	<p style="text-align: center;">Scope of Work</p>	<p style="text-align: center;">Majuba Power Station</p>
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**Title: Majuba Power Station Coal Plant to
Tippler Plant Potable Water Tap-off**

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1. Introduction

Majuba Power Station has a potable water supply line that supplies the tippler plant with potable water for domestic use.

The current condition of the main supply line namely, the rand water line is defective and requires immediate isolation. However, the tippler potable supply is dependant on the main line and an alternative more permanent solution is required.

With the future of the rand water line to be decommissioned because of possible future defects and the difficulty is repairing it, it is important that an alternative potable supply line be routed or tapped off.

This document presents the Scope of Work required to re-route the potable water supply to the tippler plant by tapping off from the coal stockyard supply. The scope will include the required components such as piping, fittings and other activities required to complete the works.

2. Supporting Clauses

2.1 Scope

The scope of this document is restricted to the supply installation and execution of a potable supply line tap off, components and other activities required to complete the works.

2.1.1 Purpose

The purpose of this document is to describe the scope of work required to execute a potable water supply line tap off for the Tippler Plant.

2.1.2 Applicability

This document shall apply to Majuba Power Station.

2.1.3 Effective date

Effective from the authorisation date

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems

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2.2.2 Informative

- [1] Occupational Health and Safety Act 85 of 1993
- [2] 36-681 Generation Plant Safety Regulations
- [3] RA/ENV/06 Waste Management Procedure
- [4] ISO 9001 Quality Management Systems
- [5] ISO 18001 Health and Safety Management Systems

2.3 Definitions

2.3.1 Disclosure Classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or Discretionary).

2.4 Abbreviations

Abbreviation	Explanation
PWHT	Potable Water Head Tank – Potable Water Elevated Storage Vessel

2.5 Roles and Responsibilities

The definition of the scope of work is the responsibility of engineering. The water treatment plant engineer is responsible for the concept design of the potable supply line; in this case, no support is required of a multi-disciplinary engineering team. The mechanical maintenance team for attaining the resources to be allocated for the execution of the works.

2.6 Process for Monitoring

This report is governed by the Design Review Procedure. Any changes to this document will be performed as per the Project Engineering Change Management.

3. Raw Water Roll Seal Valve by Pass Line

3.1 BACKGROUND

Majuba Power Station produces potable water at the water treatment plant for domestic as well as industrial use such as fire water and cooling water supply.

During the first commissioning phases of Majuba Power Station potable water was not being produced internally but rather supplied externally through the rand mine supply line, the rand mine 400 NB line was also used to supply potable water to the then existing rand mine.

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After the establishment of the potable production system at Majuba Power Station and the decommissioning of the Rand Mine, the line was no longer required for its intended purpose. However, the line was used to supply water to the following plants/areas:

- Tippler plant
- Sun gazer
- Lapa
- Cluster housing
- Training facilities
- Sewage plant

It was recently determined that the Rand mine 400 NB line has a leak that is as much as 2000m³/hr. It was concluded that the best approach would be to install alternative water supplies for the areas mentioned above due to their lesser requirements.

The installation of the coal to tippler tap off will account for the domestic water supply or the tippler plant and allow the rand water line to be isolated and prevent the significant loss of potable water.

3.2 SCOPE OF WORK

3.2.1 Low Pressure Service Components

The low-pressure services scope includes but not limited to the supply and installation of the following.

- 800-1000 m HDPE 80 mm NB Piping
- 2 x 80 mm HPDE/PVC Hand Isolating Valves
- Elbows and connectors for road crossings, elevations ect. (*Gravel – Refer to drawing(s) below*)
- Connectors for tap-off 50-80 NB galvanized to HDPE/PVC
- Connectors for tap off 80-100/80 NB HDPE/PVC to Galvanised.
- The HDPE pipework may be laid above soil, this is not applicable for gravel roads. See 3.2.2
- Provisions must be made for additional connector sizes.

3.2.2 Civil and Structural

The civil scope of work includes the routing of the HDPE pipework under the gravel roads (*Refer to the drawing(s) below*). Specification of routing under gravel roads.

- May not be lowered more than 0.7m under the ground and not higher than 0.4 m from the surface.
- Gravel must be compacted above the HDPE piping after laying the pipework under the road.
- Gravel Road crossings may be assumed to be the 10.8 m standard (3.6 m per lane and 1.8 m per shoulder)

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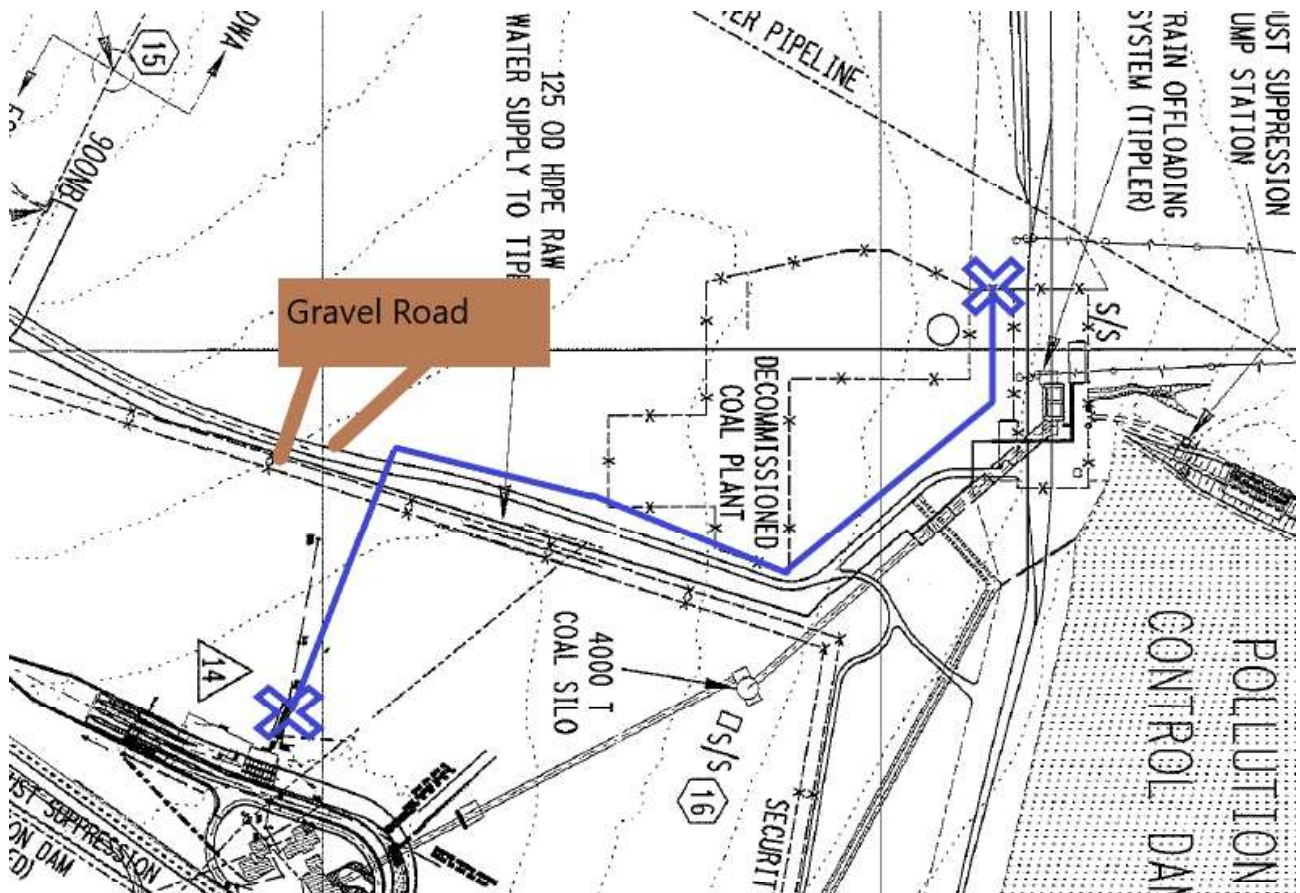
3.2.3 Control and Instrumentation

N/A

3.2.4 Electrical

N/A

3.2.5 Layout



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4. Acceptance

This document has been seen and accepted by:

Name	Designation
Sinothi Buthelezi	Engineering Group Manager
Sipho Masango	Auxiliary Plant Engineering Manager
Ntobeko Mthembu	Auxiliary Maintenance Manager

5. Revisions

Date	Rev.	Compiler	Remarks
April 2022	00	CM SMITH	Scope of work instruction for implementation.

6. Development Team

The following people were involved in the development of this document:

- Bongani Msimango
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