

SCOPE OF WORKS

**SUPPLY, INSTALLATION OF TWO NURSERIES WITH 50 000 VETIVER GRASS PLANTS INDIVIDUALLY
PLANTED IN A GROWTH BAG, FOR THE PERIOD OF TWO MONTHS.**

SCOPE OF WORK

Tender No.: _____

Description: Supply, installation of two nurseries with 50 000 Vetiver grass plants individually planted in a growth bag and management of nursery for 2 months.

1. PRE-QUALIFICATION

No	Pre-Qualification Requirements	Comments
1	<p>Require CIDB 3SH or higher</p> <p>Scoring: Yes or No</p>	Provide certificate of CIDB grading

2. INVITATION TO TENDER

This document describes the requirements for the Design, Supply, Fabrication, Installation and Commissioning of a nursery at Foskor RWPS – tailings.

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 Nursery at RWPS at the Selati tailings dam on the Foskor mine

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

None

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

Foskor Shall supply all the Scaffolding needs for the Construction Period.

The contractor will manage the scaffolding by keeping records of request, construction and removal.

Request for scaffolding needs to be communicated at least 3 working days before required and planning and managing is the contractor's responsibility

Civil Works

Civil works will be included in the construction of in this works.

3.2.3 General

The scope of work shall include for the 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 corrosion protection, and commissioning of the Nursery at Selati tailings dam

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, labour, services, and material, crantage, 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 where required,
- Site Manager and Supervisor/s,
- Quality Assurance/Control Officer,
- Safety Officer and Safety Representative/s,
- Project Planner,

- Administration, etc.
- Competent construction team
- Nursery attendants

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, labour, 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 Turnkey cost structure for all engineering services, management services, materials, equipment, labour, 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 to 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 or as directed by the Engineer.

- 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.

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 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 utilised.
 - 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 authorised workers.
 - Ensure correct PPE is used by workers and in a 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 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 MHS. 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 – Typical but not limited to

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

Scope of Works

Nursery location

Nurseries will be located at the RWPS pipe yard, the 220v and potable water connection point is located at the boiler shop in the pipe yard.

(It is the responsibility of the bidder to do a site study and to evaluate the suitability of nurseries offered to the Foskor site and actual working conditions. A site visit can be arranged.)

Scope requirement

3.3.1 The supply and installation of typically two, 30 meter long by 10 meters wide and 4 meters high nurseries consisting of a steel structure with netting. This is a typical indication of the nursery size but at all times the nursery needs to be able to accommodate 50 000 vetiver plants.

- Typical Physical dimensions of each nursery – Dependent on plant bag size, access and irrigation
 - Length – 30 meters
 - Height 4 meters
 - Width 10 meters
 - 80% shade cloth – SABS

The steel structure supporting the shade cloth must be made from galvanized steel. Design needs to be accepted by Foskor relevant 2.13.1 Engineer and signed off.

The support of foundations and structures needs to be signed off by a relevant professional engineer

Life Expectancy of the nursery is at least 15 years, and the design, construction and systems need to support this

3.3.2 Environmental condition needs to be considered during the proposal and typically includes the following

- Storm water
- All relevant permissions
- Environmental legislation and compliance

3.3.3 Weed guard to be installed on both nurseries (Weed guard is a layer of geotextile fabric that is placed under the soil to block weeds from germinating. SABS approved weed guard

3.3.4 The installation of an automated overhead mist irrigation system to water all the plants in both nurseries is required. Foskor will supply the take off point for potable water. The irrigation system to be designed for suitable irrigation – including a booster pump if required.

Each nursery must be equipped with an automated overhead mist water system that can supply 3mm-4mm of water each hour or as required by the plants due to environmental conditions, sprayers must reach the whole area of the nursery. The irrigation system must have a programable timer installed
Suitable management systems and equipment to be in place to ensure plants are watered optimally
(Ensure all areas receive the required water)

3.3.5 Foskor will supply electrical 220v point and potable water connection point, it is the contractor's responsibility to connect from the connection point up to the nursery.

3.3.6 Contractor to supply **50 000** vetiver plants planted out in a growth bags, Contractor to supply 50 000 vetiver (Chrysopogon Zizaniodes) grass plants, individually planted in a growth bags.

3.3.7 Managing the nursery is the contractor responsibility to care and maintain the nursery and plants for a period of two months. This includes all labour, resources, consumables, etc

Contractor will supply their own transportation that complies to Favour Sea level 7 PDS and transportation must be ROPS compliant. (Provide installation certificates of accredited supplier) Contractor will be responsible for the installation and commissioning of the two nurseries (including maintenance and management) with an automated mist sprayer system as well as the care and maintenance of the 50 000 vetiver plants for a period of 60 days.

This includes all resources, consumables, parts, items, etc to operate and maintain the nursery and plants
The nursery will be operated on a normal dayshift and suitable human resources and equipment are available

Always note – 50 000 plants need to be at the nursery. If a plant dies it needs to be replaced immediately ensuring the total amount of plants is 50 000 plants on site

3.3.8 The nurseries must be fenced off to prevent wildlife from entering and damaging the nurseries (elephant proof, by mechanical means not electrification).

Animal proof fence around the two nurseries with an entrance gate, fencing must be of mechanical in nature and not electrical, must be able to keep out animals such as Warthogs, Kudu, Elephants and hippopotamus.
The fence must be designed and needs to be accepted and signed off by Foskor relevant 2.13.1 Engineer.

A suitable gate to be installed allow people and a TMM to access the nursery. This gate to be animal proof and be able to lock to ensure unauthorised access is prevented

4. PROJECT URGENCY

Project urgency is defined below:

- This is an urgent project and schedule compliance is critical.

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

7. TABLE OF 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

1.1 W ater on site and toilet facilities / janitorial services	C	2.1 La bour	C	3.1 Plan, Management, QA, QC	C	4.1 Site Security	C	5.1 All rigging equipment (Slings, Ch blocks, turr etc	C	8.1 Entry and Exit	C	7.1 All communicati on devices like laptops, computers, networks, radios, cellphones, etc	C
1.2 P otable connection point	C	2.2 M aterials	C	3.2 All quality test Civil, Paint, Mechanical, etc	C	4.2 Fos kor ID Card	C	5.2 Rigg er	C	8.2 First aid box at place of work	C		
1.3 C onnection to construction water supply	C	2.3 Equipment	C	3.3 Sa mpling and laboratory testing	C	4.3 Personal Items	C	5.3 Mobil e cranes	C				
1.4 C hange rooms	C	2.4 All TMMS	C										
8. P PE		9. Surveying		10. Safety File		11. Training & Authorization s		12. Site Establishment		13. Waste management		14. Painting	
8.1 S upply, Issue, inspect and manage	C	9.1 Site Surveys	C	10.1 Foskor will issue template	F	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 Aut horisation - As per Foskor COP	F	13.2 Site establishment space	F		F		
15. Fuel		16. Mechanical		17. Labour		18. Compressed air		19. Scaffolding		20. Tools & Equipment		21. Training	
15.1 F uel Supply	C			17.1 All labour as per Scope of Work	C	18.1 San	C	19.1 Scaff olding Supply &	F	20.1 All Portable Electrical	C	21.1 All required training and	C

			to execute task including management	dblasting or flash blast		Erect	Equipment	training manuals as required to ensure that Foskop can train its workforce and operate the plant / equipment safely	
15.2 F uel storage	C			18.2 Co mpressor	C	19.2 Scaff olds be managed by the Contractor with proper documentation (request, Erected, Job completed, Demolished, etc)	C 20.2 Hot Work Equip as per Foskop COP - Welding Machines, Gas Cutting, Grinding, Gauging, etc		
WHO WILL SUPPLY THE FOLLOWING?									
FF = FOSKOR, FREE OF CHARGE			FC = FOSKOR, AT COST TO CONTRACTOR		C = CONTRACTOR		N/A = NOT APPLICABLE		
15.3 F uel fire protection	C			18.3 Air for power tools - If available	C	19.3 Cher ry Picker's – only if available by pre-booking	F 20.3 Tools as required to execute task	C 21.2 All manuals and related documents to be supplied to project Eng. and Foskop Drawing office for safe keeping	
15.4 R efuelli ng	C					19.4 Cherry Picker's Driver– Trained and authoriz ed driver	C		
22. Certificates		23. Consumable s	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
		23.2 Bolts & Nut washers, etc.	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	F
		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.
- This includes a survey indication the exact position of the nursery

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 deliveries 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 envisages 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 labour, 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

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

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10. PROJECT DELIVERABLES

9.1 DELIVERABLES FOR THIS PROJECT INCLUDE:

- Design and construct a nursery
- Manage a nursery with 50 000 vetiver plant for 2 months
- Hand over certificate

- Quality file

9.2 TRANSMITTAL OF DOCUMENTS AND 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.
 - 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.

9.3 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		
Drawings		
Reports		
Data Books		

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 traveller

Language: English

9.4 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. Quality file,
2. Safety file,

10 DOCUMENTS / DRAWINGS ISSUED BY FOSKOR

Drawing or Document No	Title	Revision
Note	Please read your Scope of Work	

11 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.

12 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.

13 SAFETIES

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. Analyse 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 with 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

14 LEGISLATIVE REQUIREMENTS SUMMARY

14.1 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.

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)

14.2 SUMMARISED REQUIREMENTS/EXTRACTS FROM FOSKOR COP'S

14.2.1 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.

14.2.2 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.

14.2.3 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) 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 by 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 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 MHS 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) SAFETY 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 - TYPICAL

Template SHE FILE INDEX: - TYPICAL

<u>ISO clause / Description of item</u>	<u>File divider</u>
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	
Clause 6.1.3: compliance obligations/ legal and other requirements	5
6. COP 15: SHERQ Competency and awareness training	
Clause 7.2 / 7.3: Competence, training and awareness	6
7. COP 17: Mobile, technical and process training	
Clause 7.2 / 7.3: Competence, training and awareness	7
8. COP 6: SHERQ Committees	
COP 7: Communication	
Clause 7.4: Communication, participation, and consultation	8
9. OCCUPATIONAL HYGIENE	
COP 42: Lighting: natural and artificial.	
COP 43: MCOP Occupational health programme on thermal stress	
COP 44: Sanitation plant hygiene amenities	
COP 45: MCOP occupational health program on personal Exposure to Air borne Pollutants.	
COP 64: Ergonomics	
COP 86: MCOP for Occupation Health Program for noise	
Clause 8.1.2 Eliminating hazards and reducing OH&S risks	9
10. COP 49: Waste management	
COP 58: Hazardous chemical substances and control Hazchem and waste management	
Clause 8.1.2 Eliminating hazards and reducing OH&S risks	10

11. COP 53: Lock out system and usage.	
Clause 8.1.1 General	
Clause 8.1.2 Eliminating hazards and reducing OH&S risks	11
12. COP 55: Stair's walkways handrails and Ladders	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	12
13. COP 56: Lifting machinery and lifting Tackle.	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	13
14. COP 57: Boilers and vessels under pressure work forms	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	14
15. COP 59: MCOP for the operation of TMM's	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	15
16. COP 60: Portable electrical equipment checks and registers	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	16
17. COP 61: Earth leakage Relays and checks	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	17
18. COP 62: General Electric installations and machinery in hazardous locations	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	18
19. COP 63: Hand tools	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	19
20. COP 65: Personal Protective Equipment COP 67: MCOP Women in mining PPE	
Clause 8.1 Operational planning and control	

Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	20
21. COP 69: Maintenance of fire equipment.	
Clause 8.1 Emergency preparedness and response,	
Clause 8.1.2 Eliminating hazards and reducing OH&S	21
22. COP 72: Firefighting emergency drill and instructions COP 74 Emergency preparedness and response	
Clause 8.1 Operational planning and control,	
Clause 8.2 Emergency Preparedness and response	22
23. COP 93: MCOP for the safe use of conveyors installation for the transportation of minerals,	
material or personnel	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	23
24. COP 94: Hot work	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	24
25. COP 95: Confined space entry	
Clause 8.1 Operational planning and control,	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	25
26. COP 96: Working on Heights	
Clause 8.1 Operational planning and control	
Clause 8.1.2 Eliminating hazards and reducing OH&S Risk	26
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 plant 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. 17	50 °C Max
Winter	°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

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

- 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.
- Any additional works not defined in the order needs to be approved by Foskor in writing before any work commence.

Description	Condition	Duration
Penalties	0.5% per week	Late Delivery after promised completion date
Performance Bond	0% of Contract Value	0 Year after completion
Retention	10 % of Contract value	Release after 3 months of nursery handover

Type of Contract	Foskor standard terms and Conditions	
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. N/A

C. INVOICES DUE DATES

The due dates for claim certificate are the 10th of every month. Invoices are due at the latest 15th of every month.

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

D. MANDATORY DOCUMENTS

MANDATORY DOCUMENTS

	MANDATORY ADMINISTRATIVE DOCUMENT	Required	
		Yes or no	
1	Completed and signed tender document – Tender Invitation	Yes	Foskor document
2	Initialed Scope of Work document	Yes	Foskor document
3	Signed Ethics Policy document	Yes	Foskor document
4	ISO 45001 Introduction	Yes	Foskor document
5	Foskor Standard term and Conditions – will be used	Will be applied	No need to submit

	MANDATORY COMMERCIAL DOCUMENTS		Attach as:
1	Valid SARS Pin	Yes	Annexure 1A
2	Company/Trust or CC registration documents (CIPC)	Yes	Annexure 1 B
3	Directors Identity Document (certified copies)	Yes	Annexure 1 C
4	BBBEE certificate/ or Affidavit for the below R10million revenue p.a. companies	Yes	Annexure 1 D
5	Shareholding Structure (showing all shareholders in the entity)	Yes	Annexure 1 E
6	Shareholder or trust beneficiary information -Id numbers of shareholders or -Registration documents, where a shareholder is also a legal entity/company or trust	Yes	Annexure 1 F
	-Id numbers of the trustees and beneficiaries, where the shareholding is by a Trust		
7	Shareholder Certificates (where not reflected on CIPC documents)	Yes	

8	Letter of Good Standing (COIDA) for companies that render service on Foskor site or deliver on site	Yes	Annexure 1 G
9	Two year's Financial Statements – for bids above R 5 million. The financial statements must not be older than two years. -Provide any additional information if available on credit lines/ accounts that your company has with it owns suppliers to show financial strength or -Bank letter of good standing or support on the project	Yes	Annexure 1 H
10	CIDB Grading per advert	Yes	Annexure 1 I
11	ISO certification for bidder – ideal but not required	No	Annexure 1 K

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 specified item.

- 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 that does not meet the mandatory requirement will result in the bid being disqualified.

No	Pre-Qualification Requirements	Comments
1	Requirement of CIDB 3SH or higher Scoring: Yes or No	Provide certificate of CIDB grading

23 EVALUATION CRITERIA (TECHNICAL)

Evaluation Criteria (Technical)				
Supply, installation of two nurseries with 50 000 Vetiver grass plants individually planted in a growth bag and management of nursery for two months.				
No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
1	Experience & Team competence -			
a)	Company - Have previous experience in the supply and set up of nurseries, provide list of references (at least 3 on mining properties) Scoring: <ul style="list-style-type: none"> • No Experience = 0% • Company experiences 0 to 1 year = 5% • Company experience >1 to <3 years = 10% • Company experience >3 years = 20% 	35%	Please provide an order list with values The list to contain the following. Order no, Order description, Order date, Brief explanation of what the work entailed, Order value, Reference name and Tel number.	<u>Annexure A</u>

			References may be provided in the form of a Purchase Order (PO), contract, completion certificate, or reference letter.	
b)	<p>Provide proof of vetiver grass cultivation, (three previous projects)</p> <p>Scoring:</p> <ul style="list-style-type: none"> • No Experience = 0% • Company experience on Vetiver grass less than 3 projects= 10% • Company experience on Vetiver grass of 3 project or more = 35% 	35%	<p>Please provide an order list with values</p> <p>The list to contain the following.</p> <p>Order no, Order description, Mine or Plant, Brief explanation of what the work entailed, Order value, Reference name and Tel</p> <p>References may be provided in the form of a Purchase Order (PO), contract, completion certificate, or reference letter.</p>	<u>Annexure B</u>
c)	<p>Company organogram indicating Management, Nursery set up team, Nursery management team, supervisor, etc</p> <p>Scoring:</p> <ul style="list-style-type: none"> • Organogram not submitted = 0% • Organogram with CVs Management & Nursery team (min. #2 members = 5% • Organogram with CVs Management, Nursery team (min. #3 members) & supervisor = 10% 	10%	<p>Submit organogram indicating management, supervisors and teams foreseen during establishment and management. Complete organogram and who will be the legal appointee's as per the MHSA. Include all roles and subcontractors.</p>	<u>Annexure C</u>
Evaluation Criteria (Technical)				
Supply, installation of two nurseries with 50 000 Vetiver grass plants individually planted in a growth bag and management of nursery for 2 months				

No	Technical Criteria Description	% Contribution	Proof / documents to be submitted	Notes
d)	<p>Company has the required assets to execute the supply, establish the nursery, management of the nursery</p> <p>Scoring:</p> <ul style="list-style-type: none"> • Company does not have required assets related to relevant nursery establishment = 0% • Partial assets or not sufficient or not relevant to scope = 5% • Company has required assets=10% 	10%	<p>List assets – Provide an asset list on a letter head signed off by the relevant authorised person. The focus is nursery establishment and management (Assets or ability to provide) or how the service is provided e.g. letter of crane supplier indicating usage for past projects, etc.</p> <p>Provide photos of assets related to asset list</p>	<u>Annexure D</u>
e)	<p>Must be Iso 9001:2015, Iso 14001:2015 and Iso45001:2018 accredited</p> <p>Scoring:</p> <ul style="list-style-type: none"> • No ISO accreditation= 0% • One ISO 9001 & 14001 accreditation = 5% • Both ISO9001 & 14001 accreditation compliance = 10% 	10%	Provide ISO accreditation certificates and relevant documentation	<u>Annexure E</u>
	Total Technical Score	100.00 %		
<p>Note: 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</p>				

24 PRICING SCHEDULE Description: Supply, installation of two nurseries with 50 000 Vetiver grass plants individually planted in a growth bag and management of nursery for 2 months

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

2. No allowance is made for waste.

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

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

PRICING SCHEDULE

Description: Supply, installation of two nurseries with 50 000 Vetiver grass plants individually planted in a growth bag and management of nursery for 2 months

Annexure A					
No.	Item Description	Unit	Quantity	Rate	Total Amount R
1	PRELIMINARY AND GENERAL				
1.1	Time-Related P & G's – Includes all construction, construction management and supervision, administration, legal, insurance management, travelling, accommodation, transport, licenses, compliance, 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		
				Sub-Total -1	R
	NOTE: All invoices will be paid if material/equipment is delivered On-site.				
2	GENERAL NOTES				
	(a) All rates should include labor rates, delivery to site, offloading, handling, and site storage, etc.				

	<p>(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. Civil, electrical, instrumentation, irrigation, etc and any other related nursery set up requirements</p>				
	<p>(c) Rates shall include for all painting and finished as per Foskor standard.</p>				
	<p>(d) Rates shall include for assembly, erection, touch-up paint, temporary supporting and fixing into position.</p>				

READ YOUR SCOPE

3.1	Mechanical fencing – Design, Supply, fabricate and install fence as per signed off concept from Foskor	Sum	1		
3.2	Earthworks and landscaping to accommodate nurseries – Storm water management, leveling, etc	Sum	1		
3.3	Design, supply and install nurseries to accommodate 50 000 vetiver plants. This includes weed guard	Sum	1		
3.4	Nursery irrigation system - Design, Supply, Install and commission a programmable irrigation system in the nursery – rainbird or equivalent	Sum	1		
3.5	Vetiver plants - 50 000 plants including, supply transport, delivery, handling, bags, etc	Sum	1		
3.6	Water supply - from Foskor take off point	Sum	1		
3.7	Electrical supply - from Foskor take off point	Sum	1		
3.8	Management of Nursery for 2 months – All inclusive (labor, equipment, management, compliance, maintenance, etc)	R/month	2		
3.9	Other – Please specify				

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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 A 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.