

DEMOLISH EXISTING DIGESTION TANK No.1 AND REBUILD NEW DIGESTION TANK No.1

Tender no: FTP /22/MN

Cost Code:

Revision¹: 1.0 see legend at bottom of page

Revised date:

NAME	TITLE	Empl. no	SIGNATURE	DATE
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COMPILED - RECOMMENDATION

Vitus Nzimande	Project Engineer	503852		14/10/2022
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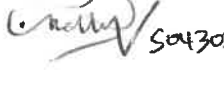
COMPREHENSION AND ACCEPTANCE BY CLIENT

The Client warrants that he/she reviewed the Scope of Works and that this Tender and related document and that the Scope of Works comply to Production requirements and the outcome of the work as agreed between parties.

Sagie Moodley	Senior Manager Production	504385		18/10/22
Morris Gcumisa	Maintenance Engineer	503508		17/10/22

Comments:

APPROVAL TO PROCEED

Blessing Mbuyazi	Senior Manager Projects	504427		19/10/2022
Sifiso Majola	Senior Manager Maintenance	15480		20/10/22
Sumaya Khan	Technical Manager and CI	503295		19/10/2022
Charles Mavuso	Senior Manager SHREQ	504688		19/11/2022
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Sam Mbuyazi	General Manager	500441		11/11/2022
Charles Reddy	Vice President	504307		18/11/2022

Comments:

¹ Revision Legend:

0.n = Draft,

1= Final version

Thus first draft = 0.1, second draft = 0.2, etc, and final approved = 1.0

Should the final be revised for whatever reason the revision would be 1.1 etc.

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Section A: INVITE AND TENDER INSTRUCTIONS

A.1 Invitation to tender

A.1.1 Tenderers are invited to submit a tender in accordance with this Tender Document.

The Works consists of **Demolish existing Tank No.1 and dispose it into waste bins, Design, Fabricate, Install, Rubber Lining and Brick Lining Digestion Tank No.1**

The tender Instructions are to be found in **Section A.**

The Contract Works Forms of Tender is stipulated in **Section B.**

The detailed Scope of Work and Specifications are to be found in **Section C.**

The Conditions of Contract are stipulated by **Foskor (Pty) Ltd, Procurement Department.**

A.1.2 At the time of tendering, any queries and/or doubts within the scope, specifications or drawings shall be referred to:

Designation	Buyer: Tenders and Contracts
For the attention of	Mphumeleli Ngqulunga
Telephone	035 902 3115
Fax	035 797 3941
Cell no	
Email	PhumeN@foskor.co.za

A.2 Return of Tender Documents

A.2.1 One copy of this document, duly completed and signed by the Tenderer, shall be delivered in a plain sealed envelope, distinctly marked as follows:

TENDER		
Tender No.	FTP /20/MN	The Manager Procurement FOSKOR LIMITED 21 John Ross Parkway Richards Bay
Contract Title: Demolish Existing Digestion Tank No.1 and Rebuild New Digestion Tank No.1		
Closing date & time:		

A.2.2 Tenders shall be placed in the **Tender Box at Foskor Richards Bay Main Administration Reception** no later than **12h00 noon** on the closing date

A.2.3 A tender sent by fax shall not be accepted.

- In case of Tenderers not being local, and not being in a position to hand deliver tender documents to the above-mentioned location, Tenderers may use an approved document courier for the purpose of delivering the tender document to Foskor (Pty) Ltd. This would be subject to auditable proof of dispatch from the Courier Company (including time and date of dispatch).
- Such proof shall be faxed and confirmed as addressed to Superintendent: Tenders and Contracts, FOSKOR (PTY) LTD, 21 John Ross Parkway, Richards Bay, facsimile number as indicated under item A.1.3 before the closing time and date of the tender.
- Foskor shall take no responsibility for lost courier documents – prior to opening of tenders - and onus rests on Tenderer to keep duplicate of Tender Submission.
- In this case the sealed envelope shall remain addressed as per paragraph A.2.1, and shall be placed in a sealed courier bag with the following street address delivery instructions:

FOSKOR (PTY) LIMITED - (TENDER BOX)
21 John Ross Parkway
Richards Bay
3900

A.2.4 Tenders will not be opened in public and under no circumstances will the price(s) at which any Contract was awarded be divulged to any person.

A.2.5 In the event that the Tenderer did not submit a tender or if his tender was unsuccessful, the Tenderer shall return the Enquiry Document and Drawings within **14 days** to the **Superintendent: Tenders and Contracts**.

A.3 Site Inspection

An official Site inspection shall be held at the **Foskor, Richards Bay** site in order for the Tenderer to fully acquaint himself with prevailing site and works conditions. In so doing you are to ensure that you fully understand the context and extent of the works (refer B.5 – Site Inspection Certificate).

Date of Site Visit	
Time of Site Visit	From: To:
Meeting Venue	Report at Main Security Entrance

Please wear the following protective clothing and note these must be Foskor approved PPE:

Overalls (Acid Proof),
Hard Hat
Safety Shoes
Safety Glasses
Hearing protection
Gloves

[illegible]

IMPORTANT

- Please note that a Safety Induction is **MANDATORY** and all Tenderers to allow for at least **30 minutes** before the Site Meeting start, to complete the induction.
- The Site Visit / Inspection are **COMPULSORY**.

A.4 Examination and Completion of Documents

- A.4.1 The Tenderer shall examine all documents forming part of the Tender and submit his tender accordingly. All drawings, addendums, annexures received with the Tender documents must be returned with your company stamp and/or signature, as a comprehensive part of your Tender Submission. Failure to do so may result in disqualification from tender.

Tender in accordance with this format and submit documents as specified below.

- A.4.2 The Sections of this document shall not be separated in any way, nor shall any pages be detached therefrom.

- A.4.3 The Tenderers submission is to include all Financial and Contractual detail and be signed (by authorized person) and/or company-stamped together with tender submission.

A.4.3.1 Schedule of rates of Costs in detailed Breakdown or Labour Rates for the Works or Breakdown per Bill of Quantities

A.4.3.2 Initial Project Program of Works, Work Methodology, and Cash Flow (structured similarly to payment terms)

A.4.3.3 Schedule of Key Personnel on the Project

A.4.3.4 Schedule of Similar Contracts Undertaken

A.4.3.5 Site Inspection Certificate – signed by Tenderer as proof of attendance

A.5 Contract Documents Priority

The eventual Contract shall comprise the documents as stated in this tender document, your Tender submission by which you agree and the Foskor (Pty) Ltd Terms and Conditions, which shall be interpreted in accordance with the order of priority stated in the said Conditions.

A.6 Alterations by Tenderer

- A.6.1 Should the Tenderer propose any departures or modifications from the Conditions of Contract, Specifications, or to qualify his tender in any way, he/she shall set out his/her proposals clearly in the covering letter attached to this Tender with reference to the particular section of the document, failing which the tender will be deemed to be unqualified. Any proposed technical departures from Foskor (Pty) Ltd.'s Requirements or Specifications shall only be considered if submitted in writing together with a detailed motivation for such departures.

- A.6.2 The Tenderer shall include in respect of each proposed alteration the following:

- a) Reason for proposed exception.
- b) Suggested re-wording.

- c) Any effect on the tender price;
- c) Any effect on the execution of the scope of supply;
- d) Any effect on Foskor's overall program objectives.

If any of the above information is not supplied, the Tender may be regarded as non-compliant.

A.7 General

- A.7.1 Foskor (Pty) Ltd reserves the right to adjust arithmetical or obvious errors in the Tender. Such adjustments made by Foskor (Pty) Ltd will be communicated to the Tenderer prior to the acceptance of his Tender.
- A.7.2 The Tenderer (whether his Tender is accepted or not) shall treat the details of the Tender as private and confidential and no copies shall be made thereof without the permission of Foskor (Pty) Ltd.
- A.7.3 Foskor (Pty) Ltd is not bound to accept the lowest or any other Tender it may receive, nor to assign a reason for the rejection or acceptance of any Tender, and Foskor (Pty) Ltd has the right, after Tenders are opened, and before a Contract is awarded, to enter into negotiations and discussions with one or more Tenderers short-listed on a price, programme or technical basis, with a view to the clarification, improvement or amendment of any particular Tender.
- A.7.4 All Tenderers tender at their own risk and Foskor (Pty) Ltd is not bound to accept any Tender and under no circumstances whatsoever will be responsible for any costs incurred by any Tenderer in compiling or submitting the tender.
- A.7.5 Furthermore, Foskor reserves the right to accept only a part of the Tender, with due communication and agreement of the Tenderer.
- A.7.6 The Tenderer is required to submit a 'bona fide' Tender, intended to be competitive and not to fix or adjust the amount of the Tender by or under or in accordance with any agreement or arrangement with any third party. The Tenderer is also obliged to ensure that it has not and will not at any time before the hour and date for the lodging of this Tender do any of the following acts:
 - a) Communicate to any person¹ the amount or approximate amount of the proposed Tender except where the disclosure, in confidence, of the amount of this Tender was necessary for the preparation of the Tender.
 - b) Enter into any agreement or arrangement with any third party that shall disqualify from or that Foskor shall refrain from using.
 - c) Commit any act or omission that would be contrary to the Maintenance and Promotion of Competition Act 96 of 1979 and notices and regulations published in terms of that Act,

Section B: FORMS OF TENDER TO BE SUBMITTED

B.1 Schedule of Rates or Summary of Bill of Quantities – for details refer to the attachment

From Bill of Quantities (if applicable) or	Qty	Unit	Rate	ZAR
1.0 SUB TOTALS:				
1.00 Demolish Existing Digestion Tank No.1				
1.01 Preliminary & General				A1
1.02 Equipment (Provision of Cranes, Cherry picker, Truck, Scaffolding, etc.)				A2
1.03 Removal of Pipes, platform, etc.				A3
1.04 Demolishing Tank roof, shell, floor & grillage				A4
1.05 Site Clean-up & Bin Disposal				A5
2.00 Rebuild New Digestion Tank No.1				
2.01 Preliminary & General				A6
2.02 Design, Fabricate and Install new Digestion Tank				A7
2.03 Design, Fabricate and Install Launderers				A8
2.04 Rubber Line Digestion Tank				A9
2.05 Brick Line Digestion Tank				A10
2.06 Provide as-built drawings				A11
Sub Totals Sum (Excluding VAT)				A12
3.0 Add: VAT	15%			
4.0 Total Tender Sum (Including VAT)				A13
B1.1	In the event of their being any obvious errors of pricing, extensions or additions in the priced Schedule of Quantities attached, we agree to their being corrected, and the contract amount altered accordingly.			
B1.2	We further undertake that this tender cannot be withdrawn or retracted for 90 (ninety) days from the closing date.			
B1.3	Notwithstanding that, this tender is submitted by invitation, it is clearly understood and agreed that there is no obligation upon Foskor to accept the lowest or any tender.			
B1.4	The tendered prices are fixed and firm for the duration of the contract, and unless otherwise agreed to in writing a 10% Retention (<i>held for 12 months, unless otherwise specified</i>) shall be deducted on all payments made for the Liability Period as defined in B.2. This clause also refers to 'Handover' as specified in B 2.1 WE AGREE TO A 10% RETENTION and 12 MONTHS DEFECTS-LIABILITY RETENTION PERIOD.			
B1.5	Unless or until a formal agreement is prepared and signed, this tender, shall serve as your written acceptance and constitute a binding contract between Foskor and Yourself.			

Amount In Words:

Signed aton.....

Signature

For and on behalf of the Tenderer (duly authorized)

Company Stamp

B.2 Initial Project Programme of Works, Work Methodology and Cash Flow

(This is a workable schedule, and the Contractor is in no way obligated to these dates. An obligatory final programme will only be required once the tender is awarded)

Commencement Date (Guide: 6 wks from tender close date)

Snagging/Modification List Date

Completion of Works/ Final Handover (Guide: Project duration)

13 Months

Defects Liability Period Applicable (Start from Project handover)

Retention Payment:

12 months from Project Completion & Handover (Refer B1.4)

TO BE SUBMITTED WITH THIS TENDER

The Tenderer shall submit with this Tender:

- 1 Initial programme (Bar Chart/Gantt Chart)
 - 2 Milestones; and
 - 3 Indicative Cash Flow / Invoicing
 - 4 Record of experience and references
 - 5 Proof of professional registration
- for the Works to be completed in the time allowed

OTHER IMPORTANT NOTES

- **'Defects Liability Period'** shall be that period in force for Foskop to call upon the Contractor/Consultant to rectify at no cost to Foskop (Pty) Ltd any defects of workmanship, quality, or practice; and shall remain in force **in parallel with the Retention Period** and any other duration agreed to.
- The Tenderer is to list and motivate any deviations in terms of Project Program and/or time allowed, and this is subject to approval by the Foskop's Engineer.
- It would be expected, in the event of critical work and/or work behind programme/schedule, should such be attributable to the Contractor, to make up the time and work and complete the work at no cost to Foskop (Pty) Ltd.

- The Tenderer shall within **7 (seven)** days of contract award submit a final detailed work methodology and programme, and the final work methodology shall be verified and approved by Foskor (Pty) Ltd.
- The Tenderer is welcome to propose alternatives work methodology or approach to work, that may be of mutual benefit. This would be submitted in the form of an Alternative (clearly marked), however the Tenderer is **still to submit a tender in the form specified** in this tender.
- The Tenderer shall submit a Work Breakdown Structure (WBS) and compile a programme (use MS Projects or MS Excel to compile the Project Program).
- If the Tenderer is partially or wholly responsible for the design or design drawings according to which construction is specified, any corrections to design/design drawings shall remain for the Tenderers account for a period of 6 months (or as otherwise agreed) after project completion. This is to ensure that poor design or inaccuracy of designs is rectified at no cost to Foskor.

B.2.1 Project Completion and Handover; Retention

Unless otherwise agreed, Project Completion (handover), shall be deemed to be from date of Foskor issuing a Project Complete/Handover Certificate to the Contractor. This should be expected to be received within seven (7) days from date of receipt by Foskor of the complete Data Pack in its acceptably certifiable form (refer Section C of this document, **Quality Control**). Once the project has reached completion as defined by this scope, onus rests on the Tenderer to request from Foskor a Project Complete/Handover Certificate, which receipt shall define and signify the commencement of Retention Period (if applicable).

B.2.2 Initial Programme to be Submitted

The interim and final project completion dates, as indicated in the above table should be used as the guideline for the Tenderer to compile the detail project schedule.

After the contract agreement is accepted (by signature of an agreement or acceptance of a Purchase Order) the dates shall be fixed and shall be applicable to the penalty clause as per agreement.

ATTACH GANT CHART AND/OR BAR CHART TO THIS PAGE

B.2.3 Table with Milestones to be Submitted

Using the critical path items from the programme compile related Milestone Dates. Thus, the items/actions/ activities to be met that is critical towards the completion of the project

B.3 Schedule of Key Personnel on the Project

The Tenderer shall:

1. Complete schedule B.6.1 below concerning the Key Personnel on the project, indicating also if the person is employed by the Tenderer, a sub-contractor or temporary employed person.
2. Submit a project organogram showing the relationships and authority.

Key Personnel	Name and Surname	Full/Part Time on site, off-site?	Employed, Sub- Contractor or Temp?	Years Related Experience
Project Manager / Owner				
Site Manager/ Contracts Manager				
Quality Assurance and Control				
Document Control and Accounts				
Safety Officer				

These persons shall not be substituted without prior consultation with and approval from Foskor (Pty) Ltd.

Failure to submit this information at the time of tender could lead to disqualification of the tender.

B.4 Schedule of Similar Contracts Undertaken

Please provide a list of work done on contract of which the Scope of Works that are similar to the one described in this document (or attach references)

[illegible]

B.5 Schedule of Labour Rates for the Works

The rates for labour indicated below shall be the Total Cost to the Company (Contractor). It shall include for all the Contractor's profits, overheads, wages, accommodation, travelling, subsistence and other costs relative to the employment by the Contractor of the personnel detailed, and for hand and portable electric or pneumatic tools and consumables normal to the trade of the respective personnel.

However, it will exclude indirect supervision as same are deemed to be included under the costs relating to the Conditions of Contract i.e., non-productive supervisors are deemed to be included in the rate.

The rates detailed herein shall **not** be subject to escalation.

The Contractor's rates per hour are based on a normal **9 hours per day**.

The application and use of these rates shall be at the sole discretion and subject to the prior approval of the FOSKOR designate representative.

[illegible]

B.6 Schedule of Equipment for the Works

The Contractor shall list below all the items of major equipment, which he guarantees will be provided on site in perfect working order to complete the work. The lists of items of equipment shall provide the Contractor's warranty of ownership of such equipment unless specifically endorsed in this Annexure to the contrary as "hired" or "hire purchase equipment."

The rates for Equipment detailed below shall include all overheads, profits, and maintenance and running costs including the provision of drivers/operators where necessary.

Contractor's rates per day are based on **9 hours per day.**

The rates detailed herein shall not be subject to escalation. No payment in respect of standing time shall be paid for items of equipment not listed below.

This Schedule shall be accurately completed. Phrases such as "adequate equipment will be provided" will not be accepted. The application and use of these rates shall be at the sole discretion and subject to the prior approval of the Engineer.

[illegible]

B.7 Site Inspection Certificate – To be signed by Tenderer

This is to **CERTIFY**, that we
Name (s in CAPITAL LETTERS) (Referred to on the Form as "We")

representing and being duly authorized by:

.....
(Name of Company and Address) (Referred to on the Form as "We")

1. Visited the SITE on (date);
2. Received the TENDER Documents (including all attachments and subsequent correspondence related to this tender);
3. Carefully examined the SITE and made ourselves familiar with all local conditions likely to influence the WORKS and the cost thereof;

We further CERTIFY that we are satisfied with the description of the WORKS and explanations given by Foskor (Pty) Ltd and that we fully understand the nature of this TENDER.

I/We are,

Yours faithfully

SIGNATURE: _____

ON BEHALF OF: _____

DATE: _____

AS WITNESS: _____

Section C: SCOPE OF WORKS

C.1. Background, Present Situation and Proposed Solution

C.1.1 Background

The main purpose of Digestion Tank is to ensure adequate digestion of slurry thereby ensuring higher P_2O_5 recoveries. The Digestion Tank plays a vital and a significant role in the maturation of gypsum crystals before filtration process can commence. This tank is regulated by Foskor under the API 650 Standard and fabricated from mild steel, lined with rubber, and had carbon acid brick lining.

It has become necessary to replace the Digestion Tank to have better reliability of the tank structure.

The main aim of this scope of work is to demolish and dispose of the existing digestion tank, re-Design, Fabricate, Supply, Install Rubber lining and Carbon Acid Brick lining of the new Digestion Tank.

C.1.2 Present Situation

The Digestion Tank No1 is currently running with multiple defects. The digestion tank has been showing hair line cracks in brick lining. Grillage beam and annular ring exhibit severe deterioration as per report number 856-01/JXN/07 of 2015. The tank is out of operation and still stands in good and upright state complete with over-head agitator structures. The internal of the tank is rubber lined and brick lined. It has been recently taken offline and decommissioned.

C.1.3 Proposed Solution: Reason for this Tender

The following scope of work is proposed for the project:

- Demolish and Dispose existing Digestion Tank Number 1
- Re-Design, Fabricate, Supply, Install, Rubber line the entire internally - roof, walls and floor and carbon brick lining internally of the new Digestion Tank No.1
- Design, Fabricate, and Install inlet launder from the Reactor and outlet launder to Digestion Tank number 2. Remove the launder from reactor to Digestion Tank number 2.

This tank will be constructed on top of the existing civil foundation. The foundation's integrity to be inspected and certified by the contractor.

The new Digestion Tank is proposed to be fabricated out of carbon steel material. Corrosion protection will be applied on the overall tank structure.

C.2. Legislation, Standards and Codes of Practice

Latest revisions or amendments of the listed codes and specification are applicable to this contract:

Number	Title / Description	Revision
COP6	Control Of Construction Work	Latest
Act 85 of 1993	Occupational Health and Safety (OHS Act)	Latest
SANS 1200	Civil Construction Work	Latest
SANS 10100	Structural use of concrete	Latest
S28 NEMA (1998)	Duty and care of environmental degradation	Latest
API 650	Shop and Field Fabricated Tanks	Latest
ASME IX	Welding Procedures/Qualifications	Latest
ASME V	Inspection Requirements	Latest
ASME V	NDT Specifications	Latest
SANS 1201	Application Of Rubber Lining on Vessels	Latest

All work listed in this scope of work shall be completed in accordance with the latest specifications and latest codes as listed above. It is the responsibility of the Tenderer to be in possession of the latest standards and latest codes as listed above in the execution of this project.

C.3. Foskor Specifications

All work listed in this scope of work shall be completed in accordance with the latest specifications listed below.

Those specifically applicable to this Tender is **marked with "YES"**, however it does not exclude other specification listed or implied, and it remains the Tenderer's responsibility to ensure that work execution and tender prepared is in line and meets the requirements of all standards indicated or not.

Number	Title / Description	Version	Applicable
OTHER	STANDARDS on this Tender		
APPLICABLE	FOSKOR SPECIFICATION on this Tender		
E003	Industrial Electrical Installations	Latest	
EC1	Installation, Testing and Commissioning of Electrical Equipment	Latest	
FC005	General Earth Works to Plant and Building	Latest	Yes
FD001	Design Criteria for Structures	Latest	Yes
FG001	General Requirements for Projects	Latest	Yes
FL001	Design & Fabrication Criteria for Ladders & Walkways	Latest	Yes
FM001	General Mechanical Specification	Latest	Yes
FM003	Welding of Fabricated Equipment	Latest	Yes
FM002	Rubber Lining of Vessels and Piping	Latest	Yes
FM003	Welding of Fabricate Equipment	Latest	Yes
FM432	Insulation of Vessels and Piping	Latest	Yes
FQ001	General Engineering Quality Requirements	Latest	Yes
FQ002	Non-Destructive Testing	Latest	Yes
FS001	Specification for the Fabrication & Erection of Structural Steel Work	Latest	Yes
FS002	Specification of Roof and Side Cladding	Latest	
FV001	Requirements Vessels, Tanks and Heat Exchangers	Latest	Yes
GM5	Pipe Standards Including Auxiliary Equipment	Latest	
GM6/COP9	Engineering Drawing and Document requirements	Latest	Yes
GQ1	Quality Control Procedure for Contractors	Latest	Yes
GS1	Structural Steelwork and Plate Work Fabrication and Erection	Latest	Yes
MC001	Corrosion Protection Colour Coding	Latest	Yes
MC002	Scope of Corrosion Protection Richards Bay	Latest	Yes
MC004	General Plant Painting Specification Low Temperature	Latest	Yes
MC006	Repair/Touch-up of Damaged Steelwork	Latest	Yes
MC009	General Plant Protection High Corrosive Areas	Latest	
MC010	Painting Tank Grillage	Latest	Yes
SS-000000-C-006	General specification for concrete construction	Latest	Yes
SS-000000-C-007	Concrete specification	Latest	Yes

SS-000000-C-012	Grouting	Latest	
SS-000000-Q-001	General quality requirements	Latest	Yes
SS-000000-S-001	Fabrication and erection of structural steelwork	Latest	Yes
DD-000000-C-001	Civil design criteria	Latest	Yes
DD-000000-S-001	Structural design criteria	Latest	Yes

Where there is contradiction between the Foskop Specification and Legislation, Standards and Codes of Practice, therefore, Foskop specifications shall not take precedence. It is the responsibility of the Tenderer to highlight to Foskop the contradictions on the above.

It is the responsibility of the Tenderer to be in possession of the latest specifications as listed above or implied in the execution of this project.

The Contractor is referred to the Specification mentioned for full descriptions of materials and methods referred to in these Bills of Quantities/Lump Sum documents, insofar as they apply.

The Tenderer is advised to study the referred to specification before pricing Bills of Quantities/Lump Sum documents.

No claim whatsoever will be allowed in respect of errors in pricing due to brevity of description of items in the Bills of Quantities/Lump Sum documents which are fully described when read in conjunction with the relevant Preambles and/or Specifications.

Suppliers of materials and the like, whose quality systems apply with one or more of the SABS/SANS ISO 9000 Series should be used whenever possible in the absence of a particular SABS/SANS Specification Standard Mark.

The Tenderer is hereby informed that where SABS/SANS Specifications are referred to in these Bills of Quantities/Lump Sums documents and Specifications thereto, then ONLY the Specification of Work Clauses will apply. The method of measurement and payment clauses will NOT apply to this Contract.

C.4. Project Requirements

The scope of work for the project is consistent of the following main works:

- **Demolish Existing Digestion Tank No.1 and Rebuild New Digestion Tank No.1**

The Tenderer shall further ensure that all work is executed with a detailed quantity of work and/or design detail is provided and complies with the specifications as set out in this document.

C.5 Plant Data

All work listed in the document will be constructed for installation at the **FOSKOR RICHARDS BAY PLANT, 21 JOHN ROSS PARKWAY**

C.6. Drawings and Technical Data

The following reference drawings, technical data and/or manuals remain the property of Foskor and shall be returned to Foskor on completion of the work.

C.6.1 Drawings:

REFERENCE - DIGESTION TANK DRAWINGS		
Drawing No.	Title / Description	Revision
3333 – 1034 – D – 01	Digestion Tank 352 904 TK General Arrangement	Latest
3333 – 1034 – D – 04	Digestion Tank 352 904 TK Shell Plate Details	Latest
3333 – 1034 – D – 12	Digestion Tank 352 904 TK Internal Attachments	Latest

C.6.2 Technical Data:

TECHNICAL DATA OF DIGESTION TANK	
Code of Design and Fabrication	API 650 Latest Edition
Maximum Design Temperature	90°C
Design Pressure	Atmosphere
Specific Gravity	1850 Kg/m ³
Nominal Diameter	6.6 m
Nominal Height	7.99 m

All work listed in this Scope of Work shall be completed in accordance with the latest copies of drawings/specifications as listed above. It is the responsibility of the Tenderer to ensure that the Tenderer has the latest copies of drawings/specifications as listed above for the execution of this project.

On completion of the project the Tenderer must certify all documentation and drawings for correctness and conformance, specifying which standards and regulatory acts these conform to.

C.7 Scope of Work

NB: Battery limit for this SOW is for Digestion Tank No.1 which is between the rector and Digestion Tank No2

Demolishing of the existing Digestion Tank No.1

- The contractor must have a Fire Watch Team consisting of 2 trained people in fire extinguishing and use of firefighting equipment on the site before any demolishing work starts.
- The contractor may access the demolition by using a crane with man-cage (Boatswains Chair, note DOEL to approve this) or scaffolding or a cherry picker or any other approved equipment, however a demolishing methodology must first be agreed upon between the contractor and the Foskor Engineer and Safety Officer – i.e., Approved Method Statement.
- All electrical/instrumentation cables to be disconnected by FOSKOR. Disconnected cables to be stripped off rolled back and secured by the contractor for later use. All cable racks and cables to be stripped out in a way so that a safe operating methodology is consistently maintained.
- The contractor must allow for the pumping of sludge that might spill in the area from production processes or a temporary bund wall around the area of work. This temporary bund wall to be taken out at the end of the project.
- The contractor must allow for temporary access scaffolding bridge to the work area.
- To carefully remove all connections, walkways, handrails, and platform from the Digestion Tank as per the battery limits.
- To demolish Digestion Tank No.1 by cutting of the tank roof, shell, and baffle plates metal in hand able pieces. Floor plate to be cut in strips as per run of grillage beams.
- The contractor to move the scrap tank to an identified Laydown Area.
- The contractor will be responsible for the removal of structural steel and connecting pipes from Digestion Tank as per the battery limits.
- Separate bricks, rubber, and steel by buff steel after rubber is removed.
- Cut the Digestion Tank No.1 steel and load its steel pieces on steel waste bins provided by Foskor.
- Load bricks and rubber piece and debris to their respective waste bins to be disposed of by Foskor.

Rebuild New Digestion Tank No.1**1. Designs & QC Pack**

- Re-Design, Fabricate, Supply, and Install new Digestion Tank for Phosphoric Acid Plant, the contractor shall include all design calculations, stress analysis and drawings in the design.
- The Design Standard must be API 650 Latest Edition fabrication drawings.
- The contractor shall have or subcontract ECSA registered Pr. Engineer as Competent Person to sign off on all the designs.
- The contractor shall appoint a SANS 1702 Accredited AIA as the Manufacturing AIA, who is registered as such with and approved by Department of Employment and Labour.
- The contractor shall subcontract or employ for site/shop quality verification and assurance a certified and registered IPE (Inspector of Pressurised Equipment) by SAIW who has a recognized SAQA number for verification.
- The contractor with EN3834 accreditation will have a better advantage in meeting the SOW requirements.

- Foskor Resident AIA shall oversee the functions of the Manufacturing AIA and conduct surveillance on activities of the manufacture.
- Supply detailed design drawings for the Digestion Tank for Phosphoric Acid Plant.
- The contractor must comply with all the requirements of this document and supply proof of any documentation as may be required by Foskor before issuing an official order.
- Fabrication drawings shall be supplied as CAD files and paper copies thereof reflecting the relevant information in accordance with the request of Foskor Limited. All the applicable Engineering design data shall be an integral part of the total package and supplied with the drawings.
- The contractor shall submit a Data Book at completion, containing Quality Control Plans, Release Certificate, Manufacture's Data Report, Design Calculations, As Built Drawings, AIA Inspection Report, Material Identification Sheet, Material Certificate, WPS & PQR, Welder Qualifications Certificate, Welding Consumables, Radiographic Test Report, Liquid Penetrant Testing, Magnetic Particle Test Report, Eddy Current Testing Report, NDT Procedures, NDT Qualifications Procedures, Name Plate Facsimile, Weld Map, Approved Drawings.
- The Tenderer to submit the following information for approval to a Foskor Resident AIA before starting fabrication: Design Calculations, Quality Control Plans, Welding Procedures, Material Certificates, General Assembly drawings
- The contractor shall be responsible for all required quality test, e.g., vacuum test, water fill test or 100% X-ray test, DFT reports, rubber pull test reports, shore hardness test reports, spark test reports, certificate of fitness.
- As a minimum the contractor must provide a nameplate which consists of the following information:
 - Name of Manufacture
 - Country of Origin
 - Year of Manufacture
 - Manufacture's serial number
 - Name, number & date of the Standard/Code of Design
 - Design gauge pressure in Pascal
 - Maximum Permissible Operating Pressure in Pascal
 - Operating Temperature
 - Site Hydro test gauge Pressure in Pascal
 - Capacity in cubic meters
 - Mark of an Approved Inspection Authority (when required)
- Name plate to be attached to the Digestion Tank for the Phosphoric Acid Plant as per Engineers instruction.
- All painting should comply with Foskor's - MC004 (New Specification).

2. Concrete Plinths & Civil Remedial Repairs

- This tank will be constructed on top of the existing civil foundation, which will be certified for use after its' integrity has been confirmed.
- The contractor shall use the Civil Structural Engineer to verify and confirm the integrity of the plinths by core drill and sending samples to the lab. Report of this initiative to be presented

with accurate quantities for remedial work should it be required. The estimated required repairs are about 6 cubic meters of concrete with a strength of 40MPa/19mm.

- The contractor shall conduct any required remedial repair work on the civil structure.
- All Levels to be confirmed as well.

3. Grillage and Floor

- All required grillage and floor plates to be fully NDT and corrosion protected before shell is erected.
- Centre of the floor to have a 2.5m x 2.5m carbon brick pedestal with pockets to make provision for 904L stainless steel wear plates to be installed.

4. Tank Shell

- Fabricate and install new V shape baffles as per reference drawing attached in annexures.
- Supply and install 1" mild steel sockets top and bottom of Tank shell where baffles are installed, 500mm from the floor and 500mm from the curb angle.

5. Rubber lining

- 5mm butyl soft Rubber Specification attached in the annexures.
- Spark testing the entire rubber lined surface.
- Connect the Dehumidifiers
- Measure and cut rubber to correct sizes panels.
- Grit blast to SA 2^{1/2} medium G depth (RZ) of 50µm.
- Take the humidity reading inside the vessel during Grit Blasting and Priming operations, the maximum humidity must be less than 70%.
- Apply two coats of adhesive solution.
- Apply rubber panels to tank surface.
- Supply and installation of 5mm rubber lining on the internal of the tank floor, shell, nozzles and manways and the roof.
- A double layer of rubber lining to be applied on the baffles.
- Rubber to have 100mm security strips on all joints.
- Rubber to be a pre-cured butyl rubber with a temperature tolerance of up to 100°C.
- A complete spark test, shore hardness and pull tests to be done. Two test plates to be made up from floor and shell for pull tests.

6. Carbon brick lining

- Supply and installation of 240mm x 115mm x 65mm carbon brick on the tank floor and shell.
- Supply and installation of 240mm x 115mm x 40mm carbon brick on the tank manhole and launders.
- Centre of the floor to have a carbon brick pedestal with pockets to make provision for 904L stainless steel 2.5m x 2.5m x 6mm wear plates to be installed.
- Carbon brick specification attached in the annexures.

7. Inlet launder from the reactor and the outlet launder to the Digestion Tank no2.

- Design, Fabricate and install the inlet launder from the reactor and the outlet launder to the Digestion Tank no2.
- The launder from reactor to Digestion Tank No.1 is 6mm thick 904L stainless steel material. It is flanged and bolted at the reactor side as well as at the tank side
- The launder from Digestion Tank No.1 to Digestion Tank No.2 is 6mm thick mild steel material, which is flanged, and it gets bolted both sides.
- The launder from Digestion Tank No.1 to Digestion Tank No.2 must be rubber lined by the 5mm Butyl rubber and be brick lined by 240mm x 115mm x 40mm carbon brick.

8. Equipment Installation

- Install the free issued agitator, motor, and gearbox
- Install 904L - 2.5m x 2.5m x 6mm wear plate on pedestal together with Brick Liners
- Provisional cost to be provided for the re-installation of free issued piping.
- Fabricated launders

9. Electrical and instrumentation installation

- Foskor to conduct all required electrical and instrumentation installation.
- Foskor will also do the earthing stud.

10. Corrosion Protection

- Supply and application of Sigma paints as corrosion protection layers.
- Corrosion protection coatings to be applied as per Foskor specifications.

11. Commissioning and testing

- Ensure that all documentation is completed and submitted to Foskor.
- Perform squad check and ensure all deviations are addressed according to their ranking.
- Inspection to ascertain that all connection, gearbox, walkways are correctly mounted to their respective position prior to commission.

Basis of Price

- The Tenderer to supply as per the complete Bill of Quantities as submitted and which includes but not limited to: **Demolish existing Tank No.1 and dispose it into waste bins, Design, Fabricate, Install, Rubber Lining and Brick Lining Digestion Tank No.1**

C.7.1 Scope of Work - Extent

The Contractor understands and shall fully satisfy the scope of required services, as described in the tender **FTP /22/MN** handed out at the site inspection held on (date) _____, which is generalized as follows: **Demolish existing Tank No.1 and dispose it into waste bins, Design, Fabricate, Install, Rubber Lining and Brick Lining Digestion Tank No.1**

1. Until otherwise notified, Foskor (Pty) Ltd have designated Mr. Vitus Nzimande (Project Engineer) and Mr. Anand Lalla (Project Supervisor) to act as Foskor representatives, and they are authorized to give instructions and to provide information to you on Foskor's behalf.
2. It is preferred that the supplier submit contact details for a designated 'point of contact' person who will be authorized to receive information and act on supplier's behalf.
3. Foskor's Health & Safety Representative will deal with all matters relating to the Health & Safety specifications and Construction Regulations relating to this assignment.
4. A pre-requisite of this contract is that the supplier confirms that he shall carry the necessary professional/construction indemnity insurance cover to the extent of the liabilities contemplated.
5. The Tenderer should determine the work methodology and approach. However, it is imperative that the outcome of the works meets all the criteria related to this project.

C.7.2 Site Conditions

The site is located on the Foskor (Pty) Ltd Richards Bay Plant, approximately 500 meters from the main entrance, at the section of the plant known as Phosphoric Acid Plant. The Tenderer is deemed to have viewed the site and to have thoroughly acquainted himself with the extent, nature and conditions affecting the work to be done before submitting his tender.

Access to the area is having obstructions of nearby reactor, conveyor, and other services in the area, however the Contractor must take note that unexpected gas leaks, acid leaks and sludge leaks, however if there is any will take priority for containing of these and returning to a safe working condition.

It will be imperative for the successful Tenderer to liaise with Foskor (Pty) Ltd.'s designated team leader (Foskor representative) to ensure safety whenever site access is required.

Full acid resistant PPE (personal protective equipment/clothing) must be always worn/used.

Be cautious of Foskor equipment, employees and contractor employees always doing their routine maintenance and daily duties in the area.

As it will be deemed that the prevailing conditions have been considered when tendering, no claims for extras arising from failure to observe all site conditions will be admitted.

C.7.3 Services which are known to exist on the site

The following services exist on the site:

- Power cables
- Process air
- Process water
- Process spillages

7.3.1 Foskop Supplied Services

Foskop (Pty) Ltd shall be responsible for:		Applicable:
1	Supply a copy of the relevant Foskop Procedure Specification(s).	refer C.3
2	Supply a copy of reference drawings if required.	refer C.6
4	Provide access to electricity connection points ▪ Any connection and consumption will be monitored by Tenderer and verified by Foskop on defined intervals (usually at the beginning and end of contract)	YES
5	Provide access to potable water ▪ Connection and consumption would need to be monitored by Successful Tenderer (Contractor) and verified by Foskop on intervals (usually at the beginning and end of contract) defined by Foskop	YES
6	Provide a suitable area for site establishment for Successful Tenderer (Contractor). ▪ Successful Tenderer to formally in writing motivates, request and define the area and services it deems necessary for site establishment. ▪ Foskop will at its own discretion (if request is approved) allocate a site establishment area, however Foskop can should it deem necessary retract or re-define its approval by giving reasonable notice to the successful Tenderer	ON REQUEST
7	Provide access to ablutions facilities. (Not change rooms) ▪ Successful Tenderer (Contractor)'s workers to be fully dressed in required PPE when coming on site. ▪ The successful Tenderer to ensure that its workers/subcontractors/ supplier that are making use of facilities, do so in an orderly and well-mannered way. ▪ Successful Tenderer is not allowed to make use of Foskop's change room or tearoom facilities unless agreed to in writing. ▪ The successful Tenderer might be called on to assist with the maintenance and cleaning of ablutions, should Foskop at its discretion believe it be necessary. Cost associated with such cannot be claimed from Foskop (Pty) Ltd.	YES
8	Assist in issuing of work clearances and HIRA certificates.	YES

7.3.2 Successful Tenderer (Contractor) Responsibilities

The successful Tenderer (Contractor) shall be responsible for (inter alia):		Applicable:
1	Supply of own labour, supervision, equipment, specialized manpower and other staff to fulfill the scope of work.	YES
2	Supply suitable (approved) Personal Protective Equipment (PPE)	YES
3	To ensure that all work is reviewed by designated Foskor (Pty) Ltd representative at all stages and/or agreed milestones of the project. All work completed needs to be inspected and approved by the designated Foskor representative (e.g., Project Supervisor/ Manager)	YES
4	After installation/construction and commissioning the successful Tenderer shall conduct final inspection of all work together with designated Foskor (Pty) Ltd representative to compile SNAG list.	YES
5	To ensure that all acceptance approvals as per the Quality Control Policy (QCP) are received before work is finally handed over.	YES

Note that concerning above:

- i. No claims towards losses will be accommodated.
- ii. All items that the Successful Tenderer will bring to Foskor (Pty) Ltd, will be subjected to review and approval by Foskor (Pty) Ltd and shall conform to Foskor procedures.

C.7.4 Certification by Recognized Bodies

Only Tenderers registered with the relevant Board (e.g., Electrical, National Building, etc.) of South Africa in accordance with the Regulations of the Occupational Health and Safety Act will be accepted and permitted to do work under this contract.

C.7.5 Requirement for the termination, diversion, or maintenance of existing services

Only Applies if/where electrical conductors, pipe conduits, electrical transmitters, ducting, or ventilation services are affected. Unless identified as part of the scope, the Contractor must immediately bring to Foskor's attention any previously unspecified or obstructing services existing in his area of work and without terminating/diverting/hindering such services.

C.7.6 Nominated Sub-Tenderers

Should the tenderer anticipate using Subcontractors for any part of the scope, these must be specified below.

The following Sub-Tenderers are nominated:

Contractor	Concerning Works	Contact
	ECSA Registered Pr. Engineer as Competent Person	
	SANS 1702 Accredited AIA as the Manufacturing AIA	

	Registered IPE (Inspector of Pressurised Equipment)	
	Registered Civil Structural Engineer	
	Civil Engineering – 2CE CIDB Grading	
	Corrosion Protection – 3SD CIDB Grading	
	Demolition and Blasting – 2SE CIDB Grading	
	Scaffolding & Structural Steel Works – 4SL CIDB Grading	

C.7.7 Invoicing and Payment

Payment will be made by Foskop (Pty) Ltd, after approval (with consideration for the construction, completion, and defects corrections of the Works) by the Foskop (Pty) Ltd.'s Project Representative .i.e., Engineer, Project Supervisor) of the submitted Payment Certificate to the Tenderer within **30 (thirty)** days from the date of the Tenderers approved invoice.

The invoice shall be approved in accordance with the provisions of Foskop (Pty) Ltd.'s terms and conditions.

The invoice submitted is to be in a format acceptable to Foskop (Pty) Ltd.'s Project Representative and need to contain the following minimum information:

- Company details, registration no and VAT registration no,
- Purchase Order no & Date of Invoice,
- Copy of Purchase Order,
- Detail description of work done to date,
- Value of the current claim and work done (excl. VAT),
- VAT charged.

C.7.8 Standing Time

Standing time is defined as a period of time measured in hours, when the Contractor's normal operational cycle is affected by causes caused by Foskop (Pty) Ltd and results in normal stoppage or major disruption to the regular progress of the Works.

Payment to the Contractor for standing time will be certified only where, in Foskop (Pty) Ltd's opinion, the delay was clearly beyond the reasonable control of the Contractor and the Contractor further took all reasonable measures to avoid or reduce such delay and such delay imposed direct costs to the Contractor.

C.7.9 Progress of Works

Should Foskor (Pty) Ltd at any time be of the opinion that the rate of progress of the Works or any part thereof is too slow to ensure the completion of the Works or any part thereof by the Completion Date, Foskor (Pty) Ltd shall so notify the Contractor in writing, with specific reference to this Clause, and the Contractor shall thereupon, subject to the approval of Foskor (Pty) Ltd take such steps as are necessary to expedite progress so as to complete the Works or the said part thereof by the Due Completion Date.

C.7.10 Penalty

If the Contractor, by the Due Completion Date, fails to complete the Works to the extent which entitles him to receive a Certificate of Practical Completion, the Contractor shall be liable to Foskor (Pty) Ltd for an amount of **0.1% for every Calendar Day that the works is late or such portion of the contract price as is associated with that part of the Works.**

The imposing of such penalty shall not relieve the Contractor from the obligation to complete the Works or from his obligations and liabilities under the Contract.

C.7.11 Claims: Extension of Time for Completion, Additional Payments or Compensation**C.7.11.1 Claims Procedure**

The following provisions shall apply:

- i. Claims are to be submitted in writing within **7 days** after the circumstances, event, act or omission giving rise to such claim has arisen or occurred to the Foskor (Pty) Ltd Project Representative
- ii. Submit **written notice** to the Foskor (Pty) Ltd Project Representative of the intention to claim within **7 days** after the circumstances, event, act or omission giving rise to such claim has arisen or occurred. The Notice and subsequent claim to set out:
 - a. Particulars of the circumstance, event, act or omission giving rise to the claim concerned;
 - b. Provisions of the portion of the contract on which he intends to make the claim;
 - c. Length of extension of time, if any, claimed and the basis of calculation thereof, and
 - d. The Price Adjustment, if any, claimed and the basis of calculation thereof.
- iii. If the Contractor cannot reasonably comply with any of the provision above within the said period 14 days, he shall:
 - a. Notify the Foskor (Pty) Ltd Project Representative in writing of his intention to make the claim and comply with such requirements as he reasonably can;
 - b. Deliver additional information in writing that is reasonably required by Foskor (Pty) Ltd; and
 - c. Comply as soon as practical with such requirements as described above in this clause, within a time agreed to by the Foskor (Pty) Ltd Project Representative.
- iv. In the event of failure to comply to any of the provisions, the claim would not be accommodated and Foskor (Pty) Ltd would be discharged of all liability in connection with the claim.

C.7.11.2 Extension of Time for Completion

The whole works shall be completed within the time agreed upon.

If any circumstances of any kind whatsoever may occur and as such, fairly entitle the Contractor to any extension of time for the completion of the works or portion thereof, then the Foskor (Pty) Ltd Project Representative will consider a claim duly submitted.

C.7.12 Cancellation of the Contract by Foskor (Pty) Ltd

If:

- (a)
 - (i) The estate of the Contractor shall be sequestrated (provisionally or finally), or
 - (ii) The Contractor shall publish a notice of surrender of his estate as insolvent, or
 - (iii) The Contractor, being a company or a close corporation, shall go into liquidation (provisionally or finally), or
 - (iv) The Contractor shall assign the Contract without the consent in writing of Foskor (Pty) Ltd having first been obtained, or
 - (v) The Contractor shall enter into a compromise with the general body of his creditors, or
 - (vi) The Contractor shall have an execution levied on his goods, or
- (b) the Foskor (Pty) Ltd Project Representative shall certify in writing to Foskor (Pty) Ltd, and to the Contractor/Consultant, with specific reference to this Clause, that in his opinion the Contractor/Consultant:
 - (i) has abandoned or repudiated the Contract, or
 - (ii) has, without reasonable excuse, failed to commence the Works in terms of the time allowed and agreed to, or
 - (iii) has suspended the progress of the Works without due cause, or
 - (iv) has failed to proceed with the Works with due diligence, or
 - (vi) is not executing the Works in accordance with the Contract, or
 - (vii) has, without the approval of the Foskor (Pty) Ltd Project Representative, subcontracted any part of the Contract, or
 - (viii) has failed to provide the Surety ship, Professional Indemnity within the time stipulated and for 14 days after receiving a written notice from the Foskor (Pty) Ltd Project Representative, referring specifically to the default concerned and to this Clause, failed to remedy the default,

Foskor (Pty) Ltd may, by written notice to the Contractor, terminate the Contract and withhold any payments due until further notice.

C.7.13 Urgent remedial work

All designs changes or remedial action must be communicated to the Foskor Engineer or the authorized Foskor Designate. Approval of such must be sought and received as early as not to impose undue costs and delays. Should there however be remedial work necessary, the Contractor shall, upon approval from the Foskor Engineer/Designate, effect these with care, accuracy and speed, so as not to impose undue extension of time and /or cost.

If any work as done by Foskor (Pty) Ltd is work which the Contractor was liable to do at his own expense under the Contract, all costs incurred by Foskor (Pty) Ltd in so doing shall be determined by Foskor (Pty) Ltd or its agent and shall on demand be paid by the Contractor to Foskor (Pty) Ltd.

C.8 Foskor Safety Documents to be submitted, Environmental and Site Management**C.8.1 SHREQ Requirements**

The successful Tenderer will be required to comply and ensure continuous compliance with Foskor standards and national regulations:

- Compliance with COP6 (Contractor Management).
- Compliance and signing of Section 37(2) Agreement in terms of the OHSAct at the Foskor (Pty) Ltd Safety Department.
- Compliance with Legislation requirements which includes the OHSAct, NEMA (National Environment Management Act) and other relevant applicable Legislation.

* *copy of requirements available from Foskor SHREQ Department.*

C.8.2 Environmental Management Specifications

In order to ensure that the construction works is designed for an environmentally sensitive area, strict compliance to the Environmental Management Plan (EMP) guidelines may be requested after appointment of the contractor.

The EMP shall be part of the terms of reference for all contractors/consultants, sub-contractors/consultants and suppliers.

A copy of the EMP requirements is available from Foskor (Pty) Ltd SHREQ department.

All MSDS's to be submitted to Foskor (Pty) Ltd.

Waste disposal needs to comply to Foskor (Pty) Ltd Waste Management Plan.

C.9 OHSA 1993 Health and Safety Specification

This specification covers the health and safety requirements to be met by the successful Tenderer (Contractor) to ensure a continued safe and healthy environment for all workers, employees and subcontractors/consultants and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction regulations.

C.9.1. Health and Safety Induction

The successful Tenderer (Contractor) shall ensure that all employees under his control, including the subcontractors/consultants and their employees, undergo a health and safety induction training course by a Foskor competent person before entering site.

- a. The Contractor shall ensure all his/her personnel have attended the Safety Induction, by Foskor (Pty) Ltd before they enter site.
- b. The Contractor on entering site, must wear Foskor minimum required PPE at all times namely safety glasses, acid resistant overalls, safety harnesses (on heights), safety boots or steel cap gumboots, ear protection and **gas masks (Halfmask double filter – screw type with filter type A1B1E1K1 and goggles (Uvex ultravision – W1663459B – DIN CE 0196) preferably in a pouch.** Should a Contractor be found on site without the above-mentioned safety clothing, he will be removed from site and will not be allowed to return. FFP3 dust mask fitted with an exhalation valve must be used when working in dust in on the B&D Store.
- c. **Overalls must be Blue Sweet Orr overall (80% Polyester 20% Viscose Rayon Acid repellent) with Company names either on front of jacket or back (Flame retardant acid resistant anti-static ATPV 15.4CAL/CM2) with company names either on front of jacket or back and fluorescent reflective strips to be stitched onto sleeves and on the knees.**
- d. The Contractor shall demarcate the relevant work area. The Contractor shall supply and erect an appropriate name board with all relevant information and contact details at the work area.
- e. The job risk assessment shall be carried out at the start of each shift. This risk assessment shall cover all activities planned for the relevant shift. The risk assessment shall be submitted to Foskor (Pty) Ltd at the start of each day shift and each night shift.
- f. The Contractor must take safety precautions when working on site.
- g. The Contractor must remove all their equipment within 48 hours after project completion/closure.
- h. A complete safety file to be submitted to Foskor (Pty) Ltd Safety Department before any work commences.
- i. The Contractor's vehicle when entering the Plant must have rotating orange lights on at all times.
- j. The Contractor and their employees must undergo a full medical at the approved registered institution. A full lung function test must be done. If a project is longer than twelve months, then a complete medical including lung function tests must be done again and thereafter the lung function test. Medical certificates are valid for one year only. For medical costs and bookings please contact Sister Larna Pieterse at Foskor (Pty) Ltd Clinic on 035 902 3287.

- k. A once-off fee is also required for access cards from Foskor Security. Please contact the Foskor (Pty) Ltd Security Reception at 035 902 3267 for information.
- l. No access to elevated platforms, roof and scaffolding will be allowed during rainy days.

MANDATORY AS ENVISAGED BY SECTION 37(2) OF THE ACT

By the submission of a tender, any tenderer will, if awarded the contract to which this tender document relates, be deemed to be the mandatory as envisaged by Section 37 (2) of the Act.

As a mandatory the successful tenderer will be deemed to be the "principal contractor" and an employer in his/her/their own right with duties as prescribed in the Act and accordingly will be deemed to have agreed to be solely responsible for ensuring that in connection with the service to which this tender document relates, all work will be performed in accordance with the Act.

It is further noted that: -

- a) The Contractor shall comply with all Foskor Regulations and Safety Standards.
- b) The Contractor shall fully comply with the OHS Act (Act 85 of 1993).

IMPORTANT NOTE

The above is a summary of some of matters as defined in the Act. The successful Tenderer (Contractor) is required and advised in his own interest to make a careful study of the Act and the Construction regulations.

Ignorance of the Act and the Regulations will not be accepted in any proceedings, as valid reason if non-conformance to the Act and the Regulations are committed.

C.10. Applicable General Conditions of Contract

Unless expressly otherwise indicated, Foskor General Conditions of Contract and the FIDIC terms of Contract would apply, and is available from the Manager Procurement Foskor Richards Bay.A

C.11. Quality Management

The successful Tenderer is to adhere to Foskor (Pty) Ltd's Quality Management System and specifications incorporated in this Tender Document.

To ensure that all installations are carried out in a controlled manner, the Contractor shall demonstrate this by means of the internal quality system, which shall include as a minimum a QCP for each piece of equipment. The QCP must be approved by Foskor before commencement of any work.

C.11.1 Quality Control:

- i. A detailed QCP (Quality Control Plan) shall be submitted within 3 days of contract award.
- ii. Quality of work must be monitored and controlled at a high level at all times.
- iii. At each hold point, work shall be suspended until the specified inspection has been completed and the QCP updated and signed accordingly by personnel concern
- iv. At each milestone, the designated Foskor (Pty) Ltd Quality Representative must approve the quality and standard of work being produced.

- v. It shall be the responsibility of the Successful Tenderer (Contractor) to give Foskor (Pty) Ltd timely notice of hold and witness points requiring their intervention.
- vi. Upon completion of the project, The Tenderer to submit a **four** Data Book (three hard copies and one memory stick), containing Quality Control Plans, Release Certificate, Manufacture's Data Report, Design Calculations, As Built Drawings, Foskor Resident AIA Inspection Report, Material Identification Sheet, Material Certificate, WPS & PQR, Welder Qualifications Certificate, Welding Consumables, Radiographic Test Report, Liquid Penetrant Testing, Magnetic Particle Test Report, Eddy Current Testing Report, nondestructive testing(NDT) Procedures, NDT Qualifications Procedures, Pressure Test Report, Name Plate Facsimile, Weld Map, Approved Drawings.

**Section D – Technical Evaluation Criteria, Reference Drawings, Bill
Of Quantities and Specifications attached**

DIGESTION TANK No.1		DEMOLISH EXISTING TANK NO1				
Item	Description	Unit	Qty	Rate	Amount	NOTES
	These Provisional Bill of quantities have been measured in accordance with Sixth Edition of the Standard System of Measuring Builder's Work. Where discrepancies arise the relevant party must be informed immediately.					
	Note: Unless the scope of work changes no extras will be entertained					
	This document is to be filled in completely and all supporting documentation requested is to be submitted. Failure to adhere to these instructions by the Tenderer may result in a disqualification.					
	NB: The items in the Bill are not in sequential order and by no means includes all events on the scope of works, but is rather items based. It is the responsibility of the contractor to prioritize the events in sequential order on his program and to ensure that all scope of work requirements is accounted for on this bill before submitting the tender. All material is subject to remeasure.					
1.01	PRELIMINARY AND GENERAL :					
1.01a	Safety induction	Day	1			
1.01b	Medical Examination	Ea				
1.01c	Access Card	Ea				
1.01d	Safety equipment and PPE	Ea				
1.01e	Site establishment	Wk	1			
1.01f	HIRA training (Safety Officer/Supervisor)	Day	1			
1.01g	Accommodation	LS				
1.01h	Living Out Allowances	LS				
1.01i	Staff Transport	LS				
1.01j	Site Consumables	LS				
1.01k	Construction Manager for duration of project	Wk				
1.01l	Supervision for duration of project	Wk				
1.01m	Safety Officer for duration of project	Wk				
1.01n	ECSA Registered Pr. Engineer as Competent Person to sign off on all the designs	Wk				
1.01o	SANS 1702 Accredited AIA as the Manufacturing AIA, who is registered as such with and approved by Department of Employment and Labour (DOEL)	Wk				
1.01p	Registered IPE (Inspector of Pressurised Equipment) by SAIW who has a recognized SAQA number for verification. This person to do site/shop quality verification and assurance.	Wk				
1.01q	Registered Civil Structural Engineer	Wk				
	Bill No. 1.01 excluding VAT carried forward to Summary Page					
DIGESTION TANK No.1		DEMOLISH EXISTING TANK NO1				
Item	Description	Unit	Qty	Rate	Amount	NOTES
1.02	SITE EQUIPMENT					
1.02a	Hire of Cranes	Wk				
1.02b	Scaffolding	Wk				

1.02c	Hire of High Pressure Cleaning	Wk				
1.02d	Transport - including removal of debris to the laydown area	Km				
1.02e	Cutting Tools	LS	1			
	Bill No. 1.02 excluding VAT carried forward to Summary Page					
1.03	<u>Removal of Platforms and handrails, etc. as per battery limits</u>					
	Removal of Handrails and temporary support the platform that connects reactor to tank1 and ensure that production work carries - on safely	LS	1			
	Bill No. 1.03 excluding VAT carried forward to Summary Page					
1.04	<u>Demolishing Tank roof, shell, floor & grillage</u>					
1.04a	Construct temporary access bridge with scaffold	LS	1			
1.04b	Construct temporary 1m high bund wall around the tank	LS	1			
1.04c	Grillage Beam	Tons	1.5			
1.04d	Base/Floor	Tons	0.4			
1.04e	Tank Shell with Baffles	Tons	15			
1.04f	Roof	Tons	5			
	Bill No. 1.04 excluding VAT carried forward to Summary Page					
1.05	<u>Site Clean-up & Bin Disposal</u>					
	Housekeeping and Separation of Debris to respective bins (Grit blasting Inclusive of grit, compressor, diesel, labour, etc.)	LS	1			
	Bill No. 1.05 excluding VAT carried forward to Summary Page					
DEMOLISH EXISTING TANK NO1 - FINAL SUMMARY						
	Bill No. 1.01 - Preliminary and General					
	Bill No. 1.02 - Site Equipment					
	Bill No. 1.03 - Removal of handrails and temporary support platform, etc.					
	Bill No. 1.04 - Demolishing Tank roof, shell, floor & grillage					
	Bill No. 1.05 - Site Clean-up & Bin Disposal					
1.00	Total excluding VAT carried to form of tender			Total Amount		

DIGESTION TANK No.1		REBUILD NEW TANK NO1				
Item	Description	Unit	Qty	Rate	Amount	NOTES
2.01	<u>PRELIMINARY AND GENERAL :</u>					
2.01a	Dehumidifier	Wk				
2.01b	Extraction Fan	Wk				
2.01c	Hire of Compressor	Wk				
2.01d	Scaffolding	Wk				

2.01e	Spark test of new rubber applied and all joints	Ea				
2.01f	Allowance for onsite Welder testing as per Tenderer welding procedure by FOSKOR appointed AIA inclusive of 100% radiography of test piece (This is to verify welder qualification)	LS	1			
2.01g	QC/NDT Services inclusive of MPI, radiography, vacuum box testing, etc. as per API 650 code requirements - (Tenderer to submit detail breakdown of cost with tender)	LS	1			
2.01h	Site Consumables	LS	1			
2.01i	Corrosion Protection	LS	1			
2.01j	Site Equipment	Wk				
2.01k	Site Establishment of Welders, Boilermakers, etc.	LS	1			
	Bill No. 2.01 excluding VAT carried forward to Summary Page					
DIGESTION TANK No.1			REBUILD NEW TANK NO1			
Item	Description	Unit	Qty	Rate	Amount	NOTES
2.02	<u>Re-Design, Fabricate, Supply and Install New Tank</u>					
2.02a	Re-design, QCPacks as per API 650 specification unless otherwise stated.	LS	1			
2.02b	Civil Structural Engineer - Concrete Reliability Confirmation and required remedial repairs - concrete with a strength of 40MPa/19mm.	LS	1			
2.02c	Required remedial repairs - concrete with a strength of 40MPa/19mm.	m3	6			
2.02d	Grillage Beam	Tons	1.5			
2.02e	Base/floor Plate	Tons	0.4			
2.02f	Tank Shell with Baffles	Tons	15			
2.02g	Roof Structure	Tons	5			
2.02h	Install 904L - 2.5m x 2.5m x 6mm wear plate on pedestal together with Brick Liners	LS	1			
2.02i	Manholes, Nozzles, Brackets, etc.	Tons	1			
2.02j	Install Handrails, etc.	LS	1			
2.02k	Installing the old/free issued Agitator, Motor and Geabox, Commissioning, etc.	LS	1			
2.02l	100% X-Ray Testing instead of Hydrostatic testing	LS	1			
2.02m	Gaskets for all tank shell manholes and nozzles	LS	1			
2.02n	Manhole covers, nozzle blanks, etc.	LS	1			
2.02o	Corrosion Protection -The quantities listed are indicative. The Tenderer shall confirm these quantities in his offer.	M ²	310			
	Bill No. 2.02 excluding VAT carried forward to Summary Page					
2.03	<u>Design, Fabricate and Install Launderers</u>					

2.03a	Design and Fabricate and install launders connecting Tank1 to the reactor and launder connecting Tank 1 to Tank 2 The launder from reactor to Digestion Tank No.1 is 6mm thick 904L stainless steel material. It is flanged and bolted at the reactor side as well as at the tank side The launder from Digestion Tank No.1 to Digestion Tank No.2 is 6mm thick mild steel material, which is flanged, and it gets bolted both sides. The launder from Digestion Tank No.1 to Digestion Tank No.2 must be rubber lined by the 5mm Butyl rubber and be brick lined by 240mm x 115mm x 40mm carbon brick.	LS	1			
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Bill No. 2.03 excluding VAT carried forward to Summary Page

2.04 Rubber lining

2.04a Grit blasting Inclusive of grit, compressor, diesel, labour, etc.

M² 350

2.04b Rubber lining & rubber lining material (Lined Surface - Contractor to calculate and verify quantity inclusive of overlaps and wastage and submit detail of calculation with tender) Inclusive of rubber, primer, solutions, labour, etc.

M² 290

2.04c Nozzles, Blanks flanges & Other attachments

LS

2.04d Over lap & cutting allowance (Tenderer to calculate)

LS

2.04e Security strips (Tenderer to indicate Size & Calculate)

LS

Bill No. 2.04 excluding VAT carried forward to Summary Page

DIGESTION TANK No.1

Item	Description	Unit	Qty	Rate	Amount	NOTES
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2.05 Brick lining

205a Brick lining of the entire Digestion Tank No.1 (Shell Wall, Floor and Manholes) (Brick Lined Surface - Contractor to calculate and verify quantity and wastage and submit detail of calculation with tender) - Supply of Carbon Brick - 240 x 115 x 65

M² 220

Bill No.2.05 excluding VAT carried forward to Summary Page

2.06 Provide as-built drawings

LS

Bill No.2.06 excluding VAT carried forward to Summary Page

REBUILD NEW TANK NO1 FINAL SUMMARY

Bill No. 1 Preliminary and General

Bill No. 2 Re-Design, Fabricate, Supply and Install

Bill No. 3 Design, Fabricate and Install Launderers

Bill No. 4 Rubber Lining

Bill No. 5 Brick Lining

Bill No. 6 Provide as-built drawings

2.00 Total excluding VAT carried to form of tender

TOTAL PROJECT AMOUNT DUE

DEMOLISH OLD DIGESTION TANK No1 & REBUILD NEW DIGESTION TANK No1 - TEV CRITERIA

Mandatory Requirements: Bid submission not meeting these requirements will result in bid being disqualified.

1	Submission of initial programme (Bar Chart/Gantt Chart)
2	Submission of milestones
3	Submission of Indicative Cash flow for invoicing
4	Submission of experience record with references, project values and contact numbers for verification
5	Submission of CIDB Registration for the main contractor and various disciplined subcontracted suppliers
6	Submission of ECSA Registered Pr. Engineer as Competent Person to sign off on all the designs
7	Submission of SANS 1702 Accredited AIA as the Manufacturing AIA, who is registered as such with and approved by Department of Employment and Labour (DOEL)
8	Submission of Registered IPE (Inspector of Pressurised Equipment) by SAIW who has a recognized SAQA number for verification. This person to do site/shop quality verification and assurance.
9	Submission of correctly completed priced Bill of Quantities (e.g. no omission of unit rate/price) as attached

Technical Evaluation Criteria for this Tender which excludes Commercial Evaluation:

No	Technical Criteria Description	% Contribution	Proof / documents to be submitted
1	Experience & Team competence - <u>Section Weight not to be less than 15%</u>		
a)	Company - Previous Acid Storage Tank Designs Scoring: 1 year =1.25%; 2 years 2.50%; 3 years = 3.75%; 4 years =5%	5%	Give reference list of projects, with values and contact numbers for verification
b)	Reliability Company - Previous Steel Tank & Structural Steel Construction and Refurbishment Scoring: Less than 10M = 0%; 10M & Above = 10% - Mandatory	10%	Give reference list of projects, with values and contact numbers for verification.
2	Regulatory/ Legal / Licences / Registrations (where applicable) <u>Section weight be not less than 35%</u>		
a)	Competent Persons (Pr. Eng) to sign-off all Mech, Civil and Structural Designs - Supplier registration with ECSA	5%	Provide proof of certificates
	SANS 1702 Accredited AIA as the Manufacturing AIA, who is registered as such with and approved by Department of Employment and Labour (DOEL)	5%	
	Registered IPE (Inspector of Pressurised Equipment) by SAIW who has a recognized SAQA number for verification. This person to do site/shop quality verification and assurance.	5%	
	Scoring: No Comply = 0 %, Comply 5 % - Mandatory	15%	
b)	Supplier registration with CIDB: I) 6ME - Principal Contractor ME - Mechanical Engineering	7%	Provide proof of certificates
	II) Can be Sub-Contractors: 2CE, 3SD, 2SE & 4SL CE -Civil Engineering (2CE) SD - Corrosion Protection (3SD) SE - Demolition and Blasting (2SE) SL - Scaffolding, Structural Steel Works (4SL)	2% 2% 2% 2%	Refer to Sub-Tenderers table on page 29 in Tender Document

	Scoring: No Comply = 0 %, Comply 15 % - Mandatory	15%	
c)	API 650 compliance/ knowledge or a proven support system to this effect. Scoring: No Comply = 0 %; Comply 5%	5%	Provide proof of compliance/ Previous Experience
3	Company Capacity – <u>Weight not to be less than 35%</u>		
a)	Company Delivery Times - Execute construction according to a pre-approved WBS / Project Schedule/ Milestones/ Bar Chart/Gantt Chart Scoring: No Schedule = 0 %, 14 Months & More = 5%; 10≤Months≤14 = 10%; 10 Months & Less = 20% - Mandatory	20%	Are the delivery times/ project programme and duration acceptable? Refer to B.2 table on page 9 in Tender Document for 13 months duration of Project
b)	Priced Bill of Quantities as per this Scope of Work attached Scoring: Not in line = 0 %; As per the attached BOQ in this SOW = 15 % - Mandatory	15%	
4	Scope of Work Compliance - Mandatory		
a)	SOW specifications compliance: Do each supplier's specifications meet the required specifications indicated in the scope of works? Work Methodology, Risk Assessment Section Weight not to be less than 15% Scoring: Non-Relevant = 0 %; All Relevant = 15 %	15%	Submit Work Methodology, Risk Assessment
Total Technical Score		100%	

RUBBER LINING SPECIFICATION

Parameter	Unit	Value
Polymer base	N/A	Butyl
State	N/A	Pre-cured
Thickness	mm	5
Specific weight	g/cm ³	1.17
Hardness	Shore A	60 ± 5
Tensile strength	N/mm ² or MPa	> 5
Elongation at break	%	>300
Peel strength	N/mm ²	>7
	N/mm	>2
Max. operating temperature	°C	100

ACID RESISTANT CARBON BRICK SPECIFICATION

Parameter	Unit	Range
Volume density	g/cm ³	1.60 to 1.72
Apparent porosity	%	6 to 8
Cold compressive strength	MPa	70 to 80
Cold bending strength	MPa	15 to 25
Chemical analysis:		
Carbon (C)	%	98.00 to 98.15
Ash	%	2.00 to 1.85

Note: Mortar for carbon bricks to be compatible with the rubber lining installed