existing thickness, ensuring proper compaction and levelling.

5.2.7 Waste disposal.

- I. Dispose waste in accordance with Transnet's Environmental Standards for Construction (009-TCC-CLO-SUS-11386) and the local municipality bylaws.

6. General requirements.

- 6.1 Attending a site briefing prior to the *Contractor's* submission of a quotation to Transnet Pipelines is mandatory.
- 6.2 The appointed *Contractor* will have to re-measure and confirm items listed in the Bill of Quantities prior to the commencement of the works to the *Project Manager*.
- 6.3 The appointed *Contractor* must note that the materials specified in this works information must only be applied by professionals who are accredited by the manufacturer. The appointment of these professionals or acquiring training from the manufacturer is the responsibility of the *Contractor*.

- 6.4 Prior to supplying and pouring the screed, the *Contractor* must verify that the screed is compatible with the coating compound specified.
- 6.5 All works described in this specification represent works on existing facilities that will be in operation during the Contract. The *Contractor* needs to ensure that all necessary prior planning and precautions are taken to ensure minimal disruption to the users of the facility.
- 6.6 The *Contractor* shall supply adequate and competent labour, supervision, tools, equipment, services, and testing devices for all items necessary to complete the work. Transnet Pipelines reserves the right to terminate the Contract at any point if it is found that the *Contractor's* performance, supervision, tools, equipment, services, testing devices, and materials do not comply with specified requirements. The *Contractor* will only be allowed to claim for work completed to the specified acceptable standard.
- 6.7 The *Contractor* is required to satisfy himself that all tools provided will comply with all specifications as included in the Tender Documents. Failure to meet specifications shall render the *Contractor* liable to rectify the problem at no cost to Transnet Pipelines.
- 6.8 The successful *Contractor* is to note, with regards to work on site, that responsibility for the protection of all existing equipment and services shall rest solely with the *Contractor*. The *Contractor* shall be required to bear all costs that may arise as a result of damage that may have been caused to equipment or services or that may arise because of his operation on the respective sites.
- 6.9 The *Contractor* shall only utilize testing devices and measuring equipment that are certified where applicable and carry a valid calibration certificate as issued by an approved calibration authority.
- 6.10 The *Contractor* shall only be allowed to submit claims upon completion of all the specified works, in accordance with the pricing instructions.
- 6.11 The *Contractor* shall be responsible for providing and maintaining their own mobile toilets, site office, and dining facilities for the duration of the contract. These facilities must be suitable, safe, and comply with all applicable health, safety, and environmental regulations. No such amenities will be provided by the *Employer*.

7. Health and Safety Management.

7.1 Health and Safety Standard

The awarded Principal *Contractor* shall comply with the requirements of the Occupational Health and Safety Act 85 of 1993 and its promulgated Regulations and the following Transnet procedures: Transnet *Contractor* Management Procedure (TIMS-GRP-PROC-014) and Transnet *Contractor* Health and Safety Specification Guideline (TRN-IMS-GRP-GDL-014.3), as applicable to the scope of services. and any laws applicable in the terms of Health and Safety.

7.2 Contractor 's General Requirements for Health and Safety

The Principal *Contractor* is solely responsible for carrying out the work under the Contract having the highest regard for the health and safety of its employees, Transnet's employees, and persons at or in the vicinity of the Site, the Works, temporary work, materials, the property of third parties and any purpose relating to the Principal *Contractor* carrying out its obligations under this Contract. Adequate provisions must be made available for health and safety such as medical surveillance and safety file.

(a). The Principal *Contractor* is required to develop and implement a Health and Safety Plan in accordance with the *Contractor* Health and Safety Specification Guideline (TRN-IMS-GRP-GDL-014.3). The *Contractor* to ensure that their Health & Safety Management plan as well as their Baseline Risk Assessment includes the management of communicable diseases.

(b). The Principal *Contractor* shall appoint a part-time Health and Safety Officer for the site, corresponding with the project's size and associated risks, encompassing all activities including overtime and weekend work. The Safety Officer must possess a National Diploma in Safety Management, Environmental Health, or an equivalent qualification, and be registered with the SACPCMP as a Construction Health and Safety Officer.

(c). The Principal *Contractor* shall ensure that all incidents are reported to the relevant Transnet Pipelines Depot Manager and investigated by the principal *Contractor* in conjunction with the client's safety representative. Occurrences shall be reported immediately or before the end of the shift followed by a written report within 24 hours.

(d). The Principal *Contractor* shall ensure that a competent Supervisor is appointed for the project. Constant supervision is required on-site during the execution of works.

Relevant training to be conducted for Supervisory staff i.e.: Any relevant Supervisory course, Incident Investigation, Legal Liability, and HIRA (Hazard Identification and Risk Assessments).

(e). The service provider is required to supply employees with protective clothing and equipment in accordance with the Occupational Health and Safety Act 85 of 1993 (OHSA). The personal protective equipment shall be appropriate for the potential hazard. Dromex DW – D59 FA, 100% cotton, flame retardant, and Acid-resistant SABS-approved Conti suit with long sleeves. Materials meeting the requirements of SANS 434, antistatic properties EN 1149 with silver reflective strip (50mm in width) on each sleeve around the upper arm and each leg, meeting the requirements for EN471. Safety footwear with steel toe protection, anti-static, slip-resistant, hydrocarbon resistant, and leather material. Hard hat with chin straps meeting requirements of SANS 1397:2003. The Principal *Contractor* shall conform to the Transnet Pipelines Standard Operating Procedure for Personal Protective Equipment (009-TPL-OPS-SHEQ-2096).

(f). Before commencing operations or accessing any Transnet site, the Principal *Contractor* must submit a *Contractor* Compliance File for review and approval by Transnet Pipelines. The submission requirements will be aligned with the *Contractor*'s scope of services.

(g) The principal *Contractor*, upon receiving approval of their safety file, must ensure that all employees designated to work on the project undergo Safety, Health, and Environmental (SHE) induction training, specifically addressing the site-specific hazards at the time of entry. No individuals working for or on behalf of the principal *Contractor* will be permitted to enter the facility without completing the induction process.

(h) The *Contractor* will be subjected to the Transnet Pipelines permit-to-work process related to the on-site risks identified as well as the changing conditions.

Note: This contract is for structural maintenance, therefore Construction Regulations requirements must be adhered to.

7.3 Contractor compliance File Requirements (Minimum Requirement)

- 7.3.1 A valid Letter of Good Standing with the Workman's Compensation.
- 7.3.2 Proof of relevant insurances to carry out work.
- 7.3.3 *Contractor* Health & Safety Plan correlating with Transnet *Contractor* Management Procedure (TRN-IMS-GRP-PROC-014) submitted and approved.
- 7.3.4 Copies of TPL & *Contractor's* health, Safety & Environmental Policies
- 7.3.5 Mandatory agreement as per section 37.2 of the OSHACT. Act 85 of 1993 and CR 5.1(K)
- 7.3.6 Legal appointments as per the Occupational Health and Safety Act such as;
- Sec. 16(2) – Delegated Authority (Assistant to the CEO)
 - CR 8(1) – Construction Manager
 - CR 8(7) – Construction Supervisor
 - CR 8(5) – Construction Safety Officer
 - CR 9(1) – Risk assessment
 - CR 23. (d)(k) – Vehicle operator and Inspector
 - GSR 3.4 – First aider
 - CR 13(1)(a) – Excavation Supervisor
 - Sec 24, GAR 9(2) – Incident Investigator
- 7.3.7 Risk Assessments, Method statements, and Safe Working Procedures
- 7.3.8 Employee Induction packs shall include the following documents:
- Employee scope of work.
 - Proof of site-specific induction (*Contractor*).
 - Copy of ID Document.
 - Abbreviated CV for the management and Legal appointees.
 - Proof of competence
 - Valid entry medical certificate of fitness done by an Occupational Health Practitioner aligned with job roles and responsibilities (e.g., work at height, in confined spaces etc.).
- 7.3.9 Project Specific Risk Assessment indicating the full scope of work and risk profile.
- 7.3.10 Project specific Organogram of reporting structure including contact details.
- 7.3.11 Copy of nominated responsible person to conduct inspections and proof of their competency.
- 7.3.12 Copy of equipment registers to be used with copy of each item's inspection checklist.
- 7.3.13 The Service Provider shall furnish the client with Periodic medicals every twelve months, as well as the Exit Medicals done by an Occupational Health

7.4 Contractor compliance File Requirements (Minimum requirements)

- A valid Letter of Good Standing with the Workman's Compensation.
- Proof of relevant insurances to carry out work.
- *Contractor* Health & Safety Plan correlating with Transnet *Contractor* Management Procedure (TRN-IMS-GRP-PROC-014) submitted and approved.
- Copies of TPL & *Contractor*'s health, Safety & Environmental Policies
- Mandatory agreement as per section 37.2 of the OSHACT. Act 85 of 1993 and CR 5.1(K) appointment
- Legal appointments as per the Occupational Health and Safety Act
- Risk Assessments, Method statements, and Safe Working Procedures
- Employee Induction packs shall include the following documents:
- Employee scope of work.
- Proof of site-specific induction (*Contractor*).
- Copy of ID Document.
- Abbreviated CV for the management and Legal appointees.
- Proof of competence
- Valid entry medical certificate of fitness done by an Occupational Health Practitioner aligned with job roles and responsibilities (e.g., work at height, in confined spaces, etc.).
- Project-specific risk Assessment indicating the full scope of work and risk profile.
- Project-specific Organogram of reporting structure, including contact details.
- Copy of nominated responsible person to conduct inspections and proof of their competency.
- Copy of equipment registers to be used with copy of each item's inspection checklist
- The *Contractor* shall furnish the client with Periodic medicals every twelve months, as well as the Exit Medicals done by an Occupational Health Practitioner at the end of the contract.

8. Environmental Management Requirements

The *Contractor* shall at all times comply with Environmental Requirements prescribed by law as they may apply to construction activities. The *Contractor* shall comply with the provisions of the National Environmental Management Act 107 of 1998, National Water Act 36 of 1998, National Environmental

Management: Waste Act 59 of 2008 and any other applicable environmental legislation. The *Contractor* perform duties of the *Employer* and is in every respect responsible for compliance with the provisions of the Acts. The *Contractor* will be responsible for environmental rules that TPL may require to be implemented and shall comply with the Transnet *Contractor* Management Procedure (TRN-IMS-GRP-PROC-014). The *Contractor* is required to compile and submit a *Contractor* Compliance File to TPL, that will include but not limited to Environmental Management Plan (EMP) that is specific to the service/ project. The EMP is project specific and addresses the projects potential environmental impacts and their mitigation measures. Site access and commencement of execution of the scope of work will be subject to the review and approval of the *Contractor* Compliance File.

8.1 Waste Management

The *Contractor* is responsible for the collection, removal and disposal of all waste, wastewater and effluent from ablution facilities generated from the Site as a result of site activities at the permitted landfill site. The *Contractor* shall be familiar with the waste management requirements as outlined in the EMP. Proof of the permit for the landfill site shall be obtained and kept on file, for review by the Employer or the Employer's Environmental representative. A waste manifest shall be retained for record purposes for each load of waste disposed.

8.2 Hazardous Substances

The *Contractor* shall observe all applicable legislation, including specific requirements of the EMP relating to the handling, storage and transportation of hazardous substances as defined in the Hazardous Substances Act (Act No. 15 of 1973), the Occupational Health and Safety Act (No. 85 of 1993), the EMP, the local Bylaws, and any other applicable legislation.

The *Contractor* shall, as a minimum, comply with the following requirements:

- Storage and use of hazardous materials shall be strictly controlled to prevent environmental contamination, in accordance also with the materials safety data sheets (MSDS's).
- Accidental spillage of any fuel or hazardous substances shall be cleaned up immediately using the most appropriate methodologies, equipment and material.
- No vehicles or machines shall be serviced or refueled on site except at designated servicing or refueling locations.

8.3 Management of Ablution Facilities

The *Contractor shall* comply with the National Environmental Management Waste Act (Act 59 of 2008) and the EMP. The *Contractor shall* provide sufficient ablution facilities in compliance with all relevant health and safety standards and codes. Enough toilets shall be provided to accommodate the number of personnel working in any given area.

8.4 Incident Reporting

The *Contractor shall* immediately notify the *Employer* of any environmental incidents on Site. The *Contractor shall* be responsible for investigating all environmental incidents, instituting the required remedial measures and issuing of close-out reports. All costs associated with the prevention, control, cleaning and remediation of any environmental incidents, spills or releases resulting from the *Contractor 's* activities shall be to for the *Contractor 's* own account.

The *Contractor shall* maintain a register of all environmental incidents. Close-out reports shall be submitted to the *Employer* and *Employer's* Environmental representative within 14 days of occurrence of the incident. Case-specific extensions may be considered at the sole discretion of the *Employer*.

8.5 Rehabilitation

The *Contractor shall* be responsible for reinstatement and rehabilitating all areas to the satisfaction of the *Employer*.

The above requirements shall be applicable to the main *Contractor*, its *Contractor s* and suppliers. All personnel will be required to attend site specific induction prior to commencement with their activities.

9. Security Screening

9.1 The appointed *Contractor* to be screened prior to accessing and executing the scope of services at the TPL sites. Each employee of the *Contractor* will be required to sign a consent

form granting Transnet permission to screen them. The following documentation will be requested from the *Contractor*:

- Company Tax clearance certificate,
- Company profile,
- Company registration documents,
- CSD registration document,
- SARS tax pin document and VAT number,
- Professional Membership accreditation,
- Recent audited financial statements of the company,
- Company bank letter,
- Lease agreement if company is renting the business site or proof of ownership of the business premises,
- ID Copies of Directors and all employees seeking access to Transnet facilities.

9.1.1 The appointed *Contractor* must note that once the requested documents are submitted, SSA will take +/- two weeks to complete the screening.

10. Record keeping.

- 10.1 The *Contractor* and a representative of TPL shall sign off on a quality control document for all the work that has been done.
- 10.2 Copies of these quality control documents shall be submitted to the *Project Manager* after the project.
- 10.3 The *Contractor* shall keep records of all inspections conducted, which will then be handed over to the *Project Manager* or any other authorized TPL representative.
- 10.4 The *Contractor* shall provide a Material Safety Data Sheet for each toxic, chemical, or hazardous substance that will be used in the project.