

SPECIFICATION FOR THE TEMPORARY HANDLING OF UNTREATED EFFLEUNT AT THE BELLVILLE LOCOMOTIVE MAINTENANCE DEPOT

Location:	Bellville Locomotive Depot	
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1. Background

This document outlines the Scope of Work (SOW) and Bill of Quantities (BOQ) for two proposed interim solutions to manage effluent at the locomotive maintenance depot. These are necessitated due to the non-operational state of the existing effluent treatment plant. The options are: (1) Temporary Effluent Storage using Bladder Tanks and (2) Hybrid Option - On-site Oil Skimming with Temporary Effluent Storage. Transnet will only award one of the options. **For both options, the supplier will be responsible for emptying the chosen holding method over a set period into the newly upgraded effluent plant for treatment (Period must be appropriate as to not overwhelm the newly commissioned plant as the depot will also be actively producing effluent during this time.)**

2. Applicable Standards

- SANS 10229: Transport of dangerous goods – Packaging and large packaging for road and rail transport
- SANS 10248: Handling and disposal of waste materials
- SANS 241: Drinking Water Quality (as a reference for effluent clarity standards)
- Local municipal bylaws on industrial effluent discharge

3. Scope of Work

The plant has two treatment stages with estimated volumes as per the below:

Stage 1:

- Sump: Estimated 12KL
- Orange tank: 1KL
- 5KL JoJo: 4KL Estimated
- Blue drums 1.6KL

Stage 2:

- Orange tank: Pump out 4KL
- Green JoJo tank: Pump out 10KL
- 1st brick pool: Extract half (oil only, exclude water) - Approx. 21KL
- 2nd brick pool: Extract oil leaving behind water - Approx. 27KL
- 3rd brick pool: Extract half (excluding water) - Approx. 25KL

Option 1: Bladder Tanks for Temporary Effluent Storage

1. Supply and installation of UV-resistant, chemical-resistant bladder tanks with bunding.
2. Setup of secure containment area for bladder tanks, with access control.
3. Connection of pump system from holding dam to bladder tank.
4. Routine monitoring of tank levels and bunding for leaks.
5. Decommissioning and removal of bladder tanks upon commissioning of the upgraded effluent plant and allowance for easy transport of effluent from holding tanks back into the upgraded effluent plant.

Risks to be Mitigated by Supplier:

- Risk of tank overfill or leakage must be mitigated
- Ensure UV protection and bunding to prevent environmental contamination.
- Odour management in warmer months.
- Secure fittings to prevent unauthorised discharge.

Option 2: Hybrid Solution – On-site Skimming + Bladder Tanks

1. Supply and installation of an oil skimming system with weir or belt type skimmers (on a Hired Basis only for the dewatering period).
2. Skimmed oil must be safely stored and disposed of at an authorized hazardous waste site.
3. Treated effluent to be temporarily stored in bladder tanks until reintroduced or discharged per municipal bylaws.
4. Combination system monitoring, cleaning and minor maintenance for 4 months minimum.
5. Can be discharged in municipal main if treated effluent is tested and compliant to the municipal requirements for discharging into the main discharge line (This must be by a certified laboratory and provided as evidence)

Risks to be Mitigated by Supplier:

- Ensuring effluent post-skimming meets discharge criteria.
- Overflow and cross-contamination between skimmed and stored effluent.
- Disposal of collected oil to a licensed hazardous waste facility.