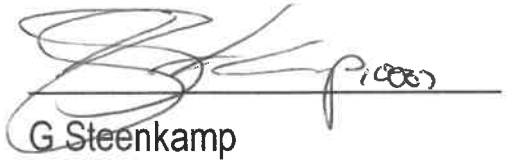
FOSKOR

SCOPE OF WORKS

PMC TAILINGS IMPORT SYSTEM TO EXT 8. Engineering, Procurement, Construction, Commission.

Signatures



G Steenkamp
Project Engineer

FOSKOR

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FOSKOR

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SCOPE OF WORK

Tender No.:

Description: Design, Supply, Fabricate, Construct, Install and Commission a PMC Tailings import system to Ext 8 Plant on a Engineering, Procurement, Construction and Commissioning basis

1. PRE-QUALIFICATION

No	Pre-Qualification Requirements	Comments
1	Mechanical CIDB of 8ME or higher **Scoring:** Yes or No	Provide certificate of CIDB grading

2. INVITATION TO TENDER

This document describes the requirements for the Design, Supply, Fabrication, Installation and Commissioning of the PMC tailing import system to Ext 8 plant. The Fidic Yellow book will apply

2.1 DEFINITIONS AND ABBREVIATIONS

BOQ	–	Bill of Quantities	MHSA	–	Mine Health and Safety Act
BRA	–	Baseline Risk Assessment	NDT	–	Non-destructive Test
COC	–	Certificate of Compliance	OH&S	–	Occupational Health and Safety
COP	–	Code of Practice	OHC	–	Over-Head Crane
CTD	–	Critical task Descriptions	PEE	–	Portable Electrical Equipment
DAP	–	Diammonium Phosphate	PPE	–	Personal Protective Equipment
DB	–	Distribution Boards	QA	–	Quality Assurance
DWA	–	Department of water affairs	QC	–	Quality Control
DWG	–	Drawing	QCP	–	Quality control Plan
ECO	–	Engineering Change Order	QMS	–	Quality Management System
HDG	–	Hot-Dip galvanizing	RFI	–	Request for Inspection
HIRA	–	Hazard Identification and Risk Assessment	ROPS	–	Rollover Protection System
IFC	–	Issued for Construction	SANS	–	South African National Standards
ISO	–	International Organization of Standardization	SHE	–	Safety, Health, Environment
LDV	–	Light Delivery Vehicle	SHERQ	–	Safety Health Environment Risk & Quality
MAP	–	Monoammonium phosphate	TMMS	–	Trackless Mobile Machines
MCOP	–	Mandator Code of Practice	WBS	–	Work-breakdown structure

2.2 SCOPE BACKGROUND

Foskor requires a PMC tailings import system to Ext 8 plant with relevant plant and equipment to successfully recover phosphate At Ext 8 plant.

2.3 COMPANY BACKGROUND

Foskor is one of the world's largest producers of phosphate rock (concentrate) and phosphoric acid. It is one of the world's few vertically integrated producers of phosphoric acid and is the second-largest supplier to India, the world's largest consumer of phosphoric acid.

The Company owns and mines phosphate resources and beneficiates the mined material to produce a phosphate concentrate at Phalaborwa, in the Limpopo Province of South Africa. The phosphate concentrate is sold locally and transported to the Richards Bay plant on the coast of Kwa-Zulu Natal to produce phosphoric acid, sulfuric acid and granular fertilizers MAP and DAP from phosphoric acid and is the leading supplier of fertilizers to South Africa. In all about 95% of the phosphoric acid is exported and the granular sales are divided between exports and local markets. Since 1951 Foskor has supplied more than 95% of South Africa's fertilizer requirements.

3. SCOPE OF WORK

3.1 BACKGROUND DOCUMENTATION

The relevant feasibility studies were conducted both in laboratory and at a pilot plant level, results showed that the PMC Tails can be successfully processed at Foskor to recover apatite. The required infrastructure needs to be implemented for pumping the PMC tails to Foskor and processing it to recover apatite.

3.2 SCOPE - EXTENT OF WORK OR SERVICE REQUIRED

3.2.1 General Scope Considerations:

Please allow for a competent Quality Control Officer to compile and manage the contractor's quality management. In the event of quality system failures, Foskor will request the Quality Official's experience and qualifications and if this is not acceptable, it will be expected that the contractor obtains this service at his/her own cost.

Please allow for a competent person to compile the method statement and the subsequent Microsoft Project plan. This person will manage and update this plan weekly and present it to the Foskor Project Engineer. It is expected that this planning and management is executed by the contractor. This service will be provided at the contractor's cost. If the contractor cannot execute this plan and report to management, it will be expected that the contractor will obtain this service at his/her cost.

3.2.2 Scaffolding

The contractor shall supply all the Scaffolding needs for the Construction Period.
A competent Scaffolding company ir required that can comply with the Mine Health and Safety Act requirements.

3.2.3 General Scope

The scope of work shall include for the design, procurement, supply, manufacture, lining, corrosion protection, inspection, performance testing, certification, packaging for transport, delivery, offloading, unpacking, de-stuffing, handling, site storage, safe-keeping, site transport, assembly, erection, application of touch-up protection, and commissioning of the new PMC tailings import system on a FIDIC yellow book basis

All the above equipment shall be fabricated or supplied from new materials and components. No recycled, repaired, refurbished or 'made like new' materials, components or assembly of components and equipment shall be accepted.

The scope of work shall include provisions for resources, labor, services, and material, cranage, project management, QA/QC management, engineering, and hand-over of all supplied equipment including but limited to:

- Allowance for a competent Project Manager,
- Engineers for all applicable disciplines,
- Site Manager and Supervisor/s,
- Quality Assurance/Control Officer,
- Safety Officer and Safety Representative/s,
- Project Planner,
- Administration, etc.
- Competent construction team

The above-mentioned services which are not exhaustive to the list provided are required to ensure effective project management, engineering, site management, safety management, compilation and management of the Contractor's quality control and management plans, compilation of method statements, risk assessments, project plans, and other project support services that will require continuous reporting on a daily, weekly, and monthly basis. It is expected that all these services will be allowed for in the Contractor's Tender costing. If the Contractor cannot execute any of these services to the detrimental of the project, it will be expected that the Contractor obtains such services at his/her cost.

3.2.4 Project costing and expenses:

The contractor shall supply all engineering services, materials, labor, transport, supervision, and consumable materials, equipment, tools and every item of expense for the scope of work to be completed successfully unless otherwise stated taking the following into consideration.

The Contractor shall submit EPC fixed cost structure for all engineering services, management services, materials, equipment, construction, labor, transport, supervision, consumable materials, equipment, tools, and each item of expense for the scope of work to be completed successfully unless otherwise stated and declared in the Tender submission.

3.2.6 Special Requirements

None

3.2.7 Disposal of refuse

The Contractor shall be responsible for daily disposal of refuse and waste generated by the Contractor personnel on site or in a laydown area. The site is to be kept clean, neat, and tidy, by complying with the Foskor Waste Management Code of Practice (COP).

3.2.8 General requirements for commissioning

Commissioning or handover will be executed as per Foskor Procedures or as directed by the Engineer. Normally the Foskor Punch list and Hand over certificate will be used.

- Commissioning or handover will be executed as per Foskor Procedures and as directed by the contractor to successfully commission the project
- All certificates and compliance documents
- Normally, the Foskor punch lists, commissioning and handover certificates will be used.
- Foskor project representative/s must be invited to the final release of equipment and commissioning/ punch list phases

3.2.9 The successful or appointed service provider shall comply with the latest revisions of the following Foskor CTD's (Critical task Descriptions) (CTD's are available on request):

i. Not Applicable

3.2.10 Sub-Contracting and joint ventures

The primary aspect of the works may not be subcontracted. For subcontracting the relevant companies supporting documentation needs to support the bidder's tender.
Joint Ventures must be declared in the bidder's tender with all relevant supporting documentation.

The main contractor must pass the technical evaluation criteria.

3.2.11 PROGRESS REPORT – TO BE SUBMITTED BY THE CONTRACTOR

A progress report needs to be submitted monthly to the respective project engineer or project leader. This will form the basis for invoice certificates and invoice approvals in conjunction with the relevant Bill of Quantities. No invoice shall be approved without supporting documents to substantiate the claim and monthly report.

PROGRESS REPORT INDEX – TYPICAL

1. SHREQ
   - Safety issues, Environmental, Incidents, etc.
   - Legal Appointees
   - Work Permit Expiry date.
   - Letter of Good Standing - Expiry date

2. COMPLIMENT
   - Trades, Qty, Hours, etc.
   - Equipment on site

3. PROGRESS AND ACTIVITIES
   - Planned versus actual.
   - Activities completed or milestones.
   - Technical issues
   - Milestones achieved with photos.

4. QUALITY
   - Quality control and Quality assurance - Summary

5. DRAWINGS
   - Drawing issued.
   - Drawing issues

6. DELAYS – SUPPORTED VIA DAILY DIARIES
   - Commercial / Financial
   - General

3.2.12 Project Site Management - Focus Areas

These focus areas will be done by the Foskor project team in conjunction with relevant Foskor COP's and procedures. Any non-conformance will be treated as a serious matter and tasks will be stopped until corrective action has been implemented.

Please ensure the aspects below are considered when costing, planning, and executing a project on Foskor site:

1. HIRA
   - HIRA to be done.
   - All persons authorized in HIRA.
   - HIRA Relevant and Mitigation actions clear and documented.
   - HIRA is available at workers on site.
   - All workers participated in HIRA.

2. TMMS
   - TMM inspection done in available in TMM.
   - Driver authorized for the specific TMM.
   - TMM clean (No scrap yard on the back of the LDV).

3. COMMUNICATION
   - Proper communication on site regarding activities.
   - Who oversees what activities? – Documented and discussed.
   - Who coordinates when required? - Documented and discussed. (Rigging, different teams, top vs bottom, interlinking tasks, etc.).
   - Who does what? (Ensure persons are competent for specific task) Does the team know what they are responsible for and what they must achieve?
   - Safe work procedures, task steps are communicated, and all is informed.

4. BARRICADING - In conjunction with Housekeeping

- Are relevant places barricaded?
- Storage areas barricaded and indicated.
- Waste or scrap area barricaded and indicated.
- Unsafe places barricaded.
- Use fixed barricading when dealing with heights or other identified high risks.
- Use scaffolding barricading on last resort.

5. TOOLS
   - Ensure all tools are inspected and on register.
   - Not inspected tools and defect tools to be treated as a very serious matter as this indicates the 2.9.2 and 2.6.1 competence to ensure a safe environment for their workers and corrective measure will be taken.
   - Ensure correct tools for the task are utilized.
   - Ensure rigging equipment is inspected and correctly marked.
   - Ensure that confined spaces have a CO2 meter that is calibrated – Certificate available.

6. PPE
   - All persons must wear correct PPE for all the tasks to be conducted onsite.

7. HOUSEKEEPING - in conjunction with barricading.
   - Keep the site clean.
   - Every day or shift must have at least a dedicated cleaning/barricading time of 30min. All to participate.
   - Site to be clean when work complete – invoice will not be processed.

8. SUPERVISION (2.9.2 appointment and 2.6.1 appointment)
   - Keep the site clean.
   - Make sure hazards are continuously identified and proper steps taken to correct or mitigate.
   - Ensure tools and equipment are maintained, inspected, and operated by competent and authorized workers.
   - Ensure correct PPE is used by workers and in good condition.
   - Coordinate activities on site.
   - Understand the risks of the site or tasks.
   - Understand the method statement.
   - Understand the risk of the site.
   - Understand the project schedule and milestone dates.
   - Know what was tendered for in the BOQ (Scope of task). BOQ forms the basis of method statement and risk mitigation.
   - For shutdown tasks or where shifts will be working, a full-time 2.9.2 appointee must be on site. The 2.6.1 appointee shall visit all shifts to support the 2.9.2 appointee. Site attendance shall be verified via a clocking system. The 2.9.2 appointee shall not be shared with any other work – ONLY 8 HOUR SHIFTS IF THE PLAN IS MORE THAN 2 DAYS.

NOTE: Refer to the duties of the supervisor/2.9.2 in the MHSA. If the supervisor/2.9.2 is a worker (handling tools or working with tools) then an additional supervision /2.9.2 appointment needs to be provided, as the supervisor/2.9.2 appointee cannot be responsible for the site,

ensure worker safety and a safe environment while doing other work. Supervisors will not be allowed to do tool work.

Safety - Training and Authorizations

Summarized - typical but not limited to:

1. Basic health and safety – Training,
2. First aid – Training,
3. HIRA – Training and Authorization,
4. TMM – Foskor driving license, and Authorization,
5. Working at heights – Training and Authorization,
6. Hot work - Training and Authorization,
7. Conveyors – Training and Authorization,
8. Electrical – Training and Authorization,
9. Lifting and rigging – Training and Authorization,
10. Overhead crane - Training and Authorization,
11. Fire – Training,
12. Other – as and when as per Foskor COP's.

For a basic step guide for Work Permit see Safety section.

3.3 SCOPE

3.1 Scope of Works

The Scope of works is for the Engineering, Procurement, Construction and Commissioning of a PMC export pipeline system to the Ext 8 plant.

3.1.1 Design, Procurement and Construction

A Summary of all aspects aspect to establish a PMC import system. The graphical presentation is displayed below in Picture 1 and 2

3.1.2 The Scope entails the following main areas

1. PMC Tailing's Line

Install and commission PMC Tailings Lines (2 Lines), 450NB from PMC Hydrosep station to Foskor Receiving Tank. The pipeline boundary is from where the pipeline enters Foskor's boundaries – Plan 1 Both Lines to be designed and installed

2. PMC Receiving Tank

Relocate PMC receiving tank and sump from Cyfos to Ext8. Review exiting tank and agitator that was used in the past and relocate if possible. Complete receiving tank system required.

3. PEP Cyclone and pump system

Evaluate and upgrade PEP Cyclone station and cyclones. Foskor to provide cyclone test work for input and selection for upgrading or reconfigure the cyclones.

4. PEP Thickener and water reticulation

Re-instate and commission PEP Thickener. This system could not operate since construction and had issues. Ensure alignment to process requirements

5. Additional Reagent Tank

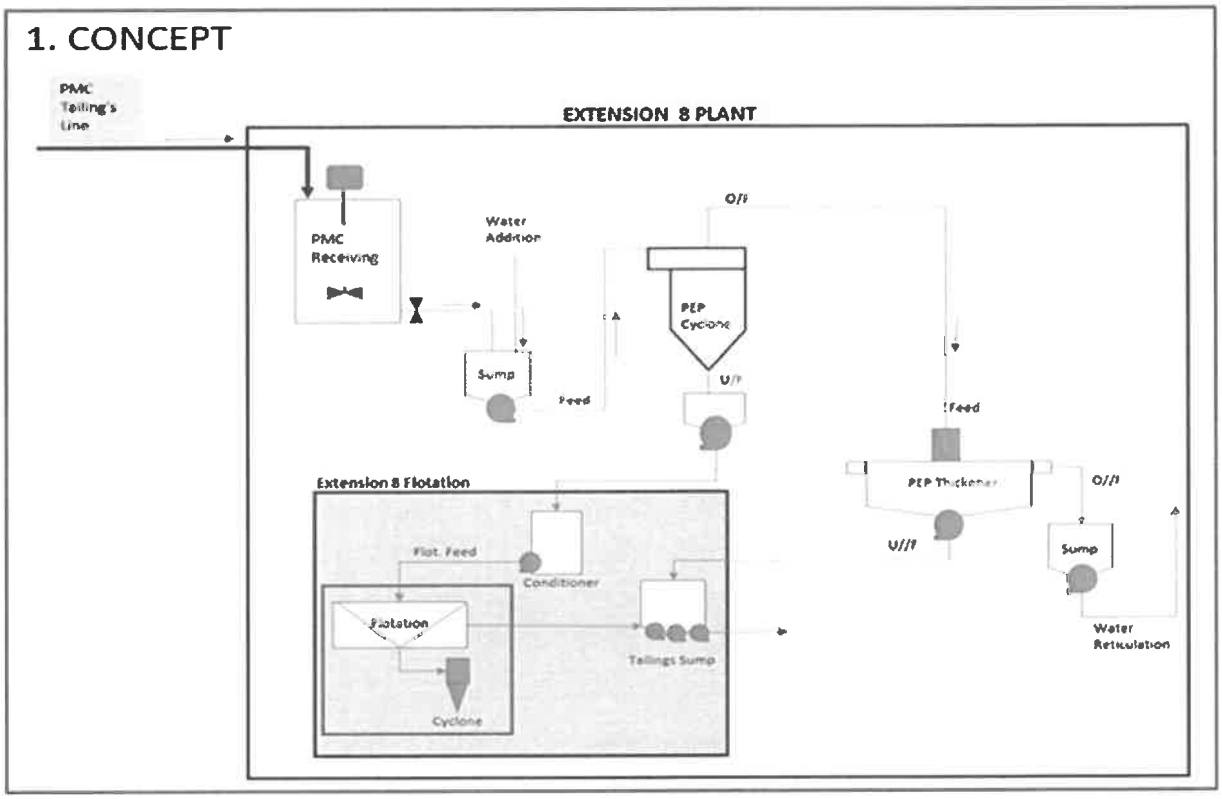
New tank for NaSiO3, and pipelines from main reagent yard. Pumps and pipeline from main reagent yard to Ext 8 Reagent system

6. PEP Line to U Bank

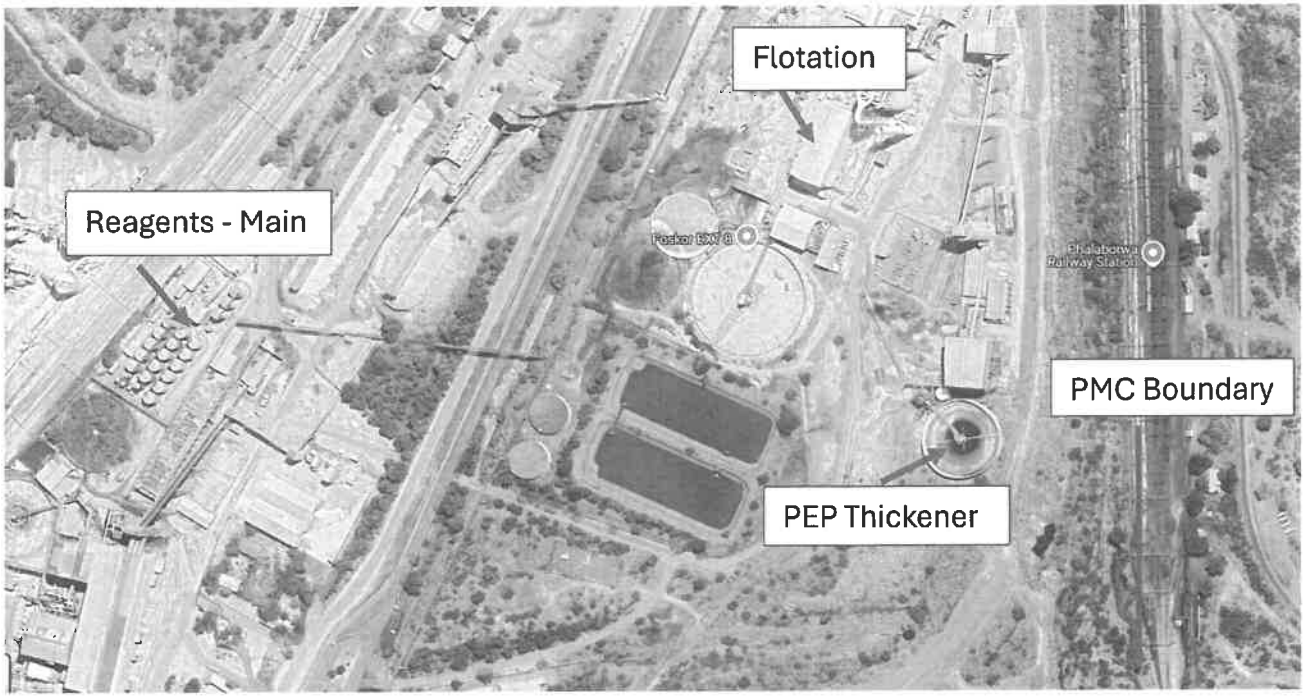
New pipeline from PEP to U Bank – From Pep mills to sump under milling and PMC receiving station

7. PMC Tailing's Line – Flush line

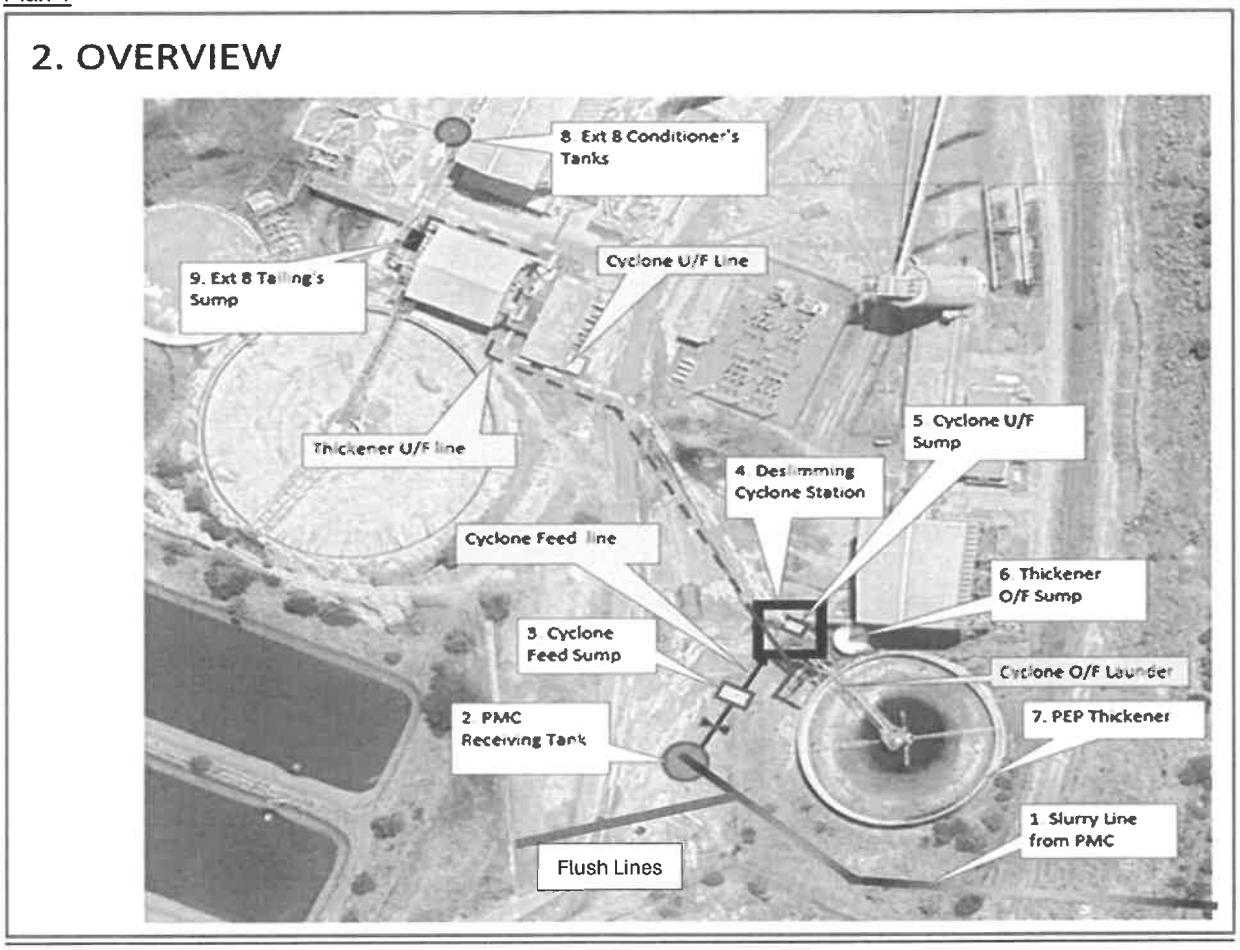
Design and install a Flush line system from PMC import tailings line to Foskor Ext 8 existing Tailings Pipelines. See below Picture 2



Picture 1



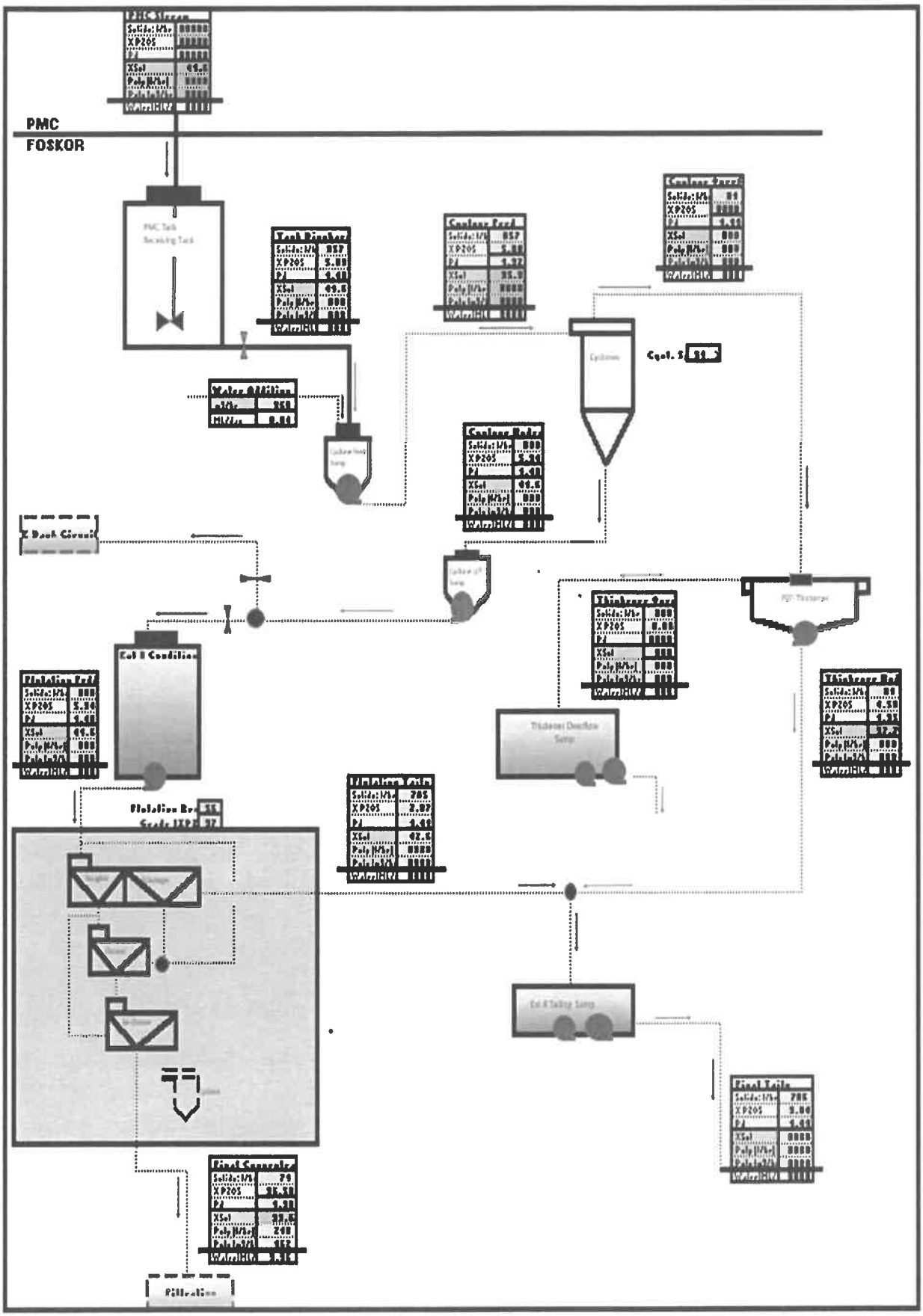
Plan 1



Picture2

3.1.3 Mass Balance

A Mass balance is displayed below which will be attached to the Scope as supporting documents



Mass Balance

3.1.4 Design

The basis for the design would include a process design verification of supplied data as attached to this scope
The design (all disciplines and integrated into Foskor Existing infrastructure and control systems) needs to be executed in conjunction with Foskor and requires Foskor Sign off before detail design and engineering can proceed. Allowance for interaction with the Foskor team including Foskor Metallurgical lab to be made.
The Design to be as indicted in the mass balance and supporting documents and as indicted in the Scope.

3.1.4.1 Design and Engineering Services - General

- The plant offered shall be the Contractor's standard, robust, heavy-duty design which shall conform to Foskor specifications. This should exceed the Foskor engineering specification.
- The minimum working life of major equipment shall not be less than 30 years when correctly operated in accordance with the Contractor's operating and maintenance instructions.
- The equipment shall have compatible spares readily available throughout its economic lifespan.
- Irrespective of any statements to the contrary, the contractor shall satisfy himself that the equipment selected is capable of fulfilling the duty as specified.
- The equipment shall be designed and constructed in accordance with the most suitable current technology and good engineering practice.
- The design shall ensure satisfactory performance under the ambient and operating conditions.
- All designs shall facilitate easy access for maintenance, cleaning and inspection without the need for any cutting and welding.
- The equipment shall be designed to ensure prevention of undue stress being produced by expansion due to temperature changes, and protection against adverse weather conditions and the corrosive atmosphere.
- The design shall comply with the provisions of the MHSA and other safety principles and standards, as applicable.
- The plant should be designed to prevent any spillage or uncontrolled emission.

3.2 Design consideration to be taken into account – Plant/ Area Specific focus

3.2.1 Process Design

Typical but not limited to – Process and Engineering design to include all surveys and geotechnical activities 3D scanning, site assessments, etc.
This includes Process test work where required to define Settling test, etc to support the process. The Foskor Mass balance will be supplied as basis and input. This mass balance to be used as input into the design
The process designs will require guarantees to ensure the process and Installation performs as per intended deliverables.

NOTE - All system to require a standby as defined in the Foskor processes.

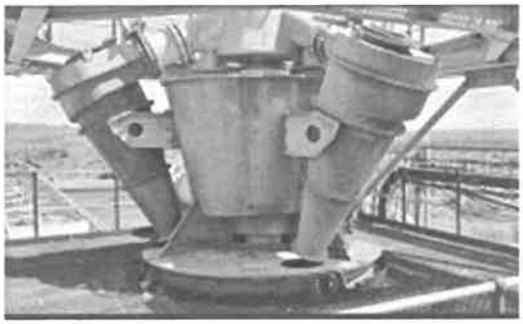
The following needs to be taken into account.

- Water reticulation network – Supply of water to relevant equipment required to recover water and supply flotation – Ensure Alignment to new process requirements. Review Water recovery system next to PEP thickener

- Water balance for Extension 8 with reference to this scope (Interaction of water recovery in PEP thickener, Water recovery and distribution, etc. Pumping capacity to be reviewed
- Spillage handling for all aspects of this scope to be integrated with existing spillage control systems.
    - Review existing sump next to Pep Mills system and integrate. This will require a spillage sump upgrade in terms of Pumps and sump. Spillage is currently reporting to Ext 8 Tailings.
    - Define the delivery of spillage to correct area for processing.
    - Note - Existing spillage system is not capable in its current form. Structural issues have been identified of the current sump.
    - Integrate new system by allowing sufficient hight to free flow spillages of receiving sump, Cyclone pump system to existing sump if possible.
    - Ensure alignment to new process requirements.
    -
- Pipe route from PMC / Foskor Boundary to including survey, pipe supports, pipe route and delivery into receiving tank.
    - The pipe diameter is 450mm and the pipe will be done from PMC pumpstation to Foskor boundary by PMC
    - This scope is taking the pipe specifications from PMC and complete the pipelines into the receiving tank.
    - No process design to take place for this portion of the pipeline.
    -
- Receiving tank to be verified and confirmed to be supporting the PMC import system. This includes all disciplines to ensure the tank can fulfil its function.
    - Spillage to be taken into account
    - The sump/ tank purpose is a surge tank to feed the Cyclone Station pump system via gravity
    - The surge tank to be verified as part of Process design requirements - ensure alignment to new process requirements.

    -
- Cyclone station – Pump and Existing cyclone tower
    - Review existing pump and cyclones to fit process design requirements.
    - Foskor to Supply Cyclone data from Metso to be considered in this Process design
    - Spillage handling
    - Pump system to Flotation conditioners.

- Cyclone overflow system
- Ensure alignment to new process requirements.

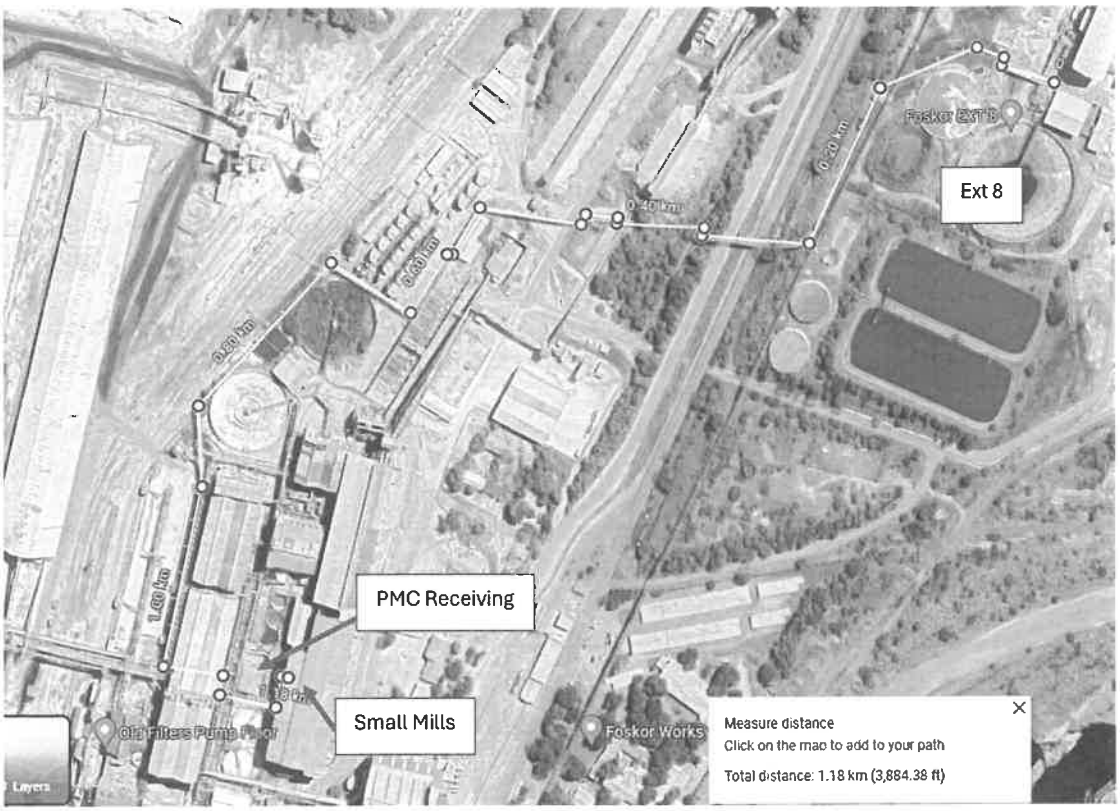


-

- PEP thickener
  - Review existing PEP thickener - process and technical
  - Includes cleaning and assessment, Design review – Thickener never operated as intended in original design.
  - Thickener process design requirements and ensure alignment to new process requirements.
  - Pipeline to Ext ext8 tailings – All disciplines
  -
- Water Recovery and thickener overflow sump
  - Review water recovery system and align to new process requirements.
  - Review water supply to relevant take off point and ensure alignment to new process requirements.
  - All disciplines
  -

- Additional reagent tank system at Ext 8
  - New Pumps to be fitted to the existing reagent pump system at Reagents. New Pipelines to be installed from Reagent up to the new tank at Ext 8
  - New tank and pump system similar to existing installed tank at Ext 8 - Duplicate tank and dosing pump system to conditioners – Follow existing route.

- Pipeline form PEP mills to Sump under milling. (U Bank)
  - New pipeline from PEP mills to Small Mills sump in the old plant
  - Verify sump under milling to Pump to PMC receiving with additional load – only verification of capability
  - See Picture 3 for route below
  - Use existing pipe racks as far as possible.
  - Foskor did a verification in the past for a 250NB pipeline that should be sufficient. The existing pumps at PEP Mill should be able to pump to the small mill plant.
  - Requires 2 Pipelines on indicted route.



Picture 3

- Flush lines for Main Tailings Lines from PMC
    - Define route and install flush lines with required valves and control systems in place

3.3 Process Design – General

- The plant shall be designed by the Contractor and signed off by Foskor. The process design package shall include the following (Typical but not limited to)

    - Process flow diagrams (PFD's).
    - Piping and instrumentation diagrams (P&ID's).
    - Mechanical equipment list.
    - Mechanical equipment data sheets and specifications.
    - Motor list and control schedule.
    - Instrument equipment list.
    - Plant control philosophy and interlock schedules.
    - Plant instrumentation I/O list c/w operating ranges and set points.
    - Drawings – All disciplines

3.3.1 Mechanical Design and Consideration - General

Refer to Mechanical Design Specification Foskor Engineering Specification, SANS and MHSA. The following items provide a high level of guidance to be taken into consideration for any required mechanical design input which forms part of the proposal:

- Reliability – Reliability of the proposed solution is key to ensure continuous availability of equipment for production. This includes any newly installed equipment, access requirements, lining systems and any associated ancillary equipment that might have an impact on reliability.
- Maintainability – Maintenance access is critical to ensure a safe working environment for maintenance personnel. Crawl beams to be in place where required. The proposal must ensure durability and ease of maintenance of confined space access.
- Effective PMC import system arrangement – The Engineering, Construction must provide a PMC import system arrangement that will minimize, prevent or eliminate any possibility of blockages or choking up. This includes the Reagent supply, PEP mill pipeline, etc as defined in this scope
- Lining systems – Lining systems to be verified and aligned to Foskor Engineering standards and to be easy to repair or replaced and signed off by Foskor. Where applicable
- Adequate sheeting and protection – For all roof and side sheeting, provision to be made for material with higher resistance to corrosive environment.

3.3.2 Civil and earthworks - Design and Consideration

This should include the following. – Typical but not limited to

- All surveys, geotechnical aspects
- Layout to be signed off by Foskor PTY Ltd
- Ensure spillage is covered and integrated to ensure spillages reports to the correct application
- Ext 8 road crossing – If additional space is required a culvert system to be installed to the cross the road to Ext 8 tailings and flotation
- Allow for maintenance access - road, etc
-

3.3.3 Electrical - Design

Refer to Foskor Electrical Specification, Brand list and take special note of the following:

Note - Foskor to sign off on Design and design approach

- Cable routes not to impact maintainability. Cable racks to be installed vertically to reduce spillage build-up, Cable racks be O-line with band it straps.
- Interlocking where required will be hard wired.
- Additional Substation requirements to be considered.
    - Existing PEP substation –
    - Flotation Substation – New Reagent tank system and Existing Flotation cyclone system
    - PEP substation – Recommission and configure Pep thickener, Water recovery, Spillages and upgraded Cyclone system – Note - Some cables were stolen and have to be reinstalled
    - New Container substation for new Receiving tank, Cyclone feed Pump system. Include feed cable to Substation (Include feeder breaker at supply)
    - Fire suppression system for the PEP substation is included as the current system is not functioning

Notes

- Upgrading existing substations for equipment already installed - Upgrade drives where required or install new

3.3.4 Instrumentation/ Control and SCADA

Refer to Foskor Instrumentation Specifications GI4 and pay special attention to the following:

Note - Foskor to sign off on Design and design approach

- Ensure Engineering design takes the required existing control system protocol into account and integrate where required
- Ext 8 control systems run on Siemens which has not been updated recently with older exiting field instruments that can cause integration issues
- New PLC and controller system required.
- Scada Configuration/ Programming to be done in conjunction with Foskor Instrumentation Section
- Servers and all related infrastructure as per Foskor Instrumentation Specifications including programming and setup
- The required infrastructure to be housed in the existing Instrumentation control room.
- The current communication standards output = (4-20ma)
- Cable Racks to O-line OL 55 x 150 mm installed in a vertical position with cable to be 2 ,4 or 8 pair.
- Instrumentation and motor control connections: All connections and terminations up to and inclusive of the PLC Control Panel supplied by the Contractor. The PLC network cables to the Foskor's PLC Room shall be supplied and installed by the contractor
-

3.3.5 Construction of accepted and approved design- General

The successful Contractor shall construct the proposal as per Foskor signed off design and detail engineering drawings. The sign off indicates that Foskor agrees with the concept. The liability for the design and quality of workmanship will be the designer's responsibility.

The contractor shall establish site with a skilled and experienced team with all relevant, required and competent resources to execute the accepted proposal safely as per Foskor COP's SOP's, MHSA, relevant specification, etc.

The contractor shall implement all required quality management aspects to ensure the construction is done as per the approved design. Adequate documented information needs to be kept safe and available for review throughout the contract as Foskor will audit the respective quality management system during construction. The designer will sign off that the plant was built as per the approved design.

The contractor shall be required to appoint qualified certified QS to ensure governance is maintained during the construing activities. Foskor will only sign off on construction invoices after sign-off was obtained from the QS. Foskor may at any time audit or review quantities claimed.

3.3.6 PERFORMANCE TESTING

On completion of construction or part of as applicable, the Contractor will commission the plant and ensure optimal operation in accordance with signed off design and process requirements. As a minimum, a performance test will be conducted to ensure compliance to signed off design for at least 1 week (7 Working days continuously) on a 24 hrs basis.

3.3.6.1 PMC Tailing's Line

Performance as per Signed off Design. Ability to deliver products as per mass balance designed and installed

3.3.6.2 PMC Receiving Tank

Performance as per Signed off Design and mass balance - Ability to receive PMC product as a surge tank to feed Cyclone feed pump system

3.3.6.3 PEP Cyclone and pump system

Performance as per Signed off Design and mass balance. Ability to receive product from the tank and pump to Cyclone station. Cyclones to operate and deliver material as per mass balance requirements to Ext 8 flotation and PEP thickener

3.3.6.4 PEP Thickener and water reticulation

Performance as per Signed off Design and mass balance. Recover Water and supply to the plant and deliver underflow to Ext 8 tailings

3.3.6.5 Additional Reagent Tank

Performance as per Signed off Design. Feed from Main reagent plant top Ext 8 tank and tank filled up as per requirement. Dosing system to deliver reagents to Ext 8 conditioners

3.3.6.6 PEP Line to U Bank

Performance as per Signed off Design and mass balance Pumping the PEP material to Mill Sump at Small mills

3.3.6.7PMC Tailing's Line – Flush line

Performance as per Signed off Design and mass balance. Ability to flush into existing Ext 8 tailings lines as required by Process

TRAINING AND DOCUMENTATION

The Contractor will be required to provide on-site training of process and engineering personnel in the operation and maintenance of the plant for Foskor personnel to successfully accomplish process guarantees.

All relevant project documentation, including as-built drawings, safety and quality files, hard and soft copies of all design and construction documents will be delivered to Foskor project office at the end of the project.

3.4 Battery Limits

The proposal should focus but not be limited to the engineering, design, procurement, manufacture, crating /transport/off-loading/storage of equipment, assembly, fabrication, installation, erection, application of corrosion and thermal protection, commissioning, performance testing, and hand-over of the following critical deliverables:

3.4.1 PMC Tailing's Line

The pipeline boundary is from where the pipeline enters Foskor's boundaries -All Engineering and construction – PMC to supply pipe specifications. Route to be defined in this scope from PMC Foskor boundary. Including construction and commissioning. Connect to pipeline that was constructed by PMC – 2 Lines. (2 * 450mm lines)

3.4.2 PMC Receiving Tank system

PMC receiving tank. Reuse existing Cyfos tank if feasible – All Engineering disciplines – Process design included. The existing tank to be removed – All Linings to be redone. Tank can be removed in segments for maintenance purposes. Mixer refurbishment including drive system - all inclusive.
All Engineering and process disciplines included.

Tank to feed in Pep Cyclone feed pump system

Including construction and commissioning

3.4.3 PEP Cyclone System

New Feed Pump System and upgrade PEP Cyclones. Foskor to provide cyclone test work for input and selection of cyclones. Some cables were stolen for the current Cyclone pumps.
All engineering disciplines and process design included. Including construction and commissioning

3.4.4 PEP Thickener

Re-instate and commission PEP Thickener. Design and site review of installed equipment. Refurbish and redesign, reconfigure PEP thickener. All Engineering disciplines, – Process design included. Including construction and commissioning.

3.3.5 Additional Reagent Tank

New tank for NaSiO3, and pipelines from reagent yard.
This includes the installation of Pumps at the reagent yard. Including electrical requirements in existing substation that needs to be fitted out. There is sufficient space in the existing substation at reagent yard.

New pipelines to follow existing pipe racks as far as possible to Ext 8.
A new reagent tank and dosing system similar to existing tanks at Ext 8 to be installed. The Drawings will be supplied but the application still to be matched to the required reagents. One additional big tank and pump system next to existing installation. All Engineering disciplines, – Process design included. Including construction and commissioning

3.3.6 PEP Line to U Bank

New pipeline from PEP Mills to U Bank

The work entails the supply, fabrication, and installation of a 250nb Steel 6mm rubber lined pipeline from Ext 8 to DSF. This scope includes the Piperack modifications where required and removal or movement of pipes to make space on existing pipe racks.

The pipeline size needs to be verified - Foskor to supply process requirements and mass balance. It was established previously that the existing pumps should be sufficient to pump to the sump under Small Mill plant.

- Pipeline verification at 250Nb of previous Design indication – Foskor to supply mass balance
- PEP pumps sufficient to pump to sump at small mills sump.
- Use existing pipe racks as far as possible – see indicated route
- Verify small mill sump and pumps system to be able to accommodate the additional load to PMC receiving sump
- Verify reagent dosing pumps at small mills plant to be suitable to deliver sufficient reagent to the sump under small mills. The process requirement will be provided by Foskor

3.3.7 Flush lines for Main Tailings Lines from PMC

The work entails the supply, fabrication, and installation of 2 flush lines. This scope includes the pipe support where required.

The Process control is included in this scope

3.4 General

- Plant earthing: As per the Foskor Electrical Engineering Specification.
- All Mine Health and Safety Act requirements
- All Fire Management requirements for new installed and refurbished plant
- Compliance to all relevant SANS standards

3.5 Exclusions

- Mass Balance on test work performed

4. PROJECT URGENCY

Project urgency is defined below:

- This is a urgent project and schedule compliance is critical.
- Foskor requires the plant to be commissioned 6 Months from order placement

5. DELIVERY OF MATERIALS AND EQUIPMENT

It is the responsibility of the Contractor to take delivery, off-load, store, and move into their permanent position all equipment and materials covered under this Scope. The Contractor shall, at his own expense, be responsible for the delivery to the Site of imported plant and equipment, materials and Contractor's plant and equipment in connection with the execution of the works, including but not limited to securing of permits and customs clearances, and payment of handling costs, storage costs, releasing costs, transportation costs, and duties, taxes, imposts, excise and charges of any kind that may be imposed by the South African Government, or any of its agencies and political subdivisions relating to the supply and delivery to the site of the imported plant and equipment, materials and Contractor's plant and equipment.

TAKE NOTE - Foskor pays for material delivered to Foskor site only!

NB: The contractor/ consultant must clearly state in his tender submission if there is an exclusion on the Foskor scope (As per the site meeting procurement scope and site meeting minutes) Failure to state the exclusion will mean that the full Foskor scope is still applicable.

Lay down areas are as indicated on the drawings

6. BATTERY LIMITS – INCLUSIONS AND EXCLUSIONS

FOSKOR

7. TABLE - INCLUSIONS AND EXCLUSIONS

List the boundaries in terms of equipment (Foskor plant specific). Up to where is it Foskor's responsibility and where/what is the contractor's responsibility.

WHO WILL SUPPLY THE FOLLOWING?

FF = FOSKOR, FREE OF CHARGE **FC = FOSKOR, AT COST TO CONTRACTOR** **C = CONTRACTOR** **N/A = NOT APPLICABLE**

1. Sanitary		2. Transport		3. Quality		4. Security		5. Lifting and Rigging		6. Medicals		7. Communication devices	
1.1Water on site and toilet facilities / janitorial services	C	2.1 Labour	C	3.1 Plan, Management, QA, QC	C	4.1Site Security	C	5.1 All rigging equipment (Slings, Chain blocks, turners, etc	C	8.1 Entry and Exit	C	7.1 All communication devices like laptops, computers, networks, radios, cellphones, etc	C
1.2 Potable connection point	C	2.2 Materials	C	3.2 All quality test Civil, Paint, Mechanical, etc	C	4.2 Foskor ID Card	C	5.2 Rigger	C	8.2 First aid box at place of work	C		
1.3 Connection to construction water supply	C	2.3 Equipment	C	3.3 Sampling and laboratory testing	C	4.3 Personal Items	C	5.3Mobile cranes	C				
1.4 Change rooms	C	2.4 All TMMS	C										
8. PPE		**9. Surveying**		**10. Safety File**		**11. Training & Authorizations**		**12. Site Establishment**		**13. Waste management**		**14. Painting**	
8.1 Supply, Issue, inspect and manage	C	9.1 Site Surveys	C	10.1 Foskor will issue template	FF	11.1 All Required Training	C	13.1 Site office/s with suitable facilities for daily "Green Area" meetings, and lunch area	C	13.1 Transport all on site to waste to Foskor designated waste sites	C	14.1 All Equipment and tools paint, labour, etc	C
				10.2 Ensure file conform/ populate to Foskor standards	C	11.2 Authorisation - As per Foskor COP	FF	13.2 Site establishment space	FF				
15. Fuel		**16. Mechanical**		**17. Labour**		**18. Compressed air**		**19. Scaffolding**		**20. Tools & Equipment**		**21. Training**	
15.1Fuel Supply	C			17.1 All labour as per Scope of Work to execute task including management	C	18.1Sandblasting or flash blast	C	19.1 Scaffolding Supply & Erect	FF	20.1 All Portable Electrical Equipment	C	21.1 All required training and training manuals as required to ensure that Foskor can train its workforce and operate the plant / equipment safely	C
15.2 Fuel storage	C					18.2 Compressor	C	19.2 Scaffolds be managed by the Contractor with proper documentation (request, Erected, Job completed, Demolished, etc)	C	20.2 Hot Work Equip as per Foskor COP - Welding Machines, Gas Cutting, Grinding, Gauging, etc	C		
15.3 Fuel fire protection	C					18.3 Air for power tools - If available	C	19.3Cherry Picker's – only if	FF	20.3 Tools as required to execute task	C	21.2 All manuals	C

FOSKOR

WHO WILL SUPPLY THE FOLLOWING?															
FF = FOSKOR, FREE OF CHARGE		FC = FOSKOR, AT COST TO CONTRACTOR				C = CONTRACTOR		N/A = NOT APPLICABLE							
								available by pre-booking				and related documents to be supplied to project Eng. and Foskor Drawing office for safe keeping			
15.4 Refueling	C							19.4 Cherry Picker's Driver– Trained and authorized driver	C						
22. Certificates		**23. Consumables**		**24. Storage and inventory control**		**25. Electrical**									
22.1 Supply All regulatory and other certificates as required	C	23.1 Welding rods	C	24.1 Protective coverings/tarpaulins	C	25.1 Generators	C	25.4 Temporary lighting	C	25.7 Electric panel + distributing wiring	C				
		2 BoltsNutetc.	C	24.2 Storage area and inventory control	C	25.2 Electrical Extensions	C	25.5 Power for tools on site from existing Foskor electrical supply point (Welding plugs and 220 v plugs	C	25.5 Electrical connection point	FF				
		23.3 All other required Consumables to execute the construction	C			25.3 COC Site Establishment	C	25.6 Connection to Electrical supply	C	25.9 Electrical and Instrumentation Installation	C				

8. AS BUILT DRAWINGS

As built drawing requirements are defined below:

- As-built drawings are to be compiled after completion and delivered to Foskor.

Note! – All drawings to be delivered in AutoCAD electronic format. All drawings to be detailed engineering drawings.

9. QUALITY

i. The service provider must provide the necessary quality management systems and plans to ensure that the quality of his work complies with the requirements of this scope of work.

ii. The service provider shall comply during all phases of construction comply with the Foskor approved Quality Assurance Plan.

iii. The service provider shall be responsible for all the resources required for executing the Quality Management System including but not limited to, developing the Quality Assurance Plan and performing the Quality Control measures to ensure that the deliverables comply with the specifications and standards mentioned in the scope of work.

iv. Any change requests / additional work resulting due to the inadequate quality management system will be for the account of the service provider.

v. Foskor might appoint a third party for Quality Control Inspections.

vi. The Service provider will have to provide an approved quality system for all work executed.

vii. This will include the following but is not limited to:

a. Quality plan

b. Quality compliance – Performance and reports

c. Quantity surveying

d. Quality Assurance

e. Quality Authorization matrix – part of the Quality plan

f. Quality control

g. Quality administration. – All documents, checks, measurements, reports, variances, analysis, Corrective actions, etc. needs to be properly filed and available on request at any time. The file will require an index.

h. Includes all test work, laboratories, Filing, etc.

i. Survey and survey verifications.

j. Construction versus design - Any Deviations from the approved "Construction Drawings"

k. Quality communication – What needs to be reported to whom and at what frequency.

viii. Foskor envisage a complete quality System driven by the Service provider and this system/plan will be approved by Foskor and the appointed designer (if applicable) before construction/fabrication will be started.

ix. Compliance to this plan will be measured and failure to adhere to the quality plan will result in the stopping of construction activities until concerns have been addressed. The cost for this delay will be for the service provider's account.

x. Foskor may appoint a third party to measure and control Foskor's interest in the terms of quality in this contract and the service provider is expected to work in conjunction with this company.

xi. Hold points will be discussed and finalized with the successful service provider based on the approved Quality plan

The Quality plan will only be compiled and signed off after the Method Statement and WBS* have been compiled.

Quality on Shutdown type tasks will be included in the Scope of Works, but the service provider will have to submit proof of an experienced quality assurer or relevant qualifications. IF the service provider does not have this it will be required that this service be hired in by the service provider at his cost.

i. State any specific hold points that are not negotiable here.

ii. State any other applicable quality that is not in the "Parameters" section.

Method statement – the service provider must list all steps and actions required to complete the work as per the scope of work – typically includes the items listed below:

i. Key step and stages of the work required.

ii. Tools, Equipment, TMMS, etc

iii. Labour requirements, etc

iv. Spares, resources,

v. Safety requirements

***WBS** is a hierarchical and incremental decomposition of the project into phases, deliverables and work packages. It is a tree structure, which shows a subdivision of effort required to achieve an objective, for example, a program, project, and contract.

This includes arrangements, tools, equipment labor, Tasks, Purchase, Quality, Communication, etc

QUALITY FILE INDEX

The quality file index listed below will be the minimum requirement.

This file must be kept up to date for the duration of the project and will be handed to the Foskor project Engineer on completion of the project.

QUALITY FILE INDEX

FOSKOR	QUALITY FILE INDEX FOSKOR: TSS - PROJECTS	Doc. No.:	FSK-P-GEN-IX-001
		Rev. No.:	00
		Date:	12 - July - 2019

Contents

10. PROJECT DELIVERABLES

10.1 DELIVERABLES FOR THIS PROJECT INCLUDE:

- Construction of the PMC import system as defined in this scope
- Hand over certificate - where required
- Performance Test Report
- Design and Engineering report
- Construction and Close out Report
- Drawings
- Quality file

10.2 TRANSMITTAL OF DOCUMENTS AND MANUALS

MANUALS AND DOCUMENTATION

The following must be supplied:

1. Three "manuals" containing detailed and step-by-step task descriptions for general maintenance, major component replacements and abnormal operating conditions.

2. Task descriptions to show identified hazards and what corrective actions must be taken. (Risk assessment and safety precautions)

3. Three "workshop maintenance manuals" to be supplied. The maintenance manuals must at least contain:
   a. Expected life of critical components,
   b. Comprehensive list of planned maintenance (PM) tasks (structural inspections, mechanical, electrical, and electronic),
   c. Frequency of each PM task,
   d. List of spares complete with part numbers, part description, year of manufacture, lead time, country of origin, quantity required, and special tools required to do each PM task,
   e. Comprehensive task description consisting of procedures and all technical information, such as pressure settings, temperature limits, torque specification, shaft alignment tolerances and voltage- & current limits, etc for each PM task,
   f. Condition monitoring information: Recommended techniques, monitoring points, alarm values, etc.
   g. Exploded view of each component,
   h. Strip and assembly procedures,
   i. Lubrication specifications. The manual must contain at least the following information:
      - Full specification of the required lubricant for each application / compartment,
      - Type, quantities of initial oil/grease fills required, as well as equivalent substitutes,
      - Recommended intervals for complete lubricant charges,
      - A list of at least 3 approved lubricant brands (different companies and their part no),
      - Acceptable ISO-contamination levels in lubricants and hydraulic fluids.

4. Three "Workshop Electrical and Electronic maintenance manuals" to be supplied. The maintenance manuals must at least contain:
   a. Logic and wiring diagrams of all electronic systems,
   b. Fault finding and test procedures,

c. Voltage and current settings and limits,
d. Repair procedures for electric motors and switchgear,
e. Technical descriptions of all components (power supplies, PLC's, transducers, instrumentation, and operation interface panels),
f. Safety features.

5. 3-off Spare Parts Manuals to be supplied. The parts manual must at least contain:
   a. A list of the top 50 moving parts,
   b. List of all spare parts,
   c. Index reflecting all part numbers in numerical sequence with page numbers on which the part numbers appear,
   d. Special tools and their replaceable components,
   e. All accessories and their replaceable components,
   f. Exploded view illustration of each item identified by Contractor/OEM part number,
   g. Identification of service exchangeable items,
   h. Vendor brand names and vendor part numbers of all non-Contractor/OEM manufactured items that are approved by the Contractor/OEM.

6. 3-off Maintenance Schedules to be supplied, specifying the equipment, component location, type of maintenance and frequency of maintenance required on the equipment.

10.3 FORMAT OF DOCUMENTS AND MANUALS

Note! - All Manuals must be in English.

Documents and Manuals to be submitted in the flowing formats:

Type of Document	Hard Copy	Electronic Format
Manuals	x	x
Drawings	x	x
Reports	x	x
Data Books	x	x

Hard Copy: Book or binding arch file format and must be durable and of high quality.

Soft Copy: Manuals, Reports and Data Books – Word, Excel, PDF, etc.

Storage – Compact Disk or Data traveler

Language: English

- The Contractor shall furnish all drawings, data and other documentation in the format, quantity and time period as specified in Attachment 1 [Contractor Data Requirements Listing].
- The Contractor shall comply with Foskor's requirements for the production of design calculations and drawings as specified.
- The schedule of drawings, operating, maintenance, training and other data requirements constitutes part of the Specification. The Order will not be regarded as complete unless these requirements are fully met.

- The format of electronic documentation shall conform to the following requirements, unless noted otherwise:

DOCUMENT	NATIVE FORMAT	ISSUED TO FOSKOR
Drawings	AutoCad (Latest)	Native and PDF
Programme	MS Project (Latest) or PrimaVera (Latest)	Native and PDF
Datasheets	Microsoft Office (Latest)	Native and PDF
Other Documentation	Microsoft Word (Latest)	Native and PDF

- All drawings shall be produced in AutoCAD software. Foskor uses AutoCAD software for all engineering work and any engineering work produced using other software is converted into ".dwg" or ".dxf" files by the Contractor.
- All drawings shall be clearly cross-referenced with other drawings in cases where such links exist, and if cross-referencing with existing Employer's drawings arises as a result of the Works, the originals of such drawings shall also be clearly cross-referenced with the new drawing numbers.
- A cover sheet summarising the content of the set will accompany multiple sheets with the same drawing numbers.
- The Contractor shall issue documentation under formal transmittal and maintain an updated document register clearly indicating latest revisions of documents and transmittal reference number.
- On-going transmittals of electronic documentation from the Contractor to Foskor during Project implementation will be conducted via e-mail or other approved electronic communication media

10.4 PROJECT COMPLETION

On project completion, the contractor will issue Foskor with a Handover certificate.

The handover certificate will be accompanied by the following documents:

1. PMC import system constructed as per signed off design
2. Quality file,
3. Safety file,
4. Design Report – Signed off by relevant PR Eng
5. Construction and close out report
6. Performance test Report
7. Drawings - All Disciplines

11 DOCUMENTS / DRAWINGS ISSUED BY FOSKOR

Drawing or Document No	Title	Revision
	Download folder to be supplied with Scope Works	

Note	Please read your Scope of Work	

12 ON-SITE SUPERVISION REQUIREMENT

- A Foskor work permit before commencement of site work.
- For shift work a 2.9.2 legal appointee will be on site full time
- A 2.6.1 appointed site manager for overall site management
- Appointed SHE Rep for the entire duration of site work.

13 TENDER DELIVERABLES

The deliverables will include: -

- Completed Foskor pricing schedule (BOQ),
- Preliminary project schedule,
- Tax clearance certificate,
- Letter of good standing (Workman compensation),
- BEE certificate,
- Commercial documents requested by the Procurement department,

Failing to submit the required documentation or failing to complete the Pricing Schedule correctly will lead to the disregard of the tender.

14 SAFETY

Service provider to refer to the full and updated Foskor COP's available:

i. The service provider and sub-service providers need to always comply with the Mine Health and Safety act. All Foskor COP's Policies and procedures need to be adhered to.

ii. A service provider 2.9.2 to be permanently on-site.

iii. Medical, Induction, Foskor ID Card, etc. is approximately R800 per person. Exit medicals need to be done on termination of the contract.

iv. The successful tenderer will be required to compile a Foskor Work permit and at least 2 weeks should be allocated for this. The service provider must provide the following appointed persons in terms of the MHSA: 2.6.1; 2.9.2 and Section 29(1) – SHE REP for the duration of the contract.

v. All vehicles and cranes as well as other TMM's to be inspected before entering Foskor Premises.

vi. All person competencies to be verified before being allowed to work on Foskor premises for a specific task.

vii. The service provider must compile a Safety File as per Foskor standard for all service providers and sub-service providers.

viii. Site access will need to be controlled, and all persons must receive site-specific induction before entering the site.

ix. Conduct inspections as per Foskor Safety System. Analyze data and trends and recommend preventative measures where required.

x. Ensure all authorizations are in place as per the Foskor Safety System. Arrangement with Foskor training to be done by the service provider to ensure that authorization and training are conducted. Arrange timeously.

xi. Ensure all workers' competencies are available and have been validated.

xii. Ensure proper security, signboards, fencing, and barricading is in place on-site where applicable.

xiii. The service provider shall in general comply with the FOSKOR General Engineering Specifications, COP's, latest revisions, and all relevant regulations.

xiv. The service provider must complete a Baseline Risk Assessment (COP 01) before a work permit can be issued for the installation.

xv. All service providers not in possession of a valid Foskor ID card must complete the Foskor induction course and must undergo a medical examination at the Foskor clinic on the service provider's account.

xvi. The service provider shall be responsible for coordinating and integrating his schedule and responsibilities with other FOSKOR appointed contract manager on-site for this Scope of Work.

xvii. All personnel operating mobile equipment, including LDV's must have a Foskor driver's permit.

xviii. An open Pit License is required for driving in the mining areas.

xix. All the required PPE and Safety Equipment are for the service provider's account.

xx. All service providers must ensure that:

a. Their workers are issued with the correct personal protective equipment free of charge.

b. That the workers wear the PPE per the project area's requirements or as given by the service provider Supervisor.

c. Training is provided in the correct use of PPE to workers.

d. Daily inspections are done on PPE.

e. The registers will be complete at least monthly on findings on PPE. (All PPE must be kept in good condition)

xxi. All providers of services need to be informed of the following minimum training applies to all service providers (irrespective of the tasks or scope of work) that will enter the Foskor Phalaborwa site with effect from 1 April 2014. This training is not presented by the Foskor Training section and service providers must ensure that the training is sourced through accredited external training companies:

a. Basic health and safety principles

b. HIRA

c. First Aid Training

xxii. All other training requirements must be aligned with the baseline risk assessment. Risks identified in the baseline risk assessment will provide guidance on training requirements. A summary of the training must be completed as well as status on required authorization as per Foskor COP's.

xxiii. Training certificates will be accepted when complying with the following:

a. Unit Standard Title
b. Learner Full name
c. Learner ID number
d. Competency achieved
e. Date of Assessment
f. Assessors' signature
g. Training provider logo
h. Training provider registration number and accreditation number.
i. SETA logo

15 LEGISLATIVE REQUIREMENTS SUMMARY

15.1 MINIMUM LEGISLATIVE REQUIREMENTS:

The successful or appointed service provider shall comply with:

- Occupational Health and Safety Act (Act 85 of 1993)
- Mine Health and Safety Acts and regulations (Act 29 of 1996)
- Explosive Acts and Regulations - South Africa
- Foskor COP's and applicable General SHEQ Requirements
- Foskor Engineering Specifications
- The latest revisions of the SANS standardized specifications and Foskor Specifications as applicable at the time of quotation shall apply to this contract.

15.1.1 Environmental

The successful or appointed service provider shall comply with the following Environmental Specifications, Policies and Procedures:

- COP 41 Housekeeping and workplace organisation
- COP 49 Waste Management
- COP 51 Resource conservation, energy, and materials
- COP 70 Storage of petroleum products and other hazardous material
- National Environmental Management Act 107 of 1998 (NEMA) and its Regulations
- National Environmental Management Waste Act 59 of 2008 (NEMWA) as amended.

The successful service provider shall include in his/her SAFETY FILE, and comply with, the following documents:

- Environmental Aspect and Impact Register (Applicable to this contract).
- Environmental Objectives and Targets (Applicable to this contract).
- Waste Management Plan (Applicable to this contract).

FOSKOR Atmospheric Emissions License (Copy available on request – to be discussed with Mine Official responsible for the Services required)

FOSKOR Waste Management Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

FOSKOR Water Use Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

15.2 SUMMARISED REQUIREMENTS/EXTRACTS FROM FOSKOR COP'S

15.2.1 Before entering and operating a service vehicle (Own vehicle) on Foskor site, the appointed service providers shall:

i. Ensure that their driver/s have a valid national driver's license for the specific class of vehicle, have been tested by the Foskor mobile equipment training center and authorized by a Foskor MHSA (Mines Health and Safety Act) regulation 2.13.1 appointee for the class of vehicle to be used on site.

(Contact the Foskor mobile equipment training center at 015 789 2840 to make an appointment for competence testing and authorizations).

ii. The appointed service provides shall, before entering and operating a vehicle or trailer on the Foskor premises:

a. Obtain permission from the Foskor Safety and Security manager to operate their nominated service vehicle/s or trailers on the Foskor site. (Forms will be provided)

b. Obtain a certificate of fitness from the Foskor Light Vehicle maintenance workshop supervisor or appointed Foskor inspector for their nominated service vehicle/s. Inspections conducted daily between 08:00 and 08:30 and between 13:30 and 14:00 (Excl. Fridays) at the Light Vehicle Maintenance workshop.

c. Submit the above permission and COF at the main security office for the issue of a vehicle access disk.

iii. Ensure that their service vehicles/trailers have been inspected (Daily) by the Foskor standard (COP 59) to ensure that they are safe and fit for use. (Forms will be provided)

See Foskor COP 59, Trackless Mobile Machinery for details.

15.3 Before entering and working on Foskor site the appointed service providers shall ensure that their workmen are:

i. Briefed on the required task and have been informed of any abnormal conditions/situations.

ii. Physically, emotionally, and mentally fit to perform their duty.

iii. Issued with the necessary PPE (Personal Protective Equipment) to safely operate their service vehicles and perform the duty of maintaining, servicing, inspecting, and testing earthmoving and mobile equipment.

iv. Before commencement of work:

a. All tools and equipment shall have been inspected and tested to be in good and safe working order.

b. All workmen have participated in the completion of a standard Foskor site risk assessment (Commonly known as a HIRA or Hazard Identification and Risk Assessment) and taken appropriate actions to mitigate any identified hazards.

15.3.1 Before entering and working on the Foskor site the appointed service provider shall:

i. Ensure that their portable electrical equipment have been tested and declared safe for use by the Foskor electrical services workshop.

15.4 PERMIT TO WORK

Before any on-site work under this contract may commence, the appointed or successful service provider shall obtain a PERMIT TO WORK from Foskor. The following guidelines are provided to assist the appointed service provider in obtaining a PERMIT TO WORK. (See Foskor COP 28 Permit to work and COP 25 Control of Externally Provided Processes, Products and Services (Service provider Control) for details):

i. The PERMIT TO WORK can be obtained from Safety, and on completion returned to the Legal Administrator, Foskor Safety department.

ii. Obtain a contract number from the Foskor Procurement or Projects department.

iii. Appoint a subordinate manager under Regulation 2.6.1 and an on-site supervisor under Regulation 2.9.2 of the Mines Health and Safety Act.

The appointed subordinate manager and supervisor shall be required to write and pass the Foskor 2.6.1 and 2.9.2 legal examinations within 30 days after the contract has been awarded.

Attend an hour-long legal exam briefing any Thursday between 08:00 and 09:00 at the Security training hall.

Write legal examination any Friday between 07:30 and 10:30 at the Security training hall. (Please book)

iv. Appoint an on-site SHE-Rep under section 29(1) of the MHSA to assist Regulation 2.6.1 and 2.9.2 on the daily on-site management of health, safety and environmental issues.

The designated SHE Rep must have the ability to read, write and express him/herself.

The appointed SHE-Rep shall be required to attend a five-day SHE-Rep training course within 30 days after being awarded this contract (Training free of charge). Make booking on 015 789 2531

A pre-requisite for attending the SHE-Rep training course is successful completion of Basic Health and Safety Principles and HIRA training.

See Foskor's COP 5 Health and Safety Representatives for details.

v. Provide a name list, including ID numbers, residential and postal addresses, and telephone numbers of all of the appointed service providers' on-site employees.

vi. All the appointed service providers' on-site employees shall undergo a full medical examination at the Foskor on-site CLINIX Clinic. The clinic can be contacted at 015 789 2427 for an appointment. Please note:

All NEW- and employees LEAVING the service of the appointed service provider must undergo a full entry or exit medical examination.

Women who are pregnant or suspect that they may be pregnant must notify the examining medical practitioner.

vii. The appointed service providers designated on-site drivers shall receive competence testing and authorization to operate vehicles on Foskor site.

viii. All the appointed service providers' employees shall receive/have received the following training:

First Aid Level 1 (Provide own training)

Working at heights (Provide own training)

Basic Health & Safety Principles (Provide own training)

HIRA (Provide own training)

Basic Firefighting. (Provide own- or receive Foskor training, contact 015 789 2531 for bookings)

Lock-out. (Provide own or receive Foskor training, contact 015 789 2531 for bookings)

All training not provided by Foskor must be verified by the Foskor training superintendent Mr Johan Fouche. Please contact him at 015 7789 2525 to make an appointment or email proof of training and certificates to *johanfo@foskor.co.za* to confirm compliance before requesting his approval on the PERMIT TO WORK.

ix. All the appointed service providers' on-site employees shall receive the basic Foskor site induction training at the Foskor Security office.

x. All the appointed service providers' on-site employees shall receive site-specific induction training provided by the Foskor area Regulation 2.6.1 appointee/s.

xi. A BRA (Baseline Risk Assessment) shall be completed for ALL "typical" tasks that will be completed under this contract. The BRA to be approved by the responsible Foskor MHSA 2.13.1 appointee and signed by all the service providers' employees. Make use of Foskor's BRA document, Annexure 1.2, contained in COP 1, Risk and Opportunities Management (Available on request)

xii. Attach a detailed SCOPE OF WORK describing the required task and -outcome of this contract.

xiii. All Foskor's appointed MHSA Regulation 2.9.2, 2.6.1, 2.13.1 and 3.1. a manager must undersign/approve the PERMIT TO WORK.

xiv. Registration and proof of payment under the Compensation for Occupational Injuries and Diseases Act, no. 130 of 1993. The registration number must be provided.

xv. SARS issued a tax clearance certificate.

xvi. All relevant documentation and/or evidence of compliance must be attached to the PERMIT TO WORK.

xvii. Upon successful completion and approval of the PERMIT TO WORK the Security department will issue the appointed service providers' employees with access ID cards.

xviii. Any other documents, certificates or records as requested by a Foskor official deemed necessary to ensure that all safety, legislative and administrative requirements have been met must be attached to the PERMIT TO WORK.

xix. The appointed service provider must allow at least three to ten working days to complete all the PERMIT TO WORK requirements.

16 SAFET FILE

The appointed contractor must compile a SAFETY FILE specifically for this contract. The SAFETY FILE must always be available for inspection by a Foskor official: The following guidelines are provided to assist the appointed contractor in compiling a SAFETY FILE:

Before any work may commence, the appointed service provider must IN CONJUNCTION WITH THE FOSKOR SAFETY DEPARTMENT, compile a SAFETY FILE specifically for THIS contract. (Contact the relevant area responsible Safety Representative as indicated by Foskor at the Kick-off meeting.

The SAFETY FILE must always be available for inspection by a Foskor official.

16.1 FOSKOR SAFETY FILE INDEX - TIPICAL

Template SHE FILE INDEX: - TYPICAL

ISO clause / Description of item	File divider
1. Integrated Management System. Clause 5.1 & 5.2	1
2. Policies Clause 5.2: OH&S Policies	2
3. COP 1: Foskor risk management Clause 6.1.2.1 & 6.1.2.2: Hazard identification, risk assessment and determining controls.	3
4. COP 88: Objectives, targets and management programmes Clause 6.2: Objectives and programs	4
5. COP 2: Compliance obligations and appointments COP 5: Health and safety representatives, Clause 5.3: Legal and other requirements Clause 5.3 / 7.1: Resources, roles, responsibility, accountability and authority	

27. COP 97: Erection and use of scaffolding
    Clause 8.1 Operational planning and control,
    Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 27

28. COP 98: Water safety
    Clause 8.1 Operational planning and control,
    Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 28

29. COP 101: MCOP: The right to refuse dangerous work and withdraw from dangerous workplace.
    Clause 8.1 Operational planning and control
    Clause 6.1: Actions to address risks and opportunities/Hazard identification, risk assessment and determining controls.
    Clause 8.1.2 Eliminating hazards and reducing OH&S Risk 29

30. COP 102: MCOP: Risk based emergency care on mine
    Clause 8.1 Operational planning and control
    Clause 8.2 Emergency preparedness and response 30

31. COP 103: Use of mobile devices on the mine premises
    Clause 6.1: Actions to address risks and opportunities/Hazard identification, risk assessment and determining controls.
    Clause 8.1 Operational planning and control
    Clause 8.2 Emergency preparedness and response 31

32. COP 22: SHEQ Inspection
    Clause 8.1 Operational planning and control
    Clause 8.2 Emergency preparedness and response 32

33. COP 23: Internal and external audit.
    Clause 9.2 Internal audit
    Clause 9.2.1 general and 9.2.2 internal audit programme. 33

Notes:

1. If a COP is not applicable to your section, please complete and attach the "Not Applicable" form in the space of the COP.
2. Always keep your file neat and clean.
3. A Foskor Representative may add or remove any other Foskor safety, health, quality and environmental policies and/or procedures deemed applicable.
4. If a COP is not applicable to this contract/project, please complete and attach the "Not applicable" form in the space of the COP.

16.2 TYPICAL CONTENTS OF SAFETY FILE:

i. Title and index cover page

ii. A copy of the PERMIT TO WORK.

iii. A copy of the MHSA Regulation 2.6.1 and -2.9.2 and SHE Rep appointment letters.

iv. A copy of Foskor COP 25, Service provider control.

v. Baseline risk assessment of ALL and ANY POTENTIAL tasks that may be performed on site under this contract. See Foskor COP 26, Critical Task Descriptions for details.

vi. Copies of critical task descriptions and standard operating/maintenance procedures.

vii. Copies of the appointed service providers safety, health, environmental, HIV and AIDS, smoking and waste management policies.

viii. Training records of all on-site employees.

ix. Employee records of actual time worked (Normal and overtime).

x. Copy of on-site induction training.

xi. Records of inspections of TMM (Trackless Mobile Machinery) and trailers. See Foskor COP 59, Trackless Mobile Machinery for details.

xii. Records of issues and inspections of PPE (Personal Protective Equipment) and safety equipment. See Foskor COP 65, Personal Protection Equipment for details.

xiii. Records of issues and inspections of PEE (Portable Electrical Equipment). See Foskor COP 60, Portable electrical Equipment for details.

xiv. Records of issues and inspections of tools and equipment. See Foskor COP 63, hand tools for details.

xv. Records of daily, weekly and monthly 2.6.1 / SHE Rep safety inspections. See Foskor COP 22, SHE Inspections for details.

xvi. Records of daily green-area and safety talks. See Foskor COP 7, Communication for details.

xvii. Any other documents, certificates or records as requested by a Foskor official deemed necessary to ensure that all safety, legislative and administrative requirements have been met.

Note:
The bidder / Service provider can obtain updated Foskor COP's and Engineering Specification on request.

16.3 REMINDER OF RISK IDENTIFICATION – LIFE SAVING RULES

- Risk Assessments and clearance certificates
- Lifting operations
- Working at heights
- Confined space entry
- Positive energy Isolation and lockout
- Moving Machinery
- Personal Protective Equipment

Risk assessment is applicable to all jobs and training applies to all that will do physical work!

17 PARAMETERS

17.1 DESIGN PARAMETERS

All plants and equipment will be designed to:

- Operate satisfactorily under atmospheric, ambient, and other conditions present at the site location.
- Ensure interchangeability of units and/or sub-parts throughout the plant to reduce spare holding requirements – take old plant equipment into account.
- Ensure reliability and maintainability. Minimum availability of 98% is required.
- Operate without undue vibration, stresses (temperature and built-in) and excessive noise.
- Comply with legal requirements in terms of the water license and DWA.

17.2 SPECIFICATIONS, CODES, STANDARDS AND REGULATIONS

The latest edition of the South African National Standards in effect at the date of projects design shall establish the minimum requirements for design, materials, and construction. This should be referenced with the Foskor General Engineering specifications and requirements of the Foskor SHERQ system (COP's). No work shall be contemplated which is in breach of any legislation in South Africa – Typically but not limited to:

- Occupational Health and Safety Act (Act 85 of 1993)
- Mine Health and Safety Acts and regulations (Act 29 of 1996)
- Explosive Acts and Regulations - South Africa
- Foskor COP's and applicable General SHEQ Requirements
- Foskor Engineering Specifications
- Chamber of Mines / Mine Council SHEQ Requirements (Milestones)
- The latest revisions of the SANS standardized specifications and Foskor Specifications as applicable at the time of quotation shall apply to this contract.

Note! The equipment to be capable of continuous operation 24 hrs/day, 365 days/year with operating availability equal to 100%.

Environmental

The successful or appointed service provider shall comply with the following Environmental Specifications, Policies and Procedures:

- COP 41 Housekeeping and workplace organisation
- COP 49 Waste Management
- COP 51 Resource conservation, energy, and materials
- COP 70 Storage of petroleum products and other hazardous material
- National Environmental Management Act 107 of 1998 (NEMA) and its Regulations

- National Environmental Management Waste Act 59 of 2008 (NEMWA) as amended.

The successful service provider shall include in his/her SAFETY FILE, and comply with, the following documents:

- Environmental Aspect and Impact Register (Applicable to this contract).
- Environmental Objectives and Targets (Applicable to this contract).
- Waste Management Plan (Applicable to this contract).

FOSKOR Atmospheric Emissions License (Copy available on request – to be discussed with Mine Official responsible for the Services required)
FOSKOR Waste Management Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)
FOSKOR Water Use Licence (Copy available on request – to be discussed with Mine Official responsible for the Services required)

17.3 SITE GEOGRAPHY

The plant is located at Phalaborwa, Limpopo, South Africa

17.4 AMBIENT CONDITIONS

- Ambient temperature

Summer	35 °C Avg.	50 °C Max
Winter	17 °C Avg.	2 °C Min

Site Altitude: 380 m

- Prevailing wind direction: Generally South Easterly - Maximum design velocity 40 m/s (144 km/h)
- Very dusty conditions
- Average annual rainfall = 540 mm

Note - Allowance to be made for weather in any calendar impacts in any schedule or project plan submissions

FOSKOR

17.5 FOSKOR GENERAL ENGINEERING SPECIFICATIONS (SHOULD BE CONSULTED BEFORE FINALIZATION OF ANY DESIGN OR SPECIFICATION)

Name		Modified	Modified By
Engineering Specification Index	...	15 April, 2016	Khayelihle Pepu
GS001 - General Design Information - Rev 1	...	15 April, 2016	Khayelihle Pepu
GS002 - Engineering Drawings - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS003 - Quality Control Procedures - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS005 - Concrete and Formwork - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS007 - Plate work - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS008 - Welding procedures - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS009 - Structural fabrication and erection - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS011- Piping - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS012 - Pressure vessels - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS013M - Painting and Protective Coatings	...	15 April, 2016	Khayelihle Pepu
GS014 - Rubberlining - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS015 - Fencing - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS016 - Roofing and side cladding - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS017 - Fuel - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS018 - Lubrication - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS019 - Liquid containemt bund walls - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS020 - General purpose valves - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS021 - Gearboxes - Rev 0	...	15 April, 2016	Khayelihle Pepu
GS022 - Chainblocks and lever hoists - Rev 0	...	15 April, 2016	Khayelihle Pepu
GSI-004 - Field Instrumentation Standards	...	15 April, 2016	Khayelihle Pepu

17.6 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

17.7 PROJECT SPECIFIC SPECIFICATION FROM DESIGNER

N/A

18 PROJECT MANAGEMENT – CONTRACTOR

a) Nominate a single window of communication to Foskor – Typically the appointed contractor 2.6.1

b) Attend meetings as agreed during the project kick-off meeting.

c) Submit Progress reports (Format & interval) as defined in the Kick-off Meeting (Invoicing, Labour, Performance against the plan, Contractor purchases, Quality Management, Safety, Etc.

d) Manage and participate in the "Daily Journal" as part of executing the project.

e) All meetings will be held at FOSKOR offices unless otherwise stated.

f) The contractor to provide updated project management plans on progress as defined by the Foskor Project Engineer.

g) **Project progress updates** - If the contractor cannot produce proper updates on a WBS then the contractor will be required to subcontract this function to produce the WBS updates for the duration of the project. This cost must be included in the contractor's price.

The Service provider is responsible for managing the project and this is graphically displayed below indicating where what functions lies. Graphical presentation only covers some basic aspects.

19 PLANNING AND SCHEDULING

- The Project Section has a planning standard that needs to be adhered to during the execution as per the relevant order placed.
- The Foskor scheduler can be contacted to provide schedule details input and guidelines if needed.
- Schedule must be compiled within one week after kick-off meeting conducted by the Foskor Project Leader
- The Contractor schedule needs to be signed off by contractor 2.6.1 before approval by Foskor.
- The Foskor scheduler will issue the Templates to be used - This template must be adhered to, and no changes should be made.
- Progress Update is needed every once a week a day before the weekly progress meeting or as requested.
- The progress Updates to be submitted to Foskor Scheduler/Planner via email.
- It is the contractor's responsibility to appoint the competent person to manage the contractors schedule which that person will directly communicate with Foskor Scheduler - If the contractor's responsibility to add the cost of a competent person on the project. Commercial action to be taken if the performance in planning is lacking.
- Foskor requires all contractors to use MS Project software which it will be fully implemented latest 01 February 2022.

19.1 Typical aspects to be adhered to:

- It is the subcontractor's responsibility to produce a detailed schedule which tie up to the Foskor standards of requirements.
- The Schedule must not have open ended activity task.
- The schedule must be fully resourced.
- The schedule must not have constraints.
- The calendar must be created and assigned in the schedule. Confirm the templates with the Foskor Scheduler
- It is Foskor responsibility to review the schedule before it's been approved.
- A schedule must be approved by Project Scheduler/Project Manager and Project Engineer.
- The approved baselined schedule must be updated by the contractor to show Planned vs Actual.

- The contractor must show S-Curve which will be constructed from the schedule.
- Project updates must be submitted to the Project Planner/Scheduler for review.

20 LIAISON AND CO-OPERATION WITH OTHERS

- The CONTRACTOR/ SERVICE PROVIDER shall be required to co-operate and liaise with Foskor appointed Project Manager.
- The CONTRACTOR/ SERVICE PROVIDER must note that construction is within an operational plant.
- The CONTRACTOR/ SERVICE PROVIDER may appoint a Foskor approved sub-contractor
- The CONTRACTOR/ SERVICE PROVIDER shall be required to work in conjunction with the Foskor appointed structural-, electrical-, equipment- and instrumentation installation contractor – if applicable.

21 GENERAL CONDITIONS – COMMERCIAL

A. EXTENSIONS, PENALTIES AND RETENTIONS

a) Extension on the promised completion or milestone date may be requested but needs to be approved by Foskor. The contractor should be in possession of a formal document issued via Foskor Procurement indicating that this request was approved.

b) Any additional work not defined in the order needs to be approved by Foskor in writing before any work commences.

Description	Condition	Duration
Penalties	0.5% per week	Late Delivery after promised completion date
Performance Bond	5% of Contract Value	0 Year after completion – Performance test passed
Retention	10 % of Contract value	Release after 6 months - Performance test passed
Type of Contract	FIDIC - Yellow Book – Plant and Design – Build Contract 2nd Edition 2017	
Tender price validity	3 months	
Escalation	None	None

All delays must be immediately brought under the attention of the section engineer and the responsible party agreed upon immediately.

B. AFTER SALES SERVICE OR REQUIREMENTS

After sales service requirements are listed below:

1. Full description of guarantee and guarantee period to be attached to the official tender.
2. Full description of planned support during AND after the guarantee period to be attached to the official tender.

C. INVOICES DUE DATES

The due dates for claim certificate are the 7th of every month. Invoices are due the latest 15th of every month.

A Foskor QS will be responsible for claim certificate verification and claim certificates needs to be submitted at the latest on the 7th of each month to the QS

22 TENDER EVALUATION CRITERIA

- As part of the process to assist with the evaluation of the bidder's proposal/quotation and to make an informed decision in the awarding of this tender, the following information is required.
- The following tender evaluation criteria will be used for adjudicating the Contractor submitted tender.
- Only submitted documents will be used for adjudication purposes.
- Please provide the required documentation as requested in the "Proof/documents to be submitted" column. Please be specific when submitting documents by ensuring that they answer the item specified.
- Please use the annexure number as indicated to identify the proof submitted.
- Failure to submit the relevant documentation as requested in the Evaluation criteria document may lead to a disregard of the submitted tender.
- A Site or verification audit on submitted documents may be conducted based on Foskor's requirement and the tender may be disregarded base on the audit.

A. MANDATORY REQUIREMENTS

Bid submission not meeting the mandatory requirement will result in the bid being disqualified.

No	Pre-Qualification Requirements	Comments
1	Mechanical of CIDB 8ME or higher **Scoring:** Yes or No	Provide certificate of CIDB grading

23 EVALUATION CRITERIA (TECHNICAL)

Evaluation Criteria (Technical)				
T- PMC Import system - Engineering, Procurement, Construction				
No	**Technical Criteria Description**	**% Contribution**	**Proof / documents to be submitted**	**Notes**
1	**Experience & Team competence -**			
a)	Company - Previous Design of process plants exceeding R50m construction cost in the last 4 years Scoring: • No Experience = 0% • Company experiences 0 to 1 year = 2.5% • Company experience >1 to <4 years = 7.5% • Company experience >4 years = 15%	15%	Please provide a order list with values The list to contain the following. Order no, Order description, Brief explanation of what the work entailed, Order value, Reference name and Tel no Please attach at least 3 orders with the list	***Annexure A***
b)	Engineering Certification - Design of Process plants - Engineering experience to exceed 5 Years Scoring: • No ECSA registration and Certification and no or partial CV's = 0% • ECSA registration and Certification Provided including CV and Exceeding 5 years or more experience = 15%	15%	Provide Engineers registration as ECSA certificate. Provide Professional Engineers ESCA certification – All Disciplines – Indicate experience Provide Short CV of Design Engineers – All Disciplines – Indicate experience	***Annexure B***
c)	Company - Construction of process plants Exceeding R50m for the last 4 years Scoring: • No Experience = 0% • Company experiences 0 to 1 year = 5% • Company experience >1 to <4 years = 10% • Company experience >4 years = 15%	15%	Please provide a order list with values The list to contain the following. Order no, Order description, Brief explanation of what the work entailed, Order value, Reference name and Tel no Please attach at least 3 orders with the list	***Annexure C***

Evaluation Criteria (Technical)				
T- PMC Import system - Engineering, Procurement, Construction				
No	**Technical Criteria Description**	**% Contribution**	**Proof / documents to be submitted**	**Notes**
d)	Company Registration – CESA Consulting Engineers South Africa – Provide proof of Registration <u>Scoring:</u> • No proof of Certification =0% • Certification provided = 5%	**5%**	Submit Company CESA registration	***Annexure D***
e)	Provide Company organogram indicating all levels of management for fabrication and installation team compilation. Define all management roles • <u>Scoring:</u> Organogram not submitted = 0% • Partial organogram (Management = 1%, Civils = 1%, Mechanical = 1%, Electrical =1%) for a total of 4 =4% • Organogram submitted and accepted with all supporting structures = 10%	**10%**	Submit an organogram indicating management, supervisors and teams foreseen during design and construction. Who will be the legal appointee's as per the MHSA. Include subcontractors. Indicate who will be the relevant 2.61 and 2.9.2 appointees	***Annexure E***
f)	<u>Company - List of equipment to be used during construction</u> Company to submit a list of equipment and assets as the required to commission a PMC Import system - Engineering, Procurement, Construction. <u>Scoring:</u> • Company does not have required assets related to relevant work = 0% • Company does not own all equipment or Partial assets or not sufficient or not relevant to scope = 5% • Company has required assets relevant to this scope=10%	**10%**	List assets – Provide an asset list on a letter head signed off by the relevant authorized company person. Alternatively provide confirmation of where the assets will be hired incl. letter and contact details of such lessor of the equipment. The focus is construction assets for this project (All disciplines) • Welding and gas cutting equipment. • Fabrication equipment • Workshops • Cranes	***Annexure F***

Evaluation Criteria (Technical)				
T- PMC Import system - Engineering, Procurement, Construction				
No	**Technical Criteria Description**	**% Contribution**	**Proof / documents to be submitted**	**Notes**
			• LDV's, trucks and other transport • Lifting and rigging tools • Civil construction equipment • Electrical construction equipment	
g)	Company - Provide extract for commissioning documentation for each discipline that was signed off by the client <u>Scoring:</u> • No commissioning documentation submitted or not accepted = 0% • Unsigned acceptable commissioning documentation = 1% • Partial commissioning documentation signed = 2.5% • Commissioning documentation provided and accepted signed =5%	**5%**	Provide for commissioning documentation for each discipline that was signed off by the client – Mechanical/ Structural, Civil, Electrical and instrumentation.	***Annexure G***
h)	Provide extracts of Quality Control Plans (QCP's) - <u>Scoring:</u> • No quality control plans or inspections submitted or not accepted = 0% • Unsigned acceptable quality plans = 2.5% • Partial Quality Control plans or inspections signed = 5% • Quality Control plans and inspections provided and accepted signed =10%	**10%**	• Quality Control Plans - Give extract of Signed off Quality Control Plans (QCP's) with relevant inspector and client signatures of similar projects. Provide at least 3 QCP's with client signatures for each discipline (Electrical, Civil, Mechanical/ Structural) • Quality inspections done - with relevant inspector and client signatures of similar projects. Provide at least 3 Inspections with client signatures for each discipline (Electrical, Civil, Mechanical/ Structural)	***Annexure H***

Evaluation Criteria (Technical)				
T- PMC Import system - Engineering, Procurement, Construction				
No	**Technical Criteria Description**	**% Contribution**	**Proof / documents to be submitted**	**Notes**
i	Company ISO Certification - 9001 - Provide Certification Scoring: • No proof of Certification =0% • Certification provided = 5%	**5%**	Submit Company ISO 9001 registration and certification	***Annexure I***
j)	Detailed project plan for the work indicting enough detail to establish the approach and relevant tasks/activities. Scoring: • Project plan reviewed and not accepted - Not relevant or not submitted=0% • Provided but does not clarify all issues or tasks for this project. Non relevant portions for this project= 5% • Provided and accepted for this project= 10%	**10%**	Provide detailed project plan (Gantt Chart) for the Design PMC Import system - Engineering, Procurement, Construction	***Annexure J***
	Total Technical Score	**100.00 %**		
	Note: In order for the bid to be considered the bidder needs to score 70% and above, and comply to all mandatory requirements - This is still dependant on an audit or verification of submitted document that can lead to a bid not being accepted			

24 PRICING SCHEDULE

Description: PMC import system - Engineering, Procurement, Construction

Specifications shall be deemed to form part of and included in the pricing instructions.

A. PRICING SCHEDULE / SCHEDULE OF QUANTITIES OR BOQ

1. The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

%	=	percent	m^2.pass	=	square meter-pass
h	=	hour	m^3	=	cubic meter
ha	=	hectare	m^3.km	=	cubic metre-kilometre
kg	=	kilogram	MN	=	meganewton
kl	=	kiloliter	MN.m	=	meganewton-meter
km	=	kilometer	MPa	=	megapascal
km-pass	=	kilometer-pass	No.	=	number
kPa	=	kilopascal	Prov sum	=	Provisional sum
kW	=	kilowatt	P C sum	=	Prime Cost sum
l	=	liter	sum	=	lump sum
m	=	meter	t	=	ton (1 000 kg)
mm	=	millimeter	W/day	=	Workday
m^2	=	Square meter			

2. No allowance is made for waste.

3. Foskor pays for material on site unless special approval has been obtained prior.

Note – All Design, Management, Labor, Transport, Supervision, Admin, Quality, Mobile Cranes, tools, equipment, lifting and rigging and every item are part of this Scope requirement

PRICING SCHEDULE

Description: PMC import system - Engineering, Procurement, Construction – Fidic Yellow Book

Annexure A					
No.	**Item Description**	**Unit**	**Quantity**	**Rate**	**Total Amount R**
1	**PRELIMINARY AND GENERAL**				
1.1	Time-Related P & G's – Includes all Design, construction, construction management and supervision, administration, legal, insurance management, travelling, accommodation, transport, licenses, safety, and project management, etc.	SUM	1		
1.2	Site Establishment - Work permit, infrastructure set up, etc.	Sum	1		
1.3	Site De-Establishment	Sum	1		
1.4	Other (specify)	Sum	1		
	TOTAL				**R**
	NOTE: All invoices will be paid if material/equipment is delivered On-site.				
	GENERAL NOTES				
	(a) All rates should include labor rates, delivery to site, offloading, handling, and site storage, etc.				
	(b) Rates shall include for all fabrication work, welding, marking, drilling, for bolts, steel plates, bolts, nuts and any type of washer, riveted work, counter sinking and tapping for bolts or machine screws.				
	(c) Rates shall include for all painting and finished as per Foskor standard.				
	(d) Rates shall include assembly, erection, touch-up paint, temporary supporting and fixing into position.				

No.	Item Description	Unit	Quantity	Rate	Total Amount R
2	**Design Phase - Detail Engineering – All Disciplines (Typical but not limited to – Mechanical, Process, Electrical, Civil, etc) – This includes all Drawings, Test work, Engineering, Scanning, etc**				
2.1	PMC Tailing's Line	Task	Sum		
2.2	PMC Receiving Tank System	Task	Sum		
2.3	PEP Cyclone Pump system	Task	Sum		
2.4	PEP Thickener System including water recovery distribution	Task	Sum		
2.5	Additional Reagent Tank System	Task	Sum		
2.6	PEP Line to U Bank – Up to Small mill sump and PMC receiving sump	Task	Sum		
2.7	Flush Lines - Main intake pipes	Task	Sum		
	TOTAL				**R**
3	**Construction - Supply, Fabricate, Install - All Disciplines (Typical but not limited to – Mechanical, Process, Electrical, Civil, etc)**				
3.1	PMC Tailing's Line	Task	Sum		
3.2	PMC Receiving Tank System	Task	Sum		
3.3	PEP Cyclone Pump system	Task	Sum		
3.4	PEP Thickener System including water recovery distribution	Task	Sum		
3.5	Additional Reagent Tank System	Task	Sum		
3.6	PEP Line to U Bank – Up to Small mill sump and PMC receiving sump	Task	Sum		
3.7	2 * Flush Lines - Main intake pipes	Task	Sum		
	TOTAL				**R**

No.	Item Description	Unit	Quantity	Rate	Total Amount R
4	**Commission - All Disciplines (Typical but not limited to – Mechanical, Process, Electrical, Civil, etc)**				
4.1	PMC Tailing's Line	Task	Sum		
4.2	PMC Receiving Tank System	Task	Sum		
4.3	PEP Cyclone Pump system	Task	Sum		
4.4	PEP Thickener System including water recovery distribution	Task	Sum		
4.5	Additional Reagent Tank System	Task	Sum		
4.6	PEP Line to U Bank – Up to Small mill sump and PMC receiving sump	Task	Sum		
4.7	Flush Lines - Main intake pipes	Task	Sum		
4.9	Performance testing and report	Task	Sum		
	TOTAL				**R**
5	**Hand over - including Quality Documentation and Design sign off (The Designer must be part of this process) All Disciplines (Typical but not limited to – Mechanical, Process, Electrical, Civil, etc)**				
5.1	As Built Drawings- Cad – All Dicpilines	Task	Sum		
5.2	Design, Construction/Installation, close out report – All Disciplines	Task	Sum		
5.3	Documentation – All Compliance documentation, Certificates, COC, Manuals. etc. handed over to Foskor EMS. Hardcopy and electronic format	Task	Sum		
	TOTAL				**R**

No.	Item Description	Unit	Quantity	Rate	Total Amount R
6	**OTHER – Please Specify**				**R**
6	Engineering labor rates for agreed additional Design outside the original scope impacting this Scope – To be approved in writing by Foskor Engineer before execution – Technical consulting				
6.1	Senior Engineer	R/h	**20**		
6.2	Engineer	R/h	**50**		
6.3	Junior Engineer	R/h	**10**		
6.4	Design Draughtsman	R/h	**20**		
6.5	Draughtsman	R/h	**40**		
6.6	Other -please specify				
TOTAL				**R**	
7	**GRAND TOTAL**				**R**

All price alterations must be signed for by the bidder confirming that such changes were made by the Bidder. **PLEASE NOTE THAT PRICE CHANGES WITHOUT SIGNATURE WILL LEAD TO THE DISQUALIFICATION OF THE BID SUBMITTED.**

NOTE: The onus lies with the tenderer to make sure that all formulas and calculations are correct. Calculation errors discovered during the evaluation process will be logged as a non-conformance and the tender/quotation will therefore be disregarded.