

Annexure A – Scope of Work

The scope entails the following.

Foskor will supply the mass balance for the pump system.

- Line diagrams to be compiled and signed off by operation from Ext 8 and Plant flotation.
 - Process flow to be compiled and signed off.
 - Control philosophy – to be documented and signed off.
 - P & ID's to be compiled and issued to Foskor drawing office and Foskor instrumentation
- For construction drawings in the level of detail as indicted in the scope - only critical connections to be detailed
- Engineering drawings
- Pipeline support drawings where required. Focus area is the pipe support.
 - Access platform required by maintenance as required by valves at pumps .
 - Signed off Design report.
 - BOQ in editable format for construction purposes and as per relevant discipline

The Scope boundaries are the following.

- PEP mill/ Flotation feed pumps - This includes all relevant process requirements including the electrical Motor. The boundaries stop at the electrical motor requirement.
 - Two new 250NB rubber lined pipe from the PEP mill to PMC receiving Sump under milling.
 - Reagent dosing. Define the Reagent dosing requirements to increase the dosage rates at the sump under milling. This should be sufficient but will have to be verified and items that needs to be actioned to be issued to Foskor as per Reagent dosing report.
 - Verifying pumps, process and electrical motor requirements Sump under milling are fine to cater for increased loads.
 - Verifying pumps, process and electrical motor requirements at PMC receiving are fine to cater for increased loads.
 - Assessment of existing pipe rack support and the required pipe support where required – Foskor is already busy with defining the pipe route and space on the pipe rack. Foskor will provide drawings for the required pipe support where possible. Note -not all existing structures have drawings.
 - The approach for the pipeline drawing will mostly indicate the route with the estimated pipe lengths required. Make up pieces will be allowed which will require site measurement during construction before manufacturing and installation.
 - Detail pipe drawings required at the following. (Areas where space is confined, valves, access etc o PEP mills pumps
- Typically Pipe work at pump and valves and access
- Pipe discharge at - Sump under mills. Typically for pipes to enter sump and supports. Including pipe supports
 - Pipe discharge from Pumps under milling to PMC receiving sump. The process needs to be verified
 - Difficult access where dimensions are critical for joining pipes or pipes support.
- 3 D scanning in 4 relevant areas to support accurate drawings.
 - PEP mill pumps o Piperack at Ext 8 flotation where required.
 - Sump under milling o PMC receiving - Sump under milling – 2 pipes need to be added. o Pipe route where measurement is not easily obtainable. D bank and sump under milling o Etc

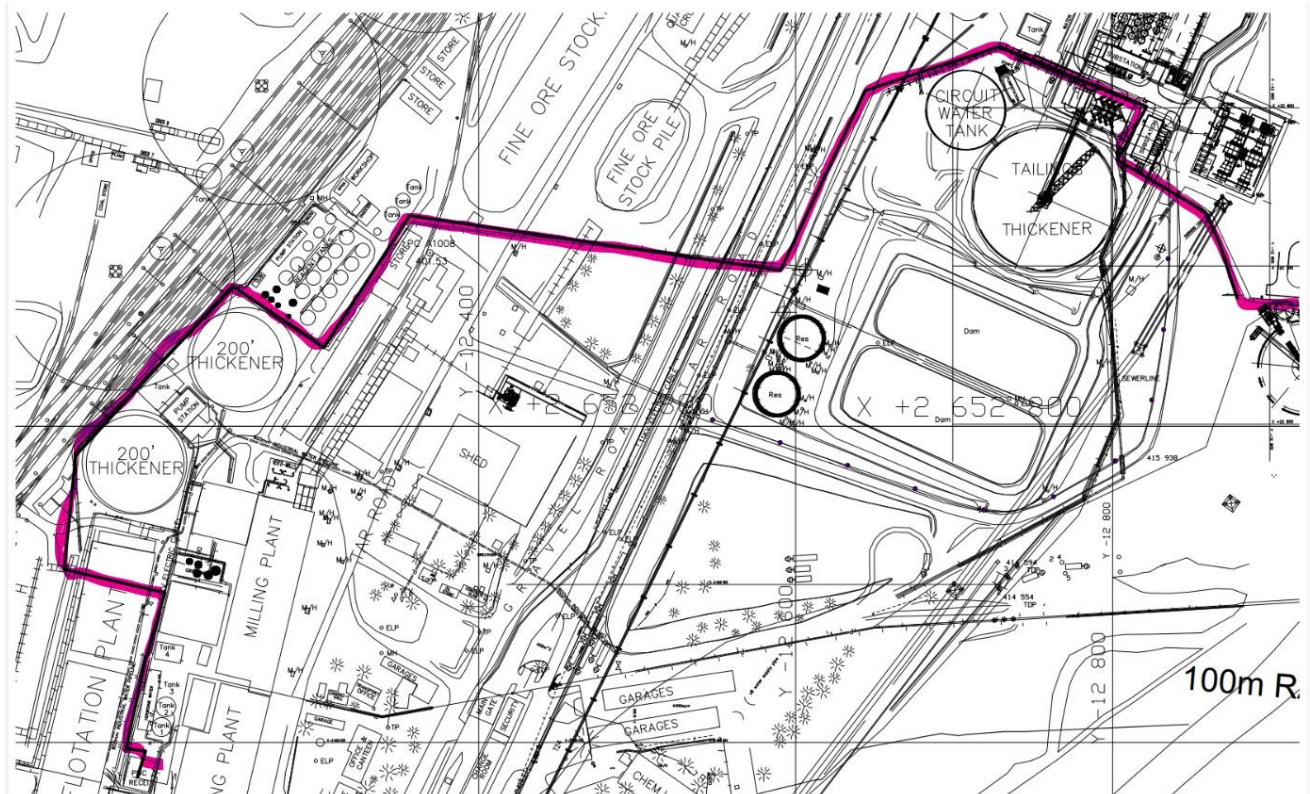
- Cost Estimate for capex application

Project boundaries

1. Ext 8 Mill outlet pumps – Verify Pumps and electrical – report. pipework and pipe support including valves and controls.
2. Piperack – Support new 2 * 250MMb pipes rubber lined. We are using existing pipe racks. Under D bank new pipe supports are required,
3. Sump under milling
 - a. MCC, substation, VSD – if applicable, pump base, pump, pipework and pipe support including valves and controls.
4. PMC receiving
 - a. MCC, substation, VSD, pump base, pump, pipework and pipe support including valves and controls
5. Ultimate tailings pumps

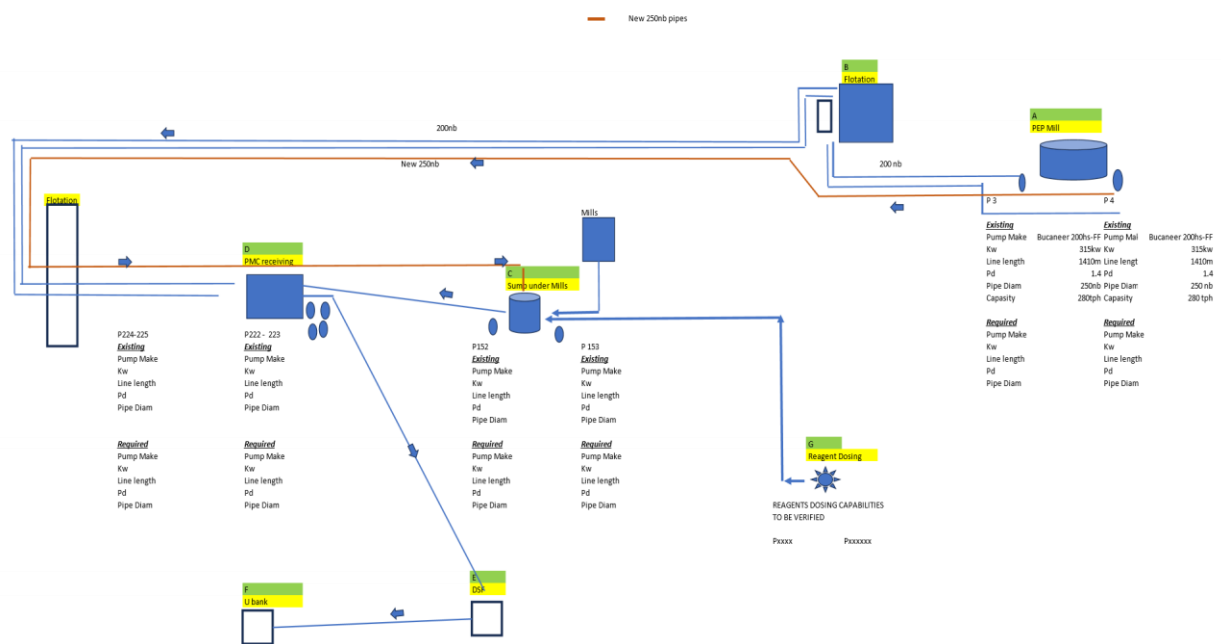
TYPICAL PIPELINE ROUTE

The typical pipeline route is indicated below. The pipeline length is in the region of 1.5km



BASIC PROPOSAL

Purpose: To pump the Ext 8 PEP mill ore to the Pump 152, 153 sump under the Mill building



SPECIFICATION

ELECTRICAL SPECIFICATIONS		
NUMBER	REVISION	TITLE
EE-1	Latest Revision	Motor Control Centre & Switchgear
EE-2	Latest Revision	Squirrel Cage Induction & Wound Rotor Motors
EE-11	Latest Revision	Power Factor Correction Equipment
GE-1	Latest Revision	Design Criteria for Electrical Installations
GA-1	Latest Revision	Procedures for Enquiries & Tenders
GD-1	Latest Revision	General Requirements for Design, Project Management & Tenders
GD-2	Latest Revision	Engineering Change Order (E.C.O) Procedure
GM-1	Latest Revision	Mechanical Equipment
GM-5	Latest Revision	Pipe Standards
GM-6	Latest Revision	Engineering Drawing & Document Requirements

GM-8	Latest Revision	Surface Protection
GM-3	Latest Revision	Painting & Surface Protection of Steel
GS-1	Latest Revision	Structural Steel work & Plate work Fabrication & Erection
GQ-1	Latest Revision	Quality Control
GI-1	Latest Revision	General specifications & Procedures
GI-2	Latest Revision	Installation & Commissioning
GI-3	Latest Revision	General Equipment Specification
GI-4	Latest Revision	Field Instrumentation Specification