

CONTRACT No. TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

November 2025

NAME OF TENDERER.	
CSD NUMBER:	
CIDB REG NUMBER:	
TENDER SUM:	

PREPARED BY:

Mamadi & Company SA (Pty)Ltd

First Floor Midview Building, Thandanani Office Park 16 Invicta Road, Midrand,1658 **Tel:**079 961 0403

Email: info@mamadi.co.za



ISSUED BY:

The Municipal Manager
Thabazimbi Local Municipality
Private Bag X530
Thabazimbi
0380

Tel: (014) 777 1525 Fax: (015) 777 15310







PART C4: SITE INFORMATION

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

CONTENTS

	SONTENTO
воок 1 о	F 2
THE TEND	PER
PART T1:	TENDERING PROCEDURES
T2.1	LIST OF RETURNABLE SCHEDULEST.20
T2.2	OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATIONT.105
T2.3	RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACTT.108
THE CONT	TRACT
PART C1:	AGREEMENT AND CONTRACT DATA
C1.1	FORM OF OFFER AND ACCEPTANCE
C1.2	AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993, CONSTRUCTIO REGULATIONS 2014 AND HAZARDOURS BIOLOGICAL AGENT 2022
C1.3	PERFORMANCE GUARANTEE
C1.4	ABSTRACTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993, CONSTRUCTION REGULATIONS 2014 AND HAZARDOURS BIOLOGICAL AGENT
C1.5	CONTRACT DATA
PART C2:	PRICING DATA
C2.1	PRICING INSTRUCTIONS
C2.2	BILL OF QUANTITIES
BOOK 2 O	F 2
PART C3:	SCOPE OF WORK
C3.1	DESCRIPTION OF WORKS
C3.2	ENGINEERINGC.99
C3.3	PROCUREMENTC.101
C3.4	CONSTRUCTION
C3.5	WASTEWATER TREATMENT WORKS MANAGEMENT OPERATIONSC309
C3.6	MANAGEMENTC.309

THA	RA7IN	IBLE	OCAL	MUNICI	ΡΔΙ	ITY

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C4.1	Site Information
C4.2	Locality PlanC315
PART	C5: ANNEXURES
C5.1	Proforma Documents
C5.2	Contract Drawings
PART	C2: PRICING DATA
ВООР	(1 OF 2
PART	T1: TENDERING PROCEDURES
T1.1	Tender notice and invitation to tender (White pages)
T1.2	TENDER DATA (Pink pages)
PART	T2: RETURNABLE DOCUMENTS
T2.1	List of returnable schedules (Yellow pages)
T2.2	Other documents required for tender evaluation (Yellow pages)
T2.3	Returnable schedules that will be incorporated into the contract (Yellow pages)
PART	C1: AGREEMENT AND CONTRACT DATA
C1.1	Form of Offer and Acceptance (White pages)
C1.2	Agreement in terms of the Occupational Health and Safety Act 85 of 1993, Regulation For Hazardous Biological Agents 2022 and Construction regulations 2014(White pages)
C1.3	Performance Guarantee (White pages)
C1.4	Abstracts of the Occupational Health and Safety Act 85 of 1993, Regulation For Hazardous Biological Agents 2022 and Construction regulations 2014 (White pages)
C1.5	Contract Data (White pages)
PART	C2: PRICING DATA
C2.1	Pricing Instructions (Yellow pages)
C2.2	Bill of Quantities (Yellow pages)

BOOK 2 OF 2

PART C3: SCOPE OF WORK

C3.1 Description of Works (Blue pages)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.2	Engineering (Blue pages)
C3.3	Procurement (Blue pages)
C3.4	Construction (Blue pages)
C3.5	Wastewater treatment works management operations (Blue pages)
C3.6	Management (Blue pages)
PART (C4: SITE INFORMATION

C4.1 Site Information (Green pages)

C4.2 Locality Plan (White pages)

PART C5: ANNEXURES

- C5.1 Proforma Documents (White pages)
- C5.2 Contract Drawings (White pages)

THE TENDER

PART T1: TENDERING PROCEDURES

PART T2: RETURNABLE DOCUMENTS

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PART T1: TENDERING PROCEDURES

T1.1	TENDER NOTICE AND INVITATION TO TENDERT.5
T1.2	TENDER DATAT.10

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1



T1.1 TENDER NOTICE AND INVITATION TO TENDER

Thabazimbi Local Municipality hereby invites suitable Contractors registered with the Construction Industry Development Board (CIDB) for the Thabazimbi Wastewater Treatment Works refurbishment Phase 1

Below are the significant details per project: -

			Compulsory Briefing Session		Estimate			Clasina	Minimum		
Tender Number CIDB Gra	CIDB Grading	Description	Date & Time	Venue	Cost	d Work Opportu nity to Be Created	Opportu nity to Be	Evaluatio n Criteria	Closing Date And Time	Minimum Score for Functionali ty	Contact Person
TECH/02 /2025-26	7ME or Higher	Appointment of a contractor for Refurbishment of Thabazimbi Wastewater Treatment Works Phase 1	20 /11/ 2025 10H00	Council Chamber	R5000.00	30	Profile of Key Staff (45) Company Experience (40) Technical proposal (10) Quality Assurance (5) 80/20 Scoring Points a) Price (80) b) Specific Goals (20)	80/20	08 /12/ 2025 12h00	70%	Technical Enquiries: S. Thompson 071 777 8640 Procurement Enquiries: P.Selalome 064 667 1431

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

A compulsory briefing session will be held on the dates and times specified above at the Municipal Chamber.

The bids are to be submitted at the tender box of Thabazimbi Local Office at No:7 Rietbok Thabazimbi by the closing date and time as above mentioned where they are open in public. No late telefax or document found in any other places or proposal from service providers who have not attended the compulsory briefing session will not be considered. Bidders should take note of the following bidding conditions:

- 1. Thabazimbi Municipality Supply Chain Management Policy shall apply in the evaluation and awarding of the Tender.
- 2. Thabazimbi Municipality does not bind itself to accept the lowest tender reserves the right to accept the whole or part of the Tender and reserves not to appoint.
- 3. The Bid validity shall be 90 (Ninety) days from the date of closure.
- 4. Bidders must provide proof of the following to avoid disqualification: CSD report not older than three (3) months, SAPS certificate, ID copy Copies of all directors, statements of municipality rate and taxes for both company and director(s) (not older than 3 months)/ letter from traditional authority not older than 3 months/ lease agreement, key personnel/ personnel/service team's experience (attach certified copies of qualification and CV;CK/Company registration valid tax pin, proof of work experience (attach relevant appointment letter). All the relevant returnable documents are attached to the document.
- 5. The minimum score for functionality will be as stated above and bidders who score below will not be evaluated further on price and specific goals specified for the tender.
- **6.** Document availability 07 November 2025
- Pay the non-refundable **5000.00** tender fee into the municipal account:
 - Account Name: Thabazimbi Local Municipality
 - Bank Name: ABSA
 - Account Number: 158000 0009
 - o Branch Code: 632005
 - o Reference: [Insert Tender Number or Bidder Name]
- Collect the tender document at the SCM Department upon presentation of proof of payment.
- Attach the original proof of payment (deposit slip) to the tender document upon submission.
- Failure to attach the proof of payment may result in disqualification.
- Tender documents can also be obtained from the following websites.
 - Municipal Website
 - eTender Publication Portal

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NB: Failure to attach the proof of payment may result in disqualification. We apologize for any inconvenience caused and appreciate your understanding.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Mr. GC Letsoalo (CA) SA MUNICIPAL MANAGER

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Bidders should take note of the following bidding conditions:

- **1.** Thabazimbi Local Municipality Supply Chain Management Policy shall apply in the evaluation and awarding of the Tender.
- **2.** Thabazimbi Local Municipality does not bind itself to accept the lowest tender, reserves the right to accept the whole or part of the Tender and reserves the right not to appoint.
- 3. The Bid validity shall be 90 (Ninety) days from the date of closure.
- **4.** Bidders must provide proof of the following to avoid disqualification:
- All bidders must attend the compulsory briefing session
- Company registration certificate
- Original valid tax clearance pin
- SANAS approved BBB-EE certificate/ consolidated B-BBEE certificate for J/V
- Power of attorney/ letter of authority for signatory in a company letter head
- Joint venture agreements where applicable
- Certified ID copies of the All directors/ members/ proprietors not older than three months
- CIDB grading certificate/ Consolidate CIDB certificate for Joint ventures
- Letter of Good Standing with COIDA
- Statement of Municipality Accounts as proof of residential address, if leasing, provide the
 lease agreement or the proof of residential address by a traditional authority in case of a
 non-rateable area for the business and all company directors (Not older than three
 months).
- Terms of reference fully completed and each page to be initialized.
- CSD report (Printed between the date of advert and closing date)
- Proof of work experience (attach BOTH appointment letters and completion certificates for each project for functional stage)
- Key personnel experience (attach CV, Certified qualifications and ID Copies for functionality stage).
- Signing of form of offer in words and numbers
- Declaration of interest
- Intent to provide guarantee
- Certificate of collision
- Three-year audited/ Reviewed AFS

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

5. All the relevant returnable documents should be attached to the tender document,

6. The minimum score for functionality will be as stated above and bidders who score below will not be evaluated further on price and BBBEE preference point scoring system.

Tender documents are obtainable from the Thabazimbi Local Municipality website

Tender documents are obtainable as from 07 November 2025 as hard copies from the Thabazimbi Local Municipality supply chain management offices.

Queries related to the issues of these documents may be addressed to

G. Gundu, Tel No: 079 961 0403

E-mail:info@mamadi.co.za

The closing time for receipt of tender is 12:00 hrs on 08 December 2025. Telegraphic, telephonic, telex, facsimile and late tenders will not be accepted.

Tenders, completed as prescribed, shall be sealed in an envelope marked "Tender No. TECH/02/2025-26 OF REFURBISHMENT OF THABAZIMBI WATSTE WATER TREATMENT WORKS PHASE 1 and deposited in the Municipal Tender Box of Thabazimbi Local Municipality, 7 Rietbok Street, Thabazimbi, 0380.

GC Letsoalo

Municipal Manager

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Tenderers shall have a **CIDB** class grading of: **7ME or Higher.**

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of SANS 294:2004.

The Standard Conditions of Tender make several references to the tender data for details that apply specifically to this tender. The tender data shall have precedence in the interpretation of any ambiguity of inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the subclause in the Standard Conditions of Tender to which it mainly applies.

Sub- clause		Data			
F.1.1	The empl	oyer is th	e Thabazimbi Local Municipality		
F.1.2	The Proje	ct Docur	nent issued by the employer consists of the following:		
	THE TEN	DER			
	Part T1:	Tende	ring procedures:		
		T1.1	Tender notice and invitation to tender		
		T1.2	Tender Data		
	Part T2:	Return	able documents		
		T2.1	Returnable Schedules required for Tender Evaluation		
		T2.2	Other Documents required for Tender Evaluation		
		T2.3	Returnable Schedules that will be incorporated into the		
			Contract		
		T2.4	Other Schedules and Documents that will be Incorporated into the Contract		
	THE CONTRACT				
	Part C1:	Agreer	ments and contract data		
		C1.1	Form of Offer and Acceptance		
		C1.2	Agreement in Terms of the Occupational Health & Safety		
			Act		
		C1.3	Guarantee		
		C1.4	Form Agreement in terms of the Occupational Health And		
			Safety and Construction		
	Regulatio	ns	C1.5 Appointment in terms of Section 8 of the Construction		
			Regulations.		

CONTRACT NO: TECH/02/2025-26

		C1.6	Abstracts of the Occupational Health and Safety Act No 85			
		C1.7	Contract Data			
	Part C2:P	ricing dat	a			
		C2.1	Pricing instructions			
		C2.2	Bills of quantities			
		C2.3	Summary of Bills of Quantities			
		C2.4	Calculation of Tender Sum			
	Part C3:	Scope	of work			
		C3.1	Description of Works			
		C3.2	Engineering			
		C3.3	Procurement			
		C3.4	Construction			
		C4.5	Management			
	Part C4:	Site inf	ormation			
		C4.1	Site Information			
		C4.2	Locality Plan			
	Part C5:	Annexu	ıres			
		C5.1:	Proforma Documents			
		C5.2 :	Contract Drawings			
F.1.4	The empl	oyer's ag	ent is:			
	Name: Ma	amadi & (Company SA (Pty) Ltd			
	Address:	First Floo	r Midview Building, Thandanani Office Park			
	16 Invicta	Road,				
	Midrand					
	1658					
	Tel: 079 9	0403				
F.2.1	having ap higher that sum tende who is r Regulatio	oplied for an a cont ered for a egistered ns at a	ers who are registered with the CIDB, or can provide proof of registration, in a contractor grading designation equal to or ractor grading designation determined in accordance with the TME or Higher class of construction work, or by a contractor as a potentially emerging enterprise in terms of these contractor grading designation, one level lower than the gred grading designation, provided that the client			
	` '		nat such a contractor has the potential to develop and qualify to d in that higher grade; and			
			t financial, management or other support is provided to that enable the contractor to successfully execute that contract			
	are eligibl	e to subn	nit tenders.			

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Joint ventures are eligible to submit tenders provided that:

- 1. every member of the joint venture is registered with the CIDB or can provide proof of having registered.
- 2. the lead partner has a contractor grading designation in the **7ME or Higher**
- class of construction work; and

The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for an **7ME or Higher** class of construction work are eligible to submit tenders

F.2.7 The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and are:

Location: **Thabazimbi Local Municipality, 7 Rietbok Street, Thabazimbi, 0380** Date: **20 November 2025.** Starting at Time: **10h00**

The Site Clarification Meeting Attendance Certificate, Form T2.1B in Section T2.1, must be signed by Employer's representative. Furthermore, it is a requirement that the attendance register be signed by the representative of the tenderer and the name of the company represented indicated.

Failure to sign both the site clarification certificate and the meeting attendance register will invalidate the Tender.

NO DOCUMENTS WILL BE AVAILABLE FOR ISSUE AT THE CLARIFICATION MEETING

F.2.12 If tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the employer's standards and requirements, the details of which may be obtained from the employer's Agent.

Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.

Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contractor for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the employer's standards and requirements.

The modified Pricing Data must include an amount equal to 5% of the amount

CONTRACT NO: TECH/02/2025-26

	tendered for the alternative offer to cover the employer's costs of confirming the acceptability of the detailed design before it is constructed.
F2.13.1	No tenderer may submit more than one tender as set out in this clause in the Standard Conditions of tender
F2.13.2	Tender documents do not have to be returned should the purchaser of the document not wish to tender.
F.2.13.3	 a) Submit original tender, no copies of tenders will be accepted b) Tenderers shall not disassemble this Tender Document apart. Additional documentation including certificates shall be submitted in a separate, properly bound, document
F.2.13.5	The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are:
	Location of tender box: at the Municipal tender box of Thabazimbi Local Municipality, 7 Rietbok Street, Thabazimbi, 0380 Identification details: TECH/02/2025-26
	REFUBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS
	PHASE 1
F.2.13. & F.3.5	A two-envelope procedure will not be followed.
F.2.15	Closing time for submission of tender offers is: 12H00 on 08 December 2025. Telephonic, telegraphic, telex; facsimile, e-mailed or postal tender offers will not be accepted.
F.2.16	 2. 16.1a) Tenders shall remain valid for a period of ninety (90) days from the time set for the opening of Tenders and no Tender may be withdrawn during this period. 2.16.1b) Should a Tenderer amend (other than according to F 3.9) or withdraw his Tender after the time set for the receipt and opening of Tenders and during the period of its validity, but prior to his being notified of the acceptance of his original Tender, or should a Tenderer, after having been notified that his Tender has been accepted a) give notice of his inability to execute the Consultancy Agreement / Contract in terms of his lender; or b) fail to sign a Consultancy Agreement / Contract or furnish the security within the period fixed in the conditions reflected in the form of Tender or any extended period fixed by the Employer; or c) fail to execute the Consultancy Agreement / Contract according to the documents. He shall pay either the difference between his Tender and a less favourable Tender accepted in terms of the provisions of Tender sub Condition 3.1(d), or if the Employer decides to invite fresh Tenders, all additional expenses which the Employer has to incur in this regard, as well as any difference between his Tender and the accepted new

CONTRACT NO: TECH/02/2025-26

	Tender; provided that the Employer may fully or partly exempt a Tenderer from the provisions of this sub condition if he is of the opinion that the circumstances justify the exemption.
	2.16.1c) When, in the circumstances mentioned in Tender sub-Condition 3.10(c) it is not deemed desirable to invite fresh Tenders, the Employer may accept another Tender from those already received.
F.2.1.7	The tendered lump sums and rates shall be final and binding irrespective of the total tender price (See C2.1.11).
F.2.23	The tenderer is required to submit with his tender an original valid Tax Clearance Pin issued by the South African Revenue Services ("SARS"), certifying that the tenderer's taxes are in order. This must be submitted with the Tender in order to be considered. The tenderer must also submit with the tender a letter of good standing from Compensation Commissioner or FEMA and any other documents mentioned in these tender data.
F2.24	TENDER WITHDRAWAL OR MODIFICATION PRIOR TO CLOSING DATE
	Any Tenderer has the right to withdraw, modify or correct his Tender after it has been delivered, provided that written request for such withdrawal, modification or correction, together with full details of such modification or correction is received at the address given for the submission of Tenders before the closing date and set for the receipt of Tenders. The original Tender as amended by such written or facsimile communication shall be considered Tenderer's offer.
F.3.4	The time and location for opening of tender offers: Time:10h00 on Thursday, the 07 th of November 2025
	Location: Thabazimbi Local Municipality website on e-Tenders
F.3.11	Evaluation Methodology
	Tenders will be evaluated on quality, price and preference. It is important that the relevant information is included to enable the Technical Proposal to be evaluated in accordance with the procedure outlined below. All information must be submitted in a separate file. Tampering with the original tender document will render the tender non-responsive. Failure to comply with the above requirements will result in the Tender being disqualified. The Tender evaluation will be conducted as follows:
	80/20 preference point system shall be used for scoring the bidder.
	Price = 80
	B-BBEE = 10
	Specific goals = 10
	Functionality Scores = 100 points

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Minimum score for functionality is <u>70%</u> of the maximum points for functionality and a bidder who scores below this minimum shall not be considered for further evaluation in terms of price and contract participation goals.

Scoring of Functionality:

1= Poor, 2= Fair/average, 3= Good, 4= Very Good, 5= Excellent

NB. In case of lease the tenderer should attach proof of ownership of plant and equipment from the supplier

Administrative Compliance:

NB: Non-compliant with the administrative requirements will automatically disqualify the bidders.

The following are regarded as non-compliant with administrative requirements.

- Price amendment without signature in the bill of quantities
- Usage of Correction fluid such as Tipex
- Completion of bid document with a pencil
- Non-completion of form of offer
- Alterations to the bid document or submission of a copy of the original bid document
- Non-completion of the bill of quantities
- Non-Initializing/ signing of all pages
- Non-completion/signing of certificate of non-collusive tender
- Non-completion and non-signing of the following essential municipal bidding documents (MBD) forms:
- NQF Level 4 for site supervisor/ foreman and NQF Level 5 for Contracts Manager
- The tenderer or any of its directors is not listed in the Register of Tender Defaulters (www.treasury.gov.za) in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and
- The tenderer has not abused the Employer's Supply Chain Management System.
- The tenderer has not failed to perform on any previous contract with the Employer.

Documents to be submitted with the bid:

- a) Original and valid tax clearance pin (All parties must submit this information in the case of a Joint Venture).
- b) Certified Copy of company registration certificate (e.g. CK, CM, etc.)
- c) Certified ID copies of shareholders/directors
- d) Original or certified B-BBEE rating certificate
- e) Proof of bid purchase (If purchased)
- f) Proof of CIDB registered grading
- g) Power of attorney/authority for signatory on the tenderer letterhead
- h) Joint venture agreement

CONTRACT NO: TECH/02/2025-26

	 i) A certified valid letter of good standing from the Compensation Commissioner or FEM is attached j) CSD Report updated between the Advert date and closing date
F.3.18	The number of paper copies of signed contract to be provided by the Engineer is the original contract plus three signed copies .
Mun.	SMME's:
Special	
No.1	By accepting this bid, the Bidder agrees to the following sub-Contracting conditions that:
	a) The tenderer must be level one and two B-BBEE contributors.b) An EME OR QSE
	c) A tenderer must subcontract a minimum of Fifteen Percent (15%) of the contract amount excluding Supply of Mechanical and Electricalsection1200, 1300, 1400, 1500, 1800, 4100, 4200, and 8100andSchedule BOQitems of the bill of quantities to at least people residing within the jurisdiction of Thabazimbi Local Municipality that falls
	within one of the following categories:
	i) An EME or QSE which is at least 51% owned by black people
	(ii) An EME or QSE which is at least 51% owned by black people who are
	youth
	(iii) An EME or QSE which is at least 51% owned by black people who are women
	(iv) An EME or QSE which is at least 51% owned by black people with
	disabilities
	(v) An EME or QSE which is at least 51% owned by black people living in rural or underdeveloped areas or townships
	(vi) A cooperative which is at least 51% owned by black people
	(vii) An EME or QSE which is at least 51% owned by black people who are military veterans
	(viii) An EME or QSE
	Tenderer must attach or submit proof of subcontracting arrangements which include a Subcontracting agreement between main tenderer and subcontractor. The agreement must include a priced bill of quantities of items to be sub-contracted and signed by both parties.
	 d) Attach proof of payment of Municipal account statement by subcontractor on rates and taxes from
	e) The Municipality or proof of residence stamped by tribal authority for those Residing in areas where municipal payments of rates and taxes are not implemented, such proof:
	1) must not be older than three (3) months from closing date of the tender,

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- 2) It must have been addressed to the company itself or any of the shareholders or members as on the document for company registration.
- 3) in case where the subcontracted company is renting an office space, the lease agreement between the company and the respective landlord must accompany the rental invoice.
- f) An original Valid Tax Clearance Certificate must be submitted with the bid on or before the closing time and date of the bid. Other electronic verification tax clearance must be accompanied by the verification code.
- g) The subcontractor must also be registered with CIDB.
- h) Copies of the company registration certificate for subcontractor must be submitted with the bid or before the closing time and date of the bid.
- i) The bidders are advised to attach their certified valid BBBEE certificates, and in case where the business is classified as Exempted Micro Enterprise (EME), a letter from the registered auditor stipulating that the business has a turnover of less than R10m. (Sworn Affidavit)

NB: It is the responsibility of tenderer to select competent subcontractor who is registered on the treasury central supplier database (CSD) that meet all minimum the requirement of the tender so that their tender is not jeopardized by the subcontractor when evaluated. Tenderers are responsible for all due diligence on their subcontractors.

Mun. Special No.2

Local Labour Content:

The minimum labour intensity for this project shall be **12%** of the total construction cost.

Local Labour/Supplier Maximisation is:

- Note: This labour content shall be from the LOCAL COMMUNITY where LOCAL COMMUNITY means those in the immediate vicinity of the project. The contractor's own skilled personnel will not be counted towards the said content 10%.
- The local labour recruited should be issued with orange EPWP branded and reflective personal protective clothing.

Note: The resumes of the management and supervisory staff should clearly indicate in their resume particular reference to the construction of similar works.

Contractors shall employ in labour-intensive works only those supervisory and management staff that have completed the required Skills. Foremen Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes: Site Agent / Construction Manager at NQF level 5

CONTRACT NO: TECH/02/2025-26

"Manage Labour- Intensive Construction Processes" or equivalent Quality
Council for Trades and Occupations (QCTO) qualifications at NQF level 5 or 7.
Only those tenderers who can demonstrate that they will have in their employ management and supervisory staff satisfying the requirement of the scope of work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders
The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy eligibility requirements.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PART T2: LIST OF RETURNABLE DOCUMENTS

Tla a 4 a .a al a .a a		
I NA TANAATAT MILET	COMPIETE THE TOURWING	rati irnania doci imante:
THE ICHAELE HIMSE		returnable documents:

T2.1	LIST OF RETURNABLE SCHEDULES	T.20
T2.2	OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION	T.105
T2.3	RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 LIST OF RETURNABLE SCHEDULES

1. Returnable Schedules required only for tender evaluation purposes

FORM	DECRIPTION OF FORM	YES	NO
Α	CERTIFICATE OF AUTHORITY		
В	CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING		
С	COMPANY REGISTRATION DOCUMENTS		
D	VALID CSD		
E	SCHEDULE OF THE TENDERER'S EXPERIENCE		
F	RECORD OF ADDENDA TO TENDER DOCUMENTS		
G	DEVIATIONS OR QUALIFICATIONS BY THE TENDERER		
Н	CERTIFIED ID COPIES FOR ALL DIRECTORS		
I	CERTIFICATE OF NON-COLLUSIVE TENDER		
J	COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 AND CONSTRUCTION REGULATIONS, 2003		
K	REQUIREMENTS IN TERMS OF GOVERNMENT'S RECONSTRUCTION AND DEVELOPMENT PROGRAMME		
L	SCHEDULE KEY PERSONNEL		
М	FORMAT OF CURRICULUM VITAE OF KEY PERSONNEL		
N	COMPETENCE ACHIEVEMENT SCHEDULES		
0	BBBEE CERTIFICATE / SWORN AFFIDAVIT		
Р	VALID TAX CLEARANCE PIN		
Q	THREE YEAR AFS: AUDITED OR REVIEWED		
R	JV AGREEMENT		

2. Other documents that will be incorporated into the contract

FORM	DECRIPTION OF FORM	YES	NO
S	MBD FORMS (MBD 4,5,8,9)		

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

RDP1(E)	SCHEDULE OF LOCAL LABOUR CONTENTT.10)0
RDP2(E)	EMPLOYMENT OF SMME'S)1
RDP3(E)	BROAD BASED BLACK ECONOMIC EMPOWERMENTT.10)4
T2.1 L	PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL	
	PROCUREMENT REGULATIONS	2

NB. Additional documentation including certificates shall be submitted in a separate, properly bound, document.

CONTRACT NO: TECH/02/2025-26

Company

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

В

Partnership

T2.1 A CERTIFICATE OF AUTHORITY

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category.

С

Joint Venture

D

Sole Proprietor

Ε

Close

Company	raitheiship	Joint Venture	Sole Proprietor	Corporation
A. Certifica	e for company			
I,		, chairperson	of the board	of directors of
	•••••	, hereby conf	irm that by resol	ution of the board
(copy attached) t	aken on	.20, Mr/Ms	a	cting in the capacity
of		,was autho	orised to sign	all documents in
connection with t	his tender and any co	ntract resulting fror	n it on behalf of th	ne company.
As witness				
1				
		Chair	man	
2				
		Date		
B. Certifica	e of partnership			
We, the undersig	ned, being the key pa	rtners in the busine	ess trading as	
	h	ereby authorise Mi	/Ms	,
acting in the cap	acity of		to sign all docเ	ıments in
connection with t	he tender for Contract			and any
contract resulting	from it on our behalf.			

NAME	ADDRESS	SIGNATURE	DATE

NOTE: This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.

Certificate for Joint Venture

CONTRACT NO: TECH/02/2025-26

C.

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

We, the undersigned, are submit Mr/Mspartner, to sign all documents in Contractbehalf.	, authorised s,ac connection with the tender	ignatory of the company ting in the capacity of lead offer for
This authorisation is evidenced by authorised signatories of all the part of t		
NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME & CAPACITY
Lead partner		
D. Certificate for sole prop	prietor	
I,	, hereby confirm	m that I am the sole owner of the
business trading as		
As Witness:		
1		Signature: Sole owner
2		

Date

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

We, the undersigned, being the key members in the business trading

E. Certificate for Close Corporation

ashereby authorise Mr/Mrs					
Acting in the capacity of, to sign all documents i connection with the tender for Contract					
NAME	ADDRESS	SIGNATURE	DATE		

NOTE: This certificate is to be completed and signed by all the key members upon whom rests the direction of the affairs of the Close Corporation as a whole. Use own letter head

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 B CERTIFICATE OF ATTENDANCE AT CL	ARIFICATION MEETING
This is to certify that	(Tenderer)
Of	(Address)
Was represented by the person(s) named below tenderers at(Location) of at	
We acknowledge that the purpose of the meeting w works and / or matters incidental to doing the work for us to take account of everything necessary when the tender.	specified in the tender documents in order
Particulars of person(s) attending the meeting:	
Name	Signature
Capacity	
Name	Signature
Capacity	
Attendance of the above persons at the meeting is	confirmed by the employer's
representative/ engineer, namely:	
Name	Signature
Capacity	Date & Time

NB: Details to be the same with attendance register

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 C SCHEDULE OF PROPOSED SUBCONTRACTORS (EXCL SMME'S)

NOTE: This table is NOT TO BE USED to capture SMME Sub-contractors/Suppliers contributing towards the SMME project goal

SMME COMPANIES TO BE USED AS SUB-CONTRACTORS / SUPPLIERS MUST BE CAPTURED UNDER FORM: RDP 2 (E)EMPLOYMENT OF SMME'S

We notify you that it is our intention to employ the following subcontractors for work in this contract.

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the name of proposed subcontractors in accordance with requirements in the contract for such appointments.

	Name and address of proposed Subcontractor	Company Registration Number & CIDB Classification	Description of Work to be executed by Subcontractor
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Signed Date	
-------------	--

CONTRACT NO: TECH/02/2025-26

Name	Position
Tenderer	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 D SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of major items of relevant equipment that I/we presently own or lease and is required for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

| Quantity | Description, size, capacity, etc. |

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required

NB: The bidder to submit proof of ownership /Ownership of the lessee.

Signed	Data
Signed	Date

THABAZIMBI LOCAL MUNIC

CONTRACT NO: TECH/02/2025-26

Name	Position
Tenderer	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 E SCHEDULE OF THE TENDERER'S EXPERIENCE

The following is a statement of similar work successfully executed by myself/ourselves in the last ten years:

Employer, contact person and telephone number	Description of contract	Value of work Inclusive of VAT (Rand)	CIDB Classificati on	Date Complet ed

NB.: Completion / Practical completion certificates to be attached and appointment letter for projects on progress.

Signed	Date
Name	Position

THABAZIMBI LOCAL MUNICIPALITY
CONTRACT NO: TECH/02/2025-26
REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1
Tenderer

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 F RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title of Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
Attach	n additional pages if r	nore space is required.

 Signed
 Date

 Name
 Position

 Tenderer
 Tenderer

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 G DEVIATIONS OR QUALIFICATIONS BY THE TENDERER

Note: Tenderers will be declared to be non-responsive should any proposed deviation or qualification, in the employer's opinion:

- a) Detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) Change the employer's or the tenderer's risks and responsibilities under the contract, or
- c) Affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

PAGE	DESCRIPTION

SIGNED ON BEHALF OF TENDERER:	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 H CONTRACTOR'S ESTABLISHMENT ON SITE

The combined extended total tendered for Item 13.01 for the contractor's general obligations, i.e.

- Fixed obligations (a)
- Value-related obligations (b)
- Time-related obligations (c)

Shall not exceed a maximum of 15 % of the tender sum (excluding VAT)
Total tendered for Item B13.01 expressed as a percentage of the tender sum (excluding VAT
% (insert percentage)

SIGNED ON BEHALF OF TENDERER

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 I CERTIFICATE OF NON-COLLUSIVE TENDER

1 IN THE CASE OF A SINGLE CONSTRUCTION CONCERN:

I/We certify that this is a bona fide tender.

I/We also certify that I/We have not done, and I/We undertake not to do any of the following at any time before the hour and date specified for the closure of submission of tenders for this contract.

- a) Fix or adjust the amount of this tender by or under or in accordance with any agreement or arrangement with any other person.
- b) communicate to a person other than the person calling for these tenders the amount or approximate amount of the proposed tender, except when the confidential disclosure of the approximate amount of the tender is necessary to obtain the insurance-premium quotations required for preparation of the tender.
- c) Cause or induce any other person to communicate to me/us the amount or approximate amount of any rival tender for this contract.
- d) enter into any agreement or arrangement with any other person to induce him to refrain from tendering for this contract, or to influence the amount of any tender or the conditions of any tender to be submitted, nor cause or induce any other person to enter into any such agreement or arrangement.
- e) offer or pay or give or agree to pay or to give any sum of money or valuable consideration directly or indirectly to any person for doing or having done or causing or having caused to be done in relation to any tender or proposed tender for this contract, any action similar to those described above.

In this certificate the term "person" includes juristic or natural persons, body of persons or association, whether corporate or not, and the term "agreement or arrangement" includes any agreement or arrangement, whether formal or informal and whether legally binding or not.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

I: CERTIFICATE OF NON-COLLUSIVE TENDER (continued)

2 IN THE CASE OF A CONSORTIUM OF CONSTRUCTION CONCERNS:

We certify that this is a bona fide tender.

We also certify that we have not done, and we undertake not to do any of the following at any time before the hour and date specified for the closure of submission of tenders for this contract:

- a) Fix or adjust the amount of this tender by or under or in accordance with any agreement or arrangement with any person outside this consortium.
- b) communicate to a person outside this consortium other than the person calling for these tenders, the amount or approximate amount of the proposed tender, except when the confidential disclosure of the approximate amount of the tender is necessary to obtain insurance premium quotations required for preparation of the tender.
- c) cause or induce any person outside this consortium to communicate to us the amount or approximate amount of any rival tender for this contract.
- d) enter into any agreement or arrangement with any person outside this consortium to induce him to refrain from tendering for this contract, or to influence the amount of any tender or the conditions of any tender to be submitted, nor cause or induce any person outside this consortium to enter into any such agreement or arrangement.
- e) offer or pay or give or agree to give any sum of money or valuable consideration directly or indirectly to any person outside this consortium for doing or having done or causing or having caused to be done in relation to any tender or proposed tender for this contract, any action similar to those described above.

In this certificate the term "person" includes juristic or natural persons, body of persons or association, whether corporate or not, the term "agreement or arrangement" includes any agreement or arrangement, whether formal or informal and whether legally binding or not, and the term "person outside this consortium" means, when the consortium is a partnership, a person other than a partner or an employee of a partner or the partnership, or when the consortium is a company, a person other than a person or company holdings shares in the consortium, or any employee of such a person, company or the consortium.

SIGNED ON BEHALF OF	TENDERER:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 J COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT, 1993, REGULATIONS FOR HAZARDOUS BIOLOGIGAL AGENTS 2022 CONSTRUCTION REGULATIONS, 2014

T2.1 K

The tenderer shall attach evidence that he is registered and in good standing with a compensation insurer who is approved by Department of Labour in terms of section 80 of the Compensation for Injury and Disease Act (COID) (Act 130 of 1993).

The tenderer is required to disclose, by also attaching documentary evidence, all inspections, investigations and their outcomes conducted by the Department of Labour into the conduct of the tenderer at any time during the 36 months preceding the date of this tender.

Attach a valid letter of	f good standing	from the Compensation (Commissioner or FE	MA

SIGNED ON BEHALE OF THE TENDERER.	

Note to tenderer:

Discovery that the tenderer has failed to make proper disclosure may result in the municipality terminating a contract that flows from this tender on the ground that it has been rendered invalid by the tenderer's misrepresentation.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 L REQUIREMENTS IN TERMS OF GOVERNMENT'S RECONSTRUCTION AND DEVELOPMENT PROGRAMME

K1 General

The employer requires the active participation of the contractor in this aspect of the contract.

Forms RDP 1 (E) to RDP 4 (E) applies to this section and must be completed and submitted with the tender.

The tenderer's submissions under this item will be taken into consideration when evaluating tenders received.

K2 Definitions

K2.1 Contract Participation Goal (CPG)

The value of goods, services and works, including VAT, for which the contractor proposes to engage labour and SMMEs

K2.2 Labour Maximisation

It is a requirement of this contract that participation in the contract must be granted to local labour in order to maximize job creation as well as to maximize expenditure towards the unemployed.

The specified target value for labour expenditure is 12% of the contract value. This labour content shall be from the LOCAL COMMUNITY where Local Community means those in the immediate vicinity of the project. Labour is defined as hourly paid personnel including the CLO. The minimum rate for the local labour shall be R250 per day

It is a requirement that the Contractor plan for achieving these targets and that a planned programme for achieving each of the targets is submitted at the start of the project together with the clause 12 programme of construction.

Penalties: The penalties for not reaching the required labour target values will be calculated at **300%** of the difference between the set target values and the actual target values achieved by the contractor at completion of the works. Penalties will be applied monthly, when the actual figures are less than **75%** of the planned accumulative monthly figures. No bonuses for achieving the set target values are applicable. In the event that penalties are reversed, no interest will be claimable on the value of the penalty.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

K2.3:SPECIFICATIONFORSMMESUB-CONTRACTOREMPLOYMENT

TABLE OF CONTENTS

1 DEFINITIONS AND INTERPRETATIONS

- 2. SMME TENDER PHASE
- 2.1 Identification of SMME Contractors
- 2.2 Identification of Works Opportunities
- 2.3 Tender process for SMMEs
- 2.4 Compilation and issue of tender documents
- 2.5 Site Briefing Session
- 2.6 Pre-Tender Assistance to the SMMEs
- 2.7 Adjudication
- 2.8 Award of Tender
- 2.9 Sub-Contract Agreement
- 3. CONSTRUCTION PHASE
- 4. Mentorship
- 5. Guide, Assist and Mentor SMMEs
- 6. Dispute Resolution Procedures
- 7. Quality of Work and Performance of the Sub-Main Contractor
- 8. Payment of SMMEs
- 9. Main Contractor's Liability
- 10. Performance Guarantee:
- 11. Retention
- 12. Measurements & Payments
- 13. Sub-Contracting by SMME
- 14. Joint Venturing & Consortium
- 4 PORTFOLIOS OF EVIDENCE & UP-GRADE SUPPORT
- 4.1 Keeping of Records
- 4.2 Monthly Returns
- 4.3 Main Contractor's duties upon completion of each subcontract

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- MEASUREMENT AND PAYMENT
- 6. FINANCIAL PENALTY
- ACCEPTANCE OF THE SMME SUB-CONTRACTOR SPECIFICATION

Revision list

Rev 0.1

- Change SAFCEC Subcontract Agreement to General Conditions of Subcontract for Construction Works, SAICE, First Edition 2018 including all amendments
- Change SMME Eol document compiler from Employer's Agent to the Main Contractor

ACRONYMS

ABBREVIATION	DESCRIPTION
CIDB	CONSTRUCTION INDUSTRY DEVELOPMENT BOARD
СМ	CONSTRUCTION MANAGER (MENTOR)
ECSA	ENGINEERING COUNCIL OF SOUTH AFRICA
GCC	GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS
EA	EMPLOYER'S AGENT
MC	MAIN CONTRACTOR (MENTOR)
PM	PROJECT MANAGER (MENTOR)
PMT	PROJECT MANAGEMENT TEAM
SAICE	SOUTH AFRICAN INSTITUTION OF CIVIL ENGINEERING
SARS	SOUTH AFRICAN RECEIVER OF REVENUE
SMME	SMALL MEDIUM & MICRO ENTERPRISE SANS
SANS	SOUTH AFRICAN NATIONAL STANDARDS

1 DEFINITIONS AND INTERPRETATIONS

For the purposes of this section of the Project Specification, the definitions given in the General Conditions of Contract for Construction Works 3rd Edition 2015, the Standard Specifications and the Project Specifications, together with the following definitions shall apply:

a) Main Contract: Any contract for the execution of civil engineering or building or similar construction works, in which the liabilities and responsibilities of the two parties thereto are assigned essentially in a manner which is consistent with that set out in the General Conditions of Contract for Construction Works 3rd Edition, 2015.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- b) Project Management Team (PMT): A team that is set up after award of the contract, consisting of a delegate from each of the Main Contractor, the Employer's Agent and the Employer. The function of the PMT will be to consult regarding the management of the subcontracts involving SMMEs. The PMT will also evaluate the Main Contractor's performance regarding the goals set for SMME involvement. The Employer's Project Manager will decide which party is to chair and lead the team. Minutes of these meetings will be taken by the Employer's Agent.
- c) SMME Construction Manager: Person provided by Main Contractor to guide, assist and mentor all eligible potential SMMEs tendering and awarded a contract as SMME Sub-Contractors as per section 2.2 of this section of the Specification.
- d) Small, Medium and Micro Enterprises: An Affirmable Business Enterprise which adheres to statutory labour practices, is a legal entity, registered with SARS and the Compensation Commissioner or FEMA and continues to operate as an independent enterprise for profit.
- e) SMME Sub-Contractor: An Emerging Contractor referred to as an SMME and chosen by the Main Contractor to tender for and, if successful, to provide works as part of the total service required by the Employer for the Contract.
- f) Sub-Contractor: A Contractor who contracts with the Main Contractor to provide works as part of the total services required by the Employer for that Contract.
- g) SMME Package: Specified work package identified for execution by SMMEs. The identifiers are Employer, Employer's Agent and Main Contractor.
- h) Joint Venture: An association of firms, companies or businesses for which purpose they combine their expertise, efforts, skills and knowledge to execute the Contract.

1.1 SMME TENDER PHASE

1.2 Identification of SMME Contractors

"Immediately upon the award of the Contract the Main Contractor in conjunction with the Employer and the Employer's Agent shall place an advertisement for Expressions of Interest for CIDB class CE SMME contractors to undertake part of the Works. It is intended that SMME subcontracts shall be issued covering certain items of the work which will be identified as set out below."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

1.3 Identification of Works Opportunities

General items to be considered as possible work packages for the sub-contractors are listed below. These packages are not all inclusive and contractors are encouraged to exceed the minimum requirements.

Specific work items to be performed by subcontractors will be agreed to post-award. It remains the main contractor's responsibility to ensure compliance with the stipulated contract participation goals.

- Site clearance
- Hand excavation
- Construction of chambers
- Painting
- · Repair of existing concrete structures
- Brickwork
- Plastering
- · Cleaning of site
- Block paving and Krebs
- · Gravel access road
- Construction of "V" earth drain
- Floating and concrete works
- Roofing
- · Guard house
- Concrete works
- Fencing

1.4 Tender process for SMMEs

"Potential SMME Sub – Contractors shall be invited to tender for each work package."

1.5 Compilation and issue of tender documents

The Main Contractor supported where required by the Employer's Agent shall compile the tender documents in such a manner that it will facilitate the achievement of all objectives and principles pertaining to procurement and development of SMMEs as stated in or as may reasonably be inferred from the conditions of this contract.

All tender documentation shall be reviewed, approved and issued by the Main Contractor with all copies of tender documents compiled deemed to be included in the tendered rates or mark-up provision allowed for the various SMME work packages. The tender or

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

quotation document will be issued to invited SMMEs at NO COST and the Main Contractor is to make allowance for such cost in his tendered rates.

1.6 Site Briefing Session

The Main Contractor shall facilitate a Site Briefing Session for the invited SMMEs. The Main Contractor will also make sure that all relevant parties including the PMT are present and given an opportunity to present specific aspects of the requirements pertaining to their tender requirements.

1.7 Pre-Tender Assistance to the SMMEs

At the briefing session, the Main Contractor assisted by the PMT will be responsible for ensuring that prospective SMME Tenderers fully comprehend the:

- i. implications of the liabilities and responsibilities inherent in the subcontract applicable.
- ii. scope and extent of the portion of the works included in the subcontract.
- iii. the requirements for quality control of work.
- iv. the requirements for occupational health and safety.
- v. proper procedures for the submission of the tenders.
- vi. procedures and basis on which tenders will be adjudicated and the subcontracts awarded.

1.8 Adjudication

- i) The Main Contractor shall receive all tenders at a location identified by him. All sealed tender submissions will be placed in a proper tender box provided by the Main Contractor for this purpose. A submission register will be maintained by the Main Contractor for all tenders received.
- j) All tenders received shall be evaluated by the Main Contractor for final approval. The draft tender evaluation report shall be distributed to the PMT members 5 working days prior to the PMT meeting for comments and perusal in order to finalise the evaluation before the meeting. The format of the tender evaluation report must be agreed upon at the first PMT meeting.
- k) The evaluation of the Occupational Health and Safety plans will be done by the Main Contractor SHE Officer.
- I) The PMT shall have the right to interview any tenderer for the purpose of:
 - clarifying any aspect of the tender.
 - ii. querying abnormally high or low rates and prices, and

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- iii. clarifying rates and prices which are not in balance with other tendered rates and prices.
- iv. The Main Contractor shall provide all the reasonable opportunities to such tenderers who have been interviewed to correct obvious and patent errors, provided always that this can be achieved without altering the total tendered sum.

1.9 Award of Tender

The Main Contractor will award the work with the successful SMME Tenderers, and a Sub-Contract Agreement will be signed between the Main Contractor and the successful SMME Tenderers.

1.10 Sub - Contract Agreement

A Sub-Contract Agreement in accordance with the General Conditions of Subcontract for Construction Works, SAICE, First Edition 2018 including all amendments will be compiled by the Main Contractor with the assistance of the Employer's Agent. They shall be responsible for ensuring that the terms and conditions are consistent with all requirements as specified in or reasonably may be inferred from the provisions of this Contract. All costs associated with the tender process including the conclusion of the agreement are for the Main Contractor's account.

The final terms and conditions of each subcontract agreement shall be subject to the approval of the PMT, prior to entering into the subcontract agreement. The Main Contractor may not enter into any subcontract agreement that contains terms more onerous or disproportionate to the risks inherent in the main contract for either the SMME or the Main Contractor.

The terms and conditions of the subcontract agreement shall specifically ensure that the provisions of the main contract pertaining to:

- a) The allowable sources from which workers may be drawn in terms of the contract.
- b) The terms and conditions relating to the recruitment, employment and remuneration of workers engaged in the contract work.
- c) Any training to be provided for the temporary workforce.
- d) Occupational health and safety; and
- e) The use of labor-intensive methods.

Shall apply in respect of all SMME Contracts.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

2 CONSTRUCTION PHASE

2.1 Mentorship

The Main Contractor shall closely manage and supervise and assist all SMMEs in all aspects of management, execution and completion of subcontracts. This shall typically include assistance with planning the works, sourcing and ordering of materials, labour relations, monthly measurements and invoicing procedures, etc. The extent and level of such management, guidance and assistance to be provided by the Main Contractor shall be directed at enabling the SMMEs to achieve the successful execution and completion of the subcontract. Payment for such on-going assistance is deemed included in the rate tendered for the administrative cost of SMMEs.

2.2 Guide, Assist and Mentor SMMEs

The Main Contractor shall employ on a full-time basis an SMME Construction Manager. The CV of the proposed individual must be submitted to the Employer's Agent for approval based on the requirements shown below.

The SMME Construction Manager will manage the SMMEs and report monthly on progress of each SMME to the Project Management Team (PMT).

Such Construction Manager must be adequately experienced with SMME work(s) concern and the development thereof and will be subject to the approval of the Employer. The SMME Construction Manager will render full-time assistance to and mentor the SMMEs and shall:

- i. Possess a minimum of five years' site-based experience in the civil engineering construction industry and have a sound knowledge of the minimum requirements to carry out construction work effectively and efficiently.
- ii. Posses 3 years civil engineering administrative experience.
- iii. Be registered with ECSA registration (Engineering Council of South Africa): Pr. Eng or Pr. Tech or SACPCMP (South African Council for the Project and Construction Management Professions) as a Pr. CPM or Pr. CM.
- iv. would preferably hold a mentoring certificate.
- v. Maintain the Programme of the subcontract.
- vi. Ensure continuous supervision and assistance to the SMME sub-contractors.
- vii. The SMME Construction Manager will report on the performance of the SMME on a monthly basis. On completion, the Main Contractor will issue a Final Certificate as given in the General Conditions of Subcontract for Construction Works, SAICE, First Edition 2018 including all amendments within seven days after the final completion.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

2.3 Dispute Resolution Procedures

The Main Contractor shall at all times:

- a) Apply the terms and conditions of the subcontract fairly and justly, taking due cognizance of the level of sophistication and experience of the SMME concerned, as well as the level of subcontract applicable.
- b) Closely manage and supervise all SMMEs and wherever feasible, shall give reasonable warning to SMMEs when any contravention of the terms of the subcontract has occurred or appears likely to occur. The Main Contractor shall, whenever feasible, give the SMMEs a reasonable opportunity to rectify such contravention or to avoid such contravention and shall render all reasonable assistance to the SMME in this regard.
- c) If no agreement can be reached between the Main Contractor and the sub-Main Contractor, the matter shall be referred to as a mutually acceptable mediator as required in the General Conditions of Subcontract for Construction Works, SAICE, First Edition 2018 including all amendments.
- d) When taking any actions or imposing any penalties as are provided for in the subcontract, the Main Contractor shall explain fully to the SMMEs that such actions are provided for in the subcontract.

2.4 Quality of Work and Performance of the Sub-Main Contractor

If the Sub-Contractor, in the opinion of the Main Contractor, fails to comply with the criteria as listed below, the Main Contractor shall issue a written warning to the Sub-Contractor, stating all the areas of non-compliance. A copy of the letter of warning shall be forwarded to the Employer's Agent. These criteria include:

- a) Acceptable standard of work as set out in the specifications in the sub-contract tender document.
- b) Progress in accordance with the time constraints in the Sub-Contractor's tender document.
- c) Punctual and full payment of the workforce and suppliers.
- d) Occupational health and safety compliance.
- e) Compliance with environmental requirements.

The Subcontractor shall have fourteen (14) days from the date of receipt of the warning letter from the Main Contractor to satisfactorily rectify the issues raised by the Main Contractor, with the exception of point (d) and (e), for which the response time shall be 24 hours. If a satisfactory solution cannot be reached after the mediation process this will be sufficient grounds for the Main Contractor to terminate the contract provided the Project Management Team is satisfied that the Main Contractor has made every effort to correct the performance by the Sub – Contractor.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

2.5 Payment of SMMEs

- 2.5.1. SMME Sub-Contractors are to be invited to submit their payment certification or claim monthly and are to be paid by the Main Contractor within Thirty (30) days of receipt of the correct invoice.
- 2.5.2. Payment to SMMEs MAY NOT BE delayed pending payment of the Main Contractor by the Employer.
- 2.5.3. Payment to SMMEs may not be subjected to set off costs unless provided for in law, and may not exceed 5% of the payment, unless approved by the Employer.
- 2.5.4. Payment to SMMEs may not be discounted for early payment.
- 2.5.5. No interim payment of the SMME invoice may be unfairly withheld or delayed for whatever reason.
- 2.5.6. The Main Contractor must acknowledge and honour cessions in favor of recognized financiers or suppliers of the SMME if presented to the PMT and approved.

2.6 Main Contractor's Liability

No provision or requirement set out in this specification shall be deemed to relieve the Main Contractor of any liability or obligation under the contract, and in accordance with the provisions of Clause 4.4 of the General Conditions of Contract

for Construction Works 2015, the Main Contractor shall be fully liable for the acts, defaults and negligence of any SMMEs, his agents or employees, as fully as if they were the acts, defaults and negligence of the Main Contractor, his agents or employees save as specified in the General Conditions of Subcontract for Construction Works, SAICE, First Edition 2018 including all amendments.

Any failure or neglect by the Main Contractor to comply with the provision of the specifications, or any omission or neglect by the Main Contractor in adhering to or applying the principles as are described and inherent in the specifications, shall be deemed to constitute a warrant for the Employer's Agent to act in terms of Clause 9.2 of the General Conditions of Contract for Construction Works 2015.

2.7 Performance Guarantee

The following Performance Guarantees will be applied on the SMME Subcontracts:

2.7.1. up to R1 000 000shall be zero percent (0%).
2.7.2. R1 000 001 to R4 000 000shall be five percent (5%);
2.7.3. Exceeding R4 000 000 shall be ten percent (10%)

All the above will be of the accepted SMME Sub-Contract Value and will be required from SMMEs as stated in the General Conditions of Subcontract for Construction Works, SAICE,

First Edition 2018 including all amendments.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Where such guarantees are provided by SMME, the return of same will be related to the time when the work carried out by the SMME is complete to the satisfaction of the Main Contractor and the Employer's Agent.

2.8 Retention

Five percent (5%) of the Sub-Contract Value (excluding VAT) will be deducted as retention on SMME, with half to be released on issue of the Completion Certificate for the specific SMME Sub-Contract with the remaining retention released on issuing of the Final Approval Certificate after the twelve (12) months Defects Liability Period. This deduction will be made from each payment certificate till it reaches the maximum of 5% of the Sub-Contract Value.

2.9 Measurements

An item has been measured in Bill of Quantities allowing the Main Contractor to price for the cost of the Main Contractor to manage and supervise the SMMEs during the execution of their works. The price tendered will be deemed to include all incidentals by the Main Contractor to comply with the conditions of this specification. No other claims will be entertained should SMMEs affect the contract works in any way, and the Main Contractor shall deem to include such effects in the handling cost percentage for the different SMME work packages above.

2.10 Sub-Contracting by SMME

The Main Contractor shall not permit SMME Sub-Contractors to further subcontract on any other conditions than those applying in the project specification to Sub-Contractors or SMME Sub-Contractors.

2.11 Joint Venturing & Consortium

The Main Contractor shall not permit the SMME Sub-Contractors to enter a Joint Venture or form a consortium with an external SMME(s) unless PMT approves so before the tender award. The SMME may only be allowed to enter Joint Venture or form a consortium with the other invited SMME(s) on the package concerned.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

3 PORTFOLIOS OF EVIDENCE & UP-GRADE SUPPORT

3.1 Keeping of Records

The Main Contractor shall assume responsibility for the compilation and maintenance of comprehensive records detailing each SMME's progress during the construction period, starting from the award of a subcontract to an SMME until the successful completion of the subcontract work or termination of the subcontract. To this end the Main Contractor shall

arrange for the completion, on behalf of the SMME Subcontractor, of the Employer's proformas to be provided by the Employer at award of the Main Contract. The Main Contractor must also keep a register of the details of each SMME engaged.

The Main Contractor shall keep comprehensive records of the training given to each trainee and SMME, at the successful completion of each course; each trainee shall be issued with a certificate indicating the course contents as proof of attendance and completion. The Main Contractor shall keep a register of certificates issued. Whenever required, the Main Contractor shall provide copies of such records to the Employer's Agent.

3.2 Monthly Returns

The Main Contractor's participation performance will be measured monthly to monitor the extent to which he is striving to reach the targets in this contract. The Main Contractor shall complete and return on a monthly basis the following pro-forma form of the Employer (to be provided by the Employer at award of the Main Contract):

- Report on EPWP Labour Employment
- Report on employment.
- Report on the SMME's Plant and Equipment.
- Report on progress against programme.
- Report on financial status.
- Report on engineering training.
- Report on development training.
- Report on safety training.

The completed forms shall be presented to the Employer's Agent at each site meeting. Failure to adhere to this requirement shall result in the delay of any payment due until the Employer's Agent confirms that the forms have been received.

3.3 Main Contractor's duties upon completion of each sub-contract

The Main Contractor shall, on completion of each subcontract completed in accordance with the provisions of this specification, issue free of charge to the SMME within 7 (seven) days of the completion of the subcontract, a Certificate of Experience on a single A4 page containing the following:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- a) Contract data:
 - i. Contract title.
 - ii. Main Contractor's full name and address.
 - iii. Employer's Agent's name and address.
 - iv. Employer's name and address.
- b) Subcontract data:
 - v. SMME name and address.
 - vi. Scope or extent of the subcontract works.
 - vii. Value of the subcontract works.
 - viii. Applicable level of the subcontract.
 - ix. Duration of the subcontract.
 - x. Date of completion of the subcontract.
 - xi. Description of the training undergone by the SMME.

In addition, the SMME Construction Manager must provide comments of the performance of the SMME Subcontractor in respect of contract execution, Labour management and OHS principles.

Certifying the SMME's successful completion of the subcontract.

4 MEASUREMENT AND PAYMENT

Payment Ref Unit

SM10.01 Provision of an SMME Construction Manager......Month

The monthly tendered rate must include for all costs arising from the full-time mentoring, guidance and supervision of the SMME Subcontractors, including salary, accommodation, transport and all other expenses incurred.

SM10.02 Expressions of Interest for SMME's...... Number (No)

The tendered sum must include all costs incurred in the preparation of the expressions of interest, advertising and evaluation of the replies for presentation to the PMT.

SM10.03 Tenders for SMME's..... Number (No)

Payment under this item shall be the number of SMME subcontract, tender processes which the Contractor carries out. The tendered rate shall include full compensation for the compilation and issue of tender documents, tender invitation, training and provision of assistance to tenderers, evaluation of tenders and award of subcontracts.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

SM10.04 Administrative costs of mentoring SMME Subcontractors......Month

The tendered sum must include for all costs incurred in the administration of the mentoring of SMME Subcontracts but not including the costs of the duties of the SMME Construction Manager or normal site supervision and administration activities. These could include the costs of outside specialists such as estimators, OHS or environmental specialists.

SM10.05 Preliminary and General costs associated with SMME's and fluctuation between the Contractor's tendered rates and the rates of SMME subcontractors. Provisional Sum (Prov. Sum)

Measurement and payment shall be in accordance with the provisions of clause 6.6 of the Conditions of Contract.

The Contractor shall, for inclusion in his monthly certificate, produce a schedule of work packages undertaken by SMME subcontractors, clearly indicating the P&G costs incurred which shall be limited to 20% of each SMME package.

The provisional sum makes provision for the SMME subcontractor's establishment on site and general obligations, which will be included in the SMME subcontractors' contracts, and for funds to deal with the fluctuations between the Contractor's tendered rates and the rates of the approved SMME subcontractors."

SM10.06 Handling Costs and Profit Associated with SM10.05....Percentage (%)

The Contractor is required to calculate the total percentage mark up for his handling costs and profit on Item SM10.05 which shall be claimed monthly under this pay item.

5 FINANCIAL PENALTY

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, it shall be liable to pay to the Employer a financial penalty (P) calculated in the following manner:

 $P = 0.50 x (LM - LA) x V_A$

Where:

LM = SMME Subcontractors or Local Resources Goal % stated in the Contract Document

LA = SMME Subcontractors or Local Resources component % which the Employer's representative certifies as being achieved upon completion of the Contract.

VA = Award Value (Contract Price exclusive of VAT, all provisional or prime cost sums and allowances for contingencies)

P = Rand value of penalty payable

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

6 ACCEPTANCE OF THE SMME SUB-CONTRACTOR SPECIFICATION

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the firm or sole proprietor. confirms that he/she understands the conditions under which such preferences are granted.

Signature:
Name:
Duly authorized to sign on behalf of
Telephone:
Fax:

K3 Contract Participation Performance (CPP)

K3.1 The Contractor's Participation Performance will be measured monthly in order to monitor the extent to which he is striving to reach the Contract Participation Goal (CPG) he proposed in his tender. Failure to reach the CPG will make the Contractor liable for penalties as described above.

K3.2 Monitoring of CPG

Regular returns will be required from the contractor, to be submitted with each payment certificate. The format should be confirmed with the Social Division of RAL at the time of site handover.

K4 Training

Provision is made in the SCHEDULE OF QUANTITIES for structured training to be provided by the contractor. The contractor should capacitate their employees with relevant training relating to the scope of works. All training evidence should be kept in file.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 M SCHEDULE KEY PERSONNEL

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

	NUMBEROFPERSON					
CATEGORY OF EMPLOYEE	KEYPERSONNE L, PARTOFTHE CONTRACTOR'S ORGANISATION		KEYPERSONNELTO BEIMPORTEDIFNOT AVAILABLELOCALL Y		UNSKILLED PERSONNELTOBE RECRUITEDFROM LOCALCOMMUNIT Y	
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI
CONTRACT MANAGER						
CONSTRUCTION MANAGER						
SITE FORMAN						
SAFETY OFFICER						
OTHERS:						

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Signed	d Date	
Name _.	ePosition	
Tenderer	r	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 N FORMAT OF CURRICULUM VITAE OF KEY PERSONNEL

Provide separate forms for each position listed in the Form: Key Personnel

Contract Manager

Name:	Date of birth:
Profession:	Nationality:
Qualifications:	·
Professional Registration Number:	
Name of Employer(firm):	
Current position:	Years with firm:
Employment Record:	•
Certification:	
I, the undersigned, certify that to the best of my know describes me, my qualifications and my experience.	vledge and belief this data correctly
Signature person named in the schedule Date	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Format of Curriculum Vitae of Key Personnel

Provide separate forms for each position listed in the Form: Key Personnel

Construction Manager

Name:	Date of birth:
Profession:	Nationality:
Qualifications:	·
Professional Registration Number:	
Name of Employer(firm):	
Current position:	Years with firm:
Employment Record:	·
Experience Record Pertinent to Required service:	
Certification:	
the undersigned, certify that to the best of my knowledgescribes me, my qualifications and my experience.	e and belief this data correctly
Signature person named in the schedule	 Date

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Format of Curriculum Vitae of Key Personnel

Provide separate forms for each position listed in the Form: Key Personnel

Safety Officer

Name:	Date of birth:
Profession:	Nationality:
Qualifications:	
Professional Registration Number:	
Name of Employer(firm):	
Current position:	Years with firm:
Employment Record:	
Experience Record Pertinent to Required service	<u>e:</u>
Certification:	
the undersigned, certify that to the best of my knowlescribes me, my qualifications and my experience.	edge and belief this data correctly
Signature person named in the schedule	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 O COMPETENCE ACHIEVEMENT SCHEDULES

FUNCTIONALITY POINTS WILL BE SPREAD AS FOLLOWS (100 POINTS MAXIMUM):

BIDDER EVALUATION CI	WEIGHTING			
PROFILE OF KEY STAFF OLDER THAN 3 MONTHS	45			
CONTRACTS MANAGER with a professional registration	6 years or more relevant experience in a role of a project manager and registration	10		
as a Pr. Tech Eng with ECSA or PrCM with SACPCMP. With a	3 to 5 relevant experiences in a role a project manager and registration	05	Max 10	
minimum of NQF level 7 or BTech in construction	1 to 3 years relevant experience in a role of a project manager	03		
or built environment	No experience, and registration.	00		
CONSTRUCTION MANAGER with National Diploma or NQF level 6 in built environment and minimum professional registration with ECSA as Pr. Technician.	6 or more years relevant experience in a role of a site agent and professional registration	of a site agent and		
	3 to 5 years relevant experience in a role of a site agent and professional registration	05	Max 10	
	0 to 3 years relevant experience in a role of a site agent and professional registration	03		
	No experience, and registration	00		
CONSTRUCTION FOREMAN with National Diploma in built environment or NQF level 6	6 or more years relevant experience in a role of construction foremen	10		
	3 to 5 years relevant experience in a role of construction foremen	05		
	1 to 3 years relevant experience in a role of construction foremen	03		
	No experience, and qualification	00		
			Max 10	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

LABOUR INTENSIVE CONSTRUCTION (LIC)	Possess	s LIC NQF Level 5		
One of the three above must have NQF Level 5	YES		05	Max 05
	NO		00	
OCCUPATIONAL HEALTH AND SAFETY	6 years or more relevant experience as safety officer and registration		10	
officer with a professional registration with SACPCMP and diploma in safety management.	3 – 5 relevant as safety officer and registration		05	Max 10
	1 to 3 years relevant experience as safety officer and registration		03	
	No experience, no qualification and registration		00	
COMPANY EXPERIENCE	IN APPL	IED FIELD		40
Implemented traceable projects in South Africa, for WASTEWATER TREATMENT		4 completed projects	40	
INFRASTRUCTURE Refurbishment / Upgrade	in	3 completed projects	30	
Built.		2 completed projects	20	
Tenderers to provide appointment letters, completion certificate 1		1 completed projects	10	Max 40

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

signed by the client, the engineer & the contractor and signed reference letters in a client's letterhead. Completed reference forms shall be verified with the employer/client. Minimum project value is R20 Million TECHNICAL PROPOSAL/METHOD	DOLOGY/INNOVATION		10
The bidder shall submit a technical proposal or methodology to indicate how they will deliver on the requirements as set out	Very Good - Besides meeting the "good" rating, the important issues are approached in an innovative and efficient way, indicating that the bidder has outstanding knowledge of state-of-the- art approaches. The methodology details ways to improve the project outcomes and the quality.	10	Max 10
	Good - The methodology is specifically tailored to address the specific project objectives and methodology and is sufficiently flexible to accommodate changes that may occur during execution. The quality plan and approach to managing risk etc., is specifically tailored to the critical characteristics of the project.	8	
	Satisfactory - The methodology is generic and not tailored to address the specific project objectives and methodology. The methodology does not adequately deal with the	5	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

	critical characteristics of the project.		
	The technical approach and/or methodology is poor/is unlikely to satisfy project objectives or requirements. The bidder has misunderstood certain aspects of the scope of work and does not deal with the critical aspects of the project.	3	
	No response or methodology failed to address requirements	0	
QUALITY ASSURANCE	Tenderer does not have ISO 9001/2000 Certification		5 Max
ISO 9001/2000 certification	Tenderer has ISO 9001/2000 Certification	5	
TOTAL			100

The minimum score for functionality will be 70%, and bidders who score below the minimum score will not be considered for further evaluation.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 P BBBEE CERTIFICATE / SWORN AFFIDAVIT

[BBBEE Certificate/Sworn Affidavit to be attached here or separately]

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 Q TAX CLEARANCE PIN

[Tax Clearance Certificate obtained from SARS to be attached here]

CONDITIONS OF CONTRACT

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.1 R MDB FORMS

MBD₁

INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE THABAZIMBI LOCAL MUNICIPALITY
BID NUMBER:CLOSING DATE: CLOSING TIME:
DESCRIPTION
The successful bidder will be required to fill in and sign a written Contract Form (MBD 7).
BID DOCUMENTS MAY BE POSTED TO:
OR
DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)
Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration.
The bid box is generally open 24 hours a day, 7 days a week.
ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS – (NOT TO BE RE-TYPED)
THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL

NB: NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE (as defined in Regulation 1 of the Local Government: Municipal Supply Chain Management Regulations)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

THE FOLLOWING PARTICULARS MUST BE FURNISHED (FAILURE TO DO SO MAY RESULT IN YOUR BID BEING DISQUALIFIED)

NAMEOF
BIDDER
POSTALADDRESS
STREET
ADDRESS
TELEPHONENUMBERCODENUMBER
CELLPHONE
NUMBER
FACSIMILE NUMBER
CODE
NUMBER
E-
MAILADDRESS
VAT
REGISTRATIONNUMBER
HAS AN ORIGINAL AND VALID TAX CLEARANCE CERTIFICATE BEENATTACHED? (MBD 2) YES/NO
HAS A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED? (MBD 6.1) YES/NO
IF YES, WHO WAS THE CERTIFICATE ISSUED BY?
AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CCA) A VERIFICATION AGENCY ACCREDITED BY THE SOUITH AFRICAN NATIONAL ACCREDITATION SYSTEM (SANAS) A REGISTERED AUDITOR
(Tick applicable box)

(A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS/SERVICES/WORKS OFFERED?

YES/NO (IF YES ENCLOSE PROOF) **SIGNATURE** OF **BIDDER** DATE..... CAPACITY UNDER WHICH THIS BID IS SIGNED..... TOTAL BID PRICE......TOTAL NUMBER OF ITEMS OFFERED..... ANY ENQUIRIES REGARDING THE BIDDING PROCEDURE MAY BE DIRECTED TO: Municipality / Municipal Entity: Department: Contact Person: Tel: Fax: ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO: Contact Person: Tel:

Fax:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 2

TAX CLEARANCE CERTFICATE REQUIREMENTS

It is a condition of bid that the taxes of the successful bidder <u>must</u> be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations.

- In order to meet this requirement bidders are required to complete in full the attached form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.
- SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.
- The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.
- 4 In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.
- 5 Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website <u>www.sars.gov.za</u>.
- Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 3.1

PRICING SCHEDULE – FIRM PRICES (PURCHASES)

NOTE:

ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

	of Bidderer	Bid
Closin	g Time C	losing Date
OFFE	R TO BE VALID FORDAYS FROM TI	HE CLOSING DATE OF BID.
ITEM NO.	QUANTITY DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES INCLUDED)
-	Required by:	
-	At:	
-	Brand and Model	
-	Country of Origin	
-	Does the offer comply with the specification	n(s)? *YES/NO
-	If not to specification, indicate deviation(s)	
-	Period required for delivery	*Delivery: Firm/Not firm
-	Delivery basis	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Note: All delivery costs must be included in the bid price, for delivery at the prescribed destination.

** "all applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies

MBD 3.2

PRICING SCHEDULE – NON-FIRM PRICES (PURCHASES)

NOTE: PRICE ADJUSTMENTS WILL BE ALLOWED AT THE PERIODS AND TIMES SPECIFIED IN THE BIDDING DOCUMENTS.

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

	idder	Bid
losing Tin	me	Closing Date
OFFI	ER TO BE VALID FORDAYS FROM	I THE CLOSING DATE OF BID.
ITEM NO.	M QUANTITY DESCRIPTION JDED)	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES
	Required by:	
-	At:	
-	Brand and model	
-	Country of origin	

Does the offer comply with the specification(s)?
 *YES/NO

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PH	ASE 1
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-	If not to specification, indicate deviation(s)	
-	Period required for delivery	
-	Delivery:	*Firm/Not firm

^{**&}quot; all applicable taxes" includes value - added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

^{*}Delete if not applicable

CONTRACT NO: TECH/02/2025-26

Where:

R10, R20

VPt

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 3.2

PRICE ADJUSTMENTS

A NON-FIRM PRICES SUBJECT TO ESCALATION

- 1. IN CASES OF PERIOD CONTRACTS, NON-FIRM PRICES WILL BE ADJUSTED (LOADED) WITH THE ASSESSED CONTRACT PRICE ADJUSTMENTS IMPLICIT IN NON-FIRM PRICES WHEN CALCULATING THE COMPARATIVE PRICES
- 2. IN THIS CATEGORY PRICE ESCALATIONS WILL ONLY BE CONSIDERED IN TERMS OF THE FOLLOWING FORMULA:

$$Pa = (1 - V)Pt \left(D1 \frac{R1t}{R1o} + D2 \frac{R2t}{R2o} + D3 \frac{R3t}{R3o} + D4 \frac{R4t}{R4o} \right) + VPt$$

Pa = The new escalated price to be calculated.

(1-V) Pt = 85% of the original bid price. Note that Pt must always be the original bid price and not an escalated price.

D1, D2.. = Each factor of the bid price eg. labour, transport, clothing, etc. The total of the various factors D1,D2...etc. must add up to

100%.

R1t, R2t..... = Index figure obtained from new index (depends on the factors used).

Index figure at time of bidding.

15% of the original bid price. This portion of the bid price

remains firm
i.e. it is not subject to any price escalations.

3. The following index/indices must be used to calculate your bid price:

Index	Dated	Index	Dated	Index	Dated
Index Dated		Index	Dated	Index	

3. FURNISH A BREAKDOWN OF YOUR PRICE IN TERMS OF ABOVE-MENTIONED FORMULA. THE TOTAL OF THE VARIOUS FACTORS MUST ADD UP TO 100%.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

FACTOR (D1, D2 etc. eg. Labour, transport etc.) ERCENTAGE OF BID PRICE	
	ERCENTAGE OF BID PRICE

MBD 3.2

B PRICES SUBJECT TO RATE OF EXCHANGE VARIATIONS

1. Please furnish full particulars of your financial institution, state the currencies used in the conversion of the prices of the items to South African currency, which portion of the price is subject to rate of exchange variations and the amounts remitted abroad.

PARTICULARS OF FINANCIAL INSTITUTION	ITEM NO	PRICE	CURRENCY	RATE	PORTION OF PRICE SUBJECT TO ROE	AMOUNT IN FOREIGN CURRENCY REMITTED ABROAD
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		

2. Adjustments for rate of exchange variations during the contract period will be calculated by using the average monthly exchange rates as issued by your commercial bank for the periods indicated hereunder: (Proof from bank required)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

AVERAGE MONTHLY EXCHANGE RATES FOR THE PERIOD:	DATE DOCUMENTATION MUST BE SUBMITTED TO THIS OFFICE	DATE FROM WHICH NEW CALCULATED PRICES WILL BECOME EFFECTIVE	DATE UNTIL WHICH NEW CALCULATED PRICE WILL BE EFFECTIVE

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 4

DECLARATION OF INTEREST

- 1. No bid will be accepted from persons in the service of the state¹.
- 2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
- In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1.	Full Name of bidder or his or her representative
3.2.	Identity Number:
3.3.	Position occupied in the Company (director, trustee, hareholder²):
3.4.	Company Registration Number:
3.5.	Tax Reference Number:
3.6.	VAT Registration Number:
3.7.	The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
3.8.	Are you presently in the service of the state? YES / NO
	3.8.1 If yes, furnish particulars

¹MSCM Regulations: "in the service of the state" means to be –

- (a) a member of -
 - (i) any municipal council.
 - (ii) any provincial legislature; or
 - (iii) the national Assembly or the national Council of provinces.
- (b) a member of the board of directors of any municipal entity.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- (c) an official of any municipality or municipal entity.
- (d) an employee of any national or provincial department, national or provincial public entity or constitution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999).
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or provincial legislature.
- ² Shareholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

3.9	Have you been in the service of the state for the past twelve months? $\textbf{YES} \textit{/} \textbf{NO}$			
		yes, furnish articulars		
3.10	in the se the evalu	nave any relationship (family, friend, other) with persons rvice of the state and who may be involved with uation and or adjudication of this bid?		
3.11	any othe may be i	, aware of any relationship (family, friend, other) between or bidder and any persons in the service of the state who nvolved with the evaluation and or adjudication of this bid? YES / NO		
	3.11.11	yes, turnish particulars		
3.12	principle	of the company's directors, trustees, managers, shareholders or stakeholders in service of the state? YES / NO yes, furnish particulars		
3.13	trustees	spouse, child or parent of the company's directors managers, principal shareholders or stakeholders e of the state? YES / NO		
	3.13.1 lf	yes, furnish particulars		
	-			
3.14	principle have any	or any of the directors, trustees, managers, shareholders, or stakeholders of this company interest in any other related companies or swhether or not they are bidding for this contract. YES / NO		
	3.14.1 lf	yes, furnish particulars		

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

4. Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	State Employee Number
Signature		Date
Capacity	N	lame of Bidder

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 5

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

1	Are you by law required to prepare annual financial statements for auditing?	
1.1	If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.	*YES / NO
2	Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?	
2.1	If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.	*YES / NO
2.2	If yes, provide particulars.	

^{*} Delete if not applicable

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

3	Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?	*YES / NO
3.1	If yes, furnish particulars	
4.	Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?	*YES / <u>NO</u>
4.1	If yes, furnish particulars	
	CERTIFICATION	
	I, THE UNDERSIGNED (<u>NAME)</u>	
	CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLA	RATION FORM IS CORRECT.
	I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS	S DECLARATION PROVE TO BE
	FALSE.	
	Signature	Date
	Position	Name of Bidder

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

- 1.1 The following preference point systems are applicable to invitations to tender:
 - the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
 - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 To be completed by the organ of state

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the **90/10** preference point system.
- b) The applicable preference point system for this tender is the **80/20** preference point system.
- c) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.
- 1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:
 - (a) Price;
 - (b) BEE, and
 - (c) Specific Goals

1.4 To be completed by the organ of state:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	10
BEE	10
Total points for Price and SPECIFIC GOALS	100

- 1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. **DEFINITIONS**

- (a) "tender" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.
- (b) "price" means an amount of money tendered for goods or services and includes all applicable taxes less all unconditional discounts.
- (c) "Rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.
- (d) "tender for income-generating contracts" means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) "the Act" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 or 90/10

$$Ps = 80\left(1 - \frac{Pt - Pmin}{Pmin}\right)$$
 or $Ps = 90\left(1 - \frac{Pt - Pmin}{Pmin}\right)$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

P min = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 or 90/10

$$Ps = 80\left(1 + \frac{Pt - P max}{P max}\right)$$
 or $Ps = 90\left(1 + \frac{Pt - P max}{P max}\right)$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
 - (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system: or
 - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

- a) 50% of the 20 and 10 points will be allocated to promote BBBEE as per scorecard and the remaining 50% to promote Specific Goal (Locality).
- 4. (Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

5. Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
100% black owned				
Woman				
Youth				
Directors with disability				

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

a) DECLARATION WITH REGARD TO COMPANY/FIRM

4.3.	Name of company/firm				
4.4.	Company registration number:				
4.5. TYPE OF COMPANY/ FIRM					
		Partnership/Joint Venture / Consortium			
		One-person business/sole propriety			
		Close corporation			
		Public Company			
		Personal Liability Company			
		(Pty) Limited			
		Non-Profit Company			
	□ State Owned Company				
	[TICK APPLICABLE BOX]				

- 4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:
 - i) The information furnished is true and correct.
 - ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
 - iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct.
 - iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation:
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

	SIGNATURE(S) OF TENDERER(S)
SURNAME AND NAME:	
DATE:	
ADDRESS:	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL BIDDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL BIDDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE BIDDER)

- The following documents shall be deemed to form and be read and construed as part of this agreement:
 - (i) Bidding documents, viz
 - Invitation to bid;
 - Tax clearance certificate;
 - Pricing schedule(s):
 - Technical Specification(s);
 - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011:
 - Declaration of interest:
 - Declaration of bidder's past SCM practices;
 - Certificate of Independent Bid Determination;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)
- 3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
- I accept full responsibility for the proper execution and fulfilment of all obligations and conditions
 devolving on me under this agreement as the principal liable for the due fulfillment of this contract.
- I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
- I confirm that I am duly authorised to sign this contract.

NAME (PRINT)	
	WITNESSES
CAPACITY	
SIGNATURE	1
SIGNATURE	 2
NAME OF FIRM	 2
	DATE:
DATE	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS PART 2 (TO BE FILLED IN BY THE PURCHASER)

1.	I	in m	y capacity as			
	accept your bid un	nder reference nu	mber	dated	for the	supply of
	goods/works indicate	d hereunder and/o	r further specifi	ed in the annexure(s).		
2.	An official order indic	ating delivery instr	uctions is fortho	oming.		
3.				vered in accordance w n invoice accompanied		
ITEM NO.	PRICE (ALL APPLICABLE TAXES INCLUDED)	BRAND	DELIVERY PERIOD	B-BBEE STATUS LEVEL OF CONTRIBUTION	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)	
4.	I confirm that I am du	ıly authorized to siç	gn this contract.			
SIGNE	D AT		ON			
NAME	(PRINT)					
SIGNA	TURE					
OFFICI	AL STAMP			WITNESSES		
				1		
				2		
				DATE		

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)

- The following documents shall be deemed to form and be read and construed as part of this agreement:
 - (i) Bidding documents, viz
 - Invitation to bid;
 - Tax clearance certificate;
 - Pricing schedule(s);
 - Filled in task directive/proposal;
 - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011:
 - Declaration of interest;
 - Declaration of Bidder's past SCM practices;
 - Certificate of Independent Bid Determination;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)
- 3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
- I accept full responsibility for the proper execution and fulfilment of all obligations and conditions
 devolving on me under this agreement as the principal liable for the due fulfillment of this contract.
- I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
- I confirm that I am duly authorised to sign this contract.

NAME (PRINT)	
NAME (FRINT)	 WITNESSES
CAPACITY	 1
SIGNATURE	 2
NAME OF FIRM	 DATE:
DATE	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. Iin my capacity as				
accept your bid under reference numberdated				
services indicated hereunder and/or further specified in the annexure(s).				
An official order indicating service delivery instructions is forthcoming.	An official order indicating service delivery instructions is forthcoming.			
 I undertake to make payment for the services rendered in accordance with the te the contract, within 30 (thirty) days after receipt of an invoice. 	erms and conditions of			
DESCRIPTION OF APPLICABLE COMPLETION STATUS LEVEL F SERVICE TAXES DATE OF PI INCLUDED) CONTRIBUTION AN	MINIMUM THRESHOLD FOR LOCAL PRODUCTION ND CONTENT if applicable)			
I confirm that I am duly authorised to sign this contract.				
SIGNED AT ON				
NAME (PRINT)				
SIGNATURE				
OFFICIAL STAMP WITNESSES				
1				
2				

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 7.3

CONTRACT FORM - SALE OF GOODS/WORKS

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL BIDDER (PART 1) AND THE SELLER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL BIDDER AND THE SELLER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE BIDDER)

1.	I hereby undertake to purchase all or any of the goods and/or works described in the attached bidding documents from (name of institution)
2.	The following documents shall be deemed to form and be read and construed as part of this agreement:

- - Bidding documents, viz
 - Invitation to bid;
 - Tax clearance certificate;
 - Pricing schedule(s);
 - Declaration of interest;
 - Declaration of Bidder's past SCM practices;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)
- I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) quoted
 cover all the goods and/or works specified in the bidding documents; that the price(s) cover all my
 obligations and I accept that any mistakes regarding price(s) and calculations will be at my own risk.
- I accept full responsibility for the proper execution and fulfilment of all obligations and conditions
 devolving on me under this agreement as the principal liable for the due fulfillment of this contract.
- I undertake to make payment for the goods/works as specified in the bidding documents.
- I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
- I confirm that I am duly authorised to sign this contract.

NAME (PRINT)	
	WITNESSES
CAPACITY	
CIONATURE	1
SIGNATURE	 2
NAME OF FIRM	2
	DATE:
DATE	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 7.3

CONTRACT FORM - SALE OF GOODS/WORKS PART 2 (TO BE FILLED IN BY THE SELLER)

1.	in my capacity as				
	accept your bid under reference number	erdated		for the pu	rchase of
	goods/works indicated hereunder and/or f	urther specified in the an	nexure(s).		
	undertake to make the goods/works a	vailable in accordance	with the terms	and conditio	ns of the
	contract.				
ITEM	DESCRIPTION	PRICE (ALL]
NO.	DESCRIPTION	APPLICABLE TAXES INCLUDED)			
		TAXES INSESSES			1
4.	confirm that I am duly authorized to sign	this contract.			
SIGNED	ATON				
NAME (PRINT)				
SIGNAT	URE				
OFFICIA	L STAMP	WITNES	SES		
		1			
		2			
		DATE .			

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - been convicted for fraud or corruption during the past five years;
 - willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?	Yes	No
	(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).		
	The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.		
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?	Yes	No
	The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home		
	page.		
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes	No

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

4.3.1	If so, furnish particulars:					
Item	Ouestion		Yes	No		
4.4	Does the bidder or any of its directors owe any municipal rate	es and taxes or	Yes	No		
7.7	municipal charges to the municipality / municipal entity, or to / municipal entity, that is in arrears for more than three month	any other municipality				
4.4.1	If so, furnish particulars:		·			
4.5	Was any contract between the bidder and the municipality / m other organ of state terminated during the past five years on ac perform on or comply with the contract?		Yes	No		
4.7.1	If so, flumish particulars:					
	CERTIFICATION					
CEI	HE UNDERSIGNED (FULL NAME) RTIFY THAT THE INFORMATION FURNISHE CLARATION FORM TRUE AND CORRECT.			••••		
I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.						
Sign	nature	Date				
 Posi	tion	Name of Bidder				

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a pe se prohibition meaning that it cannot be justified under any grounds.
- Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - take all reasonable steps to prevent such abuse;
 - reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
 - 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
 - In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:	
(Bid Number and Description)	
in response to the invitation for the bid made by:	
(Name of Municipality / Municipal Entity)	
do hereby make the following statements that I certify to be true and con	nplete in every respect:
I certify, on behalf of:	that:
(Name of Bidder)	

- 1. I have read and I understand the contents of this Certificate;
- I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
- I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
- Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
- 5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

MBD 9

- 6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
- In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
- In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
- The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

MBD 9

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Signature	Date
Position	Name of Bidder

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

RDP1(E) SCHEDULE OF LOCAL LABOUR CONTENT

The Tenderer must complete the table below to reflect the labour force anticipated to be employed on this contract, including labour employed by sub-contractors.

The specified target value is 10%.

Note: This labour content shall be from the LOCAL COMMUNITY where Local Community means those in the immediate vicinity of the project.

Man-hours	Minimum Wage Rate per Unit	Total Wage Cost (Excl VAT)
	TOTAL PROJECT COST	
	Man-hours	man-nours per Unit TOTAL PROJECT

Notes to Tenderer:

- (1) Labour is defined as hourly paid personnel including the CLO.
- (2) The penalty for non-compliance during the contract or for fraudulent disclosure is discussed in Section C3.3.6.5.

SIGNED ON BEHALF OF THE TENDERER:

CONTRACT NO: TECH/02/2025-26

THABAZIMBI WASTEWATER TREATMENT WORKS: REFURBISHMENT PHASE 1

RDP2(E) EMPLOYMENT OF SMME'S

This contract requires that participation in the contract must be granted to local SMME companies. Local is defined as "having their head office within the Limpopo Province boundaries". The minimum target for participation is fifteen (15%) of the total contract value and this can be achieved through one or more sub-contractors. The municipality reserves the right to apply penalties to the value of 30% of the difference between the set target values and the actual values achieved when the contractor does not honour the commitment as stipulated by the contractor on this page. ONLY SMME subcontractors/suppliers should be employed to do the work listed in the table below. For other subcontractors, refer to

T2.1CSCHEDULE OF PROPOSED SUBCONTRACTORS.

CONTRACT

Refurbishment of the Thabazimbi Wastewater Treatment Works

C2.3: MECHANICAL WORKS SUMMARY OF SCHEDULES

Schedule No.	Description	Contract Amount	Compl, Est (R)
G1 PROVISIONAL SUMS AND PRIME COST ITEMS			
M1 HEAD OF WORKS (INLET WORKS)			
M2	M2 SEDIMENTATION M3 BIOLOGICAL TREATMENT M4 PUMPING		
M3			
M4			
Sub-Total for Priced Schedules (G1)			
Provisional Allowance for Contingencies (G2 = 10% of Sub-Total G1)			
Sub-Total (G3 = G1+G2)			
Value Added Tax at 15% (15% of Sub-Total G3)			
Total Amount Carried Forward to Form of Offer and Acceptance (G3 + VAT)			

Note: Forms RDP2 (E1), RDP2 (E2) etc. she above and contributing towards the 15% go	•
Signed	Date
Name	Position

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

RDP2 (E1): SUB-CONTRACTOR No.1

SECTION	ITEM	SPECIFY SUB-ITEMS	AMOUNT
1200	General Requirements and Provisions		R
1300	Establishment and General Obligations		R
1400	Housing, Offices & Laboratories		R
1500 'Ll'	Accommodation of Traffic		R
1700 'LI'	Clearing and Grubbing		R
1800	Dayworks		R
2200	Prefabricated Culvert Structure		R
2300 'LI'	Concrete Kerbing, Concrete Channelling, Open Chutes		R
3300	Mass Earthworks		R
3400 'LI'	Pavement layers of gravel		R
3500	Stabilisation		R
3600	Crushed-Stone-Base		R
4100	Prime		R
4200	Asphalt base and Surfacing		R
5600 'LI'	Road Signs		R
5700 'LI'	Road Markings		R
5900 'LI'	Finishing the Road and Road Reserve and treating old roads		R
7300 'LI'	Concrete Block Paving		R
8100	Testing Materials and Workmanship		R

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

TOTAL FOR THIS SUB-CONTRACTOR	R
TOTAL EXPRESSED AS A PERCENTAGE OF TOTAL CONTRACT VALUE	%

RDP2 (E2): SUB-CONTRACTOR No. 2

SECTION	ITEM	SPECIFY SUB-ITEMS	AMOUNT
1200	General Requirements and Provisions		R
1300	Establishment and General Obligations		R
1400	Housing, Offices & Laboratories		R
1500 'LI'	Accommodation of Traffic		R
1700 'LI'	Clearing and Grubbing		R
1800	Dayworks		R
2200	Prefabricated Culvert Structure		R
2300 'LI'	Concrete Kerbing, Concrete Channelling, Open Chutes		R
3300	Mass Earthworks		R
3400 'LI'	Pavement layers of gravel		R
3500	Stabilisation		R
3600	Crushed-Stone-Base		R
4100	Prime		R
4200	Asphalt base and Surfacing		R
5600 'LI'	Road Signs		R
5700 'LI'	Road Markings		R
5900 'LI'	Finishing the Road and Road Reserve and treating old roads		R

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

7300 'LI'	Concrete Block Paving		R
8100	Testing Materials and Workmanship		R
TOTAL FOR THIS SUB-CONTRACTOR		R	
TOTAL EXPRESSED AS A PERCENTAGE OF TOTAL CONTRACT VALUE		%	

RDP3(E) BROAD BASED BLACK ECONOMIC EMPOWERMENT

The tenderer shall furnish the municipality with the necessary information to enable the municipality to evaluate the submission for B-BBEE Level Contribution.

It is a requirement to attach a Broad-Based Black Empowerment Verification Certificate (issued by a service provider accredited to SANAS), indicating amongst others the following information:

- Company name
- Company Registration Number
- VAT Number
- Issue Date
- Expiry Date
- Level Contributor
- Name of Accredited Service Provider

NOTE: If the Service Provider is not accredited by a Registered Auditor approved by IRBA or Verification Agency accredited by SANAS, no points will be given for BBBEE Level Contributor.

SIGNED ON BEHALF OF THE TENDERER	

THABAZIMBI LOCAL	MUNICIPALITY
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CONTRACT NO: TECH/02/2025-26

	12.2	OTHER DOCUMENTS REQUIRED FOR TENDER EV	ALUATION	
T2.2	A FINANCIA	L DETAILS, STATEMENTS AND BANK REFERENCES	3	T.106
T2.2:	B CONSTR	RUCTION INDUSTRIES DEVELOPMENT BOARD REG	ISTRATION.	T.107

CONTRACT NO: TECH/02/2025-26

4.

THABAZIMBI WASTEWATER TREATMENT WORKS: REFURBISHMENT PHASE 1

DETAILS OF TENDERER'S BANK ACCOUNT

T2.2A FINANCIAL DETAILS, STATEMENTS AND BANK REFERENCES

1. FINANCIAL STATEMENTS

I/We agree, if required, to furnish a copy of the latest audited set of financial statement together with my/our Director's and Auditor's report for consideration by the Thabazimbi Local Municipality.

	MUST BE COMPLETED BY TENDERER'S BANK
a)	Account Holder Name:
b)	Name of Bank:
c)	Branch of Bank
d)	Town/city/suburb where bank is situated
e)	Contact Person at the Bank:
f)	Telephone number of Bank: Code: Number:
g)	Account Number:
h)	Bank rating:
SIG	NED ON BEHALF OF THE BANK
NAI	ME OF BANK OFFICIAL:
DES	SIGNATION:
SIG	NATURE:
DAT	TE:
	BANK STAMP
I/	We hereby authorise the Employer to approach the above Bank for confirmation.
SIG	NED ON BEHALF OF THE TENDERER:
D 4 =	re.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.2: B CONSTRUCTION INDUSTRIES DEVELOPMENT BOARD REGISTRATION

The tenderer is to attach either:

• Written proof of his registration with the CIDB with the relevant grade as indicated/specified in the tender document

Or

 Written proof of his application to the CIDB for registration as a contractor in the category listed above.

Note:

- 1. Failure to attach such documentation as prescribed to this page shall result in this tender not being further considered for the award of the contract.
- Should this tender be considered for award of the contract, based on proof of submission of application for registration in the appropriate category with the CIDB, and should proof of such subsequent registration not be forthcoming to the employer by the time of award of the contract, then this tender will no longer be considered for the award of the contract.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT

T2.3 A	ORGANOGRAM AND CURRICULUM VITAE OF KEY PERSONNEL.	T.109
T2.3 B	PROJECT PROGRAMME	T.110
T2.3 C	SCHEDULE OF ESTIMATED MONTHLY EXPENDITURE	T.111
T2.3 D	RATES FOR SPECIAL MATERIALS	T.112
T2 3 F	OLIALITY MANAGEMENT PLAN AND METHOD STATEMENT	T 113

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.3 A ORGANOGRAM AND CURRICULUM VITAE OF KEY PERSONNEL

Tenderer to supply an organogram for the management of the contract and include curricula vitae of key personnel. This curriculum vitae shall provide evidence of relevant experience of the key staff in the organogram. The personnel included here shall be used on the project unless otherwise agreed to by the engineer.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.3 B PROJECT PROGRAMME

Tenderer to supply project programme (preferably on MS Project), using acceptable software, in sufficient detail to cover the various facets of the work. The project programme should highlight the activities to be done using labour intensive methodologies and the number of labourers to be assigned on such activities.

SIGNED ON BEHALF OF TENDERER:

Note to Tenderer

If a tenderer wishes to submit an alternative tender, then this form, appropriately completed, shall be attached to the bill of quantities for the alternative proposal.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.3 C SCHEDULE OF ESTIMATED MONTHLY EXPENDITURE

The tenderer shall state his estimated value of the work to be completed every month, based on his preliminary programme and his tendered unit rates, in the table below. The amounts for contingencies and contract price adjustment shall not be included.

MONTH	VALUE (INCLUDING VAT)
1	R
2	R
3	R
4	R
5	R
6	R
7	R
8	R
9	R
10	R
11	R
12 (FINAL)	R
TOTAL: R(EXCLUDING CON	NTINGENCIES AND CONTRACT PRICEADJUSTMENT (CPA)

SIGNED ON BEHALF OF THE TENDERER.....

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.3 D RATES FOR SPECIAL MATERIALS

Only bitumen products will be dealt with as a special material in terms of sub clause 6.8.3 of the General Conditions of Contract. All bitumen products, as indicated in the contract data must be stated in the list below.

The rates and prices for the special materials shall be furnished by the contractor, which rates and prices shall exclude VAT but shall include all other obligatory taxes and levies.

The Compiler should state the Base Month.

SPECIAL MATERIALS	UNIT *	RATE OR PRICE FOR THE BASE MONTH

^{*} Indicate whether the material will be delivered in bulk or in containers.

When called upon to do so, the contractor shall substantiate the above rates or prices with acceptable documentary evidence from the applicable refinery supplying the bitumen.

SIGNED ON BEHALF O	F TENDERER:	 	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.3 E QUALITY MANAGEMENT PLAN AND METHOD STATEMENT

Tenderer shall provide his quality management plan and method statement describing how he will ensure successful execution of the project. Highlight all work activities and inputs that may pose a threat or risk to the successful execution of the project:

SIGNED ON BEHALF OF TE	ENDERER:
------------------------	----------

Note to Tenderer

If a tenderer wishes to submit an alternative tender, then this form, appropriately completed, shall be attached to the bill of quantities for the alternative proposal

THE CONTRACT

PART C1	AGREEMENT AND CONTRACT DATA
PART C2	PRICING DATA
PART C3	SCOPE OF WORKS

PART C4 SITE INFORMATION

PART C1: AGREEMENT AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE
C1.2 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993, CONSTRUCTIO REGULATIONS 2014 AND REGULATION FOR HAZARDOUS BIOLOGICAL AGENTS 2022 C.10
C1.3 PERFORMANCE GUARANTEEC.15
C1.4 ABSTRACTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 O 1993 AND REGULATION FOR HAZARDOUS BIOLOGICAL AGENT. C.22
C1.5 CONTRACT DATA

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C1.1 FORM OF OFFER AND ACCEPTANCE

Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

Bid No: TECH/02/2025-26: REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the tender schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of the Form of Offer and Acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

(CONTRACT PRICE)

THE OFFERED TOTAL OF THE PRICE INCLUSIVE OF VALUE ADDED TAX IS

Rand (in words); R (in figures)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

For the Tenderer:

Signature(s)	
Name(s)	
Capacity	
Name and address of organization	
Signature and Name of Witness:	Signature
	Name

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract are contained in:

PART C1 Agreements and contract data, (which includes this agreement)

PART C2 Pricing data

PART C3 Scope of work

PART C4 Site information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule, which must be signed by the authorised representative(s) of both parties.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives onecopy of the fully signed original document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five days of the date of such receipt notifies the employer in writing of any reason why he cannot

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

For the Employer
Signature
Name
Capacity
Name and address of organization
Signature and Name of Witness
Signature
Name
Capacity
Schedule of Deviations

Notes:

- The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender,
- 2.A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such, letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of, offer and acceptance, the outcome of such agreement shall be recorded here,
- 3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.

CONTRACT NO: TECH/02/2025-26

REFURI

BISHMENT OF THABAZIMBI WASTEWATE	ER TREATMENT WOF	RKS PHASE 1
4. Any change or addition to the	tender docume	nts arising from the above agreements
and recorded here, sha	Il also be incorpo	orated into the final draft of the Contract,
1 Subject		
Details		
2 Subject		
Details		
and the tenderer agree to and a deviations from and amendme addenda thereto as listed in clarification or changes to the tenderer during this process of offer and a deviation or changes to the tenderer agree to and a deviations of the tenderer agree to and a deviation of the tenderer agree to and a deviation of the tenderer agree to and a deviation of the tenderer agree to an additional agree to the tenderer agree to a deviation of the tenderer agree agree to a deviation of the tenderer agree agree to a deviation of the tenderer agree agree agree to a deviation of the tenderer agree agre	ents to the documents to the documents to the documents of the offer a acceptance.	is schedule of deviations, the employer bing schedule of deviations as the only uments listed in the tender data and edules, as well as any confirmation, greed by the tenderer and the employer
implied during the period between	en the issue of the ned copy of this	ether in writing, oral communication or the tender documents and the receipt by Agreement shall have any meaning or from this agreement.
For the Tenderer:		For the Employer
	Signature	
	Name	
	Capacity	
Name and address of organisati	on:	Name and address of organisation
Wit	ness Signature	

Witness Name

Date

Confirmation of Receipt

.....

.....

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

	confirms receip	(now Contractor), identification the Employer, completed original corony) today:	identified in t	ne Acceptance pa	art of this Agreement,
	the	. (day) of		(month) 20	(year) at
		(place)			
	For the Contra	actor:			
		Signature	••		
		Name			
Capa					
	Signature and	I name of witness:			
		Signature			

Name

AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85

THABAZIMBI LOCAL MUNICIPALITY

CONTRACT NO: TECH/02/2025-26

C1.2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

	OF 1993, CONSTRUCTIO REGULATIONS 2014, REGULATION FOR HAZARDOUS
	BIOLOGICAL AGENTS 2022.
C1.3	This AGREEMENT made at on this day of
	in the year between The Thabazimbi Local Municipality (hereinafter called
	"the Employer" on the one part, herein represented by in his
	capacity as And delegate of the Employer and
	(hereinafter called "the Principal Contractor") of
	the other part, herein represented by in his
	capacity as
	WHEREAS the Employer is desirous that certain works be constructed, as stated for in
	Contract No:For (description of contract)
	in the
	of Limpopo Province and has accepted a tender by the Principal Contractor for the
	construction, completion and maintenance of such works and whereas the Employer and
	the Principal Contractor have agreed to certain arrangements and procedures to be
	followed in order to ensure compliance by the Principal Contractor with the provisions of
	the Occupational Health and Safety Act 1993(Act 85 of 1993, the Construction
	Regulation, 2014, and the Regulations For Hazardous Biological Agents 2022):

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1. The Principal Contractor shall execute the work in accordance with the contract documents pertaining to this contract.
- 2. This Agreement shall hold good from its commencement date, which shall be the date of a written notice from the employer or engineer requiring him to commence the execution of the Works, to either:
- a) the date of the final certificate issued in terms of clause 5.3 of the General Conditions of Contract for Construction Works 2015 (Third Edition) as issued by the South African Institution of Civil Engineering (hereinafter referred to as "the GCC 2015"), as contained in the contract documents pertaining to this contract, or
- b) the date of termination of the contract in terms of clause 9.1, 9.2 or 9.3 of the GCC 2015.
- 3. The Principal Contractor declares himself to be conversant with the following: -

CONTRACT NO: TECH/02/2025-26

- a) All requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act.
 - i. Section 8: General duties of employers to their employees.
 - ii. Section 9: General duties of employers and self-employed personsto persons other than employees
 - iii. Section 37: Acts or omissions by employees or mandatories and
 - iv. Sub-section 37(2) relating to the purpose and meaning of this Agreement.
 - v. Construction Regulations 2014, and other safety regulations, as applicable.
 - vi. Regulation For Hazardous Biological Agents (GNR.1887 Of March 2022)
- b) The procedures and safety rules of the employer as pertaining to the Principal Contractor and to his subcontractors.
- 3. The Principal Contractor is responsible for the compliance with the Act by his sub-contractors, whether or not selected and/or approved by the employer.
- 4. The Principal Contractor warrants that all his and his sub-contractors' employees (permanent and temporary) are covered in terms of the Compensation for Occupational Injuries and Diseases Act 1993 which cover shall remain in force whilst any such employees are present on site. The Principal Contractor shall submit a written report to this effect at each Progress Site Meeting.
- 5. The Principal Contractor undertakes to ensure that he and/or his sub-contractors and/or their respective employees will at all times comply with the following conditions:
 - a) The Principal Contractor shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The principal contractor shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Principal contractor obtains such approval and delegates any duty in terms of Section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Principal Contractor to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
- c) The Employer hereby obtains an interest in the issues of any formal enquiry conducted in terms of Section 32 of the Occupational Health and Safety Act into any incident involving the Principal Contractor and/or his employees and/or his sub-contractors.

Further to the abovementioned, where contracts involve quarries or borrow pits, the following shall be applicable: -

In terms of Section 8 of the Construction Regulation 2014, The Thabazimbi Local Municipality. shall appoint a manager for its site.

You are hereby appointed as the construction manager for, with effect from until further notice.

In terms of this appointment, you are charged with the functions, duties and responsibilities imposed by the aforementioned Act and its regulations. Without derogating from the duties, functions and responsibilities imposed by this legislation, you are to:

- i) Control, manage and direct employees at the site (borrow pit or quarry).
- ii) Take all reasonable measures to ensure the health and safety of employees and proper discipline on site.
- iii) Take all reasonable measures to ensure that the provisions of the Occupational Health and Safety Act and Construction regulations (as may be amended from time to time) are implemented and adhered to at the site.
- iv) Ensure and maintain an occupational healthy and safe and construction regulations environment for all persons.
- v) Ensure an adequate supply of health and safety equipment and facilities.
- vi) Staff the Construction, with due regard to health and safety.
- vii) Provide health and safety training as far as reasonably practicable to all employees.
- viii) Initiate, prepare and implement codes of practice, relating to health and safety.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- ix) Maintain an effective risk identification and management system.
- x) Ensure the effective maintenance of hazard identification and medical monitoring records as per Regulation 8 of HBAs 2022.
- xi) Prepare and or review the Health and Safety Policy for the Construction.
- xii) Ensure compliance with relevant environmental legislation.
- xiii) Assist with implementation and maintenance of the Thabazimbi Local Municipality SHE Management Standards, the Contractor's Compliance Pack and operational procedures.
- xiv) Enhance a culture of high performance in safety and health.

You are to appoint the prescribed persons to assist you in your duties and functions, and you are hereby authorised and obliged to take all reasonable measures to comply with legislative requirements. You are to ensure that an acting construction manager is appointed when you are to be absent, or on leave for a period longer than five (5) days.

Instructions and procedures are from time to time issued by the board of Thabazimbi Local Municipality, and it will be your responsibility to ensure the implementation and adherence to these instructions and procedures at the construction site.

You are further responsible to ensure that relevant environmental legislative requirements are complied with, including the implementation of all internal procedures and systems to ensure compliance with such legislation.

It would be the responsibility of yourself to report any shortcomings, in relation to the implementation of applicable legislation which you are unable to rectify, immediately in writing to the appointed owner representative.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

In witness thereof the parties have set their signatures heron in the presence of the subscribing witnesses:

SIGNED FOR ON BEHALF OF THE EMPLOYER
WITNESS: 1 2
NAME
(IN CAPITALS) 1
DATE:
SIGNED FOR AND ON BEHALF OF THE PRINCIPAL CONTRACTOR
WITNESS: 1 2
NAME
(IN CAPITALS) 1
DATE:

CONTRACT NO: TECH/02/2025-26

C1.3

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PERFORMANCE GUARANTEE

'Guarantor" means:			
Physical address:			
"Employer" means: "Contractor" means:	THABAZIMBI LOCAL MUNICIPALITY		
"Engineer" means:			
"Works" means:	THABAZIMBI WASTEWATER TREATMENT WORKS		
"Site" means:	THABAZIMBI WASTEWATER TREATMENT WORKS		
	e Agreement made in terms of the Form of Offer and Acceptance s or additions to the Contract as may be agreed in writing		
"Contract Sum" means	s: The accepted amount inclusive of tax of R		
Amount in words:			
	eans: The maximum aggregate amount of R		
Amount in words:			
"Expiry Date" means:			

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

- 1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
- 3. The Guarantor hereby acknowledges that:
- 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.
- 3.2 Its obligation under this Performance Guarantee is restricted to the payment of money.
- 4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

CONTRACT NO: TECH/02/2025-26

- 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2:
- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
- 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
- 5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
- 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
- 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5: and
- 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
- 6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
- 7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
- 8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
- 9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
- 10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
- 11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at		
Date		
Guarantor's signatory (1)		
Capacity		
Guarantor's signatory (2)		
Capacity		
 Witness signatory (1)		••••
Witness	signatory	(2)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

EXAMPLE FOR USE BY CONTRACTOR WHEN APPOINTING SUB-ORDINATES IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993, CONSTRUCTIO REGULATIONS 2014, HAZARDOURS BIOLOGOLICAL AGENT 2022 AS AMENDED.

(To be printed on Contractor's letter head)

I, in my o	capacity as	having	been appo	inted in
terms of Section 3(1) of	of the Act (as amend	ed), by the PMU	Manager:	WWTW
Thabazimbi who is our clie	ent, 'THABAZIMBI LOCA	AL MUNICIPALITY'	' to be worke	ed under
the requirements of the al	bove mentioned Acts h	ereby, in terms of I	Regulation	2.6.1 of
the Act as amended, appo	oint	as Sub	o-Ordinate N	/lanager
of the Contractor,				of
address,	and contact	number,		on
contract no		f	for	the

In accordance with the provisions of the Occupational Health and Safety Act 85, 1993 (Act 85 of 1993), in so far as your area of responsibilities are concerned: -

- 1. You must identify the hazards, assess the risk and record the hazards to health and safety to which employees may be exposed while they are at work, and
- 2. To the extent that is reasonable, you must ensure that every employee is properly trained:

In the measures necessary to eliminate, control and minimise those risks to health and safety.

In the procedures to be followed to perform the employee's work.

3. To the e xtent that is reasonably practical, you must: -

Ensure that every employee becomes familiar with the work-related hazards and risk and the measures that must be taken to eliminate, control and minimise those hazards and risks.

4. To the extent that is reasonably practical, you must: -

Ensure that every employee under your control complies with the requirements of the Act.

- Institutes the measures necessary to secure, maintain and enhance health and safety.
- Considers and employees training and capabilities in respect of health and safety before assigning a task to that employee.
- Ensure that work is performed under the general supervision of a person trained to understand the hazards associated with the work, and who has the authority to ensure that the precautionary measures laid down by the Manager are implemented.
- You will be responsible for the control, management and direction of all the activities and employees connected with work and you are required to ensure that all such activities take place in accordance with the provisions of the

CONTRACT NO: TECH/02/2025-26

Occupational Health and Safety Act complied with.	and the Construction Regulations are
SIGNED:	
DATE:	
WITNESS:1.	2.
NAME(Print):1.	2.
I,, having been ap the act (as amended) to perform all functions e Act (as amended) hereby accept the above appo	ntrusted toIn terms of the
SIGNED:	
DATE:	
WITNESS: 1.	2.
NAME(Print): 1.	2.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

EXAMPLE FOR USE BY CONTRACTOR WHEN APPOINTING SUB-ORDINATES IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993, CONSTRUCTIO REGULATIONS 2014 AND HAZARDOURS BIOLOGICAL AGENT 2022.

(To be printed on Contractor's letter head)

APPOINTMENT AS COMPETANT PERSON IN CHARGE OF MACHINERY IN TERMS OF CONSTRUCTION REGULATION 21 IN FORCE IN TERMS OF SCHEDULE 8 OF THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 85 OF 1993.

I,, having been appointed in terms of Section 8 of the Act (as amended), by the PMU Manager: WWTW Thabazimbi, who is our client, 'THABAZIMBI LOCAL MUNICIPALITY' to be worked

appointed in terms of	of Section 8 of the	Act (as amended), by the F	PMU Manager: WWTW
Thabazimbi, who is	our client, 'THA	BAZIMBI LOCAL MUNICIF	PALITY' to be worked
under the requireme	ents of the above	mentioned Acts hereby, in	terms of Construction
Regulation 21 of th	e Act as amended	, appoint Regulations 21 o	of the Act as amended,
appoint		as Competent	Person in charge of
machinery	for	the	Contractor,
			of address
		and contact number,	on all
contracts in the Lim	popo Province that	t are undertaken by the cor	ntractor.

You are to report any accident to the construction manager immediately and personally visit the scene of the accident without delay.

You must familiarise yourself with the Occupational Health and Safety Act and the Construction Regulation Act and ensure that you have a copy in your possession and you must take all reasonable measures to ensure that the provisions of this Act are complied with.

Your attention is further drawn to Regulation 21 as well as the requirements of Chapter 18,20 and 21.

Please confirm this appointment by signing at the bottom.

SIGNED:	DATE:
NAME:	
SIGNED:	DATE:
SIGNED	DATE.
NAME	
NAME:	

CONTRACT NO: TECH/02/2025-26

CONTRACT NO: TECH/02/2025-26

THABAZIMBI WASTEWATER TREATMENT WORKS: REFURBISHMENT PHASE 1

C1.4 ABSTRACTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 85 OF 1993, CONSTRUCTION REGULATIONS 2014 AND HAZARDOUS BIOLOGICAL AGENT 2022.

DEFINITIONS:

Section 13 of the Occupational Health and Safety Act and Construction Regulations refers.

"Construction Site" means, -

a) a workplace where construction work is being performed.

"Construction work"

means any work in connection with-

- a) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- b) he construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work.

"excavation work"

- a) means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping.
- b) ensure that all excavation work is carried out under the supervision of competent person who has been appointed in writing for that purpose; and
- c) evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C1.5 CONTRACT DATA

C1.5.1 Contract Specific Data

The Conditions of Contract are the General Conditions of Contract for Construction Works (2015) published by the South African Institution of Civil Engineering. (GCC).

Section 1: Data provided by the Employer

Clause	
1.1.1.5	Clause 1.1.1.5 of the GCC is replaced by the following: The "Commencement date" shall be the date the site is handed over to the Contractor. Duplicate to C1.5.2
1.1.1.15	The employer is the THABAZIMBI LOCAL MUNICIPALITY
1.1.1.16	The Employer's Agent representing the Consultant is Mr. Mabu Mamadi
1.2.1.2	The employer's address for receipt of communication is:
	Telephone: Tel: +27 14 772 2295 Address: Private Bag X530, Thabazimbi , 0380
1.2.1.2	The Employer's Agent's address for receipt of communication is:
	Telephone:079 961 0403 e-mail: info@mamadi.co.za ; mabu@mamadi.co.za Address: First Floor Soft brands House, Thandanani Office Park,16 Invicta Road, Midrand, Gauteng,1685
3.2.3	The Employer's is required in terms of his appointment with the employer to obtain the following specific approvals from the employer: 1. Approval of extension of time; 2. Approval of additional costs; 3. Approval of variation orders; 4. Approval from the municipality for the utilization of any Contingencies Etc
3.2.4	The Health and Safety Plan shall be delivered and approved before the site hand-over/commencement date.
5.3.1.	The Works are to be commenced within fourteen (14) Days of the Commencement Date taken as Date of Site Hand-over.
5.5.1	The Works shall be completed within 12 consecutive months as envisaged by the employer, measured from the commencement/site handover date to the due completion date.
	The contract will be awarded based on 2 Year Performance Based, Annual Financial Allocation and Financial availability.

CONTRACT NO: TECH/02/2025-26

	The (03) three-year contracting will be performance based, and the contractor will be subjected to annual performance evaluation at the end of each financial year for contract renewal.
	The availability of financial resources cannot be guaranteed by Thabazimbi Local Municipality and is also a condition for the continuation of the contract. Thabazimbi Local Municipality will reserve the right, without prejudice, to withdraw from any of the contracts with all rights reserved should the required financial resources not be available.
5.6.1	The Works programme is to be delivered within fourteen (14) days of the Commencement Date, taken as the Date of Site Handover
5.8.1	The special non-working days are all designated public holidays (including all foreseeable statutory declared election days), Saturdays, and Sundays.
5.13.1	The penalty for delay is R 5000.00 per working day or part thereof.
5.14.5.2	The Defects Liability Period is twelve (12) consecutive calendar months after the date of the certificate of completion.
5.16.3	The latent defect liability period is 10 years after the date of the final approval certificate
6.2.1.	The Guarantee is to contain the same wording as indicated in the document included as C1.3 under returnable documents
6.2.1.	The amount of the Guarantee is to be10% surety.
6.2.1.	The Guarantee is to be delivered twenty-one (21) days after the Letter of Acceptance. In the event of failure to submit the guarantee within the stipulated 21 days, the Municipality reserves the right to cancel the contract and award the Bid to the tenderer who scored the second highest points.
6.5.1.2.3	Day works allowances as tendered in Section G 2 2 of the Bill of Quantities.
6.8.2	The value of payment certificates is to be adjusted in accordance with the Contract Price Adjustment Schedule, where The value of "x" is 0,150 The values of the coefficient are:
	$(1-x)\left[\frac{aLt}{Lo} + \frac{bPt}{Po} + \frac{cMt}{Mo} + \frac{dFt}{Fo} - 1\right]$
	Fixed: Estimate less than R10 000 000 or period less than 6 months
	New Road Construction Rehabilitation Concrete Work

CONTRACT NO: TECH/02/2025-26

		EATMENT WORKS PHASE 1	
	a = 0,20 b = 0,40 c = 0,25 d = 0,15	0,20 0,35 0,35 0,10	(major structures only) 0,15 0,20 0,55 0,10
	"L" is the "Labour Index" and area nearest to the Site as Tender and as published in (previously P0141.1 Table	s specified by the Engine on the Statistical News Ro	er in the Appendix to the elease, P0141, Table 7.1
	"P" is the "Plant Index" Engineering Plant Index" P0142.1, Table 12 (previou	as published in the S	Statistical News Release
	"M" is the "Materials Inde Engineering Materials Inde P0142.1, Table 11 (previou	ex" as published in the	Statistical News Release
	"F" is the "Fuel Index" a Coast/Witwatersrand Index P0142.1, Table 12 (previou	x" as published in the S	Statistical News Release
	The suffix "o" denotes the shall be the month prior to falls.	• • •	
	The suffix "t" denotes the c last day of the period falls t	• •	
	If any index relevant to any the certificate is prepared, t Any correction, which may known, shall be made by the	he Engineer shall estimated be necessary when the	te the value of such index. e correct indices become
	The urban area nearest the	site is Thabazimbi	
	The base month is DECEN tender closed)	IBER 2025 (The calenda	r month during which
6.8.3	The following are special n Bitumen binder extracted f including that used in asph placed by the Contractor o	rom petroleum-based pro alt, irrespective of wheth	er it is produced and/or
	The rates and prices for contractor, which rates an under 6.8.2 and shall excluand levies on the basis sp (paragraph 4(i) and 4(ii)).	d prices ex refinery with de VAT but shall include	the base date specified all other obligatory taxes
6.10.1.5	The percentage limit on ma	iterials not yet built into the	ne Permanent Works is

CONTRACT NO: TECH/02/2025-26

6.10.3	The percentage retention is 10% of the certified work done (including VAT).		
6.10.3	The limit of retention money is 10% of the certified work done (including VAT).		
6.10.3	A Retention Money Guarantee is compulsory. A penalty will be applied		
	for non-delivery of the Retention Money Guarantee as required. The penalty will be 10% of the value of the completion Retention Money Amount per calendar month for late delivery of the said Retention Money Guarantee.		
8.6.1.	The amount to be included in the sum insured to cover the value of:		
8.6.1.1.2	a) Materials supplied by the employer for incorporation into the works is R Nil		
8.6.1.1.3	b) Professional fees not included in the Contract Price is R Nil		
8.6.1.2	The following additional and varied insurances are required: CAR & SASRIA.		
8.6.1.3	The Limit of the liability insurance required should not be less than the contract amount.		
9.2.1.3.2	Clause 9.2.1.3.2 is replaced by the following: "Has failed to submit documentation or to commence the Works in terms of Clause 5.3 or has suspended the progress of the Works for fourteen (14) consecutive days after receiving from the Engineer written notice to proceed," duplicate to C1.5.2		
10.5.1/2	Disputes are to be referred to mediation (As per the GCC 2015)		
10.5.3	The number of adjudication board members shall be 1 or 3		
10.7	Disputes are to be referred for final settlement to arbitration.		
Special Clause in terms of RDP	Requirements in terms of the government's reconstruction and development programme.		
	Target values: In this project, the minimum target values shall be as follows:		
	 Local Labour Maximisation (Wages):10% SMME's :15% 		
	It is a requirement that the Contractor plan for achieving these targets and that a planned programme for achieving each of the targets is submitted at the start of the project together with the clause 12 programme of construction.		
	Penalties:		

THABAZIMBI LOCAL MUNICIPALITY CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The penalties for not reaching the required labour and SMME target values will be calculated at **300%** of the difference between the set target values and the actual target values achieved by the contractor at completion of the works. Penalties will be applied monthly, when the actual figures are less than **75%** of the planned monthly figures. No bonuses for achieving the set target values are applicable.

Section 2: Data provided by the Contractor

Clause	
1.1.1.9	The contractor is
1.2.1.2	The contractor's address for receipt of communication is:
	Telephone:Facsimile:
	e-mail:
	Address:
5.5.1	The Works shall be completed within Months as proposed by the contractor.
6.5.1.2.3	The percentage allowances to cover all charges for the contractor's and subcontractor's profits, timekeeping, clerical work, insurance, establishment, superintendence, and the use of hand tools is % (Maximum 15%).
6.8.3	The rate for special materials, exclusive of Value Added Tax, is to be completed in Schedule T2.3 C.
	Payment for works identified in the Scope of Works as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict
	The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per the frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted.
	The current Ministerial Determination (also downloadable at www.epwp.gov.za), Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Clause	
	Government Notice, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled workers.

D. Applicable Labour Laws

D.1 Introduction

This document contains the standard terms and conditions for workers employed in elementary occupations on the Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of an EPWP.

D1.1 In this document -

- (a) "Department" means any department of the State, implementing agent, or contractor.
- (b) "employer" means any department, implementing agency, or contractor that hires workers to work in elementary occupations on an EPWP;
- (c) "worker" means any person working in an elementary occupation on an EPWP;
- (d) "elementary occupation" means any occupation involving unskilled or semiskilled work:
- (e) "management" means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) "task" means a fixed quantity of work;
- (g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;
- (h) "task-rated worker" means a worker paid on the basis of the number of tasks completed.
- (i) "time-rated worker" means a worker paid on the basis of the length of time worked.

D 2. Terms of Work

D2.1 Workers on an EPWP are employed on a temporary basis or contract basis.

D.3 Normal Hours of Work

- D3.1 An employer may not set tasks or hours of work that require a worker to work-
 - (a) more than forty hours in any week

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- (b) on more than five days in any week; and
- (c) for more than eight hours on any day.
- D3.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- D3.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

D4 Meal Breaks

- D4.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- D4.2 An employer and worker may agree on longer meal breaks.
- D4.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- D4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

D5 Special Conditions for Security Guards

- D5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.
- D5.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

D6 Daily Rest Period

Every worker is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

D7 Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

D8 Sick Leave

- D8.1 Only workers who work four or more days per week have the right to claim sick pay in terms of this clause.
- D8.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- D8.3 A worker may accumulate a maximum of twelve days' sick leave in a year.
- D8.4 Accumulated sick leave may not be transferred from one contract to another contract.
- D8.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- D8.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- D8.7 An employer must pay a worker sick pay on the worker's usual payday.
- D8.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is
 - (a) absent from work for more than two consecutive days; or(b)absent from work on more than two occasions in any eight-week period.
- D8.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- D8.10 A worker is not entitled to paid sick leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

D9 Maternity Leave

- D9.1 A worker may take up to four consecutive months' unpaid maternity leave.
- D9.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
- D9.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- D9.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- D9.5 A worker may begin maternity leave
 - a. four weeks before the expected date of birth; or
 - b. on an earlier date
 - i. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - ii. if agreed to between employer and worker; or on a later date,
 - c. if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- D9.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

D9.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

D10 Family responsibility leave

- D10.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances
 - a) when the employee's child is born;
 - b) when the employee's child is sick;
 - c) in the event of a death of
 - i. the employee's spouse or life partner;
 - ii. the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

D11 Statement of Conditions

- D11.1 An employer must give a worker a statement containing the following details at the start of employment
 - a) the employer's name and address and the name of the EPWP;
 - b) the tasks or job that the worker is to perform; and
 - c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
 - d) the worker's rate of pay and how this is to be calculated;
 - e) the training that the worker will receive during the EPWP.
- D11.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- D11.3 An employer must supply each worker with a copy of these conditions of employment.

D12 Keeping Records

- D12.1 Every employer must keep a written record of at least the following
 - a) the worker's signed contract to have name of the project, his/her name, position and signed by both parties; It must also attach certified ID which is not older than 3 months from the day they start on the project
 - b) in the case of a task-rated worker, the number of tasks completed by the worker:
 - c) in the case of a time-rated worker, the time worked by the worker;
 - d) payments made to each worker, all workers to sign monthly payment register and daily attendance register.
- D12.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

D13 Payment

- D13.1 An employer must pay all wages at least monthly into a bank account.
- D13.2 A worker may not be paid less than the minimum EPWP wage rate per day or per task. This will should be in line or similar to what is paid at other construction projects within the area or as directed by the Employer.
- D13.3 A task-rated worker will only be paid for tasks that have been completed.
- D13.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- D13.5 A time-rated worker will be paid at the end of each month.
- D13.6 Payment must be made by direct deposit into a bank account designated by the worker.
- D13.7 Payment in cash or by cheque must take place
 - a) at the workplace or at a place agreed to by the worker;
 - b) during the worker's working hours or within fifteen minutes of the start or finish of work;
 - c) in a sealed envelope which becomes the property of the worker.
- D13.8 An employer must give a worker the following information in writing
 - a) the period for which payment is made;
 - b) the numbers of tasks completed or hours worked;
 - c) the worker's earnings;
 - d) any money deducted from the payment;
 - e) the actual amount paid to the worker.
- D13.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope, and the worker must acknowledge receipt of payment by signing for it
- D13.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

D14 Deductions

- D14.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- D14.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- D14.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- D14.4 An employer may not require or allow a worker to
 - (a) repay any payment except an overpayment previously made by the employer by mistake;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- (b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
- (c) pay the employer or any other person for having been employed.

D15 Health and Safety

D15.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

D15.2 A worker must –

- a) work in a way that does not endanger his/her health and safety or that of any other person;
- b) obey any health and safety instructions;
- c) Obey all health and safety rules of the EPWP;
- d) use any personal protective equipment or clothing issued by the employer;
- e) Report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

D16 Compensation for Injuries and Diseases

- D16.1 It is the responsibility of the employers to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- D16.2 A worker must report any work-related injury or occupational disease to their employer or manager.
- D16.3 The employer must report the accident or disease to the Compensation Commissioner.
- D16.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

D 17 Termination

- D17.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.
- D17.2 A worker will not receive severance pay on termination.
- D17.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- D17.4A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have their contract terminated. However, the worker may be re-engaged if a position becomes available.
- D17.5 A worker who does not attend required training events, without good reason, will have terminated their contract. However, the worker may be re-engaged if a position becomes available.

D18 Certificate of Service

- D18.1 On termination of employment, a worker is entitled to a certificate stating
 - (a) the worker's full name;
 - (b) the name and address of the employer;
 - (c) the EPWP on which the worker worked;
 - (d) the work performed by the worker;
 - (e) any training received by the worker as part of the EPWP;
 - (f) the period for which the worker worked on the EPWP;
 - (g) any other information agreed on by the employer and worker.

D 19 Contractor's default in payment to Labourers and Employees

Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.

The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

D.20Provision of Hand tools

The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

D21Reporting

The Contractor should submit the following at the beginning of the Contract:

- a) Contracts of all the workers employed on the contracts including their certified identity documents;
- b) Proof of Registration for COIDA and UIF;
- c) OHS Files

The Contractor shall submit monthly returns/reports as specified below:

- 1. Signed Muster rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- 2. Copies of certified identity documents of workers
- 3. Number of persons who have attended training including nature and duration of training provided
- 4. Assets created, rehabilitated or maintained in accordance with indicators in the EPWP M&E framework
- 5. Plant utilization returns
- 6. Progress report detailing production output compared to the programme of works

D22 Labour intensive competencies of supervisory and management staff

Contractors having a CIDB contractor grading designation of 3CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a contractor grading designation of 1GB, 2 GB, 3 GB and 4 GB shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2-unit standards or NQF level 4-unit standards.

CONTRACT NO: TECH/02/2025-26

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Storm water Drainage	any one of these 3
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Storm water Drainage	any one of these 3
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Construction Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

CONTRACT NO: TECH/02/2025-26

- D23 Employment of unskilled and semi-skilled workers in labour-intensive works According to SANS 1914-5.
- D23.1 Requirements for the sourcing and engagement of labour.
- D23.1.1Unskilled and semi-skilled labour required for the execution of all labourintensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.
- D23.1.2The rate of pay set for the EPWP per task or per day is **R 250/day** as set out by the Thabazimbi Local Municipality.
- D23.1.3Tasks established by the contractor must be such that:
 - a) the average worker completes 5 tasks per week in 40 hours or less; and
 - b) the weakest worker completes 5 tasks per week in 55 hours or less.
- D23.1.4The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of above.
- D23.1.5The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
 - a) where the head of the household has less than a primary school education:
 - b) that has less than one full time person earning an income;
 - c) where subsistence agriculture is the source of income.
 - d) those that are not in receipt of any social security pension income
- D23.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
 - a) 55 % women;
 - b) 55% youth who are between the ages of 18 and 35; and
 - c) 2% on persons with disabilities.

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

D24 Specific provisions pertaining to SANS 1914-5

D24.1 Definitions

Targeted labour: Unemployed persons who are employed as local labour on the project.

D24.2 Contract participation goals

- D24.2.1 There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.
- D24.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid, and any training allowance paid in respect of agreed training programmes.

D25 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause D24 of SANS 1914-5, written contracts shall be entered into with targeted labour.

D26 Variations to SANS 1914-5

D26.1 The definition for net amount shall be amended as follows:

Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.

D26.2 The schedule referred to in D23 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

D27 Training of targeted labour

D27.1 The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

requirements of the contract in a manner that does not compromise worker health and safety.

- D27.2 The cost of the formal training of targeted labour will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.
- D27.3 A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works– Cinderella Makunike, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel: 083 677 4026.
- D27.4The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.
- D27.5The contractor shall do nothing to dissuade targeted labour from participating in training programmes.
- D27.6An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of D27.1 to D27.5 above.
- D27.7Proof of compliance with the requirements of D27.1 to D27.5 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C1.5.2 Variations to the General Conditions of Contract

The following amendments of the General Conditions of Contract 2015 apply to this contract. The headings in these Special Conditions of Contract shall not be deemed to be part thereof nor be taken into consideration in the interpretation or construction thereof or of the Contract.

4......CONTRACTOR'S GENERAL
OBLIGATIONS
4.1.....EXTENT OF OBLIGATIONS AND
LIABILITY

Change the number of clauses 4.1.1 to 4.1.2 to read 4.1.2 and 4.1.3.

Add the following:

"4.1.1Contractor deemed to have inspected the Site

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender (as far as practicable) as to

- a) the form and nature of the Site and its surroundings, including subsurface conditions,
- b) the hydrological and climatic conditions.
- c) the extent and nature of work and materials necessary for the execution and completion of the Works,
- d) the means of access to the Site and the Accommodation he may require

and, in general, shall be deemed to have obtained all information (as far as is practicable) as to risks, contingencies and all other circumstances which may influence or affect his tender.

No subsequent claims by the Contractor arising from his lack of knowledge of perceptible conditions on the site or its surroundings or of information available in connection therewith shall be entertained."

4.1.2.....Extent of Contractor' obligations

Add the following to this sub-clause:

The Contractor shall, save in so far as it is legally or physically impossible,

- (a) design (to the extent provided in the Contract), execute and complete the Works and remedy any defects therein in accordance with the provisions of the Contract, and
- (b) provide all superintendence, labour, materials, Construction Equipment, Temporary Works, including the design thereof, all requisite transport and all other things, whether of a temporary or permanent nature, required in and for such design, execution and completion of the Works and for the remedying of any defects, so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

(c) After award of the Contract, the Contractor shall be obligated to ensure that at least the Construction Equipment stated on the prescribed form in the Tender Documents, or Construction Equipment equivalent thereto, are on the site when required."

4.3 LEGAL PROVISIONS

Add the following sub-sub clauses:

4.3.1.1 Occupational Health and Safety Act, number 85 of 1993

The Employer shall obtain the Mining Authorisation for all sites where mining activities, as defined in the Occupational Health and Safety Act, number 85 of 1993 as amended, are to be conducted.

4.4. SUBCONTRACTING

Add the following subclauses:

"4.4.7 Continuing obligation extending beyond date of completion of the work

In the event of a Selected Subcontractor having undertaken to the Contractor, in respect of work executed or goods or materials supplied by such Selected Subcontractor, any continuing obligation extending beyond the date of completion of the work or the end of the Defects Liability Period, and Latent Defect Liability Period as the case may be, the Contractor shall at any time after such date cede to the Employer, at the Employer's request and cost, the benefit of such obligation for the unexpired duration thereof, whereupon the Employer shall have no further claim against the Contractor in respect of the said continuing obligation.

4.4.8 Convert the subcontract

If the contract shall have been cancelled in terms of clause 9.2, the Employer shall have the right, by written notice given to any Selected Subcontractor not later than 28 days after the said cancellation, to convert the subcontract concerned to a direct contract between the Employer and the Subcontractor.

Provided that:

- (a) the terms of the said direct contract shall mutatis mutandis be those of the subcontract concerned, and
- (b) the Employer shall have the said right, notwithstanding any breach of the subcontract by the Contractor, subject to his forthwith paying to the Subcontractor all amounts then owing to the Subcontractor by the Contractor and perform any obligation which the Contractor has failed to perform."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

4.9 CONSTRUCTION EQUIPMENT

Add the following: sub clauses:

"4.9.2 Preclude seizure of construction equipment

In order to preclude seizure by the owner of any constructional plant being held by the Contractor on a hire or hire-purchase agreement for the purposes of the contract, the Employer shall be entitled to pay any such owner the amount of any outstanding instalment or other sum owing under any hire or hire-purchase agreement and in the event of his doing so, any amount thus paid by him shall be a debt payable to the Employer by the Contractor and may be deducted by the Employer from any moneys owing or that may become owing to the Contractor in terms of the contract, or be recovered at law from the Contractor by the Employer.

4.9.3 Constructional plant brought to the site by the subcontractor

When entering into any subcontract agreement for the execution of any part of the works, the Contractor shall incorporate in such subcontract agreement, by reference or otherwise, the provisions of this clause in respect of construction equipment brought to the site by the subcontractor."

5. TIME AND RELATED MATTERS

5.4 ACCESS TO THE SITE

Add the following subclause:

5.4.4 "If the site is insufficient for the needs and requirements of the work, the Contractor shall arrange with the owners or tenants for the additional land required and pay all rent and costs in connection therewith. The Contractor shall be responsible for all damage to such land and property, and he shall indemnify the Employer and hold him harmless in respect of all claims, demands, proceedings, damages, costs, including attorneys' and client costs, charges and expenses arising in respect thereof."

5.14 COMPLETION

Delete the following:

"5.14.5.3 The retention shall be reduced to half in terms of Clause 6.10.5"

5.16 APPROVAL

5.16.1 Final Approval Certificate

Delete the last sentence of this clause and replace with:

The payment of the retention money or the release of the retention money guarantee shall only be permitted after the Engineer has issued the Final Approval Certificate.

CONTRACT NO: TECH/02/2025-26

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

6. PAYMENT AND RELATED MATTERS

6.6 PROVISIONAL SUMS AND PRIME COST SUMS

- 6.6.1.2.1 In the first line after the word "sums" insert "excluding VAT"
- 6.6.1.2.2 In the fourth line after the word "amount" insert "excluding VAT"

6.10.5 Payment of retention money

Delete the first four lines where reference is made to the first half of retention. The paragraph should read:"

"Retention money shall become due when the Engineer shall have certified payment thereof within 14 days after the expiration of the Defects Liability Period, extended, if necessary, in terms of Clauses 5.14.4 or 7.8.1. No retention, or part thereof, will hence be payable upon the issue of a Certificate of Completion as indicated in Clause 5.14.5.3.

6.11 VARIATIONS EXCEEDING 15 PER CENT

6.11.1 Second paragraph:

Change "15%" to "30%".

Add the following subclause:

"6.11.2 Variations exceeding 30% per cent

Where the decrease or increase in the quantity of work has not resulted from a written variation order (or an additional agreement) in terms of clause 5.11 but from the fact that the quantities are less or more than those given in the bill of quantities, the tendered rates or sums shall still apply, except in the case of a sub-item (or an item not subdivided into sub-items) in the bill of quantities, which covers work the value of which during the tender stage exceeds 7,5% of the value of the tender sum, and where the quantity of such sub-item or item, upon completion of the contract, deviates by more than 30% from the quantity given in the bill of quantities so that the scale of activities or the method of construction consequently changes to such an extent that the tendered rate or sum no longer applies. In such case the Engineer, should he deem it to be in the interest of the Employer or should the Contractor enter a claim, shall, considering the extent by which the deviation in respect of the quantity of the sub-item or item concerned exceeds 30%, determine a sum which will be equitable in the circumstances, and shall certify that such sum shall be deducted from or added to the sums owing to the Contractor."

CONTRACT NO: TECH/02/2025-26

THABAZIMBI WASTEWATER TREATMENT WORKS: REFURBISHMENT PHASE 1

PART C2: PRICING DATA

CONTENTS LIST

Section C2.1	Pricing Instructions	C.45
Section C2.2	Bill of Quantities	C.49

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C2.1 PRICING INSTRUCTIONS

1 For the purposes of this bill of quantities, the following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work as defined in the

standard specifications or the project specifications.

Quantity: The number of units of work for each item.

Rate: The payment per unit of work for which the tenderer tenders to do

the work.

Amount: The product of the quantity and the rate tendered for an item.

Lump Sum: An amount tendered for an item, the extent of which is described in

the bill of quantities, the specifications or elsewhere, but of which

the quantity of work is not measured in units.

This bill of quantities forms part of the contract documents and must be read in conjunction with all the other documents comprising the contract documents.

The quantities set out in the bill of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the bill of quantities, will be used to determine payments to the contractor.

The validity of the contract shall in no way be affected by differences between the quantities in the bill of quantities and the quantities finally certified for payment. Work is valued at the rates or lump sums tendered, subject only to the provisions of sub-clause 1209 (a) of the standard specifications.

- Rates and lump sums shall include full compensation for overheads, profits, incidentals, tax (other than VAT), etc, and for the completed items of work as specified, all in accordance with sub-clause 1209 (b) of the standard specifications. Full compensation for completing and maintaining, during the defects liability period, all the work shown on the drawings and specified in the standard specifications and project specifications and for all the risks, obligations and responsibilities specified in the general conditions of contract, special conditions of contract, standard specifications and project specifications shall be considered as provided for collectively in the items of payment given in the bill of quantities, except in so far as the quantities given in the bill of quantities are only approximate.
- The tenderer shall fill in a rate or a lump sum for each item where provision is made for it even where no quantities are given. Items against which no rate or lump sum has been entered in the tender will not be paid for when the work is executed, as payment for such work will be regarded as being covered by other rates or lump sums in the bill of quantities.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The tenderer shall fill in a rate against all items where the words "rate only" appears in the amount column. Although no work is foreseen under such item and no quantities are consequently given in the quantity column, the tendered rate shall apply should work under this item actually be required. Tenders should note the provisions of paragraph 12 of this preamble.

If the tender should group a number of items together and tender one lump sum for each group of items, this single tendered lump sum shall apply to that group of items and not to each individual item, or should he indicate that full compensation for any item has been included in the rate for another item, the rate for the item included in another item shall be deemed to be nil.

The tendered lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

- The works executed are measured for payment in accordance with the methods described in the contract documents under the various payment items, notwithstanding any custom to the contrary. Attention is directed to the provisions of clause 1220 of the standard specifications regarding the measurements of quantities for payment. Except where specified otherwise than in clause 1220, the nett measurement or mass of the finished work in place shall be taken for payment, and any volume or mass of work in excess of that prescribed, shall be excluded.
- 7 The amount of work or the quantities of material stated in the bill of quantities shall not be considered as restricting or extending the amount of work to be done or quantity of material to be supplied by the contractor.
- The statement of quantities of material or the amount of work in the bill of quantities shall not be regarded as authorisation for the contractor to order material or to execute work. The contractor shall obtain the engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements in this regard.
- The short descriptions of the payment items in the bill of quantities are only given to identify the items and to provide specific details. Reference shall, inter alia, be made to the drawings, standard specifications, project specifications, general conditions of contract and special conditions of contract for more detailed information regarding the extent of work entailed under each item.
- The provisions of clause 6.6 of the general conditions of contract shall apply to provisional sums and prime cost sums.
- Subject to the conditions stated in paragraph 12 below, the rates and lump sums filled in by the tenderer in the bill of quantities shall be final and binding with regard to submitting the tender and may not be adjusted should there be any mistakes in the extensions thereof and in the total sums appearing in the tender. Should there be any discrepancies between the tender sum and the correctly extended and totalled bill of quantities, the rates will be regarded as being correct,

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

and the employer shall have the right to make adjustments to the tender sum to reconcile the tender sum with the total of the bill of quantities. In such an event the contractor will be consulted but, failing agreement between the parties, the decision of the employer shall be final and binding. Adjustment of the tender sum will take place prior to the signing of the contract. In their own interest tenderers must make doubly sure of the correctness of their tendered rates, the extensions and the tender sum.

- A tender may be rejected if the unit rates or lump sums for some of the items in the bill of quantities are, in the opinion of the employer, unreasonable or out of proportion, and if the tenderer fails, within a period of seven (7) days of having been notified in writing by the employer to adjust the unit rates or lump sums for such items, to make such adjustments.
- 13 The units of measurement indicated in the bill of quantities are metric units

The following abbreviations are used in the bill of quantities:

mm = millimetre
m = metre
km = kilometre

km-pass = kilometre-pass

 m^2 = square metre

m²-pass = square metre pass

ha = hectare $m^3 = cubic metre$

m³km = cubic metre kilometre

I = litre
kl. = kilolitre
kg = kilogram
t = ton (1000 kg)

No = number mn = meganewton

mn-m = meganewton-metre

% = per cent kW = kilowatt Kn = kilonewton

PC sum = prime cost sum Prov sum = provisional sum

- All rates and sums of money quoted in the bill of quantities shall be in rands and whole cents. Fractions of a cent shall be discarded
- The item numbers appearing in the bill of quantities refer to the corresponding item numbers in the standard specifications. Item numbers prefixed by the letter B refer to payment items described under part B of the project specifications, those with C to payment items described under part C, and so on for further parts of the project specifications.

CONTRACT NO: TECH/02/2025-26

- Item numbers in schedule B of the bill of quantities are, in addition, preceded by the number of each separate part of schedule B of the bill of quantities, e.g. payment item 62.02 described in the standard specifications (clause 6210), when used in part 3 of schedule B of the bill of quantities, would be numbered 3/62.02, and if this payment item had been amended in part B of the project specifications, the payment item would be indicated as 3/B62.02.
- 16. Labour intensive items are highlighted in the bills of quantities for the payment items relating to labour intensive works.
- 16.1. Those parts of the contract to be constructed using labour intensive methods have been marked in the bills of quantities with the letters LI in a separate column filled in against every item so designated. The works or part of the works so designated are to be constructed using labour intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The letters marked with LI are not necessarily an exhaustive list of all items which must be done by hand, and this clause does not override any of the requirements in the generic labour-intensive specification in the Scope of Works.
- 16.2. Where minimum labour intensity is specified by the design the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity target.
- 16.3. Payment for items which are designated to be constructed using labour intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour intensive methods. Any unauthorised use of plant to carry out work which was to be done labour intensively will not be condoned, and any work so constructed will not be certified for payment.
- 17. All cost for formal training to the targeted workforce (amongst others: allowances, wages, administration, transport, etc.) shall be deemed to be included in the rates for Labour Intensive items.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C2.2 BILL OF QUANTITIES

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Contract : Refurbishment of Thabazimbi Wastewater Treatment Works Phase 1 - TECH/02/2025/26 Part C2: Pricing Data Section C2.3: Summary of Schedules

CONTRACT

Refurbishment of Thabazimbi Wastewater Treatment Works Phase 1 - TECH/02/2025/26

C2.3: MECHANICAL, ELECTRICAL AND CIVILS WORKS SUMMARY OF SCHEDULES

Schedule No.	Description	Contrac	t Amount	Compl	, Est (R)
	P's&G's and PREP.WORK				
G1	PRELIMINARY AND GENERAL	R	-	R	-
G2	DAYWORKS	R	-	R	-
G3	PROVISIONAL SUMS AND PRIME COST ITEMS	R	-	R	-
G4	CLEANING AND REPAIR OF WASTE WATER TREATMENT STRUCTURES	R	-	R	=
G5	TRAINING	R	-	R	-
	Sub-Total for Priced Schedules (G)	R	-	R	-

	MECHANICAL				
M1	HEAD OF WORKS (INLET WORKS)	R	-	R	-
M2	SEDIMENTATION	R	-	R	-
M3	BIOLOGICAL TREATMENT	R	-	R	-
M4	PUMPING	R	-	R	-
M5	FINAL CHEMICAL DISINFECTION SYSTEM	R	-	R	-
	Sub-Total for Priced Schedules (G)	R	-	R	-

	ELECTRICAL		
E1	MOTOR CONTROL CENTRES - LOW VOLTAGE SWITCHGEAR	R -	R -
E2	LV CABLES	R -	R -
E3	FIELD CONTROL PANELS & INSTRUMENTATION	R -	R -
	Sub-Total for Priced Schedules (E)	R -	R -

	CIVIL/STRUCTURAL				
P1	DEWATERING & DESLUDGING OF STRUCTURES	R	-	R	-
C1	CLEARING AND GRUBBING	R	-	R	-
C2	PAVING	R	-	R	-
C3	ROADWORKS	R	-	R	-
C4	SCHEDULE STORMWATER	R	-	R	-
C5	FENCING	R	-	R	-
C6	GUARD HOUSE	R	-	R	-
C7	SEWER AND SEWER REPAIR WORKS	R	-	R	-
	Sub-Total for Priced Schedules (C)	R	-	R	-
	Sub-Total (ST1 = G+M+E+C)	R	-	R	-
	Contingenicies at 10%	R	-	R	-
	Sub-Total ST 2	R	-	R	-
	Value Added Tax at 15% (15% of Sub-Total ST2)	R	-	R	-
	Total Amount Carried to Form of Offer and Acceptance (T=ST2 + VAT)	R	-	R	-

CONTRACT NO: TECH/02/2025-26

Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	SABS 1200 A PSA PSAB	SCHEDULE G1 PRELIMINARY AND GENERAL				
	1 OAD	FIXED-CHARGE ITEMS				
G1.1	8.3.1	Contractual Requirements	sum	1		
G1.2		Provide and maintain Contractors Insurances for duration of contract	sum	1		
	8.3.2	.1 Facilities for the Engineer				
G1.3	PSAB2	(a,f,h) Furnished offices, latrines and carports	sum	1		
G1.4 G1.5	PSAB5 PSAB4.2	(d) Survey (Setting out and verifications) (g) Laboratory equipment	sum sum	1 1		
01.0	8.3.2	.2 Facilities for the Contractor	Juni	•		
G1.6	0.5.2		0.170	1		
G1.6 G1.7		(a) Offices and storage sheds (b) Ablution and latrine facilities	sum sum	1		
G1.8		(c) Tools and equipment	sum	1		
G1.9		(d) Water supplies, power and communications	sum	1		
G1.10		(e) Access (Sub-clause 5.8)	sum	1		
G1.11		(f) Communication	Prov Sum	1		
G1.12	PSA5.9	(g) Security on Site	sum	1		
G1.13	8.3.3	Other fixed-charge obligations	sum	1		
	8.3.4	Removal of Contractor's and Engineers site				
G1.14		establishment on completion	sum	1		
	PSA5.3	Occupational Health and Safety				
G1.15	8.3.5.2	Initial obligation in compliance with Occupational Health and Safety Act (Act 85 of 1993) and its regulations and with the Employers Health and Safety Specification	sum	1		
		Environmental Management				
G1.16	Part C3.7	Compliance with Environmental Management Specification	sum	1		
G1.17		Provision of a Name Board according to details shown on DWG 3356.50.00.AAA.01.D001	sum	1		
		TIME-RELATED ITEMS				
G1.18	8.4.1	Contractual requirements	month	6		

CONTRACT NO: TECH/02/2025-26

		Operation and maintenance of facilities on the Site for the duration of construction					
	8.4.2	.1 Facilities for the Engineer					
G1.19 G1.20 G1.21	PSAB2 PSAB5 PSAB4.2	(a,f,h) Furnished offices, latrines and carports (d) Survey assistant (g) Laboratory equipment	month month month	6 6 6			
	8.4.2	.2 <u>Facilities for the Contractor</u>					
G1.22 G1.23 G1.24 G1.25 G1.26 G1.27 G1.28	PSA5.9	 (a) Offices and storage sheds (b) Ablution and latrine facilities (c) Tools and equipment (d) Water supplies, power and communications (e) Access (Sub-clause 5.8) (f) Communication (g) Security on Site 	month month month month month Prov Sum month	6 6 6 6 1 6	R 15 000,00	R	15 000,00
G1.29	8.4.3	Supervision for duration of construction	month	6			
G1.30	8.4.4	Company and head office overhead costs for the duration of the contract	month	6			
G1.31	8.4.5	Other time-related obligations (list)	month	6			
		Occupational Health and Safety					
		a) OHS Agent Monthly Audit	Prov Sum	1	R360 000,00	R	360 000,00
		b) Handling fee for sub item G.129	%	10%	R360 000,00	R	36 000,00
G1.32	PSA6.1	b) Compliance with Occupational Health and Safety Act (Act 85 of 1993), regulation for hazardous biological agents 2022 and its regulations and with the Employers Health and Safety Specifications The amount is to cover amongst other obligations and personnel, monthly audits, reports and attendance	month	6			
		Environmental Management		_	5040.000.00		
		a) Environmental Management Monthly Audit	Prov Sum	1	R240 000,00	R	240 000,00
		b) Handling fee for sub item G 1.32	%	10%	R240 000,00	R	24 000,00
G1.33	Part C3.7	c) Compliance with Environmental Management Specification	month	6			
		The amount is to cover amongst other obligations and personnel, monthly audits, reports and attendance					
		OPERATION AND MAINTENANCE POST PRACTICAL COMPLETION					
G1.34		Operation of the plant post practical completion in line with the regulation 3630 requirements.	month	6			
G1.35		Maintenance of plant post practical completion, including attendance to plant breakdowns and execution of preventative maintenance activities as per the OEM standards and maintenance plan.	month	6			
		OTHER GENERAL CHARGES					
G1.36	C3.2.5	Attendance of design workshop at Engineers offices	sum	1			
G1.35	C3.2.5	Provision of as-built drawings and details	sum	1			
G1.36 G1.37	C3.2.5	Provision of Operation and Maintenance Manuals	sum	1			
G1.39	C3.2.5	Commissioning, Trial Operation and Training of Operators	sum	1			
		SCHEDULE G1 PRELIMINARY AND GENERAL Carried forward to Summary of Schedules			Total		
					TOTAL	l	

CONTRACT NO: TECH/02/2025-26

Item	Reference	Description	on	Unit	Qty	Rate (R)	Amount (R)
	SABS 1800	SCHEDU DAYWOR		G3		(19	(1)
	B18.01	Unskilled	Lishour				
	B10.01			hr	20		
			rmal working hours				
		,	ertime	hr	10		
		(c) Su	ndays and public holidays	hr	20		
	B18.02	Semi skil	led labour				
		(a) No	rmal working hours	hr	12		
		(b) Ov	rertime	hr	12		
		(c) Su	ndays and public holidays	hr	10		
	B18.03	Skilled la	bour				
		(a) No	rmal working hours	hr	12		
		(b) Ov	rertime	hr	10		
		(c) Su	ndays and public holidays	hr	8		
	B18.04	Foreman					
		(a) No	rmal working hours	hr	12		
		(b) Ov	rertime	hr	12		
		(c) Su	ndays and public holidays	hr	10		
	B18.05	Hire of co	onstruction equipment				
		(a) Tip	oper Trucks - more than 5 ton	hr	10		
		(b) TLI	B (digger loader)	hr	16		
		(c) Mo	obile concrete mixers (640L or similar)	hr	10		
		(d) De	ewatering pump incl. generators and acce	hr	10		
		(e) Gra	ader (AT 140 G or similar)	hr	16		
		(f) Wa	ater cart (10 000l)	hr	16		
		SCHEDU	ILE RKS				

CONTRACT NO: TECH/02/2025-26

tem	Payment Reference		Unit	Qty	Rate (R)	Amount (R)
		SCHEDULE G3 PROVISIONAL SUMS AND PRIME COST ITEMS				
	8.5	SUMS STATED PROVISIONALLY BY THE ENGINEER				
	8.5	.1 Remuneration				
G3.1	PSA 7.3	a) CLO remuneration	Prov	1		
G3.2		b) PSC	Prov	1		
G3.3		b) Overheads, charges and profit on the above	%			
		.2 Engineers requirements				
G3.4		Installation of flowmeter, Full-bore electromagnetic flow sensor, flanged, 500mm diameter	Sum	1		
G3.5	PSA 7.8	b) Maintenance of flow meter and flow monitoring of system for the duration of the project	Sum	1		
G3.6		c) Set up testing station to specification by the Process Engineer	Sum	1		
G3.7		d) Collection of Samples daily every four(4) hours, daily, and record-keeping to specification by the Process Engineer	Sum	1		
G3.8		e) Admin charges and profit on d) above	%			
	8,6	BUILDINGS				
G3.9	PSA8.1	Refurbish buildings onsite (including Pump room, Chlorine room)	PC item	1		
G3.10		Overheads, charges and profit on the above	%			
	8,6	PRIME COST ITEMS				
G3.11	PSA8.1	Materials used in the execution of dayworks	PC item	1		
G3.12		Overheads, charges and profit on the above	%			
		G3 SCHEDULE				
		PROVISIONAL SUMS AND PRIME COST ITEMS Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Contract: Refurbishment of Thabazimbi Wastewater Treatment Works Phase 1 - TECH/02/2025-26 Schedule No. C4: Stormwater Unit Payment Description Qty Rate Amount Item Reference (R) (R) Part 3.4.3 SCHEDULE C4 PT STORMWATER
TRENCHES FOR STORMWATER PIPES C4.1 PSDB Excavate in all materials for trenches. backfill, compact and dispose of surplus material: 8.3.2 Pipes over 125 mm dia up to 400 mm .02 dia for depths: 1.1 01 23 Up to 1.0 m m Over 1,0 m up to 2,0 m m 23 C4.2 PSDB Extra over item 142.01 above for: 8.3.2 01 Intermediate excavation m³ 25 .02 Hard rock excavation m³ 25 C4.3 PSLE Supply and install stormwater manhole 8.2.8 manholes and the like: Brickwork manholes: .01 As shown on Drawing No C-009 standard depth 0- m .01 Up to 1m no .02 1 to 1.5m .03 Grid inlets: .01 As shown on Drawing No C-006 standard depth 1m nο STORMWATER Supply and lay concrete pipe culverts C4.4 8.2.1 on class C bedding: Type SC 75D-load pipes with ogee joints: .01 300mm dia Rate Only .02 450mm dia Rate Only m .03 750mm dia m Rate Only DRAINS C4.5 8.3.2 Excavation for open drains: Excavating soft material situated within the (a) following depth ranges below the surface level: m³ 345 L.I (i) 0 m up to 1,5 m Extra over subitem B21.01(a) for excavation (b) in hard material, irrespective of depth 10 C4.6 PSDB Excavation for subsoil drainage systems: 8.3.2 Excavating soft material situated within the following depth ranges below the surface level: L.I (i) 0 m and up to 1,5 m (Provisonal) m³ Rate Only Exceeding 1,5 m and up to 3,0 m (Provisonal) m³ Rate Only R

CONTRACT NO: TECH/02/2025-26

Item	Payment Reference	Description	Unit	Qty	Rate (R)		nount (R)
	TOTAL BROU	GHT FORWARD		1		R	-
C4.7	PSLE	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:					
		(a) Headwall structures	no	3			
		(b) Kerb inlet boxes	no	1			
		(c) Grid inlet	no	2			
C4.8		Test flushing of pipe subsoil drains	Sum	Rate Only			
		Excavation for the clearing of existing drainage systems:					
		(a) Manholes and inlet and outlet structures	m³	20			
		(b) Earth side drains	m³	20			
C4.9	COLTO 21.01 L.I	Excavation for upstream Open drains					
		(c) Strip topsoil, stockpile, to construct open lines drain	m³	2 028			
		(d) Excavate for open line drain, then spoil material in a desigated site	m³	2 028			
		(e) Extra Over For Soft Material	m³	1 014			
		(e) Extra Over For Hard Material	m³	30			
		(e) Extra Over For Hard Rock	m³	50			
		(d) Topsoiling	m²	2 028			
		(e) Grassing	m²	2 028			
		SCHEDULE C4 STORMWATER					
	1	<u> </u>			Total	R	-

CONTRACT NO: TECH/02/2025-26

tom	No. G5: Tra Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	SABS 1200 A	SCHEDULE G5 TRAINING				
		SPARES AND TRAINING				
G5.1		.1 Spares and Transportation	Sum	1		
G5.2		b) Overheads, charges and profit on the above	%			
	PSA	SUMS STATED PROVISIONALLY BY THE ENGINEER				
		.1 Accredited Training				
G5.3		a) Generic training	PC Sum	1		
G5.4		b) Structured Training Process Controllers	PC Sum	1		
G5.5		c) Transport and accommodation	Prov	1		
G5.6		d) Provision of venue for training	PC Sum	1		
G5.7		e) Overheads, charges and profit on the above	%			
		G5 SCHEDULE				
		TRAINING				

CONTRACT NO: TECH/02/2025-26

	Payment	lead of Works (HOW)			Rate	Amount
Item	Reference	Description	Unit	Qty	(R)	(R)
		SCHEDULE M1				
	PSMW-1 & PSMW-9	HEAD OF WORKS (INLET WORKS)				
		REFURBISHMENT, MANUFACTURE, FACTORY ACCEPTANCE TEST, TRANSPORT, DELIVERY TO SITE AND SITE INSTALLATION.				
	00 4 4 4 0	<u>SCREENING</u>				
	C3.4.4.1 & C3.4.4.9	Manual Hand Rake Screens				
M1.1		Refurbishment, service and commissioning of the existing manual rake screens.	Each	4		
	C3.4.4.1 & C3.4.4.9	Compactor				
M1.2		Supply, install and commission of new compactors including the wash spray system and the jet pumps with interconnecting pipework for both modules.	Each	2		
	C3.4.4.1 & C3.4.4.9	Mechanical Screens				
M1.3		Mechanical Screens - Supply, install and commission of new mechanical screens.	Each	2		
	C3.4.4.1 & C3.4.4.9	SCREENINGS WASTE BINS				
M1.4		Manufacture, supply and installation of new 6m3 waste bin and hand operated, dolly 6 Metre Rail / mild steel galvanized.	Each	2		
	C3.4.4.1 & C3.4.4.9	PENSTOCKS/WALL MOUNTED GATES				
		Manufacture, supply, install and comissioning of new hand wheel operated channel mounted penstocks including all ancillaries in module 01.	Each	8		
	C3.4.4.1 & C3.4.4.9	DEGRITTING				
		Supply, install, test and comission of new degritting valves, including all ancillaries.	Each	4		
		Refurbishment, servicing and commissioning of the existing degritting collection pipework including all ancillaries	Sum	1		
		SCHEDULE M1 HEAD OF WORKS (INLET WORKS) Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

	Payment	Sedimentation			Rate	Amount
Item	Reference	Description	Unit	Qty	(R)	(R)
		SCHEDULE M2				
		<u>SEDIMENTATION</u>				
		REFURBISHMENT, MANUFACTURE, FACTORY ACCEPTANCE TEST, TRANSPORT, DELIVERY TO SITE AND SITE INSTALLATION.				
	PSMW-2	PRIMARY SETTLEMENT TANK (DORTMUD TANKS)				
M2.1	C3.4.4.2	Supply, replace and commissioning of the influent interconnecting pipework complete with all the fittings.	Each	1		
M2.2	C3.4.4.2	Manufacturing, supply, replacement and commissioning of the existing scum collection chute with stainless steel.	Each	1		
M2.3	C3.4.4.2	Refurbishment, servicing and commissioning by cleaning and re-aligning the existing baffle plates.	Each	1		
	PSMW-5	HUMUS TANKS Manufacturing/Refurbishment of the Humus Tank complete				
M2.4	C3.4.4.5	with new scrapper system, new centre bearing, stainless steel downpipes, new drive mechanism, and protective coating of the existing bridge.	Each	1		
		PERIPHERAL DRIVE SETTLING TANK (SECONDARY CLARRFIERS)				
	C3.4.4.5	Module 1 Secondary Settlement Tanks				
M2.5		Manufacturing/Refurbishment of module 01 SSTs complete with scrapper system, centre bearing, 304 stainless steel downpipes, scum removal system 304 stainless steel, drive mechanism, and protective coating of the existing access bridges and hand rails, etc.	Each	2		
	C3.4.4.11	Module 2 Secondary Settlement Tank				
M2.6		Manufacturing/Refurbishment of module SST complete with scrapper system, centre bearing, 304 stainless steel downpipes, scum removal system 304 stainless steel, drive mechanism, access bridge and handrials, etc.	Each	1		
		SCHEDULE M2 SEDIMENTATION				
		Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

tem	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
		SCHEDULE M3				
	PSMW-4, ' PSMW-6 & PSMW-10	BIOLOGICAL TREATMENT				
		INSPECTION, REFURBISHMENT/REPAIR, MANUFACTURE, ACCEPTANCE TEST, TRANSPORT, DELIVERY TO SITE, SITE INSTALLATION, TESTING AND				
M3.1	PSMW-4	BIOFILTER Removal, manufacture and installation of new distribution arms. The works to include refurbishment/repair/manufactuer components for the biofilter rotating distribution arm assembly, including but limited to top bearing, hanger rods, turn buckle, centre column, gland packing, etc. mechanical testing and commissioning.	Each	1		
	PSMW-6 & PSMW-10	BNR MIXING AND AERATION				
	C3.4.4.6	VERTICAL MIXERS				
M3.2		Module 2: Manufacturing, supply, installation and comissioning of new 7.5kW vertical mixer drive unit (motor and gearbox) for the anaerobic zone.	Each	3		
M3.3		Removal of existing 7,5kW vertical mixer impeller, transportation, impeller epoxy coating, balancing and installation.	Each	3		
M3.4	C3.4.4.6	SURFACE AERATORS Module 01 Aeration Biological Reactor - Removal of existing 22 kW surface aerator drive unit (motor and gearbox), supply new, install, testing and commissioning.	Each	2		
M3.5		Removal of existing 22kW surface aerator impeller, transportation, impeller epoxy coating, balancing and installation.	Each	2		
M3.6		Module 01 Aeration Biological Reactor - removal of existing 15 kW surface aerator drive unit (motor and gearbox), supply new, install, testing and commissioning.	Each	2		
M3.7		Removal of existing 15kW surface aerator impeller, transportation, impeller epoxy coating, balancing and installation.	Each	2		
M3.8		Module 02 BNR: Removal of existing 30 kW surface aerator drive unit (motor and gearbox) , supply new, install, testing and commissioning.	Each	3		
M3.9		Removal of existing 30kW surface aerator impeller, transportation, impeller epoxy coating, balancing and installation.	Each	3		
	PSMW-15	BALANCING TANK MIXERS				
M3.10		Refurbishment, servicing and commissioning of the existing 15kW submersible mixers complete with all the ancillaries.	Each	2		
		SCHEDULE M3 BIOLOGICAL TREATMENT				
		Carried forward to Summary of Schedules			Total	R -

CONTRACT NO: TECH/02/2025-26

tem	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 3.4.4	SCHEDULE M4			(K)	(K)
	PT	<u>PUMPING</u>				
		DISMANTLE, ASSESSMENT, REMOVAL OF EQUIPMENT				
		FOLLOWED BY REPLACEMENT OF HIGHWEAR COMPONENTS EQUIPMENT. THIS SHALL INCLUDE SHAFT,				
		IMPELLER, MECHANICAL SEAL, BACK PLATES, MOTORS,				
		ETC. INSTALLATION AND COMISSIONING OF REFURBISHED PUMPS INCLUDED.				
		SUPPLY, INSTALLATION, TESTING AND COMISSIONING OF				
		NEW PUMP SET INCLUDING NEW MOTOR AND FITTED WITH				
		ERADICATOR AS MAY BE INDICATED PER RESPECTIVE PUMP SET BELOW.				
	DOM: 44 0	MODULE OF CENTRAL PUMP CTATION				
	PSMW-3 C3.4.4.3	MODULE 01: CENTRAL PUMP STATION Trickling Filter Pumps				
14.1		Supply, installation and commissioning of two new end-suction 4kW	Each	2		
		Trickling Filter Pumps complete with all the ancillaries.				
14.2		Allowance for refurbishment of pipes and valves at pump station	PC Sum	1		
14.3		Overheads, charges and profit on PC Sum item above	%	10%		
	C3.4.4.3	Sludge Pumps				
14.4		Replacement and commissioning of the existing 11kW end-suction Sludge Pumps with Self-Priming Pumps complete with an eradicator including all the ancillaries.	Each	2		
14.5		Allowance for refurbishment of pipes and valves at pump station	PC Sum	1		
14.6		Overheads, charges and profit on PC Sum item above	%	10%		
	PSMW-8	MODULE 01: RAS/WAS PUMP STATION				
	C3.4.4.8	RAS/WAS Pumps				
14.7		Replacement and commissioning of 3kW Self-Priming Waste/Return Activated Sludge Pumps complete with all the ancillaries.	Each	4		
14.8		Allowance for refurbishment of pipes and valves at pump station	PC Sum	1		
14.9		Overheads, charges and profit on PC Sum item above	%	10%		
		MODULE 02: BIOLOGICAL NUTRIENT REACTOR				
	C3.4.4.10	A-Recycle Axial Flow Pumps Refurbishment, servicing and commissioning of 7.5kW A-Recycle				
4.10		axial flow pumps.	Each	2		
	C3.4.4.10	R-Recycle Axial Flow Pumps				
4.11		Refurbishment, servicing and commissioning of 2.2kW R-recycle axial flow pumps.	Each	2		
	DSMM/_12	MODULE 02: S-RECYCLING PUMP STATION				
		Return Sludge Pumps				
4.12		Replacement and commissioning of the existing submersible Return Sludge Pumps complete with all the ancillaries.	Each	2		
1 12			DC Sum	1		
4.13 4.14		Allowance for refurbishment of pipes and valves at pump station Overheads, charges and profit on PC Sum item above	PC Sum	1 10%		
4.14		Overneads, charges and profit of FC Sum term above	/6	1076		
	PSMW-13 C3.4.4.13	MODULE 02: WAS PUMP STATION Waste Activated Sludge Pumps				
4.15		Replacement and commissioning of the existing submersible Waste	Each	2		
⊣. 13		Activated Sludge Pumps complete with all the ancillaries.	Lacii	~		
4.16		Allowance for refurbishment of pipes and valves at pump station	PC Sum	1		

CONTRACT NO: TECH/02/2025-26

M4.18 TC	PSMW-15	Description DUGHT FORWARD Overheads, charges and profit on PC Sum item above	Unit	Qty	(R)	(R)
M4.18	PSMW-15		%			
P:		Overheads, charges and profit on PC Sum item above	%			
С			, ,	10%		
	C3.4.4.15	BALANCING DAM AND RECYCLING PUMP STATION				
		Recycling Pumps Refurbishment, servicing and commissioning of 7.5kW self-priming Recycling Pumps complete with all the ancillaries.	Each	4		
M4.20		Allowance for refurbishment of pipes and valves at pump station	PC Sum	1		
M4.21		Overheads, charges and profit on PC Sum item above	%	10%		
P!	PSMW-16	STORM WATER PUMP STATION				
c	C3.4.4.16	Storm Water Pumps				
M4.22		Replacement and commissioning of 4kW submersible Storm Water Pumps complete with all the ancillaries.	Each	3		
M4.23		Allowance for refurbishment of pipes and valves at pump station	Pc Sum	1		
M4.24		Overheads, charges and profit on PC Sum item above	%	10%		
P:	PSMW-17	ANAEROBIC DIGESTERS AND MIXER PUMP STATION				
c	C3.4.4.17	Mixer Pumps				
M4.25		Refurbishment, servicing and commissioning of anaerobic digester agitation 22kW Mixer Pumps complete with all the ancillaries.	Each	2		
M4.26		Allowance for refurbishment of pipes and valves at pump station	PC Sum	1		
M4.27		Overheads, charges and profit on PC Sum item above	%	10%		
		SCHEDULE M4 PUMPING				
		Carried forward to Summary of Schedules			Total	R -

CONTRACT NO: TECH/02/2025-26

em	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	PSMW-14	SCHEDULE M5 FINAL CHEMICAL DISINFECTION SYSTEM				
	C3.4.4.14	Refurbishments, design, supply & delivery to site of the following plant and equipment				
		including quality assurance, factory testing and temporary storage pending installation:				
5.1		Refurbishment of Chlorine dosing system in complient to the scope of work and specifications.	Sum	1		
5.2		Items identified for replacement not part of standard servicing protocal.	PC Sum	1		
5.3		Overheads, charges and profit on PC Sum item above.	%	10%		
		SCHEDULE M5 FINAL CHEMICAL DISINFECTION SYSTEM				

CONTRACT NO: TECH/02/2025-26

em	Payment	Description	Unit	Qty	Rate	Amount
	Part 3.4.5	SCHEDULE E1 MOTOR CONTROL CENTRES - LOW VOLTAGE SWITCHGEAR ASSESSMENT, REFURBISHMENT, REPLACEMENT OF SWITCHGEAR AND CABLES, SITE ACCEPTANCE TEST AND			(R)	(R)
		Module 01 - Motor Control Centre - MLV Switchgear MCC Panel assessment by Master Electrician including but not limited to field testing , assessment of existing switchgears, all				
1.1		related existing electrical infrastructure required to control and protect respective field equipment. Comprehensive field assessment report to be compiled.	Sum	1		
1.2		Supply, installation, testing, and commissioning of the required electrical switchgear, controls, cabling, etc. required to bring the existing MCC for full functionality.	PC Sum	1		
1.3		Overheads, charges and profit on item above	%	10%		
€1.4		Module 02 - Motor Control Centre (WC2)- MLV Switchgear MCC Panel assessment by master electrician including but not limited to field testing, assessment of existing switchgears, all related existing electrical infrastructure required to control and protect respective field equipment. Comprehensive field assessment report to be compiled.	Sum	1		
1.5		Supply, installation, testing, and commissioning of the required electrical switchgear, controls, cabling, etc. required to bring the existing MCC for full functionality.	PC Sum	1		
1.6		Overheads, charges and profit on item above	%	10%		
E1.7		Balancing Dam & Storm Water Pump Station (WC1) - Motor Control Centre - MLV Switchgear MCC Panel assessment by master electrician including but not limited to field testing, assessment of existing switchgears, all related existing electrical infrastructure required to control and protect respective field equipment. Comprehensive field assessment report to be compiled.	Sum	1		
1.8		Supply, installation, testing, and commissioning of the required electrical switchgear, controls, cabling, etc. required to bring the existing MCC for full functionality.	PC Sum	1		
1.9		Overheads, charges and profit on item above	%	10%		
		SCHEDULE E1 MOTOR CONTROL CENTRES - LOW VOLTAGE SWITCHGEAR Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
		SCHEDULE E2 LV CABLES CABLE TRACING, JOINTING, CABLE TESTING, TERMINATION			(1.7)	(+ 4)
		AND GLANDING, TESTING AND COMMISSIONING OF CABLES FOR FIELD EQUIPMENT.				
		MODULE 1 - LV Cables to Field Equipment Testing of the underground cables to the MCC to confirm jointing technical feasibility, supply and installation of new extention cable, termination and glanding of cables supplying the following equipment:				
2.1		Module 1 - Extended Aeration Zone LV Cbale to Field Equipment 22 kW surface aerators	m	88,5		
2.2		15 kW surface aerators	m	33		
		MODULE 2 - LV Cables to Field Equipment				
2.3		7.5 kW vertical mixer	m	127,5		
2.4		30 kW surface aerators	m	128		
2.5		7.5 kW A- Recycle Pumps	m	18		
2.6		2.2 kW R - Recycle Pumps	m	75		
		Balancing Dam - LV Cables to Field Equipment				
2.7		15kW submersible mixer	m	15		
2.8		7.5 kW Pump Station Pumps B	m	60		
2.9		7.5kW Pump Station Pumps C	m	60		
		Digestor Mixing Pumps - LV Cables to Field Equipment				
2.10		22 kW Digestor mixing pumps	m	10		
		Clarrifier No.2 - LV Cables to Field Equipment				
2.11		0.75 kW SST Drive Unit	m	30		
		Storm Water Pumps - LV Cables to Field Equipment				
2.12		4 kW Storm Water Pumps 1 -3	m	50		
		SCHEDULE E2				
		LV CABLES Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

Part 3.4.6 PT	Amount (R)	Rate (R)	Qty	Unit		Payment Reference	Item
existing field control panles Transport cost associated on the item above Overheads, charges and profit on item above Supply, installation and commissioning of newopen channel ultrasonic flow meter at inlet works. Supply, installation and commissioning of new DO meter for module 1. Each Testing, refurbishment, calibration and recommissioning of the					FIELD CONTROL PANELS & INSTRUMENTATION INSPECTION, REFURBISHMENT/REPAIR, MANUFACTURE, ACCEPTANCE TEST, TRANSPORT, DELIVERY TO SITE, SITE	PT	
Overheads, charges and profit on item above			1	PC Sum			≣3.1
Supply, installation and commissioning of newopen channel ultrasonic flow meter at inlet works. Supply, installation and commissioning of new DO meter for module 1. Testing, refurbishment, calibration and recommissioning of the			1	PC Sum	Transport cost associated on the item above		≣3.2
ultrasonic flow meter at inlet works. Supply, installation and commissioning of new DO meter for module 1. Testing, refurbishment, calibration and recommissioning of the			10%	%	Overheads, charges and profit on item above		≣3.3
module 1. Testing, refurbishment, calibration and recommissioning of the							
			1	Each			≣3.4
			1	Sum			≣3.5
SCHEDULE E3 FIELD CONTROL PANELS & INSTRUMENTATION							

CONTRACT NO: TECH/02/2025-26

em	Payment Referen		Unit	Qty	Rate (R)	Amount (R)
	ce	COUEDINE DA			(. 4)	(. 4)
		SCHEDULE P1 DEWATERING & DESLUDGING OF STRUCTURES				
		Pumping Out Of Structures				
		Provision of pump, tanks and other equipment necessary for pumping out and cleaning (sludge removal) of various structures.				
1.1		PST - Module 01	m3	707		
1.2		Humus - Module 01	m3	707		
1.3		Aeration Biological Reactor - Module 01	m3	7140		
1.4		SST 1 - Module 01	m3	1018		
1.5		SST 2 - Module 01	m3	1018		
1.6		Biological Nutrient Reactor - Module 02	m3	7140		
1.7		SST - Module 02	m3	707		
		CLEANING AND REPAIR OF WASTE WATER TREATMENT STRUCTURES				
1.8		Cleaning of Screens and disposal at approved facilty	Prov	1		
1.9		Remove sand from Sludge Drying Beds and dispose approved facility	m ³	150		
10		Replace Sand at Sludge Drying Beds	m ³	150		
		SCHEDULE P1				
		DEWATERING & DESLUDGING OF STRUCTURES Carried forward to Summary of Schedules	1	1		

CONTRACT NO: TECH/02/2025-26

tem	Payment Reference		Unit	Qty	Rate (R)	Amount (R)
	Part 3.4.3 8.2.1	SCHEDULE C1 CLEARING AND GRUBBING				
C1.1		Clearing and grubbing whole of site and work areas	ha	1,52		
C1.2		Removal of waste and rubble	m³	4		
	8.2.2	Removal and grubbing of large trees and tree stumps:				
21.3		(a) Girth exceeding 1 m up to and including 2 m	No	5		
21.4		(b) Girth exceeding 2 m up to and including 3 m	No.	4		
C1.5		(c) Reclearing of surfaces (on written instructions of the engineer only)	Prov Sum	1		
C1.6		(d) Dealing with Existing Services	Prov Sum	1		
C1.7		(e) Demomish Existing Concrete structure (on written instructions of the engineer only)	m ³	60		
		SCHEDULE C1				
		CLEARING AND GRUBBING Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
		SCHEDULE C2 PAVING				
C2.1	8.2.10	(a) Topsoil Striping to 100mm depth and spoil	m ²	320		
		(b) Excavate 100mm depth and stockpile	m³	40		
C2.3		(c) Rip and Recompact to 150mm depth and compact to 90% MOD AASHTO at optimum moisure content	m³	60		
C2.4		(d) Import G5 from cormmecial source, mix with stockpile material from (c) above and compact to 150mm depth up to 95% MOD AASHTO at optimum moisture content	m³	20		
		Block paving:				
C2.5	L.I	(a) Segmental block paving, type S-A, 60 mm thick including 25mm bedding sand (including herbicide and sand grouting)	m ²	310		
C2.6	L.I	(b) Remove block pavers, chemically treat vegetation and reinstate block pavers (Provisional)	m²	1384		
C2.7	PSC 8.2.11	(c) Remove block pavers, chemically treat vegetation and reinstate block pavers (Provisional)	m²	50		
C2.8		(d) Remove existing Kerb and re-install as mountable kerb	m	230,00		
		Foundation trenches:				
C2.9		(a) In soft material, irrespective of depth	m³	Rate Only		
2.10		(b) Extra over subitem B51.07(a) for excavation in hard material, irrespective of depth	m³	Rate Only		
2.11		Löffelstein concrete blocks	m²	Rate Only		
		SCHEDULE C2				
		PAVING Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

em	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 3.4.3 PT	SCHEDULE C3 ROADWORKS				
3.1		(a) Topsoil Stripping to 100mm	m²	1380		
		(b) Excavate in all material	m³	201		
C3.2 8.3.2(I	8.3.2(b)	Extra over item 33.01 for excavating and breaking down material in:				
		(c) Intermediate excavation	m³	161		
		(d) Hard excavation	m³	20		
		(e) Boulder excavation class A	m³	17		
C3.3	5.2.4	(f) Rip and Recompact to 90% MOD AASHTO OMC	m³	201		
C3.4		(g) Import G5 Compacted to 93% MOD AASHTO OMC from Cormmecial Souce	m³	201		
C3.5		(i) Construct 2m wide,300mm deep, 4m long Side Drains	m3	20		
C3.6		(j) Finish Road Banks with topsoiling	m ²	690		
C3.7		(k) Construct Stormwater Chutes 3m wide x 10m long chutes by excavating	no	12		
C3.8		(I) Provide 30mm crushed aggregate for drainage (Provisional)	m²	20		
		SCHEDULE C3				
		ROADWORKS Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

Item	Payment	Description	Unit	Qty	Rate	Amount
	Reference	_			(R)	(R)
	Part 3.4.3	SCHEDULE C4				
	PT	STORMWATER TRENCHES FOR STORMWATER PIPES				
C4.1	PSDB	Excavate in all materials for trenches,				
J-1. 1	8.3.2	backfill, compact and dispose of surplus				
		material:				
		.02 Pipes over 125 mm dia up to 400 mm				
		.02 Pipes over 125 mm dia up to 400 mm dia for depths:				
	L.I	.01 Up to 1,0 m	m	23		
		.02 Over 1,0 m up to 2,0 m	m	23		
C4.2	PSDB	Extra over item 142.01 above for:				
	8.3.2	.01 Intermediate excavation	m³	25		
		.02 Hard rock excavation	m³	25		
C4.3	PSLE	Supply and install stormwater manhole				
04.0	8.2.8	manholes and the like:				
		.01 Brickwork manholes:				
		.01 As shown on Drawing No C-009				
		standard depth 0- m				
		.01 Up to 1m	no	1		
		.02 1 to 1.5m	no	1		
		.03 Grid inlets:				
		.01 As shown on Drawing No C-006 standard depth 1m	no	1		
		STORMWATER				
04.4	0.04					
C4.4	8.2.1	Supply and lay concrete pipe culverts on class C bedding:				
		.01 Type SC 75D-load pipes with				
		ogee joints:				
		.01 300mm dia	m	Rate Only		
		.02 450mm dia	m	Rate Only		
		.03 750mm dia				
		.03 750mm dia	m	Rate Only		
		DRAINS				
C4.5	8.3.2	Excavation for open drains:				
04.0	0.0.2	·				
		(a) Excavating soft material situated within the following depth ranges below the surface				
		level:				
		(i) 0 m up to 1,5 m	m³	345		
	L.I	(1) 0 111 up to 1,5 111				
	L.I					
	L.I	(b) Extra over subitem B21.01(a) for excavation	m³	10		
	LI		m³	10		
C4.6	PSDB	(b) Extra over subitem B21.01(a) for excavation	m³	10		
C4.6		(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth	m³	10		
C4.6	PSDB	(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth Excavation for subsoil drainage systems: (a) Excavating soft material situated within the following depth ranges below the surface	m³	10		
C4.6	PSDB 8.3.2	(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth Excavation for subsoil drainage systems: (a) Excavating soft material situated within the following depth ranges below the surface level:				
C4.6	PSDB	(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth Excavation for subsoil drainage systems: (a) Excavating soft material situated within the following depth ranges below the surface	m₃ m₃	10 Rate Only		
C4.6	PSDB 8.3.2	(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth Excavation for subsoil drainage systems: (a) Excavating soft material situated within the following depth ranges below the surface level: (i) 0 m and up to 1,5 m (Provisonal)	m³	Rate Only		
C4.6	PSDB 8.3.2	(b) Extra over subitem B21.01(a) for excavation in hard material, irrespective of depth Excavation for subsoil drainage systems: (a) Excavating soft material situated within the following depth ranges below the surface level:				

CONTRACT NO: TECH/02/2025-26

Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	TOTAL BROU	GHT FORWARD	•	_		R -
C4.7	PSLE	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:				
		(a) Headwall structures	no	3		
		(b) Kerb inlet boxes	no	1		
		(c) Grid inlet	no	2		
C4.8		Test flushing of pipe subsoil drains	Sum	Rate Only		
		Excavation for the clearing of existing drainage systems:				
		(a) Manholes and inlet and outlet structures	m³	20		
		(b) Earth side drains	m³	20		
C4.9	COLTO 21.01 L.I	Excavation for upstream Open drains				
		(c) Strip topsoil, stockpile, to construct open lines drain	m³	2 028		
		(d) Excavate for open line drain, then spoil material in a desigated site	m³	2 028		
		(e) Extra Over For Soft Material	m³	1 014		
		(e) Extra Over For Hard Material	m³	30		
		(e) Extra Over For Hard Rock	m³	50		
		(d) Topsoiling	m ²	2 028		
		(e) Grassing	m ²	2 028		
		SCHEDULE C4 STORMWATER				
	1	1	1		Total	R -

CONTRACT NO: TECH/02/2025-26

tem	Payment Reference	Describiion	Unit	Qty	Rate (R)	Amount (R)
		SCHEDULE C5 FENCING FENCING			, ,	, ,
	L.I	Remove and dispose of existing fences (including concrete bases) at suitable site identified by contractor and approved				
		NB Contractor to seek and ensure necessary authorisations where necessary				
5.1		Diamond mesh wire with razor wire and barbed wire	m	430		
5.2		Steel mesh fence at pump station with razorwire	r/o	0		
5.3		Precast concrete panel perimeter wall with razorwire	r/o	0		
5.4		Stone and mortar/concrete (Provisional)	m	350		
C5.5		PALISADE FENCING (a) The supply, delivery and installation of precast concrete palisade fence, with 2.0m W x2.4m H panel size and Palisade fence with all posts. The rate to include the excavations of foundations and 30MPA concrete foundation for the poles as per drawing TLMWWTW/DET/L006	m	778		
5.6		Electric Fence Supply and Installation on Site, full-length and fencetop top electrified solution.	m	778		
5.7		Supply and install Razor Wire Flatwrap on full perimeter of site	m	778		
C5.8		Construction Gate Supply and install new non-motorized 4.5mx2.4m, Galvanised steel sliding gates, including sliding rail concreted in-situ, stand posts and guide posts complete, as per drawing TLM/WWTW/DET/L006	No.	2		
C5.9		Pedestrian Gate Supply and install 800mm wide x 2.4m high swing gate to match fence as per drawing TLM/WWTW/DET/L006	No.	2		
		SCHEDULE C5 FENCING				

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Contract: Refurbishment of Thabazimbi Wastewater Treatment Works Phase 1 - TECH/02/2025-26 Schedule No. M1: Head of WcC6 Payment Description Rate Amount Unit Reference (R) (R) Part 3.4.4 SCHEDULE C6 GUARD HOUSE GUARD HOUSE GUARD HOUSE PART NO 1 PREAMBLES For preambles see "Model Preambles for Trades" (2008 Edition) nd Supplementary preambles as specified in the Trades REMOVAL OF EXISTING WORK Breaking up and removing reinforced concrete, including cutting off and removing reinforcement Breaking down and removing brickwork etc C6.1 Half brick walls C6.2 C6.3 Existing Bris-soliel and making good C6.4 Existing plastered walls Plasterwork to be chipped off in full sections where necessary and replastered smooth to match existing m² C6.5 Taking out and removing doors, windows, etc, including thresholds, sills, etc (building up openings and making good finishes elsewhere) C6.6 Timber single door and frame not exceeding 2,5m"2 No C6.7 Window not exceeding 2,5m"2 Hacking up/off and removing floor coverings including removing mortar bed or adhesive from concrete or brickwork if applicable and preparing surfaces, including levelling, for new screed C6.8 Removal of Floor finishes new screed 10 C6.9 Repair concrete floor cracks as per engineers specs m Taking out and remove existing ceiling, insulation etc. complete including carting away C6.10 Removal of ceilings and insulation cornices etc. m² 10 Hacking up/off and removing tiles from any wall and floors and including preparing surfaces for new screed, plaster, tile finishes, etc C6.11 L.I Removing tiles from existing walls m² C6.12 L.I Removing tiles from existing floors Remove new fascia boards C6.13 Stripping existing fascia boards that are deteriorated where necessary Taking out/off and removing sundry item from all walls, leaving existing walls clear of any objects, fixtures, joinery, fittings etc. including carting away measured in number of building C6.14 Stripping of all wall fixtures and fittings No Taking out and removing sanitary fittings, tanks, geysers, etc, including disconnecting from pipes traps, etc and making good floor and wall finishes, tiling and paintwork elsewhere C6.15 Removal of all fittings including pipework as required L.I No TOTAL CARRIED FORWARD

CONTRACT NO: TECH/02/2025-26

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1,2,21010	TOTAL BRO	UGHT FORWARD	I	I T	I T	R -
		Removing ironmongery				
C6.16		Removal of all existing ironmongery to be replaced with new full sets (measured elsewhere)	No	5		
		CUTTING THROUGH FLOORS AND CEILINGS				
		Cutting through:				
C6.17		150mm Thick unreinforced concrete surface bed for 700mm wide concrete wall footings and making good concrete on both sides of new 230 brick walls (making good floor finishes elsewhere)	m	1		
		BUILDING UP OPENINGS				
C6.18		Brickwork in NFP bricks in class II mortar in building up openings				
C6.19		Half brick walls	m²	1		
C6.20		One brick walls	m²	1		
		Face bricks pointed with flush recessed horizontal and vertical joints to match existing				
C6.21		Extra over brickwork for face brickwork in patches	m²	1		
C6.22		Cutting toothing's and bonding new face brickwork to existing	m	1		
		Sundries				
C6.23		Cutting toothing's and bonding new brickwork to existing	m²	1		
		Sundry Allowances				
		Allowance for timber doors to match existing due to existing door conditions, complete including	No			
C6.24		irognmongery fixing etc.		1		
C6.25		Allowance for replacing trusses, connecttion plates etc. complete due to exisinng conditions, measure on plan	m²	1		
C6.26		Allowance for replacing glazing where glazing has been damaged due to construction process	m²	1		
		CLEANING AND PREPARING SURFACES				
		Walls				
C6.27		Cleaning existing facebrick walls including scrubbing down ,cleaning and removing efflorescent	m²	10		
		Roller Course lintel				
C6.28		Cleaning existing facebrick walls including scrubbing down ,cleaning and removing efflorescent	m	1		
00.20		Window cill				
C6.29		Cleaning existing facebrick cills, surfaces to be brushed down, clean & free of blemishes, one coat plaster primer &one coat primer and two coats superior quality acrylic emulsion paint or similar approved	m	1		
00.23		Door Window frames				
00.00		Surfaces to be brushed down, clean & free of blemishes, one coat primer & two coats superior quality universal enamel paint or similar approved	No	1		
C6.30						
00.24		Existing timber trusses	3			
C6.31		Sand down existing timber trusses (measured on plan) Existing timber skirting to be removed, sanded down with abrasius paper leaving surface clean, dry and	m² m	1		
C6.32		Existing timber skirting to be removed, sanded down with abrasive paper leaving surface clean, dry and dust free. ready for painting	m	1		
		Existing plastered walls				
C6.33		Where required (more than general painting prep work) surfaces to be brushed down, clean and free from blemishes	m²	10		
	TOTAL CAR	RIED FORWARD				R -

CONTRACT NO: TECH/02/2025-26

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUN'	т
KEI EKO TO	TOTAL BROU	JGHT FORWARD				R	=
		O'L. OLLOWS					
		Site Clearance	2				
C6.34		Digging up and removing debris,debris,vegetation,hedges,shrubs and tress not exceeding 200mm girth, bus	m²	16			
	M16A-02	EXCAVATION, FILLING, ETC					
		Excavation in earth not exceeding 2m deep					
		Trenches	m³	18			
		Extra over trench and hole excavations in earth for excavation in					
C6.35		Soft rock	m ³	14			
C6.36		Hard rock	m³	3,5			
		Extra over all excavations for carting away					
C6.37		Surplus material from excavations and / or stock piles on site to a dumping site to be located by the contract	m³	18			
		Risk of collapse of excavations					
C6.38		Sides of trench and hole excavation not exceeding 1,5m deep.	m2	Rate Only			
		Keeping excavations free of water.					
C6.39		Keeping excavations free of water.	Item	1,0			
	M16B-01	EARTHFILLING					
		Earth filling obtained from the excavations and / or prescribed stock piles on site Mod AASHTO density compacted to 93 %					
C6.40		Backfilling to trenches, holes, etc.	m ³	9			
C6.41		Earth filling supplied by the contractor compacted to 93 % Mod AASHTO Density					
C6.42		Under floors, compact G5 to 95% MOD AASHTO	m³	6			
		Prescribed density tests on filling					
C6.43		Modified AASHTO Density" test	No	2			
	M16B-02	SOIL POISONING					
		Soil insecticide					
C6.44		Under floors etc including forming and poisoning shallowfurrows against fou ramming.ndation walls etc, filling in furrows and	m²	15			
C6.45		To bottoms and sides of trenches, etc.	m²	38			
00.40	M16B-03	CONCRETE AND FORMWORK					
		UNREINFORCED CONCRETE CAST AGAINST					
		EXCAVATED SURFACES					
		15Mpa / 19mm concrete					
C6.46		Blinding	m³	1			
C6.49		<u>Apron</u>	m³	1			
	M16B-03	REINFORCED CONCRETE AND FORMWORK					
		25Mna / 10mm					
		25Mpa / 19mm concrete to slab	3	4-			
C6.47		LUILLIGIE IV SIGU	m ³	15			
		30Mpa / 19mm concrete					
C6.48		Foundation	m³	5			
C6.49		Foundation (Provisional)					
	TOTAL CAR	RIED FORWARD				R	-

CONTRACT NO: TECH/02/2025-26

PAYMENT	ITEM NO	DESCRIPTION		UNIT	QUANTITY	RATE	AMOUNT
REFERS TO				0.4.1	QO/MITT	IGIL	
	TOTAL BROU	JGHT FORWARD					R -
	M16B-03	STEEL REINFOR	CEMENT				
C6.50		Mesh ref 245					
C6.51		(a) Slab		m²	15		
C6.52		(b) Foundation		m²	22		
	MACC OA	MACONDY					
	WITOC-UT	MASONRY Brickwork of NEX	bricks (14MPa nominal compressive strength) in class I mortar.				
C6.53		110mm brick wall (m²	2		
			,				
C6.54		230mm brick wall (m²	12		
00.55		Brickwork reinforc			450		
C6.55			orcement built in horizontally	m	150		
C6.56			rcement built in horizontally	m	25		
	M16C-02	FACE BRICKWOI	NA. bricks (14MPa nominal compressive strength) in class I mortar.				
00.57				0	_		
C6.57		110mm brick wall (·	m2	5		
C6.58 C6.59		230mm brick wall (roundation) ement (Superstructure)	m2	40		
C6.60			orcement built in horizontally		160		
C6.61			rcement built in horizontally	m	22		
C6.61		75mm wide reinio	Cernent built in nonzontally	m	22		
		Face brickwork in	cluding reveals and returns pointed with recessed horizontal and vertical joints.				
C6.62		Extra over brickwo	rk for face brickwork	m²	10		
		220mm Wide turn	ing piece to lintel etc				
C6.63		4mm Diameter roo	f tie 2500mm girth bent double with one fixed to timber and other built into brickwork end	No	16		
		PART NO 2					
	M16D-01	CONCRETE, FOR	MWORK AND REINFORCEMENT				
C6.64		The Tenderer is re	ferred to the relevant clauses in the separate document Model Preambles for Trades (200	 8 Edition).			
	M16D-02	TEST CUBES					
C6.65			a set of three concrete strength test cubes, each size 150 x 150 x 150mm, sending all Charges in connection therewith.	Sets	8		
	M16D-04	CONCRETE SUN	DRIES .				
C6.66		Finishing top surfa	ces of concrete smooth with a steel trowel				
C6.67		Surface beds, slab	s, etc (Provisional)	m²	20		
C6.68		Finishing top surfa	ces of concrete smooth with a wood float				
C6.69		Surface beds, slab		m²	20		
	M16D-05		DRK (DEGREE OF ACCURACY III)				
		Rough formwork					
C6.70			s and reveals not exceeding 300mm high or wide (Provisional)	m	18		
	TOTAL CAR	RIED FORWARD					R -

CONTRACT NO: TECH/02/2025-26

PAYMENT REFERS TO	ITEM NO	DESCRIPTION		UNIT	QUANTITY	RATE	AMOUNT	_
	TOTAL BROU	UGHT FORWARD			·	· · · · · · · · · · · · · · · · · · ·	R	-
		PART NO 3						
		The Tenderer is re (2008 Edition).	erred to the relevant clauses in the separate document Model Preambles for Trades					
C6.71			header course copings, sills, etc of face bricks pointed with recessed joints on all					
		exposed faces	reader course copings, sins, etc or race bricks pointed with recessed joints on an					
C6.72			ping and slightly protecting outside.	m	2			
C6.73		Concrete lintel 120		no	5			
C6.74		PART NO 4 The Tenderer is re (2008 Edition).	erred to the relevant clauses in the separate document Model Preambles for Trades					
	M16G-01	WATERPROOFIN	<u>G</u>					
		DAMP PROOFING	OF WALLS AND FLOORS					
		One layer of 375 i	nicron embossed black polyethylene damp proof course					
C6.75		On walls		m	18			
			nicron green medium density waterproof sheeting sealed at laps sensitive tape in he with pressure sensitive tape in accordance with themanufacturer's					
		instructions	the war pressure sensative tape in accordance with the manufacturer of					
C6.76		Under surface bed	3	m²	16			
		PART NO 5						
	M16H-01	ROOF COVERING	S ETC					
	WITOFFOT							
		(2008 Edition).	erred to the relevant clauses in the separate document Model Preambles for Trades					
	M16H-02	PROFILED META	SHEETING AND ACCESSORIES					
		0,6mm Galvanized	corrugated iron roof sheets fixed to timber purlins					
C6.77		Roof covering with	pitch not exceeding 50 degrees	m²	27			
C6.78		Ridge capping 550	mm girth	m	5			
C6.79		Hip cappings 550n	m girth (Provisional)	m	5			
		PART NO 6						
	M16I-01	CARPENTRY AND	JOINERY					
		The Tenderer is re	erred to the relevant clauses in the separate document Model Preambles for Trades					
		(2008 Edition).						
	M16I-02	ROOFS, ETC.						
			r roof truss construction					
C6.80		Sawn softwood Truce 4460 x 700m	m high overall with 500mm eaves overhang projection on both sides	No	4			
C6.60		Sawn softwood g		INO	4			
C6.81		38 x 114mm Wall p		m	16			
C6.82		38 x 114mm Cross		m	20			
C6.83		50 x 76mm Purlins	Ç	m	45			
	TOTAL CAR	RRIED FORWARD					R	-

CONTRACT NO: TECH/02/2025-26

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	TOTAL BROU	GHT FORWARD				R -
		<u>Sundries</u>				
C6.84		Two coats creosote on sawn timbers (Provisional)	m2	4		
C6.85		650mm Long wrought and shaped end to 38 x 114mm sawn timber(Provisional)	No	14		
		4mm Diameter galvanized wire tie 750mm girth wrapped around rafter and purlin with ends tied together (Provisional)	No	12		
C6.86	M16I-03	EAVES, VERGES, ETC.				
		Pressed fibre cement				
		15 x 230mm Fascias and barge boards including galvanized steel H-profile jointing strips	m	16		
C6.87	M16I-05	DOORS, ETC.				
		Wrought meranti doors hung to steel frames				
		44mm Framed batten door 813×2032 mm high of 44×150 mm top rail and stiles, 22×150 mm middle ledge and braces and 22×220 mm bottom rail filled in with 22 mm V jointed one side boarding and including weatherboard	No	2		
		PART NO 7				
C6.88	M16J-01	CEILINGS, PARTITIONS AND ACCESS FLOORING				
		The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades (2008 Edition).				
		CEILINGS ETC				
		<u>Insulation</u>				
		50 mm "Thermguard" cellulose fibre insulation or similar approved applied strictly in accordance with the manufacturer's instructions.	m2	16		
		Sawn softwood				
		38 x 114mm Ceiling joists (Provisional)				
		Wrought meranti				
		19 x 76mm Cornices nailed	m	19		
C6.89	M16J-02	NAILED-UP CEILINGS, ETC.	m	13		
		4mm Fibre cement boards with standard H-type pressed steel jointing strips				
		Ceilings including 38 x 38mm sawn softwood brandering at 400mm centres	m2	16		
		Extra over ceiling for 610 x 610mm trap door of 50 x 76mm wrought softwood rebated framing with one 38 x 38mm sawn softwood cross brander covered with ceiling board and fitted flush in opening	No	1		
		PART NO 8				
C6.90	M16K-01	RONMONGERY				
		The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades (2008 Edition).				
C6.91	M16K-02	CATCHES, CABIN, HOOKS, ETC				
		<u>Approved</u>				
		$150 mm\ Cabin\ hook\ and\ eye\ including\ 70\ x\ 70\ x\ 20 mm\ chamfered\ hardwood\ block\ twice\ oiled\ and\ plugged$	No	2		
	M16K-03	LOCKS				
		<u>Approved</u>				
		Four lever lock set	No	2		
	M16K-04	SUNDRIES				
		25mm Diameter wall mounted door stop plugged	No	2		
	TOTAL CARE	RIED FORWARD		l .	I	R -

CONTRACT NO: TECH/02/2025-26

	ITEM NO					
PAYMENT REFERS TO		DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	TOTAL BRO	UGHT FORWARD				R -
		PART NO 9				
		METALWORK				
		The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades				
		(2008 Edition)				
		PRESSED STEEL DOOR FRAMES				
C6.92		1,2mm Double rebated frames suitable for two brick wall				
		Frame for door 813 x 2032mm high	No	2		
C6.93		STEEL WINDOWS, DOORS, ETC				
		Standard residential windows with buglar bars to all sashes	No	2		
C6.94		CORNER PROTECTORS				
		50 x 50 x 4mm Angle section fixed to edge of floor	m	2		
		ALUMINIUM WINDOWS, DOORS, ETC				
		Purpose made gloss white powder coated "Interpon D1000" aluminium windows form of standard aluminium sections factory glazed with 4mm clear toughened safety glass (SANS1263-1) and				
		plugged to brickwork or concrete and sealed all round externally at junction with face brickwork, etc with approved silicone sealant, ironmongery to				
		manufacturer's recommendation				
C6.95		Window type E11, size 533 x 654 mm high	No	2		
C6.96		Window type C22, size 1,022 x 949 mm high	No	4		
00.90		SECURITY GATES	140			
		Steel security gates:				
C6.97		Steel security gates at doors:	No	2		
00.97		Green security gains at Goods.	140			
		PART NO 10				
		PLASTERING				
		The Tenderer is referred to the relevant clauses in the separate document Model Preambles for Trades (20	08 Edition).			
		SCREEDS				
		Screeds wood floated, on concrete				
C6.98		25mm Thick on floors	m²	15		
		INTERNAL PLASTER				
		Cement plaster steel trowelled, on brickwork				
C6.99		On walls	m²	27		
C6.100		On narrow widths PART NO. 11	m²	3		
		TILING				
		PREAMBLES				
		For preambles see "Model Preambles for Trades" (2008 Edition) and Supplementary preambles as specified in the Trades				
		WALL TILING				
		200 x 200 x 6mm "Cercisa Tinte Unite" White glazed ceramic tiles fixed with adhesive to plaster				
		(plaster elsewhere)				
C6.101		On walls	m2	15		
C6.102		On narrow widths	m2	1		
C6.103	<u> </u>	Fair exposed cutting and fitting around pipe notexceeding 110mm internal diameter	No	1		
	TOTAL CAR	RRIED FORWARD				R -

CONTRACT NO: TECH/02/2025-26

	TOTAL BROU	JGHT FORWARD			R -
		FLOOR TILING			
		350 x 350mm x 8mm Ceramic tiles (PC Amount R150.00/m2) fixed with adhesive to bedding			
		(bedding elsewhere) and flush pointed with tinted waterproof jointing compound			
C6.104		On floors and landings	m2	15	R -
C6.105		Skirting 75mm high	m	23	R -
		PART NO. 12			
		PLUMBING AND DRAINAGE(PROVISIONAL)			
C6.106		For preambles see "Model Preambles for Trades" (2008 Edition) and Supplementary preambles as specified in the Trades			
		SANITARY PLUMBING			
		Unplasticised polyvinyl chloride (uPVC) pipes:			
C6.107		50mm Pipes fixed to walls, etc.	m	1	
C6.108		110mm Pipes fixed to walls, etc.	m	1	
		Extra over uPVC pipes for:			
C6.109		110mm Straight pan connector.	No	1	
C6.110		50mm Bend.	No	1	
C6.111		110mm Junction.	No	2	
		Testing:			
C6.112		Allow for testing sanitary plumbing system.	Item	1	
		WATER SUPPLIES			
		Internal water supplies:			
		Holes, chases, etc., are deemed to be included in thedescriptions of the pipework.			
		Class O copper pipes:			
C6.113		15mm Pipes fixed to walls, etc.	m	2	
C6.114		Ditto, but 22mm pipes.	m	2	
		Extra over class O copper pipes for copper tocopper capillary fittings:			
C6.115		15mm Pipe fittings.	No	2	
C6.117		22mm Pipe fittings.	No	2	
		Testing:			
C6.118		Allow for testing water supply system.	Item		
		SANITARY FITTINGS AND GEYSERS			
		Supply and fix the following sanitary fittings,geysers and equipment together with loose ancillary fittings supplied therewith, including unloading, storing, unpacking, hoisting or lowering as required,fixing and building into position, cutting all morticesand chases as required for fixing and building inposition, cutting, brackets, clamps, etc., andconnecting up pipework and handing over in perfectworking order at completion Vaal':			
C6.119		Hibiscus" Ref 7023 white vitreous china wall hung basin, size 510 x 405mm, with stopper to one taphole and fixed to wall.	No	1	
C6.120		"Afsan" Code 750100 WC suite comprising a white vitreous china pan with trap, matching Aquasave low level white cistern, Code 712035 complete with lid, fitments and white matching seat fixed to wall.	No	1	

CONTRACT NO: TECH/02/2025-26

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	TOTAL BROL	JGHT FORWARD				R -
		TAPS, VALVES, ETC.				
00.404		'Cobra-Watertech':				
C6.121 C6.122		15mm "Cobra 108" brass hose bibtap with hose union.	No	2		
C6.122		15mm 'Star 106-CP' bibtap. 15mm Type '505-21 CP' elbow action pillartap.	No	8		
C0.123		WASTE UNIONS, TRAPS, ETC.	No	8		
		'Marley':				
		32 x 40mm 'Flexitrap' butyl rubber deep seal 'P' or 'S' trap inted to waste outlet fitting and to PVC pipe				
C6.124		including coupling , etc.	No	2		
		FIRE APPLIANCES, ETC.				
		Fire hose reels, etc.:				
C6.125		"Everyway" hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and wall bracket	No	1		
		4,5kg Dry chemical powder fire extinguisher fixed to wall with meranti backboard, size 520 x 100 x 22mm thick, plugged and screwed to wall complete with hook.				
C6.126		trick, plugged and screwed to wall complete with nook. PART NO 13	No	1		
		ELECTRICAL WORK (PROVISIONAL)				
		For preambles see "Model Preambles for Trades" (2008 Edition) and Supplementary preambles as specified				
		in the Trades				
C6.127		Provisional Sum for all electrical works	Pro Sum	1		
		Bulkhead fittings				
		Exterior type flush mounted round bulkhead fitting - 100 Watt	No	2		
		ELECTRICAL TESTS				
		Making provision for the required inspections, tests and the commissioning of the completed installations and the issuing of the required certificate				
C6.128		Building installations	Item	1		
		PART NO 14				
		GLAZING				
		For preambles see "Model Preambles for Trades"(2008 Edition) nd Supplementary preambles as specified in the Trades				
		GLAZING TO STEEL WITH PUTTY				
		4mm Clear float glass				
C6.129		Panes exceeding 0,1m2 and not exceeding 0,5m2	m²	4		
		PART NO 15				
		PAINT WORK				
		For preambles see "Model Preambles for Trades" (2008 Edition) nd Supplementary preambles as specified in the Trades				
		PAINT WORK ETC. TO NEW WORK				
		ON FIBRE CEMENT				
		One acrylic filler coat and two coats polyacrylic emulsion paint				
C6.130		On ceilings	m²	15		
C6.131		On fascias and barge boards	m²	7		
		ON FLOATED PLASTER SURFACES WITH				
		One coat alkali resistant plaster primer and two coats PVA acrylic emulsion paint on				
C6.132		On internal walls	m²	40		
C6.133		On narrow widths	m²	2		
		ON METAL Spot priming defects in pro-primed surfaces with vine chromate primer and applying one				
		Spot priming defects in pre-primed surfaces with zinc chromate primer and applying one undercoat and two alkyd enamel paint on steel				
C6.134		On door frames	m²	3		
C6.135		On windows with burglar bars (both sides measuredover the full flat area)	m²	5		
		SCHEDULE C6				
		SCREDULE CS GUARD HOUSE Carried forward to Summary of Schedules				
			l		Total	R -

CONTRACT NO: TECH/02/2025-26

CONTRACT NO: TECH/02/2025-26

	No. C7: Sewe	of Thabazimbi Wastewater Treatment Works Phase 1 - TECH/02/2025-26 and Sewer Repair Works				
Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 3.4.4 PT	SCHEDULE C7 SEWER AND SEWER REPAIR WORKS				
		SEWER AND SEWER REPAIR WORKS				
		TRENCHES FOR SEWER PIPES				
	PSDB					
	8.3.2(a)	Excavate in all materials for trenches, backfill, compact and dispose of surplus				
		material:				
		0 Flexible pipes up to 300 mm dia for depths:				
C7.1	L.I	.01 Up to 1,0 m	m	10		
C7.2		.02 Over 1,0 m up to 2,0 m	m	15		
		.02 Pipes over 300 mm dia up to 600 mm				
		dia for depths:				
C7.3		.01 Up to 1,0 m	m	5		
C7.4		.02 Over 1,0 m up to 2,0 m	m	20		
		.03 Pipes over 400 mm dia up to 550 mm dia for depths:				
	0.2.2(b)	Extra over item 142.01 above for:				
	8.3.2(b)			_		
C7.5		.01 Intermediate excavation	m³	5		
C7.6		.02 Hard rock excavation	m³	10		
	8.2.2.3	Supply only of bedding by importation:				
		.01 From commercial sources:				
C7.7		.01 Selected granular material	m³	10		
C7.8		.02 Selected fill material	m³	10		
	PSLE 8.2.8	Precast concrete manhole with 1500mm:				
		.01 With type 2A cover and frame for				
		pipes up to 600 mm dia:				
C7.9		.02 Depth 0,5 m up to 1,0 m	No	1		
C7.10		.03 Depth 1,0 m up to 1,5 m	No	2		
C7.11		.03 Depth 1,5 m up to 2,0 m	No	1		
C7.12	8.2.10	.02 Supply Heavy Duty Manhole Cover to existing manhole	No	1		
C7.13		Raise Existing Manhole Cover with Ring	No	1		
C7.14		Lower Existing Manhole Cover with Ring	No	1		
	213.11	Cleaning eyes				
C7.15		.01 110mm connected to existing network.	No	1		
C7.16	213.20					
C7.10	(L.I)	Breaking into existing 500mm sewer and building a new manhole	No	1		
	PSLD 8.2.1	Supply, lay, joint, bed on flexible bedding and test pipeline:				
		.01 Supply, lay, joint, install, test and				
C7.17	L.I	.01 160mm diameter PVC-U Class 34 Pipes, heavy duty pipeline to SANS761	m	28		
		500mm diameter HDPE Structured Wall Pipes to SANS21138, welded and pressure				
C7.18		.02 tested	m	10		
		Sewer system assessment and restoration				
	213,03	Unblock Existing internal Sewer pipe network and all Engineering Works related to the unblocking of pipe (up to 300mm diameter)				
	213,03	or the unblocking or pipe (up to soonin dameter)				
C7.19		Desludging and disposal at approved and registered faclity	m	150		
C7.20		High pressure jet-flushing	m	150		
C7.21		CCTV camera survey	m	150		
C7.22		Provisional sum for repair of pipe system	Prov. Sum	1		
		SCHEDULE C7				
		SEWER AND SEWER REPAIR WORKS Carried forward to Summary of Schedules				

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PART

THE CONTRACT

PART C3 SCOPE OF WORKS

PART C4 SITE INFORMATION

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

BOOK 2 OF 2

C3: SCOPE OF WORKS

CONTENTS LIST

Section	Description	Page No
C3.1	Description of the Works	C.87
C3.1.1	Employer's Objectives	
C3.1.2	Overview of the Works	C.87
3.1.3	Scope of the Works	C.87
C3.1.4	Location of the Works	C.87
C3.2	Engineering	C.98
C3.2.1	Employer's Design	C.99
C3.2.2	Drawings	C.99
C3.3	Procurement	C.101
C3.4	Construction	C109
C3.5	Wastewater treatment works Management Operations	C.309
C3.6	Management (Blue pages)	

				l		

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.1: DESCRIPTION OF WORKS

C3.1.1 Employers Objectives

The objective is to appoint a suitable contractor for the refurbishment of the Thabazimbi Wastewater Treatment Works owned and operated by Thabazimbi Local Municipality.

C3.1.2 Overview of the Works

The Thabazimbi Wastewater Treatment Works (WWTW) is situated within the Limpopo Province and extends to the Botswana border and the Northwest Province, representing one of six municipalities within the Waterberg District area of jurisdiction.

The treatment works is required to treat effluent to a level of quality that will allow for the safe discharge into the environment. The contracts intention is to restore and improve the work's ability to treat effluent by refurbishing various civil, mechanical and electrical infrastructure.

The Contract will consist of the design, supply, installation and commissioning of mechanical and electrical equipment and the construction of minor civil and building works required on site.

C3.1.3 Scope of the Works

The scope of project includes all civil, mechanical and electrical work required to reinstate the operation of process units and ancillary services required for the optimal performance of the works as intended at construction and commissioning.

The scope of works will include but is not limited to the following works:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C.89	
THABAZIMBI LOCAL MUNICIPALITY	
CONTRACT NO: TECH/02/2025-26	
REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PI	HASE 1

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

A. CIVIL & BUILDING WORKS

The works for the refurbishment of the wastewater treatment works consists of the construction of the following civil engineering and building infrastructure:

Civil Works

- Site clearance, where confirmed by the Engineer and as being necessary.
- Installation of security perimeter concrete palisade fencing, combined with electric fencing.
- Paving with block pavers at the gate entrance.
- Re-installation of kerbs.
- Construction of concrete slab for spill containment at the inlet works and staging of dry sludge at the sludge drying beds area.
- o Construction of access platform at the drying bed structure.
- Unblocking of all sewer pipes and testing with CCTV
- o Desludging of process units.
- Replace bedding material for all 19 sludge drying beds.
- o Stormwater management and bulk sewer pipeline assessment and repairs.
- Construction of stormwater earth, grass cut-off channel.

Building Works and Structures

- o Construction of new 15m³ security guard house, including ablution facility.
- Refurbishment of the central pump station building, ablution facilities, control room, and chlorine room. The building works including replacement of roof trusses that are in bad condition, water proofing, painting, replacement of ceilings, supply and installation of ironmongery.
- Repairing of cracked wall at the Balancing dam by doweling reinforcing steel and pouring of concrete.

B. MECHANICAL WORKS

The scope of works associated with the mechanical engineering infrastructure include the design, supply, installation, and commissioning of:

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Contractor	Witness 1	withess 2	Employer	withess i	Withess 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Module 01 Inlet Works:

- Replacement and commissioning of the new channel mounted sluice gates;
- Replacement and commissioning of the existing coarse screens with inclined bar mechanical screen:
- Supply, install, test and commission the compactor including the wash spray system and the jet pumps with interconnecting pipework;
- Supply of 2m³ screening waste skip bin;
- o Replacement of manual rake bar screen.
- Refurbishment, servicing and commissioning of the de-gritting collection pipework and replacement of degritting valves;

• Module 01 Primary Settling Tank:

- Refurbishment, servicing (or replacement) and commissioning of the influent interconnecting pipework complete with all the fittings;
- Replacement of the scum collection chute.
- Cleaning and re-aligning the existing baffle plates;

Module 01 Central Pump Station:

- Refurbishment, servicing (or replacement) and commissioning of the endsuction pumps (Trickling Filter Pumps) complete with all the ancillaries.
- Refurbishment, servicing and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
- Refurbishment, servicing and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing and commissioning of the pumps' interconnecting discharge manifold pipework complete with all the fittings and replacement of the inline flow meter;
- Refurbishment, servicing (or replacement) and commissioning of the endsuction pumps (Thickened Sludge Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings, and replacement of the digester supply pipework's isolating gate valves;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting sludge sump agitation pipework complete with all the valves and fittings;

Module 01 Biological Trickling Filter:

- Refurbishment, servicing (or replacement) and commissioning of the PST effluent supply pipework complete with the valve and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the distribution tank with suspended arms and the centre column mounted selfaligning bearing including the guide rollers;
- Refurbishment, servicing (or replacement) and commissioning of the rotating arm's air release tubes with quick release flushing caps, and rotating arm's nozzle hole fitted spreader plates;
- Refurbishment, servicing (or replacement) and commissioning of the Tension
 Cables and connectors:

Module 01 Humus Tank:

- Refurbishment, servicing (or replacement) and commissioning of the halfbridge walkway, handrailing, by removing corrosion and recoat all affected metal components with appropriate anti-corrosive primer and paint;
- Replacement and commissioning of gearbox, drive motor and the drive wheels:
- Replacement and commissioning of the centre bearing with a corrosionresistant unit suitable with protective cover or seal to prevent future exposure to moisture and debris:
- Refurbishment, servicing (or replacement) and commissioning of the complete sludge scraper system including the scum collector with the scum chute and scum chute valve;
- Refurbishment, servicing (or replacement) and commissioning of cleaning and re-aligning the existing weir and baffle plates;

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

- Module 01 Aerobic Biological Nutrient Reactor:
 - Refurbishment, servicing (or replacement) and commissioning of aerobic zone surface aerators;
 - Refurbishment, servicing (or replacement) and commissioning of valves, and sluice gates;
- Module 01 Secondary Settling Tanks:
 - Refurbishment, servicing (or replacement) and commissioning of the halfbridge walkway, handrailing, by removing corrosion and recoat all affected metal components with appropriate anti-corrosive primer and paint;
 - Replacement and commissioning of gearbox, drive motor and the drive wheels;
 - Replacement and commissioning of the centre bearing with a corrosionresistant unit suitable with protective cover or seal to prevent future exposure to moisture and debris;
 - Refurbishment, servicing (or replacement) and commissioning of the complete sludge scraper system including the scum collector with the scum chute and scum chute valve;
 - Refurbishment, servicing (or replacement) and commissioning of cleaning and re-aligning the existing weir and baffle plates;
- Module 01 RAS/WAS Pump Station:
 - Replacement and commissioning of the self-priming pumps (Waste/Return Activated Sludge Pumps) complete with all the ancillaries;
 - Replacement and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
 - Replacement and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
 - Replacement and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings,

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Module 02 Inlet Works:

- Supply, install, test and commission the main channel coarse mechanical inclined bar mechanical screen;
- Supply, install, test and commission the compactor including the wash spray system and the jet pumps with interconnecting pipework;
- Supply of screening waste skip bin;
- o Refurbishment, servicing and commissioning of the manual rake bar screen;
- Supply, install, test and commission the bypass channel manual rake bar screen;
- o Refurbishment, servicing and commissioning of the degritting valves;

Module 02 Biological Nutrient Reactor:

- Refurbishment, servicing (or replacement) and commissioning of three (3)
 7.5kW anaerobic zone vertical shaft mixers;
- Design, supply, installation and commissioning of three (3) gearboxes and motors for 7.5kW vertical shaft mixers complete with all associated auxiliaries (i.e. baseplate, fasteners);
- Refurbishment, servicing (or replacement) and commissioning of three (3)
 30kW aerobic zone surface aerators;
- Design, supply, installation and commissioning of three (3) gearboxes and motors for 30kW vertical shaft surface aerators complete with all associated auxiliaries (i.e. baseplate, fasteners);
- Refurbishment, servicing (or replacement) and commissioning of two (2)
 7.5kW A-Recycle axial flow pumps;
- Refurbishment, servicing (or replacement) and commissioning of two (2)
 2.5kW R-recycle axial flow pumps.
- Refurbishment, servicing (or replacement) and commissioning of all flow control equipment (i.e. sluice gates and valves)

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Module 02 Secondary Settling Tank:

- Refurbishment, servicing (or replacement) and commissioning of the halfbridge walkway, handrailing, by removing corrosion and recoat all affected metal components with appropriate anti-corrosive primer and paint.
- Replacement and commissioning of gearbox, drive motor and the drive wheels.
- Replacement and commissioning of the centre bearing with a corrosionresistant unit suitable with protective cover or seal to prevent future exposure to moisture and debris.
- Refurbishment, servicing (or replacement) and commissioning of the complete sludge scraper system including the scum collector with the scum chute and scum chute valve;
- Refurbishment, servicing (or replacement) and commissioning of cleaning and re-aligning the existing weir and baffle plates;

• Module 02 S-Recycle Pump Station:

- Refurbishment, servicing (or replacement) and commissioning of the submersible pumps (Return Sludge Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings,

Module 02 WAS Pump Station:

- Refurbishment, servicing (or replacement) and commissioning of the submersible pumps (Waste Activated Sludge/Scum Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings,

Contractor	•	Witness 1	<u>-</u> '	Witness 2	_	Employer	-	Witness 1	_	Witness 2	

- Chlorine Dosing System and Chorine Contact Tanks:
 - Refurbishment, servicing (or replacement) and commissioning of the metering system complete with control valves, and regulators;
 - Refurbishment, servicing (or replacement) and commissioning of the highpressure chlorine storage cylinders;
 - Supply, Install and commission chlorine booster pumps complete with pulsation dampers;
 - Refurbishment, servicing (or replacement) and commissioning of the inlet and outlet interconnecting pipework with shutoff valves and non-return valves;
 - Refurbishment, servicing (or replacement) and commissioning of the laboratory testing and safety equipment of chlorine dosing complete with all ancillaries;
 - Refurbishment, servicing (or replacement) and commissioning of the ventilation system (Extraction Fan for purpose of extracting fumes/vapours and promote air circulation in the dosing house) complete with all the ancillaries;
- Balancing Dam and Recycling Pump Station:
 - Refurbishment, servicing (or replacement) and commissioning of the submersible mixers complete with all the ancillaries;
 - Refurbishment, servicing (or replacement) and commissioning of the swivel crawl beam;
 - Refurbishment, servicing (or replacement) and commissioning of the selfpriming pumps (Recycling Pumps) complete with all the ancillaries;
 - Refurbishment, servicing and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
 - Refurbishment, servicing and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
 - Refurbishment, servicing and commissioning of the pumps' interconnecting discharge manifold pipework complete with all the fittings and replacement of the inline flow meter;
- Storm Water Pump Station:
 - Replacement and commissioning of the wall mounted sluice gates;

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Replacement and commissioning of the submersible pumps (Storm Water Pumps) complete with all the ancillaries;
- Refurbishment, servicing and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Anaerobic Digesters and Mixer Pumpstation Equipment:
 - Refurbishment, servicing (or replacement) and commissioning of the anaerobic digesters' sludge draw-off interconnecting pipework complete with all the valves and fittings;
 - Refurbishment, servicing (or replacement) and commissioning of the new anaerobic digester agitation pumps (Mixer Pumps) complete with all the ancillaries:
 - Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
 - Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Sludge Drying Beds:
 - Refurbishment, servicing (or replacement) and commissioning of the sludge inlet valves to the sludge drying beds, complete with interconnecting pipework;

C. ELECTICAL WORKS

The scope of works associated with the electrical engineering infrastructure include the design, supply, installation, and commissioning of:

- Replacement and testing of the main supply incomer aluminium cables to the MCC for module 02.
- Replacement and testing of the main supply incomer aluminium cables to the MCC for the balancing dam, recycling pump station and storm water pump station.
- Supply, install, testing and commissioning of the Stand-by generator for back-up power supply.
- Supply, install, testing and commissioning of the Automatic Transfer Switch panel between Eskom and the stand-by generator set complete with wiring with electrical

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

enclosures to be designed and specified such that it has vandal proof features and access control.

- Refurbishment, servicing (or replacement), testing and commissioning of the Field Motor Control and Emergency Stop Button Panels of Module 01, Module 02, Balancing Dam and Storm Water equipment.
- Replacement and testing of cables where in all the plant's equipment of Module
 01, Module 02 and Balancing Dam MCC's.

D. LABOUR INTENSIVE CONSTRUCTION (LIC) SCOPE

- Laying of pavers.
- Removal of block pavers and reinstate block paving (provisional).
- Removal of block pavers and reinstate block paving (provisional).
- Removal existing kerbs and re-install as mountable.
- Construct 2m wide, 300mm deep, 4m long side drains.
- Finish road banks with topsoil.
- Construct stormwater chutes 3m wide x 10m long by excavating.
- Excavation of trenches to depths up to 1m.
- Excavation of soft material situated within 1,5m depths.
- Excavation for subsoil drainage systems.
- Excavation of upstream open drains, Grassing.
- Removal and disposal of existing fences.
- Removal of brickwork.
- Removal of wall tiles, removal of floor tiles.
- Removal of pipework and fittings.
- Excavations for flexible pipes 160mm dia. to depths not exceeding 1m.
- Laying and bedding of sewer pipes.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.1.4 Location of the Works

The Thabazimbi Wastewater Treatment Works is located at the following co-ordinates:

Latitude: 24° 36′ 22.22″ South

Longitude: 27° 23' 17.43" East

Altitude :946 m ASL

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.2: ENGINEERING

Section C3.2	ENGINEERING	C.99
Section C3.2.1	Design	
Section C3.2.2	Design Procedures	C.99
Section C3.2.3	Employer's Design	C.100
Section C3.2.4	Contractor's Design	C.100
Section C3.2.5	Drawings	C.100

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.2 ENGINEERING

C3.2.1 DESIGN

- The Employer is responsible for the design of the permanent Works as reflected in these Contract Documents unless otherwise stated.
- The Contractor is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- The Contractor shall supply all details necessary to assist the engineer in the compilation of the as-built drawings.

Works designed by, per design stage:

Concept, feasibility and overall process

Employer's Agent

Basic engineering and detail layout to tender stage

Employer's Agent

Final design to approved for construction stage

Employer's Agent

Contractor

Temporary works Contractor/Employer's

Preparation of as-built drawings & GIS information Agent

C3.2.2 DESIGN PROCEDURES

The Contractor shall take all statutory requirements, as well as the Environmental Management Plan (refer to particular specification PA) and the Site-Specific Health and Safety Specification and Basic Risk Assessment (refer to particular specification PB) into consideration when designing the Temporary Works.

All designs and modifications thereto shall be communicated in writing, and the contractor and engineer shall maintain master lists to record and track all transactions.

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Contractor	Witness 1	•	Witness 2		Employer	Witness 1	_	Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.2.3 EMPLOYER'S DESIGN

The Scope of Works to be constructed is detailed but not exactly limited to that in the Schedule of Quantities and Book of Drawings that form part of this Tender.

C3.2.4 CONTRACTOR'S DESIGN

Where contractor is to supply the design of designated parts of the permanent works or temporary works, he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.5 DRAWINGS

The drawings are listed under Appendix B, which are bound at the back of the document.

Contractor	Witness 1	1	Witness 2	Employer	_	Witness 1	1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.3: PROCUREMENT

CONTENTS LIST

Section C3.3	Procurement	C.101
Section C3.3.1	Preferential Procurement	C.102
Section C3.3.2	Subcontractors	C.102
Section C3.3.3	Sanctions	C.105
Section C3.3.4	Monitoring / Reporting	
Section C3.3.5	Contractor's Obligation to Subcontracted EEs	
Section C3.3.6	Issuing of Completion Certificate	
Section C3.3.7	Measurement and Payment	

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Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.3.1 PREFERENTIAL PROCUREMENT

C3.3.1.1 Requirements

Refer to Clauses 5.11.1, 5.11.7 and 5.11.8 of the Tender Data and Form 1G: Form MBD 6: Preference Points Claim form in terms of the Preferential Procurement Regulations 2022 (80/20 version) of the Tender Data.

C3.3.1.2 Resources Standards pertaining to targeted procurement

Tenders will be evaluated in terms of the Employer's Procurement Points system. The criteria for allocation of procurement points are stated in Clauses 5.11.7 and 5.11.8 of the Tender Data.

C3.3.1.3 Preferential Procurement Point System Policy

The Thabazimbi Local Municipality's Preferential Procurement Policy will be used. All tenderers are to acquaint themselves with it and is available upon request.

C3.3.2 SUBCONTRACTING

C3.3.2.1 Scope of mandatory subcontract works

The Contractor shall note that the Employer is committed to Local Emerging Enterprise development and this forms part of this.

The sub-contracting of work is required for all CIDB-related projects in the following ranges:

- a) R 5M >, but < R 10M requires Bidder to sub-contract 10% of the value of the project
- b) R 10M >, but < R 15M requires Bidder to sub-contract 15% of the value of the project
- c) R 15M >, but < R 20 requires Bidder to sub-contract 20% of the value of the project
- d) R 20M >, but < R 30M requires Bidder to sub-contract 25% of the value of the project
- e) R 30M > requires Bidder to sub-contract 30% of the value of the project

IV. The sub-contracting value will be based on the estimated value of the project either determined by the director or project manager. Where the successful bidder's price falls within any other range, the sub-contracting range included in the Bid Document will be applied.

V. The municipality may include sub-contracting for any other none CIDB related project as may be requested by the Director of the Department to promote local development.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

VI. Community Based Suppliers or service providers/ward-based suppliers or service providers must be considered for subcontracting by the main contractor. The first preference for subcontracting must be given to community or ward-based suppliers of that particular ward where the project is taking place. If the required skill or expertise is not available from the ward area where the project is taking place, the main contractor is permitted to accept service provers or suppliers within the jurisdiction of the Thabazimbi Local Municipality. Those service provider or suppliers would then contract directly with the main contractor.

It is the Employer's intention for the Contractor to enter in a subcontract with a local Emerging Enterprise/s, where twenty five percent (25%) of the work shall be subcontracted in accordance with the subcontracting procedures referred to in this scope of work who are registered with the CIDB with a Contractor Grading Designation of 1-3 in an appropriate class of construction work.

C3.3.2.2 Preferred subcontractors / suppliers

Local Emerging Enterprises registered on the Thabazimbi Local Municipality Database and/or nominated by the municipality.

C3.3.2.3 Subcontracting procedures

All matters pertaining to subcontractors and the work executed by them shall be dealt with directly between the Employer's Agent and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

Subcontractors shall comply in full to all aspects of the Contract.

The Employer's Agent will not liaise directly with any subcontractors, nor will he issue instructions concerning the subcontract works directly to any subcontractor.

The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

Subcontractors shall comply in full, to all aspects of the Contract.

C3.3.2.4 Attendance on subcontractors

The Contractor shall guide, assist, advise and mentor the local EE subcontractor/s and guidance on how to establish and determine rates.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Contractor shall be responsible for ensuring that the prospective local EE subcontractor/s fully comprehend the:

- Implications of the liabilities and responsibilities inherent in the contract into which the tenderer entered.
- Implications of the tendered rates.
- Scope and extent of the Works.
- Proper procedures for the submission of a tender.
- Procedures and basis on which tenders will be evaluated and awarded.

The Contractor shall closely manage, mentor, supervise, guide and assist the EE in all aspects of management, planning, execution and the completion of work.

The above shall include inter alia, but is not limited to, the following:

- i) Planning and programming of the Works.
- ii) The sourcing, ordering, purchasing, hiring all the necessary Construction Equipment, Materials, tools and accidentals necessary and required for the successful execution and completion of the Permanent as well as the Temporary Works.
- iii) Labour relations and employment.
- iv) Monthly measurements, costing and invoicing.
- v) General safety, occupational health and safety matters.
- vi) Functions of civil engineering infrastructure, structures, services and systems.
- vii) Interpreting and understanding the contract.
- viii) Construction and maintenance methods and procedures.
- ix) Communication.
- x) Cash-flow control, submitting invoices and payment certificates.
- xi) Planning, programming, scheduling, critical path control and acceleration.
- xii) Maintenance planning.
- xiii) Material procurement and control.
- xiv) Risk limitation and management.
- xv) Quality assurance and procedures.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- xvi)Compliances with all applicable laws, regulations, statutory provisions and agreements.
- xvii) General Conditions of Contract and Contract Data.
- xviii)Contractual claims, if situations arise that entitle a contractor to claims in terms of the Conditions of Contract.
- xix) Profit and loss.
- xx) Replacement and running costs of Construction Equipment.

The extent and level of management, mentorship, supervision, guidance and assistance to be provided by the Contractor shall be in commensuration with the expertise of the relevant EE and should be so directed as to enable the EE to achieve the successful execution and completion of the respective works.

C3.3.3 SANCTIONS

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal (CPG) outcomes was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = 0.50 X (D-Do) x NA$$

(100)

Where D = tendered Contractor participation goal percentage.

Do = the Contract Participation Goal, which the Employer's Representative based on the credits passed, certifies as being achieved upon completion of the contract.

NA = Net Amount of the Tender

P = Rand value of penalty payable.

The penalties will be calculated with each certificate, based on the information provided under the monitoring indicated in clause C3.3.4 below.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.3.4 MONITORING / REPORTING

The reporting requirements below will be adhered to.

CPG attainment will be monitored on a monthly basis, and for this the Contractor will supply the relevant information at a time set by the Employer's Agent.

- C3.3.4.1 The Contractor shall submit all the documentation required in terms of details of his plan to achieve CPG, compliance with the contract and C3.3.4.2 timeously and, together with his programme of activities, a schedule which indicates clearly the expected commencement and completion dates of work and services to be performed by all the targeted enterprises engaged on the contract for the purpose of securing credits towards the contract participation goal. This schedule shall be updated by the Contractor whenever a change in date occurs.
- C3.3.4.2 The Contractor shall prepare and attach to his claim for payment, in a form approved by the Employer, the following:
 - a) a brief report which describes the commercially useful functions performed by the targeted enterprises in the performance of the contract, both over the interim period and on a cumulative basis;
 - b) a schedule reflecting the estimated total value of the contracts, the cumulative value of the contracts and the value of supplies provided or work and services performed (or both) over the period for which payment is claimed in respect of each and every targeted enterprise performing commercially useful functions;
- C3.3.4.3 Should random inspections conducted by the Employer's Agent on targeted enterprise activities indicate that such enterprises are not performing in accordance with the requirements of this part, the Contractor shall provide, in addition to the requirements of C3.3.4.2, separate weekly resource returns and any other relevant information in respect of such targeted enterprises in a format approved by the Employer's Agent.
- C3.3.4.4 The Employer's Agent shall certify the value of the credits counted towards the contract participation goal whenever a claim for payment is issued to the employer and shall notify the Contractor of this amount.
- C3.3.4.5 The Contractor shall, upon completion of each individual targeted enterprise's contract, issue a completion certificate and certify the amount paid to such targeted enterprises. He shall submit the certificates, counter-certified by the relevant targeted enterprise, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish reasons to the Employer whenever it is not possible to obtain such counter certification.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.3.5 CONTRACTOR'S OBLIGATIONS TO SUBCONTRACTED EEs

(1) Dispute Avoidance and Resolution Procedures

The Contractor shall at all times

- (a) apply the terms and conditions of the subcontract fairly and justly, taking due cognisance of the level of sophistication and experience of the EE subcontractor concerned.
- (b) closely monitor all EE subcontracts and issue reasonable warnings when any contravention of the terms of the subcontract has occurred or appears likely to occur. The Contractor shall give EEs reasonable opportunity to avoid or make good any such contravention.

When taking any disciplinary actions or imposing any penalties provided for in the subcontract, the Contractor shall explain fully that such actions are in accordance with the conditions of subcontract.

Should any dispute arise between the Contractor and an EE, such dispute shall be resolved in accordance with the provisions of the subcontract.

Should an EE subcontractor be terminated, the Contractor shall replace such subcontractor with a local EE subcontractor listed on the database of the Thabazimbi Local Municipality.

(2) Quality of Work and Performance of EE subcontractors

If, in the opinion of the Employer's Agent, an EE Subcontractor fails to comply with any of the criteria listed below, he/she shall issue a written warning to the Contractor stating all the areas of non-compliance.

- (a) Acceptable standard of work as set out in the subcontract specifications.
- (b) Progress in accordance with the time constraints in the subcontract.
- (c) Site safety.

The circumstances that may warrant the issue of a written warning are, however, not limited to those listed above.

A copy of the letter of warning shall be forwarded to the Employer.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.3.6 ISSUING OF COMPLETION CERTIFICATE

The Contractor shall, within 7 days of the completion of each subcontract completed in accordance with the provisions of this specification, issue free of charge to the EE a Certificate of Completion co-signed by the Employer's Agent and a senior representative of the Contractor who has been duly authorised to do so.

C3.3.7 MEASUREMENT AND PAYMENT

No direct payment will be made for the cost of dealing with EE's. Payment will be deemed to be covered by the rates and sums tendered and paid for the various items of work included under the contract.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4: CONSTRUCTION

CONTENTS LIST

Section C3.4	CONSTRUCTION	C.109
Section C3.4.1	General Clauses and Requirements	C.109
Section C3.4.2	Standard Specifications - Civil	C.110
Section C3.4.3	Project Specifications - Civil	C.122
Section C3.4.4	Project Specifications - Mechanical	C.221
Section C3.4.5	Project Specifications - Electrical	

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Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.1: GENERAL CLAUSES AND REQUIREMENTS

C3.4.1.1 Built-up areas

The attention of the Contractor is drawn to the fact that the Works will partially be constructed within the existing wastewater treatment works, as well as in urban areas (2,0 km outfall sewer). The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the staff, including the prevention of unnecessary noise, dust or other nuisance. Where applicable, the Contractor shall provide access for traffic over and through the Works, all as described in the specifications.

Any rock or debris falling from trucks on the road in use by the Contractor shall be removed immediately. Precautions shall be taken to prevent fouling of roads and completed works by trucks transporting any material in the Works. The Engineer may order the Contractor to broom off and clean roads continuously where the mud tracking of vehicles or falling debris may constitute a danger to the travelling public.

Allowance should be made by the Contractor in his construction programme for delays that may result from foreseen and unforeseen actions that are required to ensure the safety and convenience of the Contractor and Employer's staff.

C3.4.1.2 Reinstatement of Fences

The Contractor shall give all on-site residents a minimum of 48 hours' notice of his intent to dismantle fences to properties, where indicated on the Drawings or so ordered by the Engineer. The Contractor shall note and take photos of all aspects relevant to the condition of existing fencing prior to dismantling and shall acquire the signature of the owner/occupant agreeing to such conditions.

All private fences may not be dismantled for a period longer than two weeks and the Contractor must programme the schedule of work accordingly.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

After reinstatement, both the Contractor and the owner/occupant shall sign the form confirming that the condition of the fence is at least equivalent to its condition before dismantling.

C3.4.1.3 Care of the Site

At all times during the construction of the Works and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store all materials and equipment for which he is responsible in an orderly manner and shall keep the Site free from debris and obstructions. The site is classified as a high-risk area, and it is the responsibility for the Contractor to secure the Works for the duration of the contract (refer to Clause 3.4.1.11). The Contract must ensure the construction of the new fence line is completed prior to any materials or equipment is delivered to or installed on site.

C3.4.1.4 Control of Water

The Contractor shall at all times and in all respects be responsible for the handling of stormwater at the Works, and for the handling of any sub-surface water that may affect the Works. No separate payment shall be made in this regard, as all costs related thereto shall be deemed to be included in the rates tendered for the various items of work that are included in the Schedule of Quantities.

C3.4.1.5 Existing Services and Structures

The site may be traversed by existing services such as sewer pipes, water pipes, power lines/cables and telephone cables, the exact position of which are generally unknown. Where positions of such services are known, these are shown on the layout plans or information in this regard will be made available by the Engineer prior to construction commencing in an area. The contractor will be required to schedule and programme his work that when work is disrupted due to the influence of unexpected services encountered, construction can continue in other portions of the works to allow the situation to be remedied by re-routing of new or repairing of existing services.

The Contractor shall protect all known existing services as well as all work being carried out and structures being erected on the Site by other contractors or public authorities. The

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Contractor must familiarize himself with the various standard regulations of the relevant public authorities and act accordingly. Any damage caused to these services or structures or any obstructions or hindrance caused to other contractors or public authorities by the Contractor and all claims arising from such damage, obstruction or hindrance will be the sole responsibility of the Contractor.

All repair work shall be carried out at the Contractor's expense to the satisfaction of the Engineer or the appropriate public authority. The same obligations shall be imposed on the Employer and on other contractors employed by the Employer in respect of the Works being executed under this Contract.

The Contractor shall conduct the necessary search for unknown services as required by the Standard Specifications. After searching, all services shall be deemed as known.

Working space will be restricted on certain portions of the Works. The Contractor should note that all measurement and payment will be in accordance with the specified cross-sections and dimensions irrespective of the method used and that the rates and prices tendered for the Works will be deemed to include full compensation for difficulties encountered while working within restricted areas. No extra payment nor any claim for payment due to these difficulties will be considered.

C3.4.1.6 Open trenches

Trenches may not be left open during the builder's holidays and shall be safeguarded at all times by use of safety net and NOT danger tape from danger to the public. Safe trench-crossings shall be provided at all intersections with accesses to properties and with public roads and paths. The length of the trench left open at any one time may be restricted by the Engineer, should he consider such restriction to be in the interest of public safety.

C3.4.1.7 Spoil material

No indiscriminate spoiling of materials will be permitted. Surplus or unsuitable materials shall be spoiled at sites identified by the Contractor and approved by the Engineer for this purpose. All spoiling shall comply with the applicable statutory and municipal regulations of the local or rural authority in whose area it is located.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.1.8 Quality control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the specifications and the drawings rests with the Contractor, and the Contractor shall, at his own expense and in accordance with the Conditions of Contract, institute a quality assurance system and provide experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the quality of the Works at all stages of the Contract. The cost of the Contractor's supervision and process control, including all testing carried out by the Contractor, shall be deemed to be included in the various amounts tendered.

Within two weeks after the Commencement Date, and before the commencement of design, manufacturing of plant and materials, the Contractor shall submit a comprehensive proposal for a quality assurance plan to the Engineer for consideration. The Engineer will then issue his requirements for quality control which shall be based on the Contractor's proposals, provided these are adequate.

The Contractor and nominated sub-contractors shall work to defined quality assurance programmes compliant with ISO 9001. The Contractor shall list approvals held on his own behalf and for its main sub-contractors.

The Contractor shall undertake, in respect of sub-contractors, where no such acceptable information is available or where the sub-contractor has not been subject to an acceptable external quality audit in accordance with the Contractor's QA procedures, to carry out a quality audit of that sub-contractor to ensure that completion of the work shall be compliant with the Contract requirements.

Nominated sub-contractor(s) may be subject to quality audit by the Contractor in which the Engineer or nominated representative may participate.

The Contractor shall identify work packages that shall be sub-contracted, together with major items, for which quality plans (inspection and test plans) shall be submitted. The Contractor shall assist local Emerging cub-contractors which is deemed included in the

Contractor	Witness 1	l	Witness 2]	Employer	l	Witness 1	J	Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

contract. The Contractor shall name their representative that will be authorised as having responsibility for resolving or obtaining resolution, of any problems arising in respect of the acceptability of raw materials, components, assemblies and the installation thereof.

The Contractor shall establish and maintain a document inspection system capable of producing objective evidence that major components comply with the quality requirements of the Contract.

General information on the type of system in use by the Contractor shall be provided with the technical proposal.

The Contractor shall include in his orders to major sub-contractors a note advising that materials and equipment may be subject to inspection as determined by the Quality Plan.

The Contractor shall advise the Engineer, or his nominated representative, of the readiness of inspection at least ten (10) working days prior to a nominated witness or hold point unless an alternative period is agreed upon between Engineer and Contractors and then minuted at the first site meeting. Work shall not proceed beyond a hold point without the written agreement of the Engineer or his nominated representative.

The Contractor shall keep the Engineer informed in advance of the time of starting and of the progress of the work in its various stages so that arrangements can be made for inspection and for the test.

The inspection and tests by the Engineer of any components, or lost thereof, does not relieve the Contractor of any responsibility whatever regarding defects or other failures, which may be found before the end of the defect's liability period.

C3.4.1.9 Contractor's Representative and superintendence

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Contractor shall submit to the Employer and Engineer within 14 days of the Commencement Date a list of addresses and telephone numbers of his representative and key personnel who may be contacted both during and outside normal working hours in connection with the Works.

C3.4.1.10 Site meetings

The Engineer will conduct site meetings, prepare and circulate minutes, as determined by him in consultation with the Employer. The Contractor shall attend these meetings and shall ensure that, when necessary, all required sub-contractors are represented. The Contractor shall submit monthly progress reports as required in the Conditions of Contract.

C3.4.1.11 Security of the Site

The attention of the Contractor is drawn to the necessity of securing the complete Site of the works and equipment, in particular his construction camp(s) and depot and the Engineer offices and facilities. The Contractor shall allow at all times for the necessary security and watching to prevent theft or damage to materials, plant and contractor's equipment, and to ensure the safety of both the Contractor's personnel, Employer's personnel and the Engineer's personnel.

The Contractor shall not be reimbursed by the Client for the loss or damage of any materials, vehicles and machinery whatsoever through theft or robbery (armed or unarmed) from the site of the works or his construction camp. Neither will a claim for extension of time be considered for the time lost due to the loss or damage caused by such theft or robbery.

The contract makes provision for the supply and installation new security system and control room, also included in the contract will be the operation of the system by a specialist security contractor appointed under the contract for the duration of the contract. The security contract will operate the system and secure the site as a trial operation and the system will be handed over to the client at the end of the contract with the rest of the treatment works. This scope of the work is subject to the concurrent security tender advertised by the CoT and therefore, they withhold the right to remove it from the Contract should the aforementioned contract be awarded before this contract.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

It is in the interest of the Contractor to establish and maintain healthy community liaison and employment structures throughout the duration of the Contract, as healthy structures will serve to elicit the support of affected communities in detecting and prosecuting criminal activity.

It must be noted that there are high incidents of theft of electrical cables and damage to motor control centres on site. The Contractor may need to consider making provision for armed guards on site for the duration of the contract until completion certificates have been issued. It may also be in the Contractor's interest that the work be programmed so that the electrical equipment be installed and energised then directly placed into operation where possible.

C3.4.1.12 Assets control and management of transitions

To ensure accountability and continuity, the Contractor shall implement strict asset control procedures throughout the project lifecycle, especially during transitions such as commissioning, handover, or decommissioning phases. All equipment, tools, materials, and temporary infrastructure used on site must be logged, tracked, and maintained in accordance with an approved asset register. During transition phases, a formal handover process must be followed, including physical verification, condition assessment, and transfer documentation signed by both parties. Assets must not be removed, transferred, or reassigned without prior written approval from the Engineer or Employer. Proper labelling, secure storage, and recordkeeping shall be maintained to prevent loss, misplacement, or misuse of assets. The Contractor remains responsible for the integrity, security, and accountability of all project assets until official handover is completed.

C3.4.1.13 Survey and setting out

It is the responsibility of the Contractor to verify the accuracy of co-ordinates and heights (x, y & z) of survey beacons.

C3.4.1.14 Drawings

All information in the possession of the Contractor that is required by the Engineer's Representative in order to complete the As-Built drawings and to prepare a completion

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

report for the Employer must be submitted to the Engineer's Representative before a Taking Over Certificate is issued for the Works. Similarly, the Contractor will be required to submit full details of all pipes, valves, meters and specials in a suitable loose bound format, including any special operational and maintenance procedures related thereto, for incorporation in the overall operation and maintenance manual for the Scheme prior to the issue of a Taking Over Certificate for the Works.

Only figured dimensions on the Drawings may be used in the interpretation thereof, and the Drawings shall not be scaled unless the Contractor is so instructed by the Engineer in writing. The Engineer will upon written request provide any dimensions that may have been omitted from the Drawings.

Pipe item schedules have been prepared by the Engineer for tender purposes. The Contractor shall number the items for manufacturing and drawing purposes in accordance with the Engineer's numbering system and shall submit detailed as-built pipe item (including specials such as valves, meters etc) schedules prior to the issuance of the Taking-Over Certificate similar to the Engineer's pipe item schedule format. Should modifications to pipe items and/or additions to the schedule be required by the Contractor, such items shall be modified on the Engineer's pipe item schedules by the Contractor and submitted to the Engineer for approval.

C3.4.1.15 Operations and Maintenance manuals

Draft operating and maintenance manuals are a prerequisite to commencing with the Tests on Completion and the tendered amounts for the commissioning shall include for the compilation and provision of these manuals.

The Contractor shall hand over to the Engineer three (3 No) final copies of the Operation and Maintenance Manual before a Taking-Over certificate will be issued for the Works.

The manuals shall be printed on 90gsm thick paper and be securely bound in A4 size hard backed plastic/waterproof ring binders with clear pockets on the spine and front cover for insertion of title slips giving contract number, scheme description and equipment supplied. An electronic copy in pdf format must be also supplied on a memory stick.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The manual shall contain sections separated by plastic binders clearly and visibly marked to match the index and shall be set out as follows:

- a) Title page
- b) Index
- c) Final acceptance certificate relating to tests carried out.

The final Operation and Maintenance Manual will consist of two parts:

PART ONE

The first part will contain sections on:

- (a) Brief description of the plant.
- (b) Operating instructions for individual components of the plant, including final settings, available range and control philosophy. The instructions should be clear, concise and easy to follow and must include where applicable pre-start, safety, shut down and manual operating procedures.
- (c) Routine maintenance instructions i.e. list of tasks and recommended frequency of inspections and/or item maintenance or replacement.
- (d) Precautionary measures, elementary fault location, rectifying measures, emergency actions and safety procedures.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PART TWO

The second part will contain sections on:

- (a) Detailed information on equipment including equipment brochures and supplier's operation and maintenance requirements.
- (b) Lists of spare parts including names and contact details of suppliers.
- (c) All relevant technical information of the installations and components.
- (d) Details and ratings of motors.
- (e) All information pertaining to pump installations including test curves, test certificates and commissioning testing information.
- (f) Detail mechanical drawings, P&ID diagrams and final pipe items schedules.

C3.4.1.16 Information Required at Tender Stage

It is a specific requirement of the tender that full information of all the equipment offered must be supplied at the time of tendering in order for the Engineer to evaluate the Tenderer's submission. The information required is listed below and the tenderer is required to complete all Technical Schedules included under Section T2: Returnable Documents. Failure to complete these schedules and supply required information will render the tender incomplete and will result in disqualification.

Such information will include at least the following:

- (a) The country of origin.
- (b) Make and description of equipment.
- (c) Capacity of the units.
- (d) Material of the components.
- (e) Working pressures.
- (f) General arrangement drawings of all units.
- (g) Spares to be carried by the Client.
- (h) Full details of all pipework and valves including internal protection.
- (i) Pump curves

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Manufacturer's pamphlets and catalogues shall be included but edited and clearly marked to describe the equipment offered.

C3.4.1.17 Contractor's Equipment

The Contractor's Equipment for construction and erection of the Works shall be adequate for the purpose required, of modern design and in good condition to carry out the Works expeditiously. Should the Engineer be of the opinion that the Contractor's Equipment is in anyway unsuitable for carrying out the Works in a manner or at a rate commensurate with the requirements of the Contract, he shall have the right to instruct the Contractor at any time during the Contract to provide additional or improved plant, tools and equipment, at the Contractor's expense, in order to meet the specified requirements.

C3.4.1.18 Testing of Equipment

The Contractor shall execute and submit to the Engineer all test results in accordance with of the General Conditions of Contract in order to prove that the works completed under the Contract conform in all respects to the Specifications. In particular, successful execution of the following testing is required in respect of completion of the Works:

Dry testing prior to commissioning

- Visual checking of general installation and appearance
- Fixing of equipment, pipes, brackets, anchors, etc.
- Written proof of alignment tests on pumps and motors
- Directional testing of rotating elements
- hecking and testing of all actuators and valve settings
- Water testing of chemical dosing equipment, pipes, joints
- Water tightness tests on all water retaining structures
- Pressure tests on all pipelines
- General safety of installations

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Wet commissioning milestones

- Performance testing of all equipment at specified duties and efficiencies for at least
 24 hours continuously
- Monitoring of levels at maximum conditions
- Power consumption
- Temperatures of all bearings
- Vibration of rotating elements, Calibration of dosing equipment
- Water-tightness tests of installations at full load

a) Trial Operation Period and Milestones

Once wet commissioning of all plant components has been completed to the satisfaction of the Engineer, the Contractor shall operate the completed plant successfully for a period as specified in C1.2.4 continuously, with interruptions only to alter plant settings, affect final settings and optimization, test auto-functionality and train the Operator in the detail functioning of the plant. The Engineer shall confirm in writing the date on which the trial operation period commenced. Any failure during the trail operation period will cause the trial to cease, and restart after the failed components have been repaired.

If the components fail again, then the components are not suitable for the duty, and the contractor shall rectify the situation at his cost. He shall then again prove that the equipment is suitable for the duty specified.

During the Trial Operation Period, the Contractor shall record all data and at its completion, submit to the Engineer a report confirming final settings, calibration, auto control functions, approved tests and successful training of the Operator to the satisfaction of the Employer before a Taking-Over Certificate will be issued for the Works in terms of clause 10.1 of the General Conditions of Contract.

b) Defects Notification Period

All equipment supplied under this contract shall be re-tested by the Operator in conjunction with the Contractor at the end of the 12-month Defects Notification Period, to prove that it continues to comply with the specified requirements.

Contractor	Witness 1	l	Witness 2]	Employer	l	Witness 1	J	Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.2: STANDARD SPECIFICATIONS - CIVIL

The Standard Specifications on which this contract is based are the South African Bureau of Standard's Standardized Specifications for Civil Engineering Construction (SABS 1200). (Note: "SABS has been changed to "SANS"; the SABS 1200 specifications are due to be replaced in the foreseeable future by SANS 2001 amongst other specifications).

Although not bound in nor issued with this Document, the relevant sections of the standard specifications shall form part of this Contract. These documents are available at the Contractor's expense from the SA Bureau of Standards, Private Bag X191, PRETORIA, 0001.

The applicable SABS 1200 Standardised Specification for this Contract shall be the following:

A - General

AB - Engineer's Office

C - Site clearance

DB - Earthworks (Pipe Trenches)

GA - Small concrete works

H - Structural Work

HB - Cladding and Sheeting

L - Medium pressure pipelines

LB - Bedding (pipes)

The various documents listed in section C3.4.2 shall be treated as mutually explanatory. However, should any requirement of section C3.4.3 conflict with any requirement of the Standardised

Contractor	Witness 1	I	Witness 2	1	Employer	J	Witness 1	l	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Specifications or with any requirement of the Particular Specifications, then the requirement of section C3.4.3 shall prevail

C3.4.3: PROJECT SPECIFICATIONS - CIVIL & STRUCTURAL

The following variations and additions to the Standard and Particular Specifications will be applicable to this Contract:

PSA - General

PSAB - Engineers office

PSC - Site clearance

PSD - Earthworks

PSDB - Earthworks (Pipe Trenches)

PSL - Medium pressure pipelines

PSLB - Bedding (pipes)

PSG - Concrete & Structural

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSA GENERAL

PSA1 QUALITY (Clause 3.1)

All material used in the Works shall, where such mark has been awarded for a specific type of material, bear the SABS mark. Alternatively, the Contractor shall furnish the Engineer with certificates of compliance of materials, which bear the official mark of the appropriate standard.

PSA2 PLANT (Clause 4.3)

Except where the use of plant is essential in order to meet the specified requirements by the Due Completion Date, the Contractor shall use only hand tools and equipment in the construction of those portion(s) of the Works that are required in terms of the Scope of Works to be constructed using labour intensive construction methods.

PSA3 SITE FACILITIES

PSA3.1 SITE FACILITIES AVAILABLE

PSA3.1.1 Contractor's Camp

A Site will be made available by the Employer for the Contractor's camp and depot.

PSA3.1.2 Source of Water Supply

The Contractor shall be responsible under the Contract for the supply and distribution at his cost of all water that he may require for purposes of constructing the Works. Accordingly, the Contractor shall pay all connection fees and consumption charges, and at his cost provide all connections, consumption meters, pipework, storage tanks, transport and other items associated with the supply of water for the Works.

Water can be provided by the Thabazimbi Local Municipality. The Contractor shall, subject to the approval of the Engineer, make any necessary arrangements with the relevant

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

authority for the connection(s), and shall provide in his tender for the payment of all charges and costs that are associated with making water available for purposes of constructing the Works.

Water for filling, testing and disinfecting the pipelines and structures will be made available by the Employer at no cost to the Contractor. However, should the pipelines and/or structures have to be drained and refilled due to defective materials or workmanship by the Contractor or by his subcontractors, then the water required for refilling shall be made available at the cost of the Contractor.

PSA3.1.3 Source of Power Supply

The Contractor shall be responsible under the Contract for the supply and distribution at his cost of all electricity that he may require for purposes of constructing the Works. Accordingly, the Contractor shall pay all connection and consumption charges, and at his cost provide all connections, transformers, consumption meters, cables, distribution boards and other items that are associated with the supply of electricity for construction of the Works.

The Thabazimbi Local Municipality is the power supply authority in the area. The Contractor shall, subject to the approval of the Engineer, make any necessary arrangements with the relevant authority for the connection(s), and shall provide in his tender for the payment of all charges and costs that are associated with making electricity available for purposes of constructing the Works. The distribution of electricity shall be in accordance with the applicable bylaws and regulations of the supply authority.

PS 3.1.4 Security of Contractor's Site Camp

Security of the Contractor's site camp will be the Contractor's own responsibility, and no additional payment will be made if additional security measures need to be taken during the Contract.

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Contractor	Witness 1	Witness 2		Employer	Witness 1		Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSA3.2 SITE FACILITIES REQUIRED

PSA3.2.1 For the Contractor

Whatever may be required for the satisfactory execution of the Contract.

PSA3.2.2 For the Engineer

Replace with the following:

No separate office shed shall be required for the Engineer; however, the Contractor shall be required to provide a separate desk, chair, and filing cabinet in his/her office shed for use by the Engineer.

PSA3.2.3 Sanitary facilities

Suppose waterborne sewerage is not available at the Engineer's site camp. Chemical toilets shall be provided and maintained with a valid disposal certificate for the use of the Contractor's personnel at all camp sites that the Contractor may establish for the construction of the Works. In addition, the Contractor shall at all times during construction of the Works provide adequate sanitary facilities on site so that all employees are at all times within easy reach of sanitary facilities.

PSA4 ADJUSTMENT OF PRELIMINARY AND GENERAL TIME-RELATED ITEMS (Clause 8.2.2)

PSA4.1 Replace the note on the end of the clause with the following:

Note: An approved extension of time will qualify the Contractor to receive additional payment for each relevant time-related item at the original tendered unit rate for such item. The additional payment will be calculated pro rata to the extension of time in relation to the time for achieving Practical Completion for the Works at the date when the agreement came into effect.

PSA4.2 Should the Time for Completion be automatically extended due to abnormal weather conditions occurring during execution of the Contract as provided for in the Conditions of Contract, adjustment to the total for time-related preliminary and general items will be

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

applicable as specified in Clause PSA4.

PSA5 HEALTH AND SAFETY

The maintenance of safe work practice at all times and in all sections of the execution of the works is embedded in the day-to-day site activities of all the Contractor's management, staff and workforce on the contract.

However, the introduction of the Construction Regulations in 2014 requires from the Employer to ensure that the Contractor has made adequate provision for the execution of the works within the specifications of said regulations. The following items have been identified as critical towards ensuring the minimum standards of safe work practice:

It must be noted that the lists below are not exhaustive and that many items have been traditionally priced by the Contractor as an integral part of his Preliminary and General items or as part of the overhead costs of other items. The tender document, although not detailed with regards the Construction Regulations, requires that the Contractor ensures adherence to the Occupational Health and Safety Act (Act 85 of 1993) the Construction Regulations, 2014 and the Regulations for hazardous biological agents 2022.

PSA5.1 Fixed-charge Items

<u>Unit</u>
Sum

The fixed charge item shall include but shall not be limited to the following:

- Preparation of Health and Safety Plan,
- Establishment of Health and Safety File,
- Health and Safety Training
- Personal Protective Clothing and Equipment

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Fences, Signs and Barricades
- Establishment of Safety Administration
- Other Health and Safety Fixed-charge Obligations
- Provision for measures to avoid & prevent spread of COVID-19

PSA5.2 Time-related Items

Add the following new Clause (Clause 8.4.6):

<u>Unit</u> Sum

Compliance with the Occupational Health and Safety Act. (Act 85 of 1993) and its regulations and with the Employer's Health and Safety Specification.

The time related item shall include but shall not be limited to the following:

- The employment cost of all health and safety personnel including consultants, health and safety officers, inspectors, supervisors and issuers required in terms of the Contractor's Health and Safety Plan,
- Updating the Health and Safety Plan as needed,
- · Carrying out of periodic own audits and follow-up audits,
- Compiling ongoing risk assessments and risk assessment reports as required by the Works.
- Convening of regular safety meetings with the Safety Representatives,
- Accompanying and supporting the Employer or his Safety Agent during ad hoc audits,
- Compilation of monthly safety reports and statistics for the Employer or his Safety Agent,
- Implementation and maintenance of Training
- Maintenance of personal protective clothing and equipment
- Maintenance of fences, signs and barricades
- Implementation and maintenance of safety administration
- Other Health and Safety Time-related Obligations
- Provision for measures to avoid & prevent spread of COVID-19

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PS A 5.9 SECURITY

The Contractor shall note that, notwithstanding any insurance which may be by the Employer, the Contractor shall be responsible for the effecting of safety and security of plant and personnel on and around the site of the works, and that no claims in this regard will be entertained by the Employer.

The sum entered by the Contractor in the Schedule of Quantities for effecting of safety and security of plant and personnel on and around the site of the works shall be deemed to include full compensation for all the necessary to affect the safety and security including, where necessary, the employment of the services of a security organization.

PSA6 ENVIRONMENTAL MANAGEMENT PLAN

The Contractor shall comply with all the conditions of the Record of Decision and the Environmental Management Plan bound into Annexure B (Section C3.5.3).

PSA6.1 Fixed-Charge Items

Add the following Clause (Clause 8.3.6):

Unit

Compliance with Environmental Management Plan and Record of Decision

Sum

The sum tendered shall cover all costs, overheads, profits, and charges incurred in complying with all the conditions of the Environmental Management Plan and Record of Decision bound into Section C3.5.3.

PSA6.2 Time-related Items

Add the following Clause (Clause 8.4.7):

Unit

Compliance with Environmental Management Plan and Record of Decision

Sum

The sum tendered shall cover all costs, overheads, profits, and charges incurred in

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Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

complying with all the conditions of the Environmental Management Plan and Record of

Decision bound into Section C3.5.3.

PSA7 SUMS STATED PROVISIONALLY (Clause 8.5)

PSA7.1 Contingencies

A Provisional Sum shall be included in the Summary of Schedules for contingencies. No percentage markup will be applicable to any payments made using contingency money other than the mark up included in prices for variations determined in terms of the Conditions of

Contract.

PSA7.3 Salary for Labour Desk Officer and Community Liaison Officer

A Provisional Sum has been included in Schedule G2 for a salary to be paid to the

Community Liaison Officer.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for

overheads, charges and profits as provided for in the Conditions of Contract.

PSA7.5 Telephone Calls and Rental

A Provisional Sum has been included in Schedule 2 for telephone calls and facsimile transmissions for the Engineer's Representative. The Engineer's representative will provide his own cellular telephone for the contract. Payment will be based on call and rental costs but excluding any deposits and installation costs which shall be priced under the preliminary

and general items.

In addition to the above amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSA7.6 Acceptance Control Testing

A Provisional Sum has been included in Schedule 2 for acceptance control testing ordered by the Engineer to be undertaken by a commercial laboratory. Payment will be based on the actual invoicing by the laboratory to the Contractor.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on any payments made by the Contractor in this regard. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA7.7 Office Consumables for Engineer's Site Facility

A Provisional Sum has been included in Schedule 2 for the appointment and payment of office consumables for Engineer's site facility.

In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in the Conditions of Contract.

PSA7.8 Location and Relocation of Existing Services

A Provisional Sum has been included in Schedule 2 for the location and relocation of existing services by specialists if and when required and ordered by the Engineer.

The mark-up shall be regarded as full compensation for overheads, charges, and profits as provided for in the Conditions of Contract

PSA7.9 Temporary protection of existing services

The sum shall cover the cost of temporary protection of all existing services as indicated by the Engineer

The mark-up shall be regarded as full compensation for overheads, charges, and profits as

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

provided for in the Conditions of Contract

PSA7.13 Handling of Sewage in Existing Sewers

A Provisional Sum has been included in Schedule 2 for accommodating sewage in existing sewers only when such sewers are temporarily taken out of service. This amount excludes payments for accommodating sewage when connecting the new network to existing sewers, which activity has been measured elsewhere.

PSA8 PRIME COST ITEMS (Clause 8.6)

PSA8.1 Materials for Dayworks

A Provisional Sum has been included in Schedule 2 for materials to be used during the execution of dayworks. In addition to the abovementioned amount, provision is made in Schedule 2 for a mark-up on the materials used during the execution of the dayworks by the Contractor. Payment made shall be regarded as full compensation for overheads, charges, and profit on the materials that are used when executing dayworks.

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	Contractor		Witness 1		Witness 2		Employer		Witness 1		Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSAB ENGINEER'S OFFICE

PSAB1 NAME BOARDS (Clause 3.1)

One name boards conforming to the standard requirements of the Thabazimbi Local Municipality must be provided and erected at points to be designated by the Engineer. It should be noted that the name boards are to be branded with the EPWP logo in addition to the other information required.

PSAB2 OFFICE BUILDING (Clause 3.2)

No separate office shed shall be required for the Engineer; however, the Contractor shall be required to provide a separate desk, chair and filing cabinet in his/her office shed for use by the Engineer

PSAB3 TELEPHONE (Clause 5.4)

A prime cost item has been allowed in Schedule 2 to cover all call and rental costs that are associated with the provision of this facility for the Engineer's Representative. The contractor shall include the invoice as provided by the Engineer in the monthly payment claim.

PSAB4 TESTING

PSAB4.1 General

No laboratory building or fittings are required by the Engineer. The Engineer will arrange separately with a commercial laboratory of designate specialists to carry out all acceptance control testing, excepting for density control test and moisture content determinations. The Contractor shall remain responsible to carry out the process control testing required by the Standardised, Particular and Project Specifications.

PSAB4.2 Laboratory Equipment

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Contractor shall supply the following equipment for the duration of the Contract.

- (a) A Troxler nuclear system, complete with accessories and stored in a suitable transit case as supplied by the manufacturer. A detailed description of the unit and principals of operation should be given in the manual for the nuclear instrument.
- (b) Six concrete cube moulds, 150mm nominal size, as well as a suitable concrete cube curing basin to keep all concrete cubes submerged in water for at least 28 days.

PSAB5 SURVEY ASSISTANTS (Clause 5.5)

One suitably educated Survey Assistant shall be made available for the sole use of the Engineer's Representative for the duration of the Contract. The assistant may also be required to fulfil the function of Community Liaison Officer during the Contract should the Engineer consider this arrangement to be in the interests of the Employer. The Survey Assistants may therefore have to be appointed from the local communities. Transport shall be supplied for the Survey Assistant/Community Liaison Officer by the Contractor for the duration of the Contract should he be requested to do so. In such event payment will be made at scheduled dayworks rates.

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Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

THABAZIMBI LOCAL MUNICIPALITY
CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSC SITE CLEAR ANCE

Re-number Clause 8.2.1 to read 8.2.1(a)

Add the following to the sub-clause: "8.2.1(b) The provisions of sub-clause 8.2.1 of SABS 1200 C shall apply mutatis mutandi to clearing and grubbing carried out utilizing labour-intensive construction methods, but with the exception of the maximum boulder size, which is reduced from 0.15 to 0.075 m³. 8.2.1(c) The rate shall cover the cost of removing, transporting, and disposing of boulders in excess of 0.075 m³, but not greater than 0.15 m³. Refer to 8.2.1 (a) for boulder in excess of 0.15 m³." 8.2.1 (d) intensive construction methods. The rate shall cover the cost of loading/placing cleared and grubbed material onto tractordrawn-trailers, tipper trucks (or similar means of transportation), transporting, offloading and spreading to a maximum thickness of 150 mm at a suitable spoil site. Loading, offloading and spreading activities carried out under this item will be done so by means of labourintensive methods. 8.2.1 (e) construction methods. The rate shall cover the cost of loading/placing, transporting, offloading and spreading cleared and grubbed material using conventional construction methods. Loading, offloading

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

and spreading activities carried out under this item will be done so by means of conventional construction methods.

PSC2 DISPOSAL OF MATERIAL (Sub-clauses 3.1 and 8.2.1)

Replace Clause 3.1 with the following:

Materials arising from clearing and grubbing (scheduled under Clause 8.2.1) and demolition of structures shall be disposed of at a suitable spoil site. The Contractor shall be responsible to make his own arrangements for a suitable spoil site. Trees and stumps necessarily removed shall not be burnt unless authorised by the Engineer but shall be cut and stacked at areas designated by the Engineer.

PSC3 AREAS TO BE CLEARED AND GRUBBED (Clause 5.1)

The areas to be cleared and grubbed will be indicated by the Engineer. Should a portion or the whole of the site have been cleared and grubbed by others prior to the start of construction then no clearing and grubbing will be ordered or payment made with respect to the applicable portion of the site.

PSC4 PRESERVATION OF TREES (Sub-clause 5.2.3)

The penalty in respect of every individual tree, designated as a tree to be preserved, that is damaged or removed unnecessarily by the Contractor, shall be R500. Prior to commencement of a portion of the Works, the contractor shall engage with the owners of residential properties where existing trees may be affected Trees that fall within areas upon which the Works – apart from those identified by owners of residential properties— are to be constructed or within areas that the Contractor must occupy for the proper construction of the Works will not be designated for preservation.

PSC6 FREEHAUL AND OVERHAUL

No overhaul will be paid.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSC8.2 SCHEDULED ITEMS

PSC8.2.7 Dismantle, remove and spoil pipelines

Replace Clause 8.2.7 with the following:

Separate items will be scheduled for each pipeline group of diameters, transmission lines, cables, etc. The rate provided here shall cover all pipe material, cost of dismantling, lifting, and disposing of each pipeline, transmission line, and cable and the additional cost of precautions required during excavation in their vicinity, but not the cost of excavation and backfilling. Excavations and backfilling will be measured separately.

PSC8.2.8.1 Demolish and remove building

Add the following to the sub-clause:

The cost given under this item shall cover all work associated with the demolition and removal of the specified buildings listed in the Bill of Quantities. The Contractor shall familiarise him/herself with each individual structure and ensure that the tendered rate covers all cost that he/she may incur during the demolition and removal of the specified structure, including requirements stipulated in the health & safety and environmental specifications of this Contract.

The cost shall also cover any excavation required to expose the structure. Where such excavations are done, careful consideration should be made for the safeguarding the excavations (i.e. 45-degree slopes for excavations, protection of existing services, etc.). Any natural material excavated whilst demolishing any structure shall be stockpiled and used as backfill (compacted to 97% mod AASHTO) where such excavation was required. Provision for backfilling the void left by the structure itself has been measured elsewhere.

A separate pay item has been provided for the dismantling and removal of all steel work (which includes mechanical equipment) associated with each building. The cost shall also cover the cost of exposing the structure for safe and effective demolition. This includes

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

stockpiling the excavated material and using such material for backfilling. Provision for backfill material used for the void left by the structure shall be measured elsewhere.

PSC8.2.8.2Demolish and remove reinforced concrete structures

Add the following to the sub-clause:

The cost given under this item shall cover all work associated with the demolition and removal of the specified reinforced concrete structures listed in the Bill of Quantities. The Contractor shall familiarise him/herself with each individual structure and ensure that the tendered rate covers all cost that he/she may incur during the demolition and removal of the specified structure, including requirements stipulated in the health & safety and environmental specifications of this Contract.

The cost shall also cover any excavation required to expose the structure. Where such excavations are done, careful consideration should be made for the safeguarding of the excavations (i.e.,45-degree slopes for excavations, protection of existing services, etc.). Any natural material excavated whilst demolishing any structure shall be stockpiled and used as backfill (compacted to 97% mod AASHTO) where such excavation was required. It should be noted that provision for backfilling the void left by the structure itself has been measured elsewhere.

A separate pay item has been provided for the dismantling and removal of all steel work (which includes mechanical equipment) associated with each building.

PSC8.2.8.3Demolish and remove reinforced concrete structures next to services

Add the following to the sub-clause:

The biological feed pump station (Ref. NB2-11 on 3089.00.00.AA.10.U002) is located directly next to an existing road with existing services (pipes, cables, etc.) which will have to be protected during the demolition of this structure. The Contractor should take note that it is likely that the western wall of this structure can be used as a retaining wall in this regard. This will be achieved through bracing the wall via the four walls making a 90-

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

degree angle and cutting these walls at an angle of 45 degrees down to the floor. The floor of this structure (excluding the bracing wall footings) will be removed. The western wall with the bracing walls shall remain in place and be backfilled.

PSC8.2.8.4Demolition preparation, dismantling and removal of steelwork and mechanical equipment to be disposed at site identified by Contractor.

Add the following to the sub-clause:

Any dismantling or removal of steelwork, mechanical and electrical equipment shall be priced under this item in the Bill of Quantities. This pay item will also serve as remuneration for any preparation and approval that may be required for any demolition activity (per structure) to commence. The Contractor shall familiarise himself/herself with each of the structures listed for demolition to ensure he/she is fully aware of any preparation works that may be required. Special reference is made to Clause 3.2.5 (Demolition procedure) in this regard.

PSC8.2.8.5 Dismantling and removal of steelwork and mechanical equipment to be stored at site identified by Employer's Agent.

Add the following to the sub-clause:

Any dismantling or removal of steelwork, mechanical and electrical equipment and delivery to a specified site shall be priced under this item in the Bill of Quantities. This pay item will also serve as remuneration for any preparation or approval that may be required for any dismantling activity (per structure) to commence. The Contractor shall familiarise himself/herself with each of the structures listed for dismantling, to ensure he/she is fully aware of any preparation works that may be required. Special reference is made to Clause 3.2.5 (Demolition procedure) in this regard. The dismantling of the equipment shall be done in such a manner that no degradation or damage occurs to the equipment. The Contractor has to familiarise himself/herself with the delivery route prior to pricing these items, to ensure all possible costs are included in the tendered rate. No additional remuneration will be made in this regard.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSC8.2.9 Transport materials and debris to unspecified sites and dump

Replace Clause 8.2.9 with the following:

Unit

Transport material and debris to site established by Contractor

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Where instructed by the Employer's Agent, the Contractor shall load and dump materials and debris at a site identified by the Contractor. The bulking factor associated with such material shall be reduced to a value to be agreed with Engineer on site to limit trips required to the dump site.

PSC8.2.11 Temporary crusher plant

Add the following new Clause (Clause 8.2.11):

<u>Unit</u>

Demolished structural concrete to be crushed and sieved to a nominal size of 75 mm

Sum

The sum tendered under this item shall include, but not be limited to, the following:

- Provision and operation of a mobile crusher plant which will requiring a surface area of less than 1000 m² to function as per its intended use.
- Be capable of cursing reinforced structural concrete (i.e. 30 MPa or higher)
- Allow for sufficient passes across the crusher to obtain a maximum size of 75 mm.
- Handling and stockpiling of recycled material, prior to and after crushing including feeding of the material to the plant. A stockpile site will be designated by Employer's Agent on site.
- Ensure that the crushed material is free from any foreign objects (i.e. any material other than concrete for instance steel, metal etc.)
- Removal from site once applicable scope has been completed and agreed with the Employer's Agent.

Contractor	I	Witness 1	ļ	Witness 2	I	Employer	Witness 1	1	Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The tender sum is not subject to re-measurement. The Contractor shall familiarise himself/herself with each structure prior to pricing the relevant items specified under this item.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSD EARTHWORKS

PSD1 CLASSIFICATION FOR EXCAVATION PURPOSES (Clause 3.1.2)

Delete clause 3.1.2 (a) and clause 3.1.2 (b) and replace with the following:

3.1.2 (a) Soft excavation:

"All material that is not classified as hard rock excavation in terms of clause 3.1.2 (c), boulder excavation class A in terms of clause 3.1.2 (d) or boulder excavation class B in terms of clause 3.1.2 (e) shall be classified as soft excavation"

In clause 3.1.2 (c) (1), replace the words "equivalent to that specified in (b) (1) above" with the words "of mass approximately 35 t, fitted with a single-tine ripper suitable for heavy ripping and of fly wheel power approximately 220 kW."

In the last sentence of clause 3.1.2 (d), replace the words "intermediate excavation" with the words "soft excavation."

In the last sentence of clause 3.1.2 (e), replace the words "or intermediate excavation, according to the nature of the material" with the word "excavation."

PSD2 SAFEGUARDING OF EXCAVATIONS (Sub-Clause 5.1.1.2)

Any cost the Contractor may undergo in ensuring the safety of excavations or any additional excavation and backfilling he may have to undertake due to the unstable sides of excavations and trenches shall be held to his account and the various rates for excavation and trenching included in the Schedule of Quantities shall include full compensation, therefore.

PSD3 EXPLOSIVES (Sub-Clause 5.1.1.3)

Add the following to the sub-clause:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

"The Contractor shall record for the information of the Engineer the spacing and loading of the charge in each blast. Compliance with this requirement will not relieve the Contractor of any responsibility as provided for in this sub-clause".

PSD4 DISPOSAL OF SURPLUS MATERIAL (Sub-Clause 5.1.4.3 and 5.2.2.3)

Add the following to the sub-clause:

"All surplus or unsuitable materials arising from trench excavations shall be spoiled and neatly spread and levelled along the route of the pipeline so as not to interfere with future works nor to disrupt the natural overland flow of storm runoff. Rocks, trees, debris and other unsightly material from trench excavations shall be disposed of at a suitable spoil site. Where the pipeline is laid within a road reserve the route of the pipeline shall be finished neatly to be flush with the natural ground level or finished sidewalk level as may be applicable.

The Contractor shall be responsible to make his own arrangements for a suitable spoil site".

PSD5 ACCOMMODATION OF TRAFFIC (Sub-Clause 5.1.6)

The Contractor shall tender a lump sum in Schedule 3 for accommodating traffic during the duration of the Contract, which sum shall cover all his obligations in this regard, including but not limited to temporary barricades; the erection and re-erection of existing and/or temporary traffic signs; lights and flagmen for the guarding and protection of the Works; and for making all necessary arrangements with the applicable traffic authorities. Payment shall be made monthly pro-rata to the overall progress of the Works.

The Contractor shall ensure that as part of the tender sum provision is made for temporary access to properties. The Contractor is to arrange and notify property owners prior to commencing with the temporary access and is to inform the Engineer once access management plan has been prepared.

PSD6 BORROW PITS (Sub-Clause 5.2.2.2)

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Contractor shall be responsible for making his own arrangement regarding the provision of pipe bedding material, if required, from commercial borrow pits. The Contractor shall provide in his tender prices for all royalties payable and for the transport of the material to site.

PSD7 HAUL AND SPOIL ROADS (Sub-Clause 5.2.2.2)

The Contractor shall be responsible for the opening up and closing down of designated borrow pits. The Engineer will obtain the necessary permissions and authority to utilise such borrow pits. The Contractor, in turn, shall in all respects comply with the various requirements of SABS 1200D and of the Minerals Act (No 50 of 1991 in relation to the opening up, closing down, and utilisation of borrow pits. Except for the crushing or screening of materials by the written instructions of the Engineer, and for royalties should such become payable, no additional payment will be made for excavating or processing material from designated borrow pits, regardless of the hardness or other properties of the material.

PSD8 FREEHAUL (Sub-Clause 5.2.5.1)

Add the following to the sub-clause:

"The freehaul distance shall be defined as the project site boundaries".

PSD9 OVERHAUL (Sub-Clause 5.2.5.2)

No overhaul will be paid.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB1 ACCOMMODATION OF TRAFFIC (Sub-Clause 5.1.3)

"See Clause PSD5."

PSDB2 EXISTING SERVICES (Sub-Clauses 5.1.4)

Where any existing service occurs within the specified trench excavation, and the presence of such service is known before being uncovered, then the protection of the service will be scheduled and measured as provided for in Clause 8.3.5 of 1200DB. Only known services (as defined in Clause 5.4 of 1200A) shall be measured for payment.

Where an unknown existing service is damaged during construction, and the Engineer orders that the Contractor should undertake the repair of such service, then such repair will either be measured and paid as dayworks or alternatively as a contractual variation in terms of Clause 40 of the General Conditions of Contract.

No construction activity which may affect the integrity of telephone or electrical poles or stays may be carried out without the prior written approval of the Engineer, which approval shall only be given subject to the acceptance of a modus operandi that will ensure the integrity of such structures during construction.

Exact positions of existing services cannot be guaranteed by the Thabazimbi Local Municipality and will not be held responsible for any damages to any services. The contractor shall excavate by hand any such services and ensure that care is taken not to damage these services.

PSDB3 TRENCH WIDTHS (Sub-Clauses 4.1 and 5.2)

Trenches in general shall not exceed the widths laid down in Sub-Clause 8.2.3. If trenches exceed the specified width, the Contractor shall be liable for the cost of any thicker pipes or more expensive bedding that may be required as a result of the additional trench width.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSDB4 TRENCH BOTTOMS (Sub-Clause 5.5)

Replace the first paragraph of this sub-clause "Material that compacted as directed" with the following: -

Where a firm foundation cannot be obtained at the grade indicated due to soft or unsuitable material, the Engineer may instruct the Contractor to remove such unsuitable material and to backfill the excess depth with approved selected material or concrete, as directed by the Engineer in each particular case, at the cost of the Employer. Backfill other than concrete, shall be placed in layers of 100mm uncompacted thickness, each layer thoroughly compacted to the entire satisfaction of the Engineer, to provide adequate support for the pipe bedding to be placed on top of it.

Should the Contractor remove more ground than is required to secure the proper grade of the pipeline, the Contractor must, at his own cost, backfill the excess excavation with approved selected material or concrete, as directed by the Engineer in each particular case.

PSDB5 DISPOSAL OF EXCAVATED MATERIAL (Sub-Clauses 5.6.3 and 5.6.4)

All surplus or unsuitable clay and silt materials arising from trench excavations shall be spoiled and neatly spread and levelled along the route of the pipeline so as not to interfere with future works nor to disrupt the natural overland flow of storm runoff. Rocks, trees, debris and other unsightly material from trench excavations and all surplus material excavated shall be removed to a spoil area arranged by the Contractor. Where a pipeline is laid within a road reserve the route of the pipeline shall be finished neatly to be flush with the natural ground level or finished sidewalk level as may be applicable. Clause 5.6.7 of 1 200DB shall apply to the cleaning of roadways.

PSDB6 FREEHAUL AND OVERHAUL (Sub-Clause 5.6.8)

No overhaul will be payable on earthworks for pipe trenches.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSDB7 AREAS SUBJECTED TO TRAFFIC LOADS (Clause 5.7.2)

The requirements of Clause 5.7.2 shall apply only to pipes and sleeves crossing streets or paved areas and pipes running parallel to the road as described below.

All service trenches running parallel to the road of which the roadside edge of the trench is located less than 1,4 m away from the edge of the travelled way, will be subject to the requirements for the above-mentioned clause.

The measurement and payment will apply to the full trench width. Pipes and sleeves crossing streets or paved areas will be measured and paid for to a length equal to the width of road or length of pavement crossed plus 1,4 m either side of the travelled edges.

Compaction of other pipe trenches running parallel to the roadway shall be considered areas subject to traffic loads only where instructed by the Engineer in writing. The volume will be computed from the minimum base width determined in accordance with Sub-Clause 5.2 and the depth from the top of the back fill to the top of the bedding as specified in Sub-Clause 8.3.3.1.

PSDB8 REINSTATEMENT OF EXISTING BITUMEN SURFACED ROADS & FOOTWAYS/DRIVEWAYS/COMMONAGE (Clause 3.6 and 5.9.4)

Pipe trenches through the existing bitumen surfaced roads shall be reinstated with a 150 mm upper selected subgrade layer compacted to 93 % mod AASHTO density, followed by a 150 mm subbase layer compacted to 95 % mod AASHTO density and a 150 mm graded crushed stone base compacted to 98 % of mod AASHTO density. The road shall be provided with a 25 mm thick asphalt seal.

The upper selected subgrade layer shall have a CBR of at least 15, a grading modulus of at least 0,75 and a maximum PI of 12. The subbase shall conform to SABS 1200 ME and the base to SABS 1200 MF.

Where specific requirements, such as the case for Provincial Roads, the Contractor shall ensure that they comply with these stipulations.

0 4 4	1400	1477		1800	144"
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSDB10 MEASUREMENT AND PAYMENT (Clause 8.3.2)

PSDB10.1 Basic Principles (Clause 8.1)

Add the following to the sub-clause 8.1.2(a):

Payment for the excavation and backfilling of trenches shall be made at the tendered rates and at the following stages of the construction:

i) upon completion and approval of the trench bottom, prior to bedding: 40 %

i) upon completion and approval of top of selected backfill: 70% (cumulative)

ii) upon completion and approval of the main fill: remaining 30 %.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSL MEDIUM PRESSURE PIPELINES

PSL1 MATERIALS - WATER SUPPLY MAINS (Clauses 3.1 to 3.7)

- (a) Unless otherwise shown on the drawings, reticulation mains shall be Class 12 uPVC pressure water pipes. Pipes should comply with the requirements of SABS 966
- (b) Steel fittings and specials shall be manufactured in accordance with the requirement of BS 534 but to the dimensions shown on the detailed layouts. Steel pipe sections shall be 6mm thick grade A complying with the requirements of SABS 719.
- (c) Cast iron fittings and specials shall be, manufactured in accordance with the requirements of 1200L, clause 3.3.
- (d) Flexible slip-on type Viking Johnson couplings shall be complete with removable centre registers (locating lugs). The area surrounding the locating lug shall be built up to prevent damage to the female thread on the Viking Johnson coupling.
- (e) HDPE pipes shall confirm to SABS 533 SANS 4427.

PSL2 CORROSION PROTECTION (Clause 3.9)

Protective coatings described in this sub-section shall not be measured for payment but shall be included in the rates tendered for piping, fittings, couplings and specials.

a) All cast iron valves, cast iron or steel fittings and cast iron or steel specials shall receive a two component solvent borne epoxy pipe coating and lining such as Copon KSIR 88 from Plascon or similar approved equivalent.

Surface preparation, application, testing and performance shall comply with the requirements of SABS 1217 type 1A, except that the minimum total dry film thickness shall be 300 micron.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Materials shall be applied in accordance with SABS 1217 and in accordance with the manufacturer's data sheet. Attention is drawn to the need for strict observance of the manufacturer's minimum and maximum coating thickness and time interval between coats relative to ambient and steel temperatures.

The coating shall be applied in either two or three coats with either one or two coats being applied in the workshop. After installation any scratch or chip marks shall be touched up and the whole item covered with a further coat (or two coats) of cop on to give a total thickness of not less than 250 microns.

- b) All bolts, nuts and washers used for flanges and couplings shall be heavy duty galvanised (clause 3.9.5 of 1200L)
- All steel fittings and specials indicated for encasing in concrete shall be wire brushed externally and left uncoated for encasing in concrete. Lining shall be as described in (a) above.
- d) Steel fittings that are partly enclosed in concrete shall be coated internally as well as the exposed external part of the fitting up to 100 mm into the concrete encasement as described in (a) above.

PSL3 VALVES (Clause 3.10)

- (a) Gate valves shall be cast iron flanged waterworks pattern resilient seal valves of the class shown on the drawings and manufactured in accordance with the requirements of SABS 664. Valves shall have non-rising spindles, cap-top and be anticlockwise closing. Valves shall be provided with a spur gear if specified on the detailed fittings lists and with a mechanism to indicate the percentage closure of the valve. An arrow on the valve shall indicate the direction of flow.
- (b) Valves 150mm and smaller shall be provided with a plain thrust collar. All of the valves shall be provided with ball thrust collars.

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	Contractor	Witness 1	 Witness 2	_	Employer	Witness 1	.1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSL4 MANHOLES, DRAW BOXES AND SURFACE BOXES (Clause 3.11)

Valve boxes shall confirm to the details as indicated on Drawing 3356.20.00.GZA.05.D003

PSL5 HANDLING AND RIGGING (Clause 4.1)

PSL5.1 Transportation

Fittings, specials and valves shall be protected during transportation and handling against damage caused by impact, dropping, etc.

PSL5.2 Off-loading and storage

Pipes, fittings and specials shall at no time be laid, stacked or rolled directly onto the ground but shall be supported on suitable padded cradles or other approved material near each end of the pipe, fitting or special. Particular care shall be taken where pipes with fitted couplings are handled or stacked to prevent any pressure on the couplings.

PSL5.3 Inspection on delivery

The Engineer's Representative will thoroughly inspect all pipes, fittings and specials delivered to the site but his acceptance of same as being in good condition shall not relieve the Contractor of any of his obligations or responsibilities under this contract.

Materials rejected by the Engineer shall be removed from the site within 30 days and shall be replaced by other approved materials by the Contractor at his own expense.

PSL6 STANDARD HYDRAULIC PIPE TEST (Clause 7.3)

Field test pressures shall be 1,5 times the recommended maximum working pressure for the class of pipe and/or valves, specials and fittings being tested.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSL7	MEASUREMENT	AND PAYMENT	(Clause 8	3)
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PSL7.1 Protective coatings and linings described in this sub-section shall not be measured for payment separately but shall be included in the rates tendered for piping, fittings and specials.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

	C.155
THABAZIMBI	LOCAL MUNICIPALITY
CONTRACT N	NO: TECH/02/2025-26
REFURBISHN	MENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1
PSLB	BEDDING (PIPES)
PSLB1	BEDDING (Sub-Clause 3.3)
PSLB1.2	Rigid Pipes
	All clay and concrete pipes shall be laid on a class C bedding as shown on Drawing LB-1 of SABS 1200LB.
PSLB1.3	Flexible pipes
	All steel, uPVC and polyethylene pipes will be regarded as being flexible and shall be bedded as per Drawing LB-2 of SABS 1200 LB.
PSLB2	MATERIAL NOT AVAILABLE FROM TRENCH EXCAVATION (Clause 3.4.2)
	Material for the bedding shall be obtained from a commercial source designated by the Contractor.
PSLB3	CLASS A BEDDING (Sub-Clause 5.2.1)
	Concrete to be used in class A bedding to pipes shall be of grade 20/19.
PSLB4	CONCRETE CASING TO PIPES (Sub-Clause 5.4)
	Concrete to be used in the casing of pipes shall be of grade 20/19.
PSLB5	TOLERANCE ON COMPACTION OF BEDDING MATERIAL
	Degree of accuracy II shall prevail.

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REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSLB6 VOLUME OF BEDDING MATERIAL (SUB-CLAUSE 8.1.3)

The cross-sectional area of the pipe shall be deducted from the area of the bedding calculated in terms of Drawing LB-4.

PSLB7 STONE BEDDING (Sub-Clause 8.2.6)

Add the following new sub-clause:

Stone bedding will be measured per cubic metre under the appropriate item in SABS 1200LB. Type A bedding (crushed stone wrapped in a geotextile blanket) shall be measured per linear metre along the centreline of the trench. The provision, operation and removal of (a) de-watering pump, where authorised by the Engineer will be measured as dayworks under the appropriate item in the Bill of Quantities.

PSG CONCRETE & STRUCTURAL

Table 1

BILL NO	SUMMARY DESCRIPTION	MODEL PREAMBLES OF TRADES 2008	SANS REFERENCES
1	PRELIMINARIES & GENERAL	General, Contractual requirements, Engineer's & Contractor's facilities	SANS, 1200, 1200AA & 1200AB
2	ALTERATIONS	SECTION B: Clauses B1 - B6	
3	CONCRETE, FORMWORK AND	SECTION D - PAGE 6 : Clauses D1 - D5	SANS 1200G
4	MASONRY	SECTION D - PAGE 11-13 : Clauses F1 - F14	
		Burnt clay Aggregates from natural sources-fine aggregates for plaster and mortar	SANS 227 SANS 1090
		Prestressed concrete lintels	SANS 1504
		Metal ties for Cavity walls	SANS28 SANS 50197-1
		Common cement	(Class 32,5)

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	Contractor		Witness 1		Witness 2	Employer		Witness 1		Witness 2	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

		Structural use of masonry	SANS 10164-1
		Masonry Walling SECTION D - PAGE 15-16:	SANS 10249
5	ROOF COVERINGS	Clauses H1 - H6	
		Timber battens Damp & waterproofing in	SANS 1783-4
		buildings	SANS 952
		Thermal insulation	SANS 1381-1&4
		Roof and side cladding	SANS 10237
6	CARPENTRY & JOINERY	SECTION D - PAGE 17-19: Clauses I 1-I 12	
		General requirements	SANS 1783-1
		Structural timber	SANS 1783-2
		Brandering and battens	SANS 1783-3
		Fibre cement boards	SANS 803
		Wooden doors	SANS 545 SANS 1381-
		Thermal insulation	SANS 1381- 1,2,4&6
		Mild steel nails	SANS 820
		SECTION J - PAGE 20-21: Ceilings	SANS 803
7	IRONMONGERY	SECTION L - PAGE 23: Clauses L1 - L4	SANS 4 & 1533
8	PLASTERING	SECTION O - PAGE : Clauses D1 - D5	
		Common cement	SANS 50197- 1(Class 32,5N) SANS 50413-
		Masonry Aggregates for plaster & mortar	1(Class 225X)
		All plaster work shall be done with class II mortar	SANS 1090
9	TILING	SECTION D - PAGE 22 :	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

		Clauses K 1- K 3	
		Flexible vinyl tiles	SANS 786
	PLUMBING &	Carpet underlays Ceramic, porcelain tiles - as per preambles SECTION Q - PAGE 32 :	SANS 1419 SANS 1449, 10107,1090
10	DRAINAGE	Clauses Q1 - Q6	
		Medium Pressure pipes	SANS 1200L
		Stormwater	SANS 1200 LE
		Sewer	SANS LD
		Trenches	SANS DB
		Bedding of pipes	SANS LB
11	GLAZING	SECTION R - PAGE 41 : Clauses R1-R2	
		Glass in building Glazing putty for metal window	SANS 50572-1 to 5
		frames	SANS 680
		Installation of glazing materials	SANS 10137
		Work on glass for glazing	SANS 1817
12	PAINTWORK	SECTION S - PAGE 42 - 43 : Clauses S1 - S5	
		Interior use	SANS 515
		Enamel paint	SANS 630
		Varnish (interior)	SANS 887
		Emulsion Paints	SANS 1586
13	ELECTRICAL WORK	SECTION 2 - Electrical Works	
		Outdoor Distribution Transformers	SABS 780: 2004; SANS 60076
		Backup Generation System Distribution Boards	SANS 8528 SANS 10142; NRS 057-4 : 2001; NRS 056
		Lighting Small Power - Low Voltage	SANS 10114: 2005
		Installations	SANS 10142: 2006

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CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

		Cable and Containment HVAC SECTION U/U4 - PAGE 47 :	SANS 10198: 2004, NRS 074-1 : 2005 SANS 1125:2004
14	EXTERNAL WORKS	Clause U.4.1 &U.17	
		Prefabricated concrete components (fencing)	SANS 1372 SABS 763
15	REPAIR WORKS / EPOXY REPAIR	SECTION U/U4 - PAGE 47 : Clause U.4.1 &U.17	
		All materials shall be from an approved manufacturer such as: • Sika (e.g. Sikadur®-31, Sikadur®-52) • Fosroc (e.g. Nitomortar EP, Nitofill UR63) • a.b.e. (e.g. epidermix 344, durarep EC)	SANS 10100, SANS 1200 G, or EN 1504
16	RAIL STEEL WORKS	SECTION U/U4 - PAGE 47 : Clause U.4.1 &U.17	
		Rails shall be laid to line and level as shown in the construction drawings.	
		Joints shall be either fish plated or thermite welded in accordance with SANS 10082.	
		Rails must be supported on precast concrete sleepers, baseplates, or embedded steel channels, depending on the application.	SANS 50081-1: SANS 10338:
		 Fastening systems must comply with SANS 10338 and be anti- vibration and anti- 	SANS 50049 / EN 13674-1 SANS 657-3 SANS 10082:

THABAZIMBI LOCAL MUNICIPALITY	1
CONTRACT NO: TECH/02/2025-26	

	TREATMENT WORKS	

		loosening type where specified.				
NOTE THE BOQ is based on Model Preambles of Trades of 2008 as compiled by the Association of South African Quantity Surveyors						

Epoxy Repair Specification

1. General

All epoxy repair works shall be carried out strictly in accordance with the manufacturer's instructions and under the supervision of a competent technician. Materials used must be suitable for structural or non-structural concrete repair, as specified.

2. Surface Preparation

The area to be repaired shall be **cleaned**, **chipped**, **and roughened** to remove all loose, weak, or contaminated concrete. The surface must be **dry**, **dust-free**, **and free of oil or laitance** before the application of any epoxy bonding agent. Exposed reinforcement (if any) shall be **cleaned to a bright metal finish** and treated with an anti-corrosion primer.

3. Epoxy Application

Epoxy resin used shall be **two-part**, **solvent-free structural grade**, suitable for vertical and horizontal application. The mixed epoxy shall be applied to the prepared surface by brush or trowel within the pot life period. All voids and cracks shall be filled thoroughly using appropriate methods (e.g., injection, pressure grouting, or patch repair) depending on the nature of the defect.

4. Repair Mortar or Filling (if applicable)

Where required, **epoxy mortar or epoxy-modified repair mortar** shall be used to rebuild the concrete section. The mortar shall be applied immediately after the bonding coat is tacky (not cured), ensuring full adhesion between old and new concrete.

5. Curing and Protection

The repaired areas shall be protected from vibration, moisture, and direct sunlight during the **curing period**. No mechanical load shall be applied until the epoxy has achieved full strength, as per the manufacturer's guidelines.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

THABAZIMBI LOCAL MUNICIPALITY	
CONTRACT NO: TECH/02/2025-26	

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

6. Inspection and Testing

All repairs shall be subject to visual inspection	and, where specifie	d, pull-off adhesion f	testing to
verify bonding strength. The contractor shall sub	omit material data sh	eets and compliance	certificates
for epoxy products used.			

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4: PROJECT SPECIFICATIONS - MECHANICAL WORKS

The various documents listed in section C3.4.4 shall be treated as mutually explanatory. However, should any requirement of section C3.4.4 conflict with any requirement of the Standardised or Particular Specifications, then the requirement of section C3.4.4 shall prevail.

For the purpose of description and measurement the mechanical works are divided into the main treatment systems and the mechanical equipment associated with these systems described therein. These systems are listed below:

PSMW-1: Module 01 Inlet Works' Equipment

PSMW-2: Module 01 Primary Settling Tank Equipment

PSMW-3: Module 01 Central Pump Station Equipment

PSMW-4: Module 01 Biological Trickling Filter Equipment

PSMW-5: Module 01 Humus Tank Equipment

PSMW-6: Module 01 Aeration Biological Nutrient Reactor Equipment

PSMW-7: Module 01 Secondary Settling Tanks' Equipment

PSMW-8: Module 01 RAS/WAS Pump Station Equipment

PSMW-9: Module 02 Inlet Works' Equipment

PSMW-10: Module 02 Biological Nutrient Reactor Equipment

PSMW-11: Module 02 Secondary Settling Tank Equipment

PSMW-12: Module 02 S-Recycling Pumpstation Equipment

PSMW-13: Module 02 WAS Pumpstation Equipment

PSMW-14: Chlorine Dosing System and Chlorine Contact Tanks' Equipment

PSMW-15: Balancing Dam and Recycling Pump Station Equipment

PSMW-16: Storm Water Pump Station Equipment

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Contractor		Witness 1		Witness 2	Employer	Witness 1		Witness 2

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PSMW-17: Anaerobic Digesters and Mixer Pump Station Equipment

PSMW-18: Sludge Drying Beds Equipment

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4 PROJECT SPECIFICATIONS – MECHANICAL WORKS

C3.4.4.1 PSMW-1: Module 01 Inlet Works Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose the Inlet Works equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Refurbishing/Servicing and replacing specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in the specification *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

It should be noted that this protocol does not apply to all units as allowance has been made for the replacement of the Inlet Works equipment without conducting the condition assessment. Further details on the refurbishment and replacement of these units are provided under the subsequent sections.

C3.4.4.1.1 Scope of works

The scope associated with the Module Inlet Works includes:

- Replacement and commissioning of the channel-mounted sluice gates;
- Replacement and commissioning of the existing coarse screens with an inclined bar mechanical screen;
- Supply, install, test, and commission the compactor, including the wash spray system and the jet pumps with interconnecting pipework;
- Supply of screening waste skip bin;
- Refurbishment, servicing, and commissioning of the manual rake bar screen;
- Refurbishment, servicing, and commissioning of the degritting collection pipework and replacement of degritting valves;

C3.4.4.1.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the Module 01 Inlet Works units shall entail:

i) The isolation of each component;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- ii) Removal of each unit;
- iii) Condition assessment and reporting on the status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to findings of condition assessment);
- vi) Installation and commissioning of operational units;

Should it be required to replace the Inlet Works equipment, including all ancillaries, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specifications, **PSR:** *CHANNEL RAKED SCREENS* and **PPL:** *DEGRITTER SYSTEM*, included in Part 3.4.7. The Contractor shall be responsible for supplying all the equipment required to comply with all the requirements specified herein and achieve the performance associated with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain these criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall, therefore, as a minimum requirement, be considered a like-for-like replacement.

Refurbishment of penstocks shall include servicing and bringing to functionality the spindle head frame, spindle movement, sealing mechanism, corrosion protection, and greasing, etc.

C3.4.4.1.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacturer of the equipment.

Where new units have to be offered, these shall be based on the minimum design parameters and requirements presented in Table PSMW1-1:

Table PSMW1-1: Mechanical Bar Screen and Impact Screw Compactors Performance Requirements

Ref	Description	Requirements
1.	Mechanical Screening Channel	
а	Mechanical Raked Screen	Incline Bar Screens, Screen field 10/304 s/s, screen angle of 75 degrees, screen field bar spacing 6mm, fit to existing channel width and depth. Flow rate 982 m ³ /h.
b	Total no. of Mechanical Inclined Bar Screens	1 no. off
С	Motor size per Mechanical Screen	0.75 kW

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Ref	Description	Requirements
2.	Manual Screening Channel	
а	Hand Rake Screen	Bar spacing and inclination angle as per the existing, bar size 40x8mm, spacing between bars 25mm, to fit into the existing channel width and depth.
b	Total no. of Hand Rake Screens	1 no. off
3.	Compactors	
а	Impact Screw Compactors	Wet inlet capacity of 2 – 3 (m3/hr) and discharge of 1 (m3/hr)
b	Total no. of Compactors	1 no.'s off
С	Motor size per Compactor	1.5 Kw
d	Wash System	Standard spray system in the compaction zone
е	Jet Pumps	Wash water flow of 100l/min, high pressure of 3-6 bars.
f	Total no. of Jet Pumps	2 no.'s off
Note 1 2	te: This total refers to the total no. of units installed in the Inlet Works. This reference applies to typical operational criteria associated with the Inlet Works.	

C3.4.4.1.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 1-2: Material specification for Inlet Works equipment

Ref	Description	Requirements
1.	Mechanical Raked Screen	Requirements
а	Screen field	304 stainless steels
b	Drive Chain	125 s/s alloy
2.	Hand Rake Screen	•
а	Manual raked screen	304 stainless steels
3.	Compactors	
а	Body Material	304 stainless steels
4.	Penstocks	
а	Hand Wheel 400mm	Aluminium
b	Spindle Nut	Brass
С	Spindle Ø32mm ¼" Pitch	304 stainless steels
d	Spindle Cover	304 stainless steels
е	Gate Frame	304 stainless steels
f	Gate	304 stainless steels
g	Gate Guide	HDPE
h	Seals	EPDM
5	Degritting Valves	
а	Degritting, Wedge Gate Valves	Cast Iron with Brass Seat Ring

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Fabrication of stainless steels and 3CR12 shall follow the recommendations in "The Stainless-Steel User Manual" and "The 3CR12 Fabrication Guide" issued by Columbus Stainless. Only fabricators experienced with stainless steel will be considered acceptable. Such fabricators shall use permanently dedicated storage and fabrication areas and shall use machines, tools and handling equipment suited and permanently dedicated to this type of material.

C3.4.4.1.5 Testing and acceptance performance requirements

The acceptable performance requirements shall be according to specifications detailed above, and the Thabazimbi WWTW's expected loads, should be capable of handling peak flows without causing overflow or system damage. The screens should be tested to ensure they effectively remove large debris and objects from the incoming sewage, expected percentage of debris removal above 90%. The grit removal efficiency of the plant should be above 95% for particles of specific sizes.

C3.4.4.2 PSMW-2: Module 01 Primary Settling Tank Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose module 01 primary settling tank equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

C3.4.4.2.1 Scope of works

The scope associated with the primary settling tank includes:

- Refurbishment, servicing (or replacement) and commissioning of the influent interconnecting pipework complete with all the fittings;
- Refurbishment, servicing (or replacement) and commissioning of the scum collection chute:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Refurbishment, servicing (or replacement) and commissioning by cleaning and re-aligning the existing baffle plates;
- Supply, Install and commissioning of weir plates;

C3.4.4.2.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the primary settling tank shall entail:

- The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the tanks equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, **PTRp:** *PRIMARY SETTLING TANK EQUIPMENT*, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associate with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain this criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall therefore, as a minimum requirement, be considered a like for like replacement.

Although it is anticipated that the existing PST equipment will be refurbished, allowance for new units have to be made as a contingent should the condition assessment find the units damaged beyond repair. Where a new unit is offered it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from site). The Contractor shall study the as built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing PST in this regard shall be allowed for in the Contractors offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these unit and, where required, shall allow for access platforms to operate and maintain the units.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.2.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

Where new units have to the offered these shall be based on design parameters and minimum design requirements of the equipment are presented in Table PSMW 2-1:

Table PSMW 2-1: Primary Settling Tank performance requirements

Ref	Description	Requirements
а	Tank Shape	Circular, Conical-Bottom
b	Total no. of tanks	1 no. off
С	Scum Collection system	Scum Collection

C3.4.4.2.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 2-2: Material specification for tank equipment

Ref	Description	Requirements
а	Scum baffle plates	304L Stainless Steel
b	Scum box	304L Stainless Steel
С	Weir plates	304L Stainless Steel

C3.4.4.2.5 Design, supply, and installation requirements

Primary settling tank must be refurbished/designed and installed in accordance to Particular Specification **PTRp**: *PRIMARY SETTLING TANK EQUIPMENT* included in Part 3.4.7 of the Scope of Works.

C3.4.4.2.6 Testing and acceptance performance requirements

Primary settling tank testing shall be carried out in terms of Specification **PTRp**: **PRIMARY SETTLING TANK EQUIPMENT** included in Part 3.4.7 of the Scope of Works.

C3.4.4.3 PSMW-3: Module 01 Central Pump Station Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose trickling filter pumps and thick sludge

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

pumps operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

C3.4.4.3.1 Scope of works

The scope associated with the pump station system includes:

- Supply, installation and commissioning of two new end-suction pumps (Trickling Filter Pumps) complete with all the ancillaries;
- Refurbishment, servicing and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
- Refurbishment, servicing and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing and commissioning of the pumps' interconnecting discharge manifold pipework complete with all the fittings and replacement of the inline flow meter;
- Supply, installation and commissioning of two new end-suction pumps (Thickened Sludge Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings, and replacement of the digester supply pipework's isolating gate valves;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting sludge sump agitation pipework complete with all the valves and fittings;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.3.2 Performance and design requirements

Design parameters and minimum design requirements of the central pump station is listed in Tables PSMW 3-1.

Table PSMW 3-1: Trickling Filter pump system performance requirements

Ref	Description	Requirements
а	Pump type	End-Suction Pumps
b	Total no. of pumps	2 no.'s off, 1 duty + 1 standby configuration
С	Pump capacity and head	As per existing pumps
d	Motor size	4 kW

Table PSMW 3-2: Thick sludge pump system performance requirements

Ref	Description	Requirements
а	Pump type	Self-Priming Pumps (With an Eradicator)
b	Total no. of pumps	2 no.'s off, 1 duty + 1 standby configuration
С	Pump capacity and head	As per existing pumps
d	Motor size	11 kW

C3.4.4.3.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 3-3: Material specification for equipment

Ref	Description	Requirements
а	Pipework	Mild steel, epoxy coated
b	Pipe supports	Mild steel, epoxy coated

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.3.4 Design, supply, and installation requirements

Pumps must be refurbished/designed and installed in accordance with Particular Specification **PTH: PUMPS** and **PTL:** *SELF-PRIMING PUMPS* included in Part 3.4.7 of the Scope of Works.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.3.5 Testing and acceptance performance requirements

Pump testing shall be carried out in terms Particular of Specification **PT: PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.4 PSMW-4: Module 01 Biological Trickling Filter Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose module 01 biological trickling filter equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

C3.4.4.4.1 Scope of works

The scope associated with the biological trickling filter includes:

- Refurbishment, servicing (or replacement) and commissioning of the influent supply pipework complete with the valve and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the distribution tank with suspended arms and the centre column mounted selfaligning bearing including the guide rollers;
- Refurbishment, servicing (or replacement) and commissioning of the rotating arm's air release tubes with quick release flushing caps, and rotating arm's nozzle hole fitted spreader plates;
- Refurbishment, servicing (or replacement) and commissioning of the Tension Cables and connectors;

C3.4.4.4.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the biological trickling filter shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the trickling filter equipment, the new units shall conform to the relevant requirements stipulated under the, **PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associated with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain these criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall, therefore, as a minimum requirement, be considered a like-for-like replacement.

Although it is anticipated that the existing trickling filter equipment will be refurbished, allowance for new units has to be made as a contingency should the condition assessment find the units damaged beyond repair. Where a new unit is offered, it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from the site). The Contractor shall study the as-built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing trickling filter in this regard shall be allowed for in the Contractor's offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these units and, where required, shall allow for access platforms to operate and maintain the units.

C3.4.4.4.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacturer of the equipment.

Where new units have to the offered, these shall be based on design parameters, and the minimum design requirements of the equipment are presented in Table PSMW 4-1:

Table PSMW 4-1: Trickling Filter performance requirements

Ref	Description	Requirements
а	Distributor Diameter	15m dia
b	Minimum Flow	58 \(\frac{1}{3} \) sec
С	Maximum Flow	104 l/sec

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Ref	Description	Requirements
d	Centre Column Diameter	400 NB
е	Number of Distribution Arms	4 no.'s off
f	Distribution Arm Diameter	80mm NB
g	Number of Nozzles per Arm	15 no.'s off
h	Nozzle Diameter	10mm
i	Number Spreader Plates per Arm	2
j	Number of Guide Rollers	6 no.'s off
k	Top Bearing	Self-Aligning Bearing

C3.4.4.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 4-2: Material specification for tank equipment

Ref	Description	Requirements
а	Rotary Distributor	Hot-Dipped Galvanized Mild Steel to SANS 763
b	Distribution Arms	Hot-Dipped Galvanized Mild Steel to SANS 763

Hot metal sprayed coatings shall be in accordance with SANS 2063.

C3.4.4.4.5 Design, supply, and installation requirements

Biological Trickling Filter must be refurbished/designed and installed in accordance to Specification **PJ**: *REFURBISHMENT OF MECHANICAL EQUIPMENT* included in Part 3.4.7 of the Scope of Works.

C3.4.4.4.6 Testing and acceptance performance requirements

Biological Trickling Filter testing shall be carried out in terms of Specification **P**: **BIOLOGICAL TRICKLING FILTER EQUIPMENT** included in Part 3.4.7 of the Scope of Works.

C3.4.4.5 PSMW-5: Module 01 Humus Tank Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply, and commission a fit-for-purpose module 01 humus tank equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

a) Conducting a condition assessment of existing equipment.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- b) Servicing and replacing specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment are defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

C3.4.4.5.1 Scope of works

The scope associated with the secondary clarifiers includes:

- Refurbishment, servicing (or replacement) and commissioning of the half-bridge walkway, handrailing, by removing corrosion and recoating all affected metal components with appropriate anti-corrosive primer and paint;
- Replacement and commissioning of gearbox, drive motor, and the drive wheels;
- Replacement and commissioning of the centre bearing with a corrosionresistant unit suitable with protective cover or seal to prevent future exposure to moisture and debris:
- Refurbishment, servicing (or replacement) and commissioning of the complete sludge scraper system including the scum collector with the scum chute and scum chute valve;
- Refurbishment, servicing (or replacement), and commissioning of cleaning and realigning the existing weir and baffle plates;

C3.4.4.5.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the humus tank shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on the status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to the findings of the condition assessment);
- vi) Installation and commissioning of operational units;

Should it be required to replace the tank's equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, **PTR:** *SEDIMENTATION TANK EQUIPMENT*, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible for supplying all the equipment required to comply with all the requirements specified herein and achieve the performance associated with the unit that is being replaced. Where no design

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

criteria are specified, the Contractor shall obtain these criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall, therefore, as a minimum requirement, be considered a like-for-like replacement.

Although it is anticipated that the existing humus tank equipment will be refurbished, allowance for new units has to be made as a contingency should the condition assessment find the units damaged beyond repair. Where a new unit is offered, it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from the site). The Contractor shall study the as-built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing humus tank in this regard shall be allowed for in the Contractor's offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these units and, where required, shall allow for access platforms to operate and maintain the units.

C3.4.4.5.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacturer of the equipment.

Where new units have to the offered, these shall be based on design parameters and the minimum design requirements of the equipment are presented in Table PSMW 5-1:

Table PSMW 5-1: Settling Tank performance requirements

Ref	Description	Requirements
а	Tank Shape	Circular, Conical-Bottom
b	Total no. of tanks	1 no. off
С	Sludge removal system	Sludge Scraper

C3.4.4.5.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 5-2: Material specification for tank equipment

Ref	Description	Requirements
а	Walkways, handrails, and	Hot-dipped galvanised mild steel to
<u> </u>	ladders	SANS 763
b	Rotating bridge	Mild steel and coated
С	Scraper blades	304L Stainless Steel

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Hot metal sprayed coatings shall be in accordance with SANS 2063.

C3.4.4.5.5 Design, supply, and installation requirements

Humus Tank must be refurbished/designed and installed in accordance to Particular Specification **PTR h**: *HUMUS TANK EQUIPMENT* included in Part 3.4.7 of the Scope of Works.

C3.4.4.5.6 Testing and acceptance performance requirements

Secondary clarifiers testing shall be carried out in terms of Specification **PTR**: **SEDIMENTATION TANK EQUIPMENT**, included in Part 3.4.7 of the Scope of Works.

C3.4.4.6 PSMW-6: Module 01 Aeration Biological Nutrient Reactor Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply, and commission a fit-for-purpose module 01 aeration biological reactor unit equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replacing specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

It should be noted that this protocol does not apply to all units, as allowance has been made for the replacement of existing Module 01 aeration bioreactor equipment without conducting the condition assessment. Further details on the refurbishment and replacement of these units are provided in the subsequent sections.

C3.4.4.6.1 Scope of works

The scope associated with the Module 2 Bioreactor includes:

 Refurbishment, servicing (or replacement), and commissioning of aerobic zone surface aerators;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

 Refurbishment, servicing (or replacement), and commissioning of valves and sluice gates;

C3.4.4.6.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the module 01 aeration bioreactor units shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the module 01 aeration bioreactor equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, PTJ: VERTICAL SHAFT AERATORS, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associate with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain this criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall therefore, as a minimum requirement, be considered a like for like replacement.

Although it is anticipated that existing surface aerators will be refurbished, allowance for new units have to be made as a contingent should the condition assessment find the units damaged beyond repair. Where a new unit is offered it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from site). The Contractor shall study the as built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing aeration basins in this regard shall be allowed for in the Contractors offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these unit and, where required, shall allow for access platforms to operate and maintain the units.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

Where new units have to be offered these shall be based on design parameters and minimum design requirements of the module 01 aeration bioreactor are presented in Table PSMW 6-1:

Table PSMW 6-1: Reactor aeration performance requirements

Ref	Description	Requirements
а	Aeration type	Vertical shaft surface aerator
b	Total no. of aerators ¹	4 no.'s off
С	Installed power (motor size) ²	22 kW (2 units)
		15 kW (2 units)
d	Total volume per tank	Refer to relevant as-built drawings
е	Aeration efficiency	1.7 kgO ₂ /kW (wire to water at standard conditions)
f	Minimum mixing intensity	0.3 m/s bulk flow velocity (Subject to CFD evaluation)
Note:		
1 1		

- This total refers to the total no. of units installed in the bioreactor.
- Allowance for refurbishment shall be for 22 kW and 15 kW aerators.
- ³ Allowance for new units shall be for 22 kW and 15 kW aerators.

C3.4.4.6.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 6-2: Material specification for Aeration zone surface mixing equipment

Ref	Description	Requirements
а	Aerator shaft	Mild steel, epoxy coated
b	Aerator impeller	Mild steel, epoxy coated

Hot-metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.6.5 Testing and acceptance performance requirements

Surface aerator's ability to mix and oxygenate are not only dependent on the unit's design but also on the design of the tank in which it operates. Provided that normal sludge volume index (SVI) factors apply (i.e. > 100), the aerator shall ensure that all solids are kept in suspension and that wastewater liquors are kept homogenous. The bulk flow velocities across the tank volume shall be maintained at a minimum of 0.3 m/sec. It may be required that this be proven via the CFD analyses upon the request of the Engineer. Oxygenation efficiencies shall be confirmed in terms of Clause PTJ 5 of Specification **PTJ:** *VERTICAL SHAFT AERATORS*, included in Part 3.4.7 of the Scope of Works.

C3.4.4.7 PSMW-5: Module 01 Secondary Settling Tanks Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose module 01 secondary clarifiers equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

C3.4.4.7.1 Scope of works

The scope associated with the secondary clarifiers includes:

- Refurbishment, servicing (or replacement) and commissioning of the half-bridge walkway, handrailing, by removing corrosion and recoat all affected metal components with appropriate anti-corrosive primer and paint;
- Replacement and commissioning of gearbox, drive motor and the drive wheels;
- Replacement and commissioning of the centre bearing with a corrosionresistant unit suitable with protective cover or seal to prevent future exposure to moisture and debris;
- Refurbishment, servicing (or replacement) and commissioning of the complete sludge scraper system including the scum collector with the scum chute and scum chute valve;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

 Refurbishment, servicing (or replacement) and commissioning of cleaning and re-aligning the existing weir and baffle plates;

C3.4.4.7.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the secondary clarifiers shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the tanks equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, PTR: SEDIMENTATION TANK EQUIPMENT, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associate with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain this criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall therefore, as a minimum requirement, be considered a like for like replacement.

Although it is anticipated that the existing clarifiers equipment will be refurbished, allowance for new units have to be made as a contingent should the condition assessment find the units damaged beyond repair. Where a new unit is offered it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from site). The Contractor shall study the as built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing clarifiers in this regard shall be allowed for in the Contractors offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these unit and, where required, shall allow for access platforms to operate and maintain the units.

C3.4.4.7.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Where new units have to the offered these shall be based on design parameters and minimum design requirements of the equipment are presented in Table PSMW 7-1:

Table PSMW 7-1: Settling Tank performance requirements

Ref	Description	Requirements
а	Tank Shape	Circular, Conical-Bottom
b	Total no. of tanks	2 no.'s off
С	Sludge removal system	Sludge Scraper

C3.4.4.7.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 7-2: Material specification for tank equipment

Ref	Description	Requirements
а	Walkways, handrails and ladder	Hot-dipped galvanised mild steel to SANS 763
b	Rotating bridge	Mild steel and coated
С	Scraper blades	304L Stainless Steel

Hot metal sprayed coatings shall be in accordance with SANS 2063.

C3.4.4.7.5 Design, supply, and installation requirements

Secondary Clarifiers must be refurbished/designed and installed in accordance to Particular Specification **PTRs**: **SECONDARY SETTLING TANK EQUIPMENT** included in Part 3.4.7 of the Scope of Works.

C3.4.4.7.6 Testing and acceptance performance requirements

Secondary clarifiers testing shall be carried out in terms of Specification **PTR**: **SEDIMENTATION TANK EQUIPMENT** included in Part 3.4.7 of the Scope of Works.

C3.4.4.8 PSMW-3: Module 2 RAS/WAS Pump Station Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose return and waste activated sludge

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

pumps operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

C3.4.4.8.1 Scope of works

The scope associated with the pump station system includes:

- Replacement and commissioning of four (4) self-priming pumps (Waste/Return Activated Sludge Pumps) complete with all the ancillaries;
- Replacement and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
- Replacement and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Replacement and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings,

C3.4.4.8.2 Performance and design requirements

Design parameters and minimum design requirements of the RAS/WAS pump station is listed in Table PSMW 8-1.

Table PSMW 8-1: RAS/WAS pump system performance requirements

Ref	Description	Requirements
а	Pump type	Self-Priming Pumps
b	Total no. of pumps	4 no.'s off (2 RAS pumps per clarifier), 1
		duty + 1 standby configuration
С	Pump capacity and head	As per existing pumps
d	Motor size	3 Kw

C3.4.4.8.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Table PSMW 8-2: Material specification for equipment

Ref	Description	Requirements
а	Pipework	Mild steel, epoxy coated
b	Pipe supports	Mild steel, epoxy coated

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.8.4 Design, supply, and installation requirements

Pumps must be refurbished/designed and installed in accordance to Particular Specification **PTL**: **SELF-PRIMING PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.8.5 Testing and acceptance performance requirements

Pump testing shall be carried out in terms Particular of Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.9 PSMW-9: Module 02 Inlet Works Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose the module 02 Inlet Works equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Refurbishing/Servicing and replacing specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in the specification *PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

It should be noted that this protocol does not apply to all units as allowance has been made for the replacement of the module 02 Inlet Works equipment without conducting

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

the condition assessment. Further details on the refurbishment and replacement of these units are provided under the subsequent sections.

C3.4.4.9.1 Scope of works

The scope associated with the Module 02 Inlet Works includes:

- Supply, install, test and commission the main channel coarse mechanical inclined bar mechanical screen;
- Supply, install, test and commission the compactor including the wash spray system and the jet pumps with interconnecting pipework;
- Supply of screening waste skip bin;
- Refurbishment, servicing and commissioning of the manual rake bar screen;
- Supply, install, test and commission the bypass channel manual rake bar screen;
- Refurbishment, servicing and commissioning of the degritting valves;

C3.4.4.9.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the Module 02 Inlet Works units shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the module 02 Inlet Works equipment including all ancillaries, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specifications, **PSR:** *CHANNEL RAKED SCREENS* and **PPL:** *DEGRITTER SYSTEM*, included in Part 3.4.7. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associate with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain this criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall therefore, as a minimum requirement, be considered a like for like replacement.

Refurbishment of penstocks shall include servicing and bringing to functionality the spindle head frame, spindle movement, sealing mechanism, corrosion protection and greasing, etc.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.9.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

Where new units have to be offered, these shall be based on the minimum design parameters and requirements presented in Table PSMW9-1:

Table PSMW1-1: Mechanical Bar Screen and Impact Screw Compactors Performance Requirements

Ref	Description	Requirements
1.	Mechanical Screening Channel	
а	Mechanical Raked Screen	Incline Bar Screens, Screen field 10/304 s/s, screen angle of 75 degrees, screen field bar spacing 6mm, fit to existing channel width and depth. Flow rate 982 m3/h.
b	Total no. of Mechanical Inclined Bar Screens	1 no. off
С	Motor size per Mechanical Screen	0.75 kW
2.	Manual Screening Channel	
а	Hand Rake Screen	Bar spacing and inclination angle as per the existing, bar size 40x8mm, spacing between bars 25mm, to fit into existing screening channels and bypass channel width and depth.
b	Total no. of Hand Rake Screens	3 no.'s off
3.	Compactors	
а	Impact Screw Compactors	Wet inlet capacity of 2 – 3 (m3/hr) and discharge of 1 (m3/hr)
b	Total no. of Compactors	1 no.'s off
С	Motor size per Compactor	1.5 kW
d	Wash System	Standard spray system in the compaction zone
Ф	Jet Pumps	Wash water flow of 100l/min, high pressure of 3-6 bars.
f	Total no. of Jet Pumps	2 no.'s off
Note		<u> </u>

This total refers to the total no. of units installed in the Module 02 Inlet Works.

This reference applies to typical operational criteria associated with the Module 02 Inlet Works.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 9-2: Material specification for Inlet Works equipment

Ref	Description	Requirements
1.	Mechanical Raked Screen	
а	Screen field	304 stainless steels
b	Drive Chain	125 s/s alloy
2.	Hand Rake Screen	
а	Manual raked screen	304 stainless steels
3.	Compactors	
а	Body Material	304 stainless steels
4.	Penstocks	
а	Hand Wheel 400mm	Aluminium
b	Spindle Nut	Brass
С	Spindle Ø32mm ¼" Pitch	304 stainless steels
d	Spindle Cover	304 stainless steels
е	Gate Frame	304 stainless steels
f	Gate	304 stainless steels
g	Gate Guide	HDPE
h	Seals	EPDM
5	Degritting Valves	
а	Degritting, Wedge Gate Valves	Cast Iron with Brass Seat Ring

Fabrication of stainless steels and 3CR12 shall follow the recommendations in "The Stainless-Steel User Manual" and "The 3CR12 Fabrication Guide" issued by Columbus Stainless. Only fabricators experienced with stainless steel will be considered acceptable. Such fabricators shall use permanently dedicated storage and fabrication areas and shall use machines, tools and handling equipment suited and permanently dedicated to this type of material.

C3.4.4.9.5 Testing and acceptance performance requirements

The acceptable performance requirements shall be according to specifications detailed above, and the Thabazimbi WWTW's expected loads, should be capable of handling peak flows without causing overflow or system damage. The screens should be tested to ensure they effectively remove large debris and objects from the incoming sewage, expected percentage of debris removal above 90%. The grit removal efficiency of the plant should be above 95% for particles of specific sizes.

C3.4.4.10 PSMW-10: Module 02 Biological Nutrient Reactor Equipment

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose the module 02 biological reactor unit equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

It should be noted that this protocol does not apply to all units as allowance has been made for the replacement of existing Module 02 bioreactor equipment without conducting the condition assessment. Further details on the refurbishment and replacement of these units are provided under the subsequent sections.

C3.4.4.10.1 Scope of works

The scope associated with the Module 02 Bioreactor includes:

- Refurbishment, servicing (or replacement) and commissioning of three (3)
 7.5kW anaerobic zone vertical shaft mixers;
- Design, supply, installation and commissioning of three (3) gearboxes and motors for 7.5kW vertical shaft mixers complete with all associated auxiliaries (i.e. baseplate, fasteners);
- Refurbishment, servicing (or replacement) and commissioning of three (3)
 30kW aerobic zone surface aerators;
- Design, supply, installation and commissioning of three (3) gearboxes and motors for 30kW vertical shaft surface aerators complete with all associated auxiliaries (i.e. baseplate, fasteners);
- Refurbishment, servicing (or replacement) and commissioning of two (2) 7.5kW
 A-Recycle axial flow pumps;
- Refurbishment, servicing (or replacement) and commissioning of two (2) 2.5kW
 R-recycle axial flow pumps;
- Refurbishment, servicing (or replacement) and commissioning of all flow control equipment (i.e. sluice gates and valves)

C3.4.4.10.2 Refurbishment and servicing of units

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

As stated previously, the scope associated with the refurbishment of the module 02 bioreactor units shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the module 02 bioreactor equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, **PTMa:** *MECHANICAL MIXERS* and **PTJ:** *VERTICAL SHAFT AERATORS*, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associate with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain this criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall therefore, as a minimum requirement, be considered a like for like replacement.

Although it is anticipated that existing mixers, aerators and recycle pumps will be refurbished, allowance for new units have to be made as a contingent should the condition assessment find the units damaged beyond repair. Where a new unit is offered it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from site). The Contractor shall study the as built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing zone basins in this regard shall be allowed for in the Contractors offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these unit and, where required, shall allow for access platforms to operate and maintain the units.

C3.4.4.10.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

Where new units have to be offered these shall be based on design parameters and minimum design requirements of the module 02 bioreactor are presented in Table PSMW 10-1 to Table PSMW 10-4:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Table PSMW10-1: Anaerobic zone mixing performance requirements

Ref	Description	Requirements
1.	Anaerobic Zone	
а	Stirrer type	Vertical shaft, bridge mounted, axial flow
b	Total no. of mixers ¹	3 no.'s off
С	Motor size per mixer	7,5 kW
d	Total volume per tank	Refer to relevant as-built drawings
е	Minimum mixing intensity	10 Watt/m³ (Subject to CFD evaluation)
f	Mixing media (anaerobic) ²	0.3% to 0.6% DS (mixed liquor)

Note:

Table PSMW 10-2: Reactor aeration performance requirements

Ref	Description	Requirements
а	Aeration type	Vertical shaft surface aerator
b	Total no. of aerators ¹	3 no.'s off
С	Installed power (motor size) ²	30 kW
d	Total volume per tank	Refer to relevant as-built drawings
е	Aeration efficiency	1.7 kgO ₂ /kW (wire to water at standard conditions)
f	Minimum mixing intensity	0.3 m/s bulk flow velocity (Subject to CFD evaluation)
Note		

Note:

- This total refers to the total no. of units installed in the bioreactor.
- ² Allowance for refurbishment shall be for 30 kW aerators.
- ³ Allowance for new units shall be for 30 kW aerators.

Table PSMW 10-3: A-Recycle pumps performance requirements

Ref	Description	Requirements
а	Pump type	Axial Flow
b	Total no. of pumps	2 no.'s off
С	Pump capacity and head	As per existing pumps
d	Motor size	7,5 kW

Table PSMW 10-4: R-Recycle pumps performance requirements

Ref	Description	Requirements
а	Pump type	Axial Flow

This total refers to the total no. of units installed in the anaerobic zone bioreactor.

This reference applies to typical operational criteria associated with the anaerobic zone of the reactor. The Contractor shall ensure the design allows for the mixers to overcome any sludge settlement associated with a power outage or equivalent downtime of the mixing system.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Ref	Description	Requirements
b	Total no. of pumps	2 no.'s off
С	Pump capacity and head	As per existing pumps
d	Motor size	2,5 kW

C3.4.4.10.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 10-5: Material specification for Anaerobic zone mixing equipment

Ref	Description	Requirements
а	Mixer shaft	Mild steel, epoxy coated
b	Mixer impeller	Mild steel, epoxy coated

Table PSMW 10-6: Material specification for Aeration zone surface mixing equipment

Ref	Description	Requirements
а	Aerator shaft	Mild steel, epoxy coated
b	Aerator impeller	Mild steel, epoxy coated

Table PSMW 10-7: Material specification for A-Recycle Pumps equipment

Ref	Description	Requirements
а	Impeller vertical shaft	Mild steel, epoxy coated
b	Pipe supports	Mild steel, epoxy coated
С	Gantry	Mild steel, Galvanised

Table PSMW 10-8: Material specification for R-Recycle Pumps equipment

Ref	Description	Requirements
а	Impeller vertical shaft	Mild steel, epoxy coated
b	Pipe supports	Mild steel, epoxy coated
С	Gantry	Mild steel, Galvanised

Hot-metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.10.5 Testing and acceptance performance requirements

The Contractor shall prove to the Engineer that the mixers shall ensure a degree of homogeneity of 95% in less than three times the mean hydraulic retention time of each zone at peak design flow (i.e. 6.5 Ml/d). The mixers shall have good bulk flow, meaning

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

that the mixers will cause the entire volume of the tank to be part of the mixing motion. The average bulk flow velocity shall not be less than 0.3 m/s.

Surface aerator's ability to mix and oxygenate mixed liquors are not only dependent on the unit's design but also on the design of the tank in which it operates. Provided that normal sludge volume index (SVI) factors apply (i.e. > 100), the aerator shall ensure that all solids are kept in suspension and that wastewater liquors are kept homogenous. The bulk flow velocities across the tank volume shall be maintained at a minimum of 0.3 m/sec. It may be required that this be proven via the CFD analyses upon the request of the Engineer. Oxygenation efficiencies shall be confirmed in terms of Clause PTJ 5 of Specification **PTJ:** *VERTICAL SHAFT AERATORS*, included in Part 3.4.7 of the Scope of Works.

Pump testing shall be carried out in terms of Clause PT 10 of Specification **PT: PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.11 PSMW-11: Module 02 Secondary Settling Tank Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose module 02 secondary clarifier equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

C3.4.4.11.1 Scope of works

The scope associated with the secondary clarifier includes:

- Refurbishment, servicing (or replacement) and commissioning of one (1) access bridge and walkway complete with sludge scraper, surface scum skimmer, wheel, brush gear and handrailing.
- Refurbishment, servicing (or replacement) and commissioning of one (1) scum removal systems including scum baffle, scum hopper and discharge pipework, valves, flanges and open/close mechanism.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

 Design, supply, installation and commissioning of one (1) drive units complete for the clarifier bridge.

C3.4.4.11.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the secondary clarifier shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to finding of condition assessment);
- vi) Installation and commissioning operational units;

Should it be required to replace the tank equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, PTR: SEDIMENTATION TANK EQUIPMENT, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible to supply all the equipment required to complying with all the requirements specified herein and achieve the performance associate with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain this criteria and performance data from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall therefore, as a minimum requirement, be considered a like for like replacement.

Although it is anticipated that the existing clarifier equipment will be refurbished, allowance for new units have to be made as a contingent should the condition assessment find the units damaged beyond repair. Where a new unit is offered it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from site). The Contractor shall study the as built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the existing clarifier in this regard shall be allowed for in the Contractors offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these unit and, where required, shall allow for access platforms to operate and maintain the units.

C3.4.4.11.3 Performance and design requirements

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

Where new units have to the offered these shall be based on design parameters and minimum design requirements of the equipment are presented in Table PSMW 5-1:

Table PSMW 11-1: Settling Tank performance requirements

Ref	Description	Requirements
а	Tank Shape	Circular, Conical-Bottom
b	Total no. of tanks	1 no. off
С	Sludge removal system	Sludge Scraper

C3.4.4.11.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 11-2: Material specification for tank equipment

Ref	Description	Requirements
	Walkways, handrails and ladder	Hot-dipped galvanised mild steel to
а	Walkways, flatiulalis and ladder	SANS 763
b	Rotating bridge	Mild steel and coated
С	Scraper blades	304L Stainless Steel

Hot metal sprayed coatings shall be in accordance with SANS 2063.

C3.4.4.11.5 Design, supply, and installation requirements

Secondary Clarifier must be refurbished/designed and installed in accordance with Particular Specification **PTRs:** *SECONDARY SETTLING TANK EQUIPMENT* included in Part 3.4.7 of the Scope of Works.

C3.4.4.11.6 Testing and acceptance performance requirements

Secondary clarifier testing shall be carried out in terms of Specification **PTR**: **SEDIMENTATION TANK EQUIPMENT** included in Part 3.4.7 of the Scope of Works.

PSMW-12: Module 02 S-Recycling Pump Station Equipment

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose return sludge pumps operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

C3.4.4.12.1 Scope of works

The scope associated with the pump station system includes:

- Refurbishment, servicing (or replacement) and commissioning of two (2)
 submersible pumps (Return Sludge Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings,

C3.4.4.12.2 Performance and design requirements

Design parameters and minimum design requirements of the RAS pump station is listed in Table PSMW 12-1.

Table PSMW 12-1: RAS pump system performance requirements

Ref	Description	Requirements
а	Pump type	Submersible Pumps
b	Total no. of pumps	2 no.'s off, 1 duty + 1 standby configuration
С	Pump capacity and head	As per existing pumps
d	Motor size	- kW

C3.4.4.12.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Ref	Description	Requirements
а	Pipework	Mild steel, Hot-Dipped Galvanized to SANS 2063
b	Pipe supports	Mild steel, Hot-Dipped Galvanized to SANS 2063

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.12.4 Design, supply, and installation requirements

Pumps must be refurbished/designed and installed in accordance with Particular Specification **PT:** *PUMPS* included in Part 3.4.7 of the Scope of Works.

C3.4.4.12.5 Testing and acceptance performance requirements

Pump testing shall be carried out in terms Particular of Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

PSMW-13: Module 02 WAS Pump Station Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose WAS pumps operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The scope associated with the pump station system includes:

- Refurbishment, servicing (or replacement) and commissioning of two (2) submersible pumps (Waste Activated Sludge Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting manifold discharge pipework complete with all the valves and fittings,

C3.4.4.13.2 Performance and design requirements

Design parameters and minimum design requirements of the WAS pump station is listed in Table PSMW 13-1.

Table PSMW 13-1: WAS pump system performance requirements

Ref	Description	Requirements
а	Pump type	Submersible Pumps
b	Total no. of pumps	2 no.'s off, 1 duty + 1 standby configuration
С	Pump capacity and head	As per existing pumps
d	Motor size	- kW

C3.4.4.13.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 13-2: Material specification for equipment

Ref	Description	Requirements
а	Pipework	Mild steel, Hot-Dipped Galvanized to SANS 2063
b	Pipe supports	Mild steel, Hot-Dipped Galvanized to SANS 2063

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Pumps must be refurbished/designed and installed in accordance to Particular Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.13.5 Testing and acceptance performance requirements

Pump testing shall be carried out in terms Particular of Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.14 PSMW-14: Chlorine Dosing System and Chlorine Contact Tank Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose the chlorine metering system, dosing pumps and CCTs operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ**: **REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

C3.4.4.14.1 Scope of works

The scope associated with the chlorine metering system and dosing pumps includes:

- Supply, installation and commissioning of new metering system complete with control valves, and regulators;
- Supply, installation and commissioning of new high-pressure chlorine storage cylinders;
- Supply, Install and commissioning of new chlorine booster pumps complete with pulsation dampers;
- Supply, installation and commissioning of the inlet and outlet interconnecting pipework with shutoff valves and non-return valves;
- Supply, installation and commissioning of the laboratory testing and safety equipment of chlorine dosing complete with all ancillaries;
- Supply, installation and commissioning of the ventilation system (Extraction Fan for purpose of extracting fumes/vapours and promote air circulation in the dosing house) complete with all the ancillaries;
- Supply, installation and commissioning of the Gas Leak Detection system and alarm system complete with all the ancillaries;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.14.2 Performance and design requirements

The following equipment, as indicated on the drawings shall be supplied, delivered, installed and commissioned under this Contract:

- Two wall mount assemblies, each consisting of a gas heater, pressure/vacuum regulator, safety valve, liquid chlorine trap, chlorine gas filter, braided stainless steel pipework for connection to the chlorine storage cylinders and the uPVC chlorine ventilation pipeline to the outside of the building. The header manifold is to be measured along its entire length.
- One automatic change-over device, including all connection pipework between the regulator assembly and the change-over device and uPVC pipework with valves and fittings from the change-over device to the dosing control units.
- Two by dosing units with adjusting valve for manual control and gas flow rate indicator.
- Delivery pipework with valves from and inclusive of the service water main through the in-line chlorine solution injector. Delivery pipework to the dosing point must be uPVC class 16. Also include for the reducers to connect the injectors. All pipework, valves, pressure gauges, non-return valves, etc. to be included. In-line strainer with bypass, as indicated on the relevant drawings, must be included.
- Six chlorine cylinder scale (with electronic scales on each set) anchored to the concrete floor. The scale indicator units are to be wall mounted and has to provide a signal to transfer the percentage full indication.
- AE & CI or equivalent, chlorine notice wall charts at all entrances to chlorine storage and control rooms.
- First aid cabinet containing linctus codeine (for paroxysms of coughing), modem plastic eye-wash bottles with eye cup attached and document with first aid instructions as per AE & CI or similar.
- Full face piece self-contained breathing apparatus, fed with compressed air from a portable bottle and one protective rubber overall (large), including lockable weatherproof cabinet for this equipment.
- One AE & CI or equivalent emergency kit containing the necessary tools to seal off leaks from valves.
- Gas leak alarm systems with alarm control units, gas detectors in both the chlorine storage room and the chlorine dosing control room and warning light installed outside.
- Extractor fan in the chlorine storeroom complete with externally mounted manually controlled on/off switches at the entrance to the control room.
 Extractor fan must be installed airtight around its edges into the opening

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

provided by a frame type "WA" and provided with the necessary framework to properly secure the fan frame.

 The extractor fan must be able to deliver at least 20 air changes per hour, with one air change equal to the applicable room's internal free space. The fan must be linked to the alarm and must be switched on when the alarm is activated.

C3.4.4.14.3 Service Water and Chlorine Injectors

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

The service water pressure available at the gas injectors is approximately 6 bar. The pressure against which the chlorine dilution must be delivered in the effluent flow meter must be confirmed by the Contractor but is expected to be in the order of 2 bar. The service water and chlorine solution conveyance piping diameter and pressure ratings are provisional, and the Contractor must satisfy himself that the system will operate to its full intended dosage capacity. Any alterations required in this must be included in the tendered rate and reported to the engineers.

C3.4.4.15 PSMW-15: Balancing Dam and Recycling Pump Station Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply, and commission fit-for-purpose the balancing dam and recycling pump station unit equipment operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely.

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

It should be noted that this protocol does not apply to all units, as allowance has been made for the replacement of existing balancing dams and recycling pumps equipment

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

without conducting the condition assessment. Further details on the refurbishment and replacement of these units are provided in the subsequent sections.

C3.4.4.15.1 Scope of works

The scope associated with the Balancing Dam and Recycling Pump Station includes:

- Refurbishment, servicing (or replacement), and commissioning of two (2) submersible mixers complete with all the ancillaries.
- Refurbishment, servicing (or replacement), and commissioning of the swivel crawl beam.
- Refurbishment, servicing (or replacement) and commissioning of four (4) selfpriming pumps (Recycling Pumps) complete with all the ancillaries.
- Refurbishment, servicing, and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings.
- Refurbishment, servicing, and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings.
- Refurbishment, servicing, and commissioning of the pumps' interconnecting discharge manifold pipework complete with all the fittings and replacement of the inline flow meter.

C3.4.4.15.2 Refurbishment and servicing of units

As stated previously, the scope associated with the refurbishment of the balancing dam and recycling pump station units shall entail:

- i) The isolation of each component;
- ii) Removal of each unit;
- iii) Condition assessment and reporting on the status of units;
- iv) Servicing and repair of units;
- v) Supply of new unit (subject to the findings of the condition assessment);
- vi) Installation and commissioning of operational units;

Should it be required to replace the balancing dam and recycling pump station equipment, the new units shall conform to the relevant requirements stipulated under the specifications contained herein and the Particular Specification, **PTMa:** *MECHANICAL MIXERS* and **PTL:** *SELF-PRIMING PUMPS*, included in Part 3.4.7 of the Scope of Works. The Contractor shall be responsible for supplying all the equipment required to comply with all the requirements specified herein and achieve the performance associated with the unit that is being replaced. Where no design criteria are specified, the Contractor shall obtain these criteria and performance data

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

from the Manufacturer or Supplier of the unit to be replaced. Equipment replaced shall, therefore, as a minimum requirement, be considered a like-for-like replacement.

Although it is anticipated that existing mixers and recycle pumps will be refurbished, allowance for new units has to be made as a contingency should the condition assessment find the units damaged beyond repair. Where a new unit is offered, it shall be installed on existing infrastructure where the unit being replaced is installed (existing units to be removed from the site). The Contractor shall study the as-built drawings and/or inspect the site where the new units are to be installed. Any modifications required to the balancing dam in this regard shall be allowed for in the Contractor's offer. The Contractor shall ensure safe and easy access in terms of the OHS Act to these units and, where required, shall allow for access platforms to operate and maintain the units.

C3.4.4.15.3 Performance and design requirements

All refurbished or replaced units shall operate and function as per the original unit's specifications and or operational requirements as confirmed by the manufacture of the equipment.

Where new units have to be offered these shall be based on design parameters and minimum design requirements of the balancing dam and recycling pump station are presented in Table PSMW 15-1 and Table PSMW 15-2:

Table PSMW15-1: Balancing mixing performance requirements

Ref	Description	Requirements
1.	Balancing Dam	
а	Mixer type	Submersible Mixers
b	Total no. of mixers ¹	2 no.'s off
С	Motor size per mixer	15 kW
d	Total volume per tank	Refer to relevant as-built drawings
е	Minimum mixing intensity	10 Watt/m³ (Subject to CFD evaluation)
f	Mixing media	0.3% to 0.6% DS (mixed liquor)

Note:

- This total refers to the total no. of units installed in the balancing dam.
- This reference applies to typical operational criteria associated with the balancing dam. The Contractor shall ensure the design allows for the mixers to overcome any sludge settlement associated with a power outage or equivalent downtime of the mixing system.

Table PSMW 15-2: Recycle pump system performance requirements

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Ref	Description	Requirements
а	Pump type	Self-Priming Pumps
b	Total no. of pumps	4 no.'s off (2 pumps per Module inlet works), 1 duty + 1 standby configuration
С	Pump capacity and head	As per existing pumps
d	Motor size	7.5 kW

C3.4.4.15.4 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 15-3: Material specification for Balancing Dam mixing equipment

Ref	Description	Requirements
а	Mixer shaft	Stainless Steel
b	Mixer impeller	Stainless Steel
С	Gantry	Stainless Steel

Table PSMW 15-4: Material specification for Recycle Pumps equipment

Ref	Description	Requirements
а	Pipework	Mild steel, Hot-Dipped Galvanized to SANS 2063
b	Pipe supports	Mild steel, Hot-Dipped Galvanized to SANS 2063

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.15.5 Testing and acceptance performance requirements

The Contractor shall prove to the Engineer that the mixers shall ensure a degree of homogeneity of 95%. The mixers shall have good bulk flow, meaning that the mixers will cause the entire volume of the dam to be part of the mixing motion. The average bulk flow velocity shall not be less than 0.3 m/s.

Pump testing shall be carried out in terms of Clause PT 10 of Specification **PT**: **PUMPS** and **PTL**: **SELF-PRIMING PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.16 PSMW-16: Storm Water Pump Station Equipment

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The primary objective associated with this section of the scope of works is to refurbish, design, supply, and commission fit-for-purpose storm water pumps operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replacing specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

<u>C3.4.4.16.1</u> Scope of works

The scope associated with the pump station system includes:

- Replacement and commissioning of three (3) wall-mounted sluice gates;
- Replacement and commissioning of three (3) submersible pumps (Storm Water Pumps) complete with all the ancillaries;
- Refurbishment, servicing, and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;

C3.4.4.16.2 Performance and design requirements

Design parameters and minimum design requirements of the storm water pump station is listed in Table PSMW 16-1.

Table PSMW 16-1: Storm Water pump system performance requirements

Ref	Description	Requirements
а	Pump type	Submersible Pumps
b	Total no. of pumps	3 no.'s off (2 duty + 1 standby)
С	Pump capacity and head	As per existing pumps
d	Motor size	4,0 kW

C3.4.4.16.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Table PSMW 16-2: Material specification for Inlet Works equipment

Ref	Description	Requirements
4.	Penstocks	
а	Hand Wheel 400mm	Aluminium
В	Spindle Nut	Brass
С	Spindle Ø32mm ¼" Pitch	304 stainless steels
D	Spindle Cover	304 stainless steels
Е	Gate Frame	304 stainless steels
F	Gate	304 stainless steels
G	Gate Guide	HDPE
Н	Seals	EPDM

Table PSMW 16-3: Material specification for equipment

Ref	Description	Requirements
Α	Pipework	Mild steel, Hot-Dipped Galvanized to SANS 2063
В	Pipe supports	Mild steel, Hot-Dipped Galvanized to SANS 2063
С	Gantry	Mild steel, epoxy coated

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.16.4 Design, supply, and installation requirements

Pumps must be refurbished/designed and installed in accordance to Particular Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.16.5 Testing and acceptance performance requirements

Pump testing shall be carried out in terms Particular of Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.17 PSMW-17: Anaerobic Digesters and Mixer Pump Station Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose the anaerobic digesters and mixer pumps operating as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

a) Conducting a condition assessment of existing equipment.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ:** *REFURBISHMENT OF MECHANICAL EQUIPMENT*, included under Part C3.4.7.

C3.4.4.17.1 Scope of works

The scope associated with the pump station system includes:

- Refurbishment, servicing (or replacement) and commissioning of the anaerobic digesters' sludge draw-off interconnecting pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of two (2) new anaerobic digester agitation pumps (Mixer Pumps) complete with all the ancillaries;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting suction pipework complete with all the valves and fittings;
- Refurbishment, servicing (or replacement) and commissioning of the pumps' interconnecting discharge pipework complete with all the valves and fittings;

C3.4.4.17.2 Performance and design requirements

Design parameters and minimum design requirements of the aerobic digester pump station is listed in Table PSMW 17-1.

Table PSMW 17-1: New anaerobic digester mixer pump system performance requirements

Ref	Description	Requirements
а	Pump type	End-Suction Pump
b	Total no. of pumps	2 no.'s off (1 duty + 1 standby)
С	Pump capacity and head	As per existing pumps
d	Motor size	22 kW

C3.4.4.17.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 17-2: Material specification for old anaerobic digester equipment

Ref	Description	Requirements
Α	Pipework and Valves	Mild steel, epoxy coated
В	Pipe supports	Mild steel, epoxy coated

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Table PSMW 17-3: Material specification for new anaerobic digester equipment

Ref	Description	Requirements
Α	Pipework and Valves	Mild steel, HDG and epoxy coated
В	Pipe supports	Mild steel, epoxy coated

Table PSMW 17-4: Material specification for new anaerobic digester mixer pump equipment

Ref	Description	Requirements
Α	Pipework and Valves	Stainless Steel, Mild steel, epoxy coated
В	Pipe supports	Mild steel, epoxy coated

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.17.4 Design, supply, and installation requirements

Pumps must be refurbished/designed and installed in accordance with Particular Specification **PT: PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.17.5 Testing and acceptance performance requirements

Pump testing shall be carried out in terms Particular of Specification **PT**: **PUMPS** included in Part 3.4.7 of the Scope of Works.

C3.4.4.18 PSMW-18: Sludge Drying Beds Equipment

The primary objective associated with this section of the scope of works is to refurbish, design, supply and commission fit for purpose flow control equipment as per the intended use. Generally, these specifications are categorised into three (3) main protocols associated with this activity, namely,

- a) Conducting a condition assessment of existing equipment.
- b) Servicing and replace specific components identified during condition assessment (provisional allowance).
- c) Recommissioning or replacing the unit if damaged beyond repair.

The general requirements associated with the condition assessment and refurbishment is defined in **Particular Specification PJ: REFURBISHMENT OF MECHANICAL EQUIPMENT**, included under Part C3.4.7.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.18.1 Scope of works

The scope associated with the sludge drying beds equipment includes:

Refurbishment, servicing (or replacement) and commissioning of eighteen (18)
 sludge inlet gate valves, complete with interconnecting pipework.

C3.4.4.18.2 Performance and design requirements

Design parameters and minimum design requirements of the flow control equipment is listed in Table PSMW 18-1.

Table PSMW 18-1: Flow control equipment requirements

Ref	Description	Requirements
1.	Valves	
а	Туре	Wedge Gate Valves
b	Total no. of Valves	18 no.'s off
С	Size	200NB

C3.4.4.18.3 Material specification

The equipment specified under this section of the document shall be fabricated from the following materials (or superior), subject to the acceptance of the Engineer:

Table PSMW 18-3: Material specification for equipment

Ref	Description	Requirements
Α	Pipework	Mild steel, epoxy coated
В	Pipe supports	Mild steel, epoxy coated

Hot metal sprayed coatings shall be in accordance with SANS 2063.

Application of an epoxy zinc sealer shall be to a dft of 60 μ m (Sigma cover 522, or equivalent). Application of two coats of epoxy pipe coating to a dft (per coat) of 125 μ m; (Sigma guard 720, or equivalent) shall be applied thereafter.

C3.4.4.18.4 Design, supply, and installation requirements

Valves must be refurbished/designed and installed in accordance to Particular Specification **PLK**: *MANUFACTURE AND SUPPLY OF VALVES* included in Part 3.4.7 of the Scope of Works.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.4.18.5 Testing and acceptance performance requirements

Testing shall be carried out in terms Particular of Specification **PLN:** *MANUFACTURE, SUPPLY AND TESTING OF VALVES* included in Part 3.4.7 of the Scope of Works.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

1200: GENERAL REQUIREMENTS AND PROVISIONS

B1202 SERVICES

Add the following to the fifth paragraph:

"Provision is made in the bill of quantities for payment for searching and exposing of known or unknown services as well as the relocation and/or protection of existing services. Any moving of existing services which may be required within the proclaimed road reserve will be undertaken by the relevant service authorities or by a selected subcontractor if so, ordered by the engineer."

B1204 PROGRAMME OF WORK

(a) General requirements

Amend the

word "network" in the fourth line of the first paragraph to read as "bar (Gantt) chart".

Add the following after the third paragraph:

"The bar-chart programme to be provided by the contractor shall show the various activities in such detail as may be required by the engineer. Progress in terms of the programme shall be updated monthly by the contractor in accordance with the progress made by the contractor.

In compiling the programme of work, the contractor shall indicate and make do allowance for the following, as specified elsewhere in the contract documents:

 The requirements regarding the accommodation of traffic and areas that may be occupied at any time for construction purposes (as indicated on the drawings and specified in Section 1500 of the specifications)

(b) Programme of work for rehabilitation work

Amend the word "network" in the fourth line of the second paragraph to read as "bar (Gantt) chart".

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following to the third paragraph:

"The engineer shall, however, undertake acceptance control tests for the judgement of workmanship and quality, without accepting any obligations vested with the contractor in terms of the contract with specific reference to quality of materials and workmanship. Such acceptance control test done by the engineer shall not relieve the contractor of his obligations to maintaining his own quality control system."

Add the following at the end of this clause:

"The engineer shall, for the purpose of acceptance control on products and workmanship, assess test results and measurements in accordance with the provisions of section 8300 of the standard specifications. Where small quantities of work are involved, a lot shall mean a full day's production for a specific item of work subject to acceptance control testing."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

B1206 THE SETTING-OUT OF THE WORK AND PROTECTION OF BEACONS

Add the following:

"The contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labour in connection therewith."

The Contractor shall take care that property beacons, trigonometrical survey beacons or settingout beacons are not displaced or destroyed without the consent of the Engineer. Property beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who shall certify such replacement.

The cost of replacing all beacons displaced or destroyed during the course of the Contract without the consent of the Engineer shall be borne by the Contractor."

B1209PAYMENT

(b) Rates to be inclusive

Add the following:

"VAT shall be excluded from the rates and provided for as a lump sum in the Summary of Bill of Quantities".

(e)Materials on the site

Add the following:

"In addition, the engineer may at his sole discretion also allow payments under "Materials on Site" in respect of any construction materials if stored off-site providing that:

- (a) The site selected for this purpose is approved by the engineer
- (b) Such land is physically separated from any production plant or operation
- (c)Only materials for use under this contract is stockpiled on such land
- (d)The contractor has provided proof of an agreement with the owner of such land that the owner has no claim whatsoever on any materials stockpiled on such land
- (e)Materials obtained by the contractor for or on behalf of emerging subcontractors (SMME's) shall remain the responsibility of the contractor after payment has been made in respect of materials on site."

B1215EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Add the following after the first paragraph of this clause:

"For the purposes of this contract, extension of time resulting from abnormal rainfall or other forms of inclement weather shall be determined according to the requirements of Method ii (critical-path method)."

Method (ii) (Critical path method)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Delete "(based on a five-day working week)" in the fifth and sixth lines of the second paragraph of the description of this method.

Delete the last sentence of the second paragraph of the description of this method and replace with the following:

"The value of "n" shall be taken as three (3) working days per calendar month.

If normal rainy or inclement weather, resulting in delays, occurs for less than three (3) working days in any calendar month, the difference between the three (3) working days and the actual number of working days on which normal rainy or inclement weather occurred, shall be ignored and not accumulated for the duration of the contract period for the purposes of determining an extension of time due to normal rainy weather, nor due to any other reason.

Items of work on the critical path of the programme of work which are subject to climatic limitations, shall also be considered for extension of time if such items of work are delayed by e.g. cold weather, high winds or other inclement weather conditions.

In this regard, reference shall be made to weather limitations specified for the application of various bituminous products. However, for months during which seal-work cannot be undertaken in terms of the specifications, no extension of time shall be claimed for.

"The extension of time to be allowed due to abnormal rainfall shall be calculated separately for each calendar month or part thereof in accordance with the following formula:

V = Extension of time in calendar days for the calendar month under

consideration

Nw = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded

Nn = Average number of days for the calendar month on which a rainfall of 10 mm or more has been recorded, as derived from existing rainfall records

Rw = Actual recorded rainfall for the calendar month

Rn = Average rainfall for the calendar month, as derived from existing rainfall records

x = 20

The rainfall records which shall provisionally be accepted for calculation purposes are based on records taken at: Rainfall Station: Thabazimbi

Years of record: 2022

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Month	Average rainfall for calendar month	Average number of days for calendar month on which a rainfall of 10 mm or more were recorded Nn
	(mm)	(days)
January	75	18.2
February	70	15.4
March	47	15.3
April	26	12.3
May	7	0
June	4	0
July	4	0
August	5	0
September	9	0
October	32	12.1
November	57	14.2
December	79	17.4

B1222USE OF EXPLOSIVES

Add the following sub clause:

"(h)Where blasting operations are undertaken in close proximity of temporary deviations, the contractor shall implement all such safeguarding measures as may be required and instructed by the engineer."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

B1224THE HANDING-OVER OF THE ROAD RESERVE

Add the following:

"The total length of the road reserve between the specified limits of construction will be handed over to the contractor on the commencement date. Reference shall, however, be made to the requirements of section 1500 of these specifications where limitations in respect of work-areas are specified. In the event of the non-adherence by the contractor in terms of the mentioned specifications, the engineer shall withdraw such sections of the road reserve as may be justified to ensure suitable progress of the works or safe passage of traffic."

B1228LEGAL PROVISIONS

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2014 (the regulations) as promulgated in Government Gazette No 25207 and Regulation Gazette No 37305 of 7 February 2014.Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Bill of Quantities and Drawings, as well as in the Employers' health and safety specifications (regulation 5(1)) of the Construction Regulations 2014, which are bound in the Contract document).

The Contractor shall in terms of regulation 7(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

A payment item is included in the Bill of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

B1229 SABS CEMENT SPECIFICATIONS

Replace the last paragraph of this clause with the following:

"Where reference is made in this specification or the standard specifications to the cement specifications, e.g. SABS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

SABS ENV 197-1: Cement-composition, specifications and conformity criteria.

Part 1: Common cements.

Furthermore, where reference is made in this specification or the standard specifications to the different cement types, the following new names/types shall apply:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

CEM I 32,5, CEM II A-S 32,5, CEM II/A-V 32,5, or CEM III A may be used for the manufacture of reinforced concrete members."

	Typical new product nomenclature	
Old product nomenclature	Cement type	Cement strength class
OPC	CEMI	32,5
	CEMI	32,5R
RHC	CEMI	42,5
	CEMI	42,5R
LASRC	No provision made	No provision made
PC15SL	CEM II/A-S	32,5
	CEM II/A-S	32,5R
	CEM II/A-S	42,5
RH15FA	CEM II/A-V	42,5
	CEM II/A-V	42,5R
	CEM II/A-W	42,5
	CEM II/A-W	42,5R
PBFC	CEM III/A	32,5
	CEM III/A	32,5R
PFAC	CEM II/B-V	32,5
	CEM II/B-W	32,5
RH30SL	CEM II/B-S	32,5R
	CEM II/B-S	42,5
RH40SL	CEM III/A	32,5R
	CEM III/A	42,5

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

B1231COMMUNITY LIAISON OFFICER (CLO)

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

(a) Duties of the Community Liaison Officer

The Community Liaison Officer's duties will be:

- (i)To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
- (ii)To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
- (iii)To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
- (iv)To attend all meetings in which the community and/or labour are present or are required to be represented.
- (v)To assist in the identification, and screening of labourers from the community in accordance with the contractor's requirements.
- (vi)To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.
- (vii)To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
- (vii)To keep a daily written record of his interviews and community liaison.
- (xi)To attend monthly site meetings to report on labour and RDP matters.
- (x)All such other duties as agreed upon between all parties concerned.
- (xi)To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).

(b) Payment for the community liaison officer

A special pay item is incorporated in section 1200 of the bill of quantities relating to payment of the liaison officer on a prime cost sum basis. This payment shall only be made for the period for which the duties of the liaison officer are required and not necessarily for the full duration of the contract. The remuneration of the CLO shall be determined by Employer with a minimum salary of R6 000.00 per month.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

(c) Period of employment of the community liaison officer

The period of employment of the community liaison officer shall be as decided upon jointly by the contractor, engineer and employer at a maximum period of a six-month basis, but with the option of renewal

B1232SUBCONTRACTORS

Over and above the stipulations of clause 8 of the General Conditions of Contract 2015, regarding subletting of part of the works, it is a condition of the contract that an approved subcontractor shall not sublet part of his work, covered in his appointment by the main contractor, to another subcontractor without the consent and approval of the engineer. Subletting shall in all cases be critically considered by the engineer.

In addition to the provisions of clause 8 of the general conditions of contract regarding subcontracting of the works, it is a requirement of this contract that an approved subcontractor shall not further subcontract work subcontracted to him by the main contractor, to another subcontractor without the consent and approval of the engineer. Subcontracting shall in all cases be critically considered by the engineer. The engineer reserves the right to limit the extent, or the volume of work subcontracted by the contractor, should he deem it necessary in terms of progress or quality of workmanship.

B1233WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Deceases Act (COIDA). The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen's Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be covered by the Contractor to be deemed as included in his General Obligations rates in Section 1300 of the Bill of Quantities.

Add the following clause:

•The contractor shall take the necessary steps to ensure that the work area of the borrow pits are safe at all times. This shall include items such as the provision of fencing and security guards.

(d) Duties of the Manager

The minimum duties of the manager supervising the activities at borrow pits shall be:

- •Maintain a healthy and safe borrow pit environment.
- •Identify hazards and related risks to which persons and employees are exposed.
- •Establish a health and safety policy that
- Describes the organisation of work.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Contains aspects concerning the protection of the employees and other persons' health and safety.
- · Contains a risk analysis.
- •Supply and erect the necessary safety and warning signs.

Add the following pay items and change the clause number.

B12.35MEASUREMENT AND PAYMENT

Add the following items:

ITEM UNIT B12.04 **Remuneration of the Community Liaison Officer** a) Remuneration of the Community Liaison Officer **Provisional Sum** b) Handling costs profit in of sub-item and respect B12.04(a) Percentage (%)

Expenditure of the above item shall be made in accordance with the general conditions of contract.

The tendered percentage is a percentage of the amount actually spent under the sub-item B12.04 (a), which shall include full compensation for the handling costs of the contractor, and the profit in connection with providing the community liaison officer."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B1302GENERAL REQUIREMENTS

(a)Camps, constructional plant and testing facilities

Add the following:

"The contractor shall, at each area where work is being undertaken, provide on a daily basis at least one (1) portable chemical latrine unit per thirty (30) workers for use by construction workers employed on the project. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the satisfaction of the engineer. No separate payment shall be made for this requirement and shall be deemed to be included in the rates tendered for the contractor's time-related obligations."

B1303PAYMENT

ITEM UNIT

B13.01The contractor's general obligations (As specified)

Add the following after the fifth paragraph:

"The combined total tendered for sub-items (a), (b) and (c) shall not exceed 15% of the tender sum, excluding VAT.

Should the contractor be of the opinion that 15% is inadequate to cover his costs in terms of section 1300, he shall indicate separately with his tender where such costs have been allowed for in his tender. If no such indication is given, the contractor shall not at any stage during the contract for any reason whatsoever claim additional compensation under this item."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

1400: HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL B1402OFFICES AND LABORATORIES

(a)General

Add the following:

"The facilities to be provided for the engineer in terms of these specifications shall be fenced off by a two-metre-high veranda type security fence with diamond mesh on the vertical portion and barbed wire on the overhang. A security gate shall be provided in the fence which shall be guarded at all times by an acceptable watchman provided by the contractor.

The engineer's establishment may be incorporated within the contractor's establishment provided that the preceding requirements are met to the satisfaction of the engineer.

Separate payment shall be made for the provision and erecting of the security fence and gate as indicated on the drawings, but the cost in respect of the provision of a watchman at all times by the contractor shall be deemed to be included in the contractor's tendered rate for item B13.01(c)."

(b)Offices

Add the following new sub-sub-clause:

"(xviii)The engineer's site supervisory staff shall be provided with cellular telephones by the contractor for site communication purposes. Provision is made in the bill of quantities for separate payment of the supply and operating costs of such cellular phones."

B1403HOUSING

(c)Rented accommodation

Add the following:

"The engineer may arrange for the obtaining of rented accommodation for his supervisory personnel on site. Payment of such rent shall be made under the provisional sum in sub-item 14.07(a) and shall be expended on a monthly basis by the contractor as ordered by the engineer."

B1406MEASUREMENT AND PAYMENT

Add the following sub-item:

ITEM UNIT

B1403 (b) (ii)Supply of cellular telephones, cost of calls and other charges PC Sum

B1403 (b) (ii) Handling cost and profit in respect of sub-item B14.03(b)(ii) Percentage (%)

The unit of measurement for sub-sub-item B14.03 (b) (ii) shall be the Prime Cost for the telephones supplied to the engineer's site supervisory staff, and the cost of call and other chargers.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Measurement and payment in respect of the prime cost item shall be made in accordance with the provisions of the general conditions of contract.

The tendered percentage is a percentage of the amount actually spent under sub-item B.14.03 (b)(ii), which shall include full compensation for the handling costs of the contractor, and the profit in connection with the payment of the cost of calls and other charges relating to the use by the engineers site staff of the supplied cellular telephones."

General: Method of payment

Add the following:

"The tendered rates under this section of the bill of quantities shall also include full compensation for the dismantling and removal from site of all offices, laboratories and other facilities provided for the engineer's supervisory staff at the completion of the contract."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

1800: DAYWORK SCHEDULE

Note: This is a new section added to the Standard Specifications. Add the following:

B1801 SCOPE

This section covers the listing of day work items for use in determining payment for work which cannot be quantified in specific pay item "units" in the bill of quantities or work ordered by the engineer during the construction period which was not foreseen at tender stage for which no applicable rate exists in the schedule or for work of a special or different character warranting special payment as decided by the engineer.

B1802 ORDERING OF DAYWORK

No daywork shall be undertaken unless specific written authorisation is obtained from the engineer.

B1803 MEASUREMENT AND PAYMENT

The engineer may order the following daywork items:

ITEM	DESCRIPTION	UNIT
B18.01	Labourers:	
	(i) Unskilled	Hour (h)
	(ii) Semi-skilled	Hour (h)
	(iii) Skilled	Hour (h)
B18.02	Foreman	Hour (h)
B18.03	Tipper trucks:	
	(i) 3 – 5 ton	Hour (h)
	(ii) 5,1 – 10 ton	Hour (h)
B18.04	Loader (0,5m³)	Hour (h)
B18.05	Grader (CAT 140G or similar)	Hour (h)
B18.06	LDV	Hour (h)
B18.07	Compaction Rollers:	
	(i) Vibrator roller	Hour(h)
	(ii) Tamping roller	Hour (h)
	(iii) Grid roller	Hour(h)
B18.08	Hand Controlled Compactors	
	(i) Pedestrian roller (Bomag BW90)	Hour(h)
	(ii) Vibratory plate	Hour(h)
	(iii) Rammers	Hour(h)
B18.09	Water truck (min 10000 I)	Hour(h)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

B18.10

The unit of measurement shall be the actual number of hours worked by labourers or foremen or an item of plant.

The tendered rates shall include full compensation for all cost items including overheads, headoffice expenses and profits as described in subclause 40(3) of the general conditions of contract and shall be subject to contract price adjustment as provided for in the contract.

The mark-ups on daywork items in accordance with the Appendix to the Tender shall not be applicable on daywork items listed in the bill of quantities in terms of the above specifications. In the event of new daywork rates being requested for items not appearing in the bill of quantities, then the provisions of the general conditions of contract and the Appendix to the Tender shall apply.

Prior to the commencement of any work by the labourers described under item B18.01, the contractor must obtain written consent from the engineer regarding the classification and composition of all labourers in terms of "unskilled" and "skilled" labourers required for the work as ordered by the engineer."

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3 PROJECT SPECIFICATIONS: ADDITIONAL SPECIFICATIONS

CONTENTS

C3.4.3.1 REGULATIONS	REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT
C3.4.3.2	ENVIRONMENTAL MANAGEMENT PLAN
C3.4.3.3	PROVISION OF STRUCTURED TRAINING
C3.4.3.4	REQUIREMENTS OF EXTENDED PUBLIC WORKS PROGRAMME

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

ANNEXURE 3: LIST OF RISK ASSESSMENTS

C3.4.3.1OCCUPATIONAL HEALTH AND SAFETY ACT 1993: HEALTH AND SAFETY SPECIFICATION

CONTENTS

C3.4.3.1.1	INTRODUCTION
C3.4.3.1.2	SCOPE
C3.4.3.1.3	GENERAL OCCUPATIONAL HEALTH AND SAFETY PROVISIONS
C3.4.3.1.4	OPERATIONAL CONTROL
ANNEXURE 1:	MEASURING INJURY EXPERIENCE
ANNEXURE 2:	EXECUTIVE SHE RISK MANAGEMENT REPORT

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

1. Introduction

In terms of the Construction Regulation 5(1) (b) of the Occupational Health and Safety Act, No. 85 of 1993, Thabazimbi Local Municipality (Tlm), as the Client, is required to compile a Health & Safety Specification for any intended project and provide such specification to any prospective tenderer.

The Client's further duties are as in C3.5.1.3.1.1. below and in the Construction Regulations, 2014.

This specification has as objective to ensure that Principal Contractors entering a Contract with the Thabazimbi Local Municipality (TLM) achieve an acceptable level of OH&S performance. This document forms an integral part of the Contract and Principal, and other Contractors should make it part of any Contracts that they may have with Contractors and/or Suppliers.

Compliance with this document does not absolve the Principal Contractor from complying with minimum legal requirements and the Principal Contractor remains responsible for the health & safety of his employees and those of his Mandataries.

2. Scope

Development of a health & safety specification that addresses all aspects of occupational health and safety as affected by the abovementioned contract work.

The specification will provide the requirements that Principal Contractors and other Contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

3. General Occupational Health & Safety Provisions

(a) Hazard Identification & Risk Assessment (Construction Regulation 9)

(i) Risk Assessments

Annexure 3 contains a list of Risk Assessment headings that have been identified by THABAZIMBI LOCAL MUNICIPALITY as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is offered as an assistant to Contractors intending to tender.

Based on the Risk Assessments, the Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

The Risk Assessments, together with the site-specific OH&S rules must be submitted to the THABAZIMBI LOCAL MUNICIPALITY before mobilisation on site commences.

Despite the Risk Assessments listed in Annexure 3, the Principal Contractor is required to conduct a baseline Risk Assessment, and the aforesaid listed Risk Assessments must be incorporated into the base-line Risk Assessment. The baseline Risk Assessment must further include the Standard Working procedures (SWP) and the applicable Method Statements based on the Risk Assessments

All out-of-scope work must be associated with a Risk Assessment.

(ii) Review of Risk Assessments

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each Production Planning and Progress Report meeting as the Contract work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractors and all other concerned parties with copies of any changes, alterations or amendments as contemplated in above.

(b)Legal Requirements

All Contractors entering into a Contract with the THABAZIMBI LOCAL MUNICIPALITY shall, as a minimum, comply with the

- Occupational Health & Safety Act and Regulations (Act 85 of 1993). A current, up-todate copy of the OHS Act must always be available on site
- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993). The principal
 Contractor will be required to submit a letter of Registration and "good standing" from
 the Compensation Insurer before being awarded the Contract. A current, up-to-date
 copy of the COID Act must always be available on site.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Where work is being carried out on mines' premises the Contractor will have to comply
with the Occupational Health & Safety Act 85 of 1993 and Construction Regulations
2014 19960 and any other OH&S requirements that the construction may specify. A
current, up-to-date copy of the OHS Act must always be available on site.

(c) Structure and Responsibilities

(i) Overall Supervision and Responsibility for OH&S

*It is a requirement that the Principal Contractor, when he appoints Contractors (Sub-contractors) in terms of Construction Regulations 5(3), (5), (9), (10) and (12) he includes an OHS Act Section 37(2) agreement: "Agreement with Mandatary" in his agreement with such Contractors.

*Any OH&S Act (85/1993), Section 16(2) appointee/s as detailed in his/her/their respective appointment forms

(ii) Further (Specific) Supervision Responsibilities for OH&S

The Contractor shall appoint designated competent employees and/or other competent persons as required by the Act and Regulations. Below is a list of identified appointments and may be used to select the appropriate appointments for the current contract:

Ref. Section/Regulation in OHS Act

Batch Plant Supervisor (Construction Regulation 6(1)

Construction Vehicle/Mobile Plant/ Machinery Supervisor (Construction Regulation)

Demolition Supervisor (Construction Regulation 12)

Drivers/Operators of Construction Vehicle/Plant (Construction Regulations 21)

Electrical Installation and Appliances Inspector (Construction Regulation 22)

Emergency/Security/Fire Coordinator (Construction Regulation 27)

Excavation Supervisor (Construction Regulation 11)

Explosive Powered Tool Supervisor (Construction Regulation 19)

Fall Protection Supervisor (Construction Regulation 8)

First Aider (General Safety Regulation 3)

Fire Equipment Inspector(Construction Regulation 27)

Formwork & Support work Supervisor (Construction Regulation 10)

Hazardous Chemical Substances Supervisor (HCS Regulations)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Incident Investigator GAR 9(2)

Ladder Inspector DMR 19(8)

OH&S Committee (OHS Act Section 19) Sec.19(3)

OH&S Officer (Construction Regulation 6(6)8(5)

OH&S Representatives (OHS Act Section 17)

Person Responsible for Machinery (General Machinery Regulation 2)

Scaffolding Supervisor (Construction Regulation 1416(1))

Stacking & Storage Supervisor (Construction Regulation 26) CR 28(a)

Structures Supervisor (Construction Regulation 9) CR 12(2)

Suspended Platform Supervisor (Construction Regulation 15) CR 17(1)

Vessels under Pressure Supervisor (Vessels under Pressure Regulations)

Working on/next to Water Supervisor (Construction Regulation 24)

Welding Supervisor (General Safety Regulation 9)

The appointments must be in writing and the responsibilities clearly stated together with the period for which the appointment is made. This information must be communicated and agreed with the appointees.

Copies of appointments must be submitted to the THABAZIMBI LOCAL MUNICIPALITY together with concise CV's of the appointees. All appointments must be officially approved by THABAZIMBI LOCAL MUNICIPALITY. Any changes in appointees or appointments must be communicated to THABAZIMBI LOCAL MUNICIPALITY forthwith.

The Principal Contractor must, furthermore, provide THABAZIMBI LOCAL MUNICIPALITY with an organogram of all Contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

In addition, THABAZIMBI LOCAL MUNICIPALITY may require that a Traffic Safety Officer be appointed for any project.

(iii) Designation of OH&S Representatives (Section 18 of the OHS Act)

OH&S Representatives must be designated in writing, and the designation must include the area of responsibility of the person and term of the designation.

(iv)Duties and Functions of the OH&S Representatives (Section 19 of the OHS Act)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor

OH&S representatives must be included in accident/incident investigations

OH&S representatives must attend all OH&S committee meetings.

(v) Appointment of OH&S Committee (Section 20 of the OHS Act)

The Principal Contractor must establish an OH&S Committee consisting of all the designated OH&S Representatives together with a number of management representatives that are not allowed to exceed the number of OH&S representatives on the committee and a representative of the Client who shall act as the chairman without a vote. The members of the OH&S committee must be appointed in writing.

The OH&S Committee must meet minimum monthly and consider, at least, the following Agenda:

- 1. Opening & Welcome
- 2.Present/Apologies/Absent
- 3. Minutes of previous Meeting
- 4.Matters Arising from the previous Minutes
- 5.OH&S Reps Reports
- 6.Incident Reports & Investigations
- 7.Incident/Injury Statistics
- 8. Other Matters
- 9.Endorsement of Registers and other statutory documents by a representative of the Principal Contractor
- 10.Close/Next Meeting
- (d)Administrative Controls and the Occupational Health & Safety File

The OH&S File (Construction Regulation 5 (7)) CR 7(1)(a)

As required by Construction Regulation 5(7) CR 7(1)(a), the Principal Contractor and other Contractors will each keep an OH&S File on site containing the following documents as a minimum:

- Notification of Construction Work (Construction Regulation 4.)
- Copy of OH&S Act (updated) (General Administrative Regulation 4.)
- Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- OH&S Programme agreed with the Client including the underpinning Risk Assessment/s & Method Statements (Construction regulation 5 (1))
- Copies of OH&S Committee and other relevant Minutes
- Designs/drawings (Construction Regulation 5 (8))
- A list of Contractors (Sub-Contractors) including copies of the agreements between the parties and the type of work being done by each Contractor (Construction Regulation 9)
- Appointment/Designation forms as per (a)(i) & (ii) above.
- Registers as follows:
- Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
- OH&S Representatives Inspection Register
- Asbestos Demolition & Stripping Register
- Batch Plant Inspections
- Construction Vehicles & Mobile Plant Inspections by Controller
- Daily Inspection of Vehicles. Plant and other Equipment by the Operator/ Driver/User
- Demolition Inspection Register
- Designer's Inspection of Structures Record
- Electrical Installations, -Equipment & -Appliances (including Portable Electrical Tools)
- Excavations Inspection
- Explosive Powered Tool Inspection, Maintenance, Issue & Returns Register (incl. cartridges & nails)
- Fall Protection Inspection Register
- First Aid Box Contents
- Fire Equipment Inspection & Maintenance
- Formwork & Support work Inspections
- Hazardous Chemical Substances Record
- Ladder Inspections
- Lifting Equipment Register
- Materials Hoist Inspection Register
- Machinery Safety Inspection Register (incl. machine guards, lockouts etc.)
- Scaffolding Inspections
- Stacking & Storage Inspection
- Inspection of Structures
- Inspection of Suspended Platforms
- Inspection of Tunnelling Operations
- Inspection of Vessels under Pressure
- Welding Equipment Inspections
- Inspection of Work conducted on or Near Water
- All other applicable records

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Thabazimbi Local Municipality will conduct an audit on the OH&S file of the Principal Contractor from time-to-time.

(e) OH&S Goals & Objectives & Arrangements for Monitoring & Review of OH&S Performance

The Principal Contractor is required to maintain a CIFR of at least 8 (See Annexure 1. to this document: "Measuring Injury Experience) and report on this to Thabazimbi Local Municipalityon a monthly basis

(f) Notification of Construction Work (Construction Regulation 4.)

The Principal Contractor must, where the Contract meets the requirements laid down in Construction Regulation 4, within 7 working days, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure A in the Construction Regulations) for the purpose. A copy must be held on the OH&S File, and a copy must be forwarded to Thabazimbi Local Municipality For record keeping purposes.

(g) Training, Awareness and Competence

The contents and syllabi of all training required by the Act and Regulations are to be included in the Principal Contractor's OH&S Plan.

(i) General Induction Training

All members of Contractor's Site management as well as all the persons appointed as responsible for OH&S in terms of the Construction and other Regulations will be required to attend a general induction session by the Client

All employees of the principal and other Contractors to be in possession of proof of General Induction training.

(ii) Site Specific Induction Training

The Principal Contractor will be required to develop Contract work project specific induction training based on the Risk Assessments for the Contract work and train all employees and other Contractors and their employees in this.

All employees of the Principal and other Contractors to always be in possession of proof of Site Specific OH&S Induction training.

(iii) Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training as follows:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

OH&S Training Requirements: (as required by the Construction Regulations and as indicated by the OH&S Specification & the Risk Assessment/s):

*General Induction (Section 8 of the Act)

- Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act) Sec.17(1)
- Site/Project Manager
- Construction Supervisor
- OH&S Representatives (Section 18 (3) of the Act)
- Training of the Appointees indicated above
- Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
 CR 29
- Basic First Aid (General Safety Regulations 3)
- Storekeeping Methods & Safe Stacking (Construction Regulation 26) CR 28(a)
- Emergency, Security and Fire Co-coordinator
 - (iv) Awareness & Promotion

The Principal Contractor is required to have a promotion and awareness scheme in place to create an OH&S culture in employees. The following are some of the methods that may be used:

- Toolbox Talks
- OH&S Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as OH&S Safety circles.

(v) Competence

The Principal Contractor shall ensure that his and other Contractor's personnel appointed are competent and that all training required to do the work safely and without risk to health, has been completed before work commences

The Principal Contractor shall ensure that follow-up and refresher training is conducted as the contract work progresses and the work situation changes.

Records of all training must be kept on the OH&S File for auditing purposes.

(h) Consultation, Communication and Liaison

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

OH&S Liaison between the Client, the principal Contractor, the other Contractors, the Designer and other concerned parties will be through the OH&S committee as contemplated in above.

In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any.

The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/ situations etc.

The Principal Contractor will be required to do Site Safety Walks with THABAZIMBI LOCAL MUNICIPALITY at least on a basis to be determined between the two parties.

The Principal and other Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis and records of these must be kept on the OH&S File. Employees must acknowledge the receipt of Toolbox Talks which record must, likewise, be kept on the OH&S File.

The Principal Contractors most senior manager on site will be required to attend all THABAZIMBI LOCAL MUNICIPALITY OH&S meetings and

a list of dates, times and venues will be provided to the Principal Contractor by THABAZIMBI LOCAL MUNICIPALITY.

- (i) Checking, Reporting and Corrective Actions
- (ii) Monthly Audit by Client (Construction Regulation 1(d))

Thabazimbi Local Municipalitywill be conducting a Monthly Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

(iii)Other Audits and Inspections by Thabazimbi Local Municipality:

Thabazimbi Local Municipalityreserves the right to conduct other ad hoc audits and inspections as deemed necessary. This will include Site Safety Walks.

(iii)Conducting an Audit

A representative of the Principal Contractor must accompany Thabazimbi Local Municipalityon all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

(iv)Contractor's Audits and Inspections

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Principal Contractor is to conduct his own monthly internal audits to verify compliance with his own OH&S Management system as well as of with this specification.

(v)Inspections by OH&S Representative's and other Appointees

OH&S Representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments e.g. vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

(vi)Recording and Review of Inspection Results

All the results of the abovementioned inspections to be in writing, reviewed at OH&S committee meetings, endorsed by the chairman of the meeting and placed on the OH&S File.

(vii)Reporting of Inspection Results

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 2: "SHE Risk Management Report"

(j)Incident Reporting and Investigation

Reporting of Accidents and Incidents (Section 24 and General Administrative Regulation 8 of the OHS Act)

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb
- is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed
- OR where:
- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- · machinery ran out of control

to Thabazimbi Local Municipalitywithin two days and to the Provincial Director of the Department of Labour within seven days (Section 24 of the Act & General Administrative Regulation 8.)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

EXCEPT that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both Thabazimbi Local Municipality and the Provincial Director of the Department of Labour forthwith by telephone, telefax or E-mail.

The Principal Contractor is required to provide Thabazimbi Local Municipality with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring.

The Principal Contractor is required to provide Thabazimbi Local Municipality with copies of all internal and external accident/incident investigation reports including the reports contemplated below within 7 days of the incident occurring.

Accident and Incident Investigation (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to be referred for medical treatment by a doctor, hospital or clinic

The results of the investigation to be entered into the Accident/Incident Register listed in above.

The Principal Contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Thabazimbi Local Municipalityreserves the right to hold its own investigation into an incident or call for an independent external investigation.

4. Operational Control

(a) Emergency Preparedness, Contingency Planning and Response

The Principal Contractor must appoint a competent person to act as Emergency Controller/Coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, considering any emergency plan that Thabazimbi Local Municipalitymay have in place.

The Principal Contractor and the other Contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

(b) First Aid (General Safety Regulation 3)

The Principal Contractor must provide First Aid equipment (including a stretcher) and have qualified First Aider/s as required by General Safety Regulation 3 of the OHS Act.

The Contingency Plan of the Principal Contractor must include the arrangements for speedily and timeously transporting injured/ill person/s to a medical facility or of getting emergency medical aid to person/s that may require it.

The Principal Contractor must have firm arrangements with his other Contractors in place regarding the responsibility of the other Contractors injured/ill employees

(c)Security

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period

(d)Fall Protection (Working in Elevated Positions (Construction regulation 8.)

A pre-emptive Risk Assessment will be required for any work to be carried out above two metres from the ground or any floor level and will be classified as "Work in Elevated Positions".

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he/she is working at ground level and whilst working in this position be wearing a single belt with lanyard that will be worn to prevent the person falling from the platform, ladder or other device utilised. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length that the person will not be able to move over the edge.

Alternatively, any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with guard rails at two different heights as prescribed in SABS 085: Code of Practice for the Design, Erection, Use and Inspection of Access Scaffolding.

Where the requirement in is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device OR the person must be attached to an approved, by Thabazimbi Local Municipality, fall arrest system.

Where the requirements are not practicable, a suitable catch net must be erected.

Workers working in elevated positions must be trained to do this safely and without risk to health

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Where work on roofs is carried out, the Risk Assessment must consider the possibility of persons falling through fragile material. Skylights and openings in the roof.

5. Measurement and Payment

Payment for the contractor's obligations in respect of the Occupational Health and Safety act and Construction Regulations shall be made through three payment items described below. The three payment items together shall include full compensation for all personnel (including a dedicated full time Construction Safety Officer), cost and incidentals in respect of compliance with the enforcement of the Health and Safety Specifications, which shall include for the compilation, presentation, implementation and maintenance of the Health and Safety Plan as contemplated. In tendering rates for the three items the contractor shall ensure that the sum of the amounts for the three items shall not be less than one percent (1%) of the Tender Amount.

6. Medical Surveillance And PPE

The Contractor to establish a risk medical surveillance programme that will be implemented to measure and control identified hazards employees are exposed to as per **Regulation For Hazardous Biological Agents 2022.** This will be done by suitably qualified and competent occupational health practitioners at appropriate facilities and addressed on a Annexure 3 form.

All employees will be subjected to medical screening at pre-employment to determine their fitness for work. Employees will also undergo periodic screening yearly, or as per their risk profile. Where employees leave service with the company, exit medical screening will be required.

All records on medical screening examinations will be kept on file and made available to the Client and any other agencies on request.

The constructor will take all necessary measures to ensure that all hired employees have updated medical certificates before commencement of works and medical certificates to be in line with the requirements from the Department Of Labour.

In addition, Personal protective equipment shall be used as a last resort in averting risk, however the constructor will provide full PPE to its employees and proof in the form of PPE register for all employees will be provided at all-times kept in the file:

The employer shall ensure all workers are issued and wear the required personal protective equipment as identified.

Training will be provided on the usage and safe keeping of PPE to all employees and ensure that adequate stock of SABS approved PPE is kept on site.

PPE shall be replaced by the contractor if it is lost, stolen, worn or damaged.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

It is acknowledged that employees do not have the right to refuse to use/wear the equipment

prescribed by the employer and, If it is impossible for an employee to use or wear prescribed

protective equipment through health or any other reason, the employee will not be allowed to

continue working under the hazardous condition/s for which the equipment was prescribed but

an alternative solution will have to be found that may include relocating or discharging the

employee.

The basic PPE to be supplied to workers should be as follows unless in special occasions where

special PPE should be added in case of HBAs then the employer or self-employed person must

ensure that the standard precautions are implemented to reduce the risk of transmission of HBAs

in a workplace, which may include;

1. Hand Gloves

2. Dust mask/respiratory protective equipment

3. Goggles

4. Overalls

5. Safety boots (SAB Approved)

6. Vests (reflectors)

7. Hard hats

8. Face or eye protection

9. Hearing protection

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Item Unit

C1.1 Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations Lump Sum

The full amount will be paid in one instalment only once:-

- a) The contractor has notified the Provincial Director of the Department of Labour in writing of the project.
- b) The contractor has made the required initial appointments of employees and subcontractors.
- c) The client has approved the contractor's Health and Safety Plan.
- d) The contractor has set up his Health and Safety File.

Item Unit

C 1.2 Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations Month

The tendered monthly amount shall represent full compensation for that part of the contractor's general obligations in terms of the Occupational Health and Safety Act and the Construction Regulations which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item **C1.1** has been made.

Item Unit

C1.3Submission of the Health and Safety File Lump Sum

The tendered lump sum shall represent full compensation for the contractor meeting all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and for the preparation and submission of his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

This amount will be paid only once the contractor has met all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

7. Project/Site Specific Requirements

See Annexure 3

Annexure 1: Measuring Injury Experience

Annexure 2: SHE Risk Management Report

Annexure 3. List of Risk Assessments

C.242

THABAZIMBI LOCAL MUNICIPALITY

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

ANNEXURE 1: MEASURING INJURY EXPERIENCE

Injury experience has traditionally been measured by the use of a disabling injury frequency rate, the so-called "DIFR". The DIFR is calculated by multiplying the number of disabling injuries by 1

million and dividing by the number of man-hours worked.

Lately the DIFR has been replaced internationally with a DIIR: disabling injury incidence rate. The only difference between the two rates is that the 10 million in the calculation is replaced with 200 000. (200 000 purported to be the number of hours and average person works in a lifetime.)

The use of the two rates above has proved to be somewhat problematical as they are open to manipulation and disabling injuries are often "hidden" by returning the injured employee to the workplace so as not to lose a shift and therefore having to register a disabling injury.

The Construction Industry recently decided to promote the use of a new frequency rate based on the number of compensation injury claims as these are more difficult to hide or manipulate because the reporting of compensable injuries is a legal requirement.

The industry is hoping that adoption of this new measurement of injury experience will enable the industry to monitor itself as far as work related injuries are concerned.

Below follows an explanation of this new rating system.

COMPENSATION INCIDENCE FREQUENCY RATE (CIFR)

FORMULA

No. of Compensation Claims X 200 000 /

*220-man hours X No. of Employees

DEFINITIONS

No. of Compensation

Claims: The number of claims lodged with the COID insurer for the period under

review

200 000: The fixed factor to align the rate with other rates used internationally

Manhours Worked

Include: **Hourly Paid Employees**

Sub-contractors (No. of Employees X *220 each)

Staff (No. of Employees X *220 hours each)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

220 manhours: The *average number of hours worked by one employee in one month in the Construction industry.

* Overtime, absence on leave or sick leave, unrecorded after hours' time worked by senior and middle management factored into this average.

No. of Employees: The actual or average number of employees employed

for the period under review.

2002/03CIFRSystem

C.244

THABAZIMBI LOCAL MUNICIPALITY

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

ANNEXURE 2: EXECUTIVE SHE RISK MANAGEMENT REPORT T2.2 A

The SAFCEC OH&S committee recently developed the following report in an attempt to

standardise on reporting and assist contractors in obtaining a clear picture of their SHE Risk

Management performance. It is hoped that clients will also accept this standardised report. Your

comments/suggestions for improvement are invited.

EXAMPLE ONLY: ALL INFORMATION IS FICTITIOUS

Xvz construction

*SHE RISK MANAGEMENT REPORT

PERIOD JANUARY TO MARCH 2002

*(SHE = Safety, Health & Environment)

1. Introduction

We hope that this new format of quarterly SHE Risk Management reporting will provide a clear

picture of the company's performance as far as occupational health & safety is concerned.

The first quarter of 2002 generally reflected an improvement in injury experience and shows a

decline in the number of injuries. Although Building was the only division where there was an

increase in compensation claims, figures are still well down from the average 2001 figures. A sub-

contractor experienced one fatality.

All divisions are eagerly awaiting the final implementation in May of the new electronic SHE

Management system that will make the tools to implement the SHE programmes available to all

management and supervisory staff.

2. **Incident Statistics**

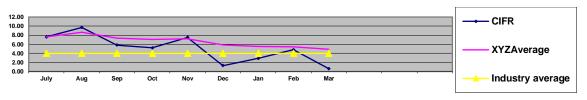
Compensation Incident Frequency Rate (CIFR)

CIFR = Total No. of Claims against the Workmen's Compensation Fund X 200 000

CONTRACT NO: TECH/02/2025-26

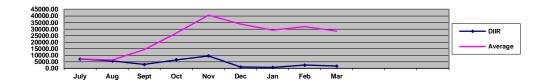
REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Manhours worked



2.2.

Disabling Injury Incidence Rate (DIIR)



2.3. Other Major Incidents

Three other major incidents were experienced in the period under review:

- 2.3.1. A major trench collapsed at Job. 00123: XYZ Head Office, Bochum: No personnel injured, extensive damage to foundations: 3 days delay.
- 2.3.2. A concrete dumper ran away when its brakes failed. It smashed into the glass façade of the building on Job 00332: McDonalds, Polokwane. The driver jumped off and was not injured. Cost of damage to façade: R45 000.
- 2.3.3. A storage hut on Job 00567: BP Petrol Station, Swartruggens was demolished by fire when the night watchman made a fire inside the storage hut which contained concrete vibrators and levelling machines. Cost of replacing the hut and machines: R30 000

3. RISK AREAS

The following items of concern need priority consideration by management:

- 3.1. New employees must undergo pre-employment medical examinations to:
 - protect XYZ from claims at a later stage
 - ensure that only healthy persons are employed

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- prevent injuries and illness in the workplace
- enhance XYZ image
- 3.2. Vehicle drivers and plant operators must be instructed to inspect their vehicles daily before start-up using the prescribed checklists to ensure that these are safe to operate and in good condition.

4. AUDITS

Three SHE audits were conducted in February and March:

4.1. Job 00432: Gillooly's Mall Compliance: 56% (*)

Job 00786: Cullinan Head Office Compliance: 83% (****)

Job 00589: Cleveland Station Compliance: 76% (***)

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

5. TRAINING

One hundred and forty-two employees, representing 7% of employees, attended nine training courses. *Our objective is to train 5,5% of employees quarterly.

Month	No. of Employees Trained	Course	Source
January	26	Induction	Internal
	15	OH&S Reps	Consultant
	3	Crane Drivers	External
February	23	Induction	Internal
	17	OH&S Reps	Consultant
March	43	Induction	Internal
	9	OH&S Reps	Consultant
	3	Bomag	Supplier
	3	Rollers	St. John's
		First Aiders	

6.LEGAL ISSUES

6.1. An inspector of the Department of Labour issued an improvement notice on Job 00987: Gillooly's Mall. The notice requires that all scaffolding comply with the SABS standards for the Erection and Maintenance of Access Scaffolding (SABS 085). This is currently being attended to and the inspector will return on 15 April 2002 to ascertain if the notice has been complied with.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

8. OCCUPATIONAL AIND OTHER HEALTH MATTERS

8.1. HIV Aids

The proposed SAFCEC clinic will soon be operational, and we will then be able to send our employees who have tested positive to the clinic for counselling and eventual treatment when necessary. The mobile clinic saw and tested fifty employee volunteers at 3 sites this month.

Eighteen of them tested positive.

8.2. Tuberculosis

The mobile clinic will be calling at Gillooly's Mall and Cleveland Station on 15 and 16 October respectively to screen employees for TB.

8.3. Noise

9.

All suspected noise pollution areas have been tested, and the results are awaited. Employees working in areas testing over 85dBa will be issued with suitable hearing protectors.

ENVIRONMENTAL MEASURES

Inspectors from the South Africa Department of the Environment visited Thabazimbi and inspected the site and yard. They gave it a "clean bill of health" and advised that we should increase the dust control measures by spraying roads three times per day instead of the present twice per day.

10. ACHIEVEMENTS/AWARDS

10.1. The client at Thabazimbi (Job 00786) awarded the XYZ site first position in the housekeeping competition conducted bi-monthly by the client's SHE managers. The

project manager and his team are to be congratulated for this sterling effort.

10.2. Job 0987: Thabazimbi Wastewater Treatment Works Refurbishment has just completed 1million compensation claim free days. This was no easy achievement if we consider the conditions being worked under after the extensive fire that caused

major damage.

SHE Risk Manager

2002.09.27

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

T2.2 B ANNEXURE 3: LIST OF RISK ASSESSMENTS

*Clearing & Grubbing of the Area/Site

*Site Establishment including:

- -Office/s
- -Secure/safe storage for materials, plant & equipment
- -Ablutions
- -Sheltered eating area
- -Maintenance workshop
- -Vehicle access to the site
- Dealing with existing structures
- Location of existing services
- Installation and maintenance of temporary construction electrical supply, lighting and equipment
- Adjacent land uses/surrounding property exposures
- Boundary and access control/Public Liability Exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
- Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning etc.
- Exposure to noise
- Exposure to vibration
- Protection against dehydration and heat exhaustion
- Protection from wet & cold conditions
- Dealing with HIV/Aids and other diseases
- Use of Portable Electrical Equipment including
- Angle grinder
- Electrical drilling machine
- Skill saw

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C1.4 * Excavations including

- Ground/soil conditions
- Trenching
- Shoring
- Drainage of trench

C1.5 * Welding including

- Arc Welding
- Gas welding
- Flame cutting
- Use of LP gas torches and appliances
- Loading & offloading of trucks
- · Aggregate/sand and other materials delivery
- Manual and mechanical handling
- · Lifting and lowering operations
- Driving & operation of construction vehicles and mobile plant including
- Trenching machine
- Excavator
- Bomag roller
- Plate compactor
- Front end loader
- Mobile cranes and the ancillary lifting tackle
- Parking of vehicles & mobile plant
- Towing of vehicles & mobile plant
- Use and storage of flammable liquids and other hazardous substances
- Layering and bedding
- Installation of pipes in trenches
- Pressure testing of pipelines
- Backfilling of trenches
- · Protection against flooding
- Gabion work
- Use of explosives
- Protection from overhead power lines
- As discovered by the Principal Contractor's hazard identification exercise
- As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site
- As discovered from any accident/incident investigation.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C34.3.2: ENVIRONMENTAL MANAGEMENT PLAN

CONTENTS LIST

Section	Description	Page No
Section C3.4.3.2.1	Scope	
Section C3.4.3.2.2	Definitions	C.249
Section C3.4.3.2.3	Identification of environmental aspects and impacts	C.250
Section C3.4.3.2.4	Legal requirements	
Section C3.4.3.2.5	Administration of environmental obligation	C.252
Section C3.4.3.2.6	Training	C.253
Section C3.4.3.2.7	Activities/ Aspects causing impacts	C.253
Section C3.4.3.2.8	Environmental management of construction activities	
Section C3.4.3.2.9	Record keeping	C.269
Section C3.4.3.2.10	Compliance and penalties	C.270
Section C3.4.3.2.11	Measurement and payment	

END OF SECTION

C.252

THABAZIMBI LOCAL MUNICIPALITY

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.2.1. SCOPE

a) Purpose and Intent

The purpose of this Environmental Management Specification (EMS) is to define, communicate, and enforce the environmental standards and performance expectations that the Contractor must meet during the construction phase. This specification forms part of the overall Environmental Management System for the project and shall be read in conjunction with:

- The approved Environmental Management Programme (EMPr);

- The Environmental Authorisation (EA) issued in terms of the National Environmental Management Act (NEMA);

- The Water Use Licence (WUL) issued under the National Water Act (NWA); and

 Any site-specific method statements, plans, or procedures developed to implement these requirements.

This specification also provides a detailed guidance to ensure that all construction works are undertaken in a socially responsible, environmentally sustainable, and legally compliant manner, consistent with the principles of sustainable development and environmental stewardship.

b). Application of the Specification

This specification applies to all works, personnel, equipment, and activities associated with the construction phase, including but not limited to:

- Site establishment and clearing (including vegetation removal, topsoil stripping, and access road development);
- Excavation, earthworks, and foundation preparation;
- Construction of civil, structural, electrical, and mechanical components of the WWTP;
- Material handling, transport, and storage (including hazardous substances);
- Temporary facilities such as camps, workshops, laydown areas, batching plants, and fuel storage areas;
- Stormwater management and dewatering activities;
- Waste generation, collection, storage, transportation, and disposal;
- Rehabilitation and site restoration following completion of construction works; and
- Decommissioning and demobilisation of temporary infrastructure.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The specification shall be binding on the Contractor, all subcontractors, suppliers, consultants, and any personnel or visitors entering the construction site under the Contractor's control.

c). Objectives of the Specification

The objectives of implementing this Environmental Management Specification are to:

- Ensure Legal Compliance: Guarantee that all construction activities conform to applicable environmental legislation, authorisations, and regulatory conditions.
- Prevent Environmental Degradation: Avoid or minimise negative impacts such as air, water, and soil pollution, erosion, noise, waste mismanagement, and loss of biodiversity.
- Protect Human Health and Safety: Reduce environmental risks that could endanger workers, nearby communities, or sensitive receptors such as watercourses and wetlands.
- Promote Sustainable Resource Use: Encourage efficient use of materials, energy, and water resources during construction.
- Facilitate Accountability and Transparency: Define clear responsibilities and communication structures for environmental management, monitoring, and reporting.
- Enhance Environmental Awareness: Promote environmental consciousness among all site personnel through induction, training, and continuous education.
- Support Project Certification and Compliance Verification: Provide documentation and evidence of compliance for auditing by the Environmental Control Officer (ECO), Engineer, and relevant authorities.

d). Relationship to Other Project Documents

This specification shall be read and implemented together with the following documents and plans, which collectively form the project's Environmental Management Framework:

- Environmental Management Programme (EMPr): Provides the overarching environmental objectives, mitigation measures, and monitoring requirements approved by the authorities.
- Environmental Authorisation (EA): Outlines specific legal conditions for environmental protection and compliance.
- Water Use Licence (WUL): Sets out the water-related conditions that govern abstraction, discharge, and protection of aquatic resources.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Health, Safety, and Environmental (HSE) Plan: Integrates occupational health and safety with environmental management practices.
- Method Statements: Developed by the Contractor to describe the detailed methods and controls for specific construction activities (e.g., fuel storage, batching, excavation).
- Emergency Response Plan: Details procedures for responding to environmental incidents, spills, or emergencies.

The requirements of this specification shall take precedence where environmental protection measures are more stringent than those contained in other project documentation or general construction specifications.

e). Scope Boundaries and Limitations

The scope of this Environmental Management Specification covers the construction phase only. It does not extend to:

- The operational phase of the WWTP (which will be managed under a separate Environmental Management System or Operational Environmental Management Plan).

However, the Contractor must ensure that the handover condition of the site supports seamless transition into the operational phase — i.e., the environment must be left in a stable, safe, and compliant state, the effluent discharge comply with all applicable water quality parameter standards as stipulated in the Water Use Licence (WUL) and the National Water Act (NWA).

f). Guiding Environmental Management Principles

The following environmental management principles shall guide all construction activities under this specification:

- Duty of Care: Every person on-site has a legal and moral obligation to prevent environmental harm.
- Precautionary Principle: Where environmental risks are uncertain, precautionary measures shall be implemented to avoid potential damage.
- Polluter Pays Principle: The Contractor shall bear the costs of remedying any pollution or environmental damage caused by their activities.
- Continuous Improvement: Environmental performance shall be reviewed regularly, with lessons learned applied to improve practices and prevent recurrence of incidents.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

g). Deliverables and Compliance Evidence

The Contractor shall prepare, maintain, and submit the following environmental management deliverables to demonstrate compliance with this specification:

- Site-specific Environmental Method Statements for all key construction activities;
- A Waste Management Plan outlining segregation, recycling, and disposal procedures;
- A Water and Pollution Control Plan, including stormwater management;
- A Rehabilitation and Site Closure Plan for post-construction activities;
- Monthly Environmental Monitoring and Compliance Reports;
- Records of training, audits, inspections, and incidents.

These deliverables shall be subject to review and approval by the Engineer and Environmental Control Officer (ECO) prior to the commencement of related activities.

h). Duration of Application

This specification shall apply from the date of site handover to the Contractor until the completion of all construction works, including demobilisation, rehabilitation, and the final environmental close-out audit.

No construction or site clearance activities may commence until:

- All required environmental authorisations have been issued; and

The Contractor's Environmental Management Plans and Method Statements have been reviewed and approved

C3.4.3.2.2. DEFINITIONS

Activity – Any action or process carried out as part of the construction works, including site establishment, earthworks, construction, operation of plant and equipment, maintenance, or decommissioning.

Affected Environment – The physical, biological, social, cultural, and economic components of the environment that may be influenced by a project activity.

Audit (Environmental Audit) – A systematic, independent, and documented process for obtaining evidence and evaluating it objectively to determine the extent to which specified environmental criteria are fulfilled.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Baseline Environment – The condition of the environment before commencement of construction, serving as a reference point for monitoring changes or impacts.

Batching Plant – A temporary facility used for mixing concrete, mortar, or other materials during construction.

Biodiversity – The variety and variability among living organisms and the ecological complexes of which they are part.

Client – The project proponent or entity (e.g., Thabazimbi Local Municipality or its appointed representative) responsible for implementing the WWTP project.

Community (Interested and Affected Parties) – Individuals, groups, or organisations that may be affected by, or have an interest in, the construction activities or their environmental impacts.

Construction Area / Site – The designated area where construction works, including site establishment, material storage, or related activities, are authorised to take place.

Contractor – The company or entity appointed under contract to execute the construction works in accordance with the Contract Documents, including this Environmental Management Specification.

Corrective Action – An action implemented to eliminate the cause of a detected non-conformance, defect, or undesirable situation to prevent recurrence.

Department of Water and Sanitation (DWS) – The national authority responsible for the management, regulation, and protection of South Africa's water resources under the National Water Act.

Department of Forestry, Fisheries and the Environment (DFFE) – The national competent authority responsible for environmental policy, legislation, and authorisation processes under the National Environmental Management Act (NEMA).

Disposal Site (Licensed Facility) – A waste management facility that is legally authorised to accept and dispose of specific types of waste, as per the National Environmental Management: Waste Act (Act 59 of 2008).

Dust Suppression – Measures taken to prevent or minimise the emission of dust from construction activities, such as wetting of surfaces or covering of stockpiles.

Emergency – Any unexpected event or incident that poses an immediate threat to human health, safety, property, or the environment and requires urgent response or mitigation.

Environmental Authorisation (EA) – The written approval issued by the competent authority in terms of the Environmental Impact Assessment Regulations under NEMA, permitting specific listed activities subject to conditions.

Environmental Control Officer (ECO) – An independent, suitably qualified environmental practitioner appointed by the Client to monitor and audit compliance with the EMPr, EA, and environmental specifications during construction.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Environmental Impact – Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products, or services.

Environmental Management Programme (EMPr) – The approved site-specific plan that details the environmental mitigation and management measures required during all project phases to ensure compliance with the EA.

Environmental Site Officer (ESO) – The Contractor's designated representative responsible for implementing the EMPr and this specification on-site, including daily inspections, reporting, and training.

Environmental Incident – Any unplanned occurrence that has resulted in, or could potentially result in, harm or degradation to the environment, including spills, leaks, fires, or unauthorised discharges.

Fauna – All animal life forms, including mammals, reptiles, amphibians, birds, insects, and aquatic species found within or near the construction area.

Flora – All plant species and vegetation types present within or surrounding the construction site.

Fuel Storage Area – A designated and bunded area for the safe storage and handling of petroleum, oil, or lubricants used on-site.

Hazardous Substance / Material – Any chemical, product, or waste that poses a risk to human health or the environment due to its physical, chemical, or toxic properties, as defined under the Hazardous Substances Act and NEM: WA.

Heritage Resource – Any place, building, structure, or object of cultural, historical, archaeological, or paleontological significance protected under the National Heritage Resources Act (Act 25 of 1999).

Incident Register – A documented log maintained by the Contractor that records all environmental incidents, including their description, date, impact, and corrective actions taken.

Legal Compliance – The fulfilment of all obligations imposed by applicable environmental laws, regulations, licences, and by-laws.

Limpopo Economic Development, Environment and Tourism (LEDET) – The provincial competent authority in the Limpopo Province responsible for implementing environmental management legislation, issuing environmental authorisations, conducting compliance monitoring, and enforcing environmental laws within its jurisdiction, in terms of the National Environmental Management Act (Act 107 of 1998).

Licensed Waste Facility – A facility that has obtained authorisation from the relevant authority to receive, treat, recycle, or dispose of waste in compliance with NEM: WA.

Method Statement – A detailed written document prepared by the Contractor describing the methodology for carrying out specific construction activities in compliance with environmental and safety requirements.

Mitigation Measure – Any action, design, or management practice implemented to avoid, reduce, or remedy adverse environmental impacts.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Monitoring – The systematic and continuous assessment of environmental parameters to evaluate compliance and detect changes caused by project activities.

Non-Compliance – Any deviation from the approved EMPr, Environmental Authorisation conditions, or this specification that results in a failure to meet environmental obligations.

Noise Control – Measures implemented to limit the generation and propagation of noise from construction activities to acceptable levels.

Pollution – Any change in the environment caused by substances or waste that adversely affects human health or the wellbeing of the environment, as defined under NEMA.

Polluter Pays Principle – The principle whereby the party responsible for environmental pollution or degradation bears the cost of remediation and restoration.

Personal Protective Equipment (PPE) – All clothing, equipment, or devices issued to or worn by workers to protect them from injury or exposure to health and environmental hazards. PPE includes, but is not limited to:

- Safety helmets (hard hats);
- High-visibility vests;
- Safety boots or gumboots;
- Gloves suitable for the task (chemical-resistant, cut-resistant, etc.);
- Eye and face protection (goggles, visors, or face shields);
- Hearing protection (earplugs or earmuffs);
- Respiratory protection (dust masks, respirators); and
- Protective overalls or chemical suits where hazardous substances are handled.

Precautionary Principle – A management approach where lack of scientific certainty shall not be used as a reason to postpone measures that prevent environmental degradation

Protected Area / Sensitive Area – A location identified as environmentally or ecologically sensitive, including wetlands, watercourses, riparian zones, heritage sites, or protected vegetation areas.

Rehabilitation – The process of restoring disturbed areas to a stable and productive condition that approximates their natural state or intended post-construction land use.

Reinstatement – The process of returning a disturbed area (such as a road, trench, or verge) to its original condition after completion of construction work.

Reporting Period – The time interval (e.g., weekly or monthly) for which environmental data and compliance reports must be compiled and submitted.

Site Establishment – The preparatory phase during which the Contractor sets up offices, accommodation, storage areas, workshops, and access roads on-site.

Spill – The unintentional release of any liquid substance (e.g., oil, fuel, chemicals, wastewater) that may cause environmental contamination.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Stormwater – Rainwater or surface runoff that flows over land and may carry pollutants into watercourses if not properly managed.

Subcontractor – Any third party appointed by the Contractor to perform part of the works or provide materials or services under the Contractor's supervision.

Topsoil – The uppermost layer of soil, typically the top 150–300 mm, containing organic matter, nutrients, and microorganisms essential for plant growth.

Training Record – Documentation of environmental induction, awareness, and competence training completed by site personnel.

Waste – Any substance, material, or object that is unwanted, rejected, or abandoned, and that requires disposal, recycling, or recovery under the National Environmental Management: Waste Act.

Waste Management Plan (WMP) – A site-specific plan detailing the collection, segregation, recycling, and disposal procedures for all waste generated during construction.

Water Use Licence (WUL) – A formal authorisation issued under the National Water Act (Act 36 of 1998) permitting specific water-related activities such as abstraction, discharge, or construction near watercourses.

Wetland – Land transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface, supporting vegetation adapted to saturated soil conditions.

Worker (Site Personnel) – Any individual employed by the Contractor or subcontractors who performs work within the construction site boundaries.

C3.4.3.2.3. ORGANISATIONAL STRUCTURE AND ACCOUNTABILITY

The Contractor shall establish a clear Environmental Management Structure within the project team to define environmental responsibilities and lines of communication. The following key roles shall be appointed and maintained throughout the construction period:

a) Contractor's Project Manager

- Holds ultimate responsibility for the Contractor's compliance with all environmental obligations.
- Ensures adequate allocation of resources (personnel, training, equipment, and budget) for environmental management.
- Reviews and signs all environmental reports, audit findings, and incident notifications.
- Facilitates cooperation with the Client, Engineer, and Environmental Control Officer (ECO).

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- The Contractor's Project Manager shall possess the relevant qualifications, professional registration, and demonstrable experience appropriate to the nature and complexity of the works.

b) Environmental Site Officer (ESO)

The Contractor shall appoint a competent Environmental Site Officer (ESO) to oversee daily implementation of the EMPr on-site.

The ESO shall:

- Conduct routine environmental inspections of the construction site.
- Maintain environmental records (e.g., waste manifests, spill logs, monitoring data).
- Ensure that corrective and preventive actions are implemented promptly.
- Provide induction and refresher training to site personnel on environmental awareness and good practices.
- Liaise directly with the ECO on all environmental matters.
- The ESO shall possess a tertiary qualification or recognised training in Environmental Management, Natural Sciences, Environmental Health, or a related discipline.
- Additional certifications in Environmental Auditing, Construction Environmental Management, or Occupational Health and Safety will be advantageous.
- The ESO shall have at least three (3) years' experience in Construction Environmental Management, including EMPr implementation, environmental reporting, compliance auditing, stakeholder liaison, and management of environmental risks such as waste, erosion, pollution, and spill response.

c) Environmental Control Officer (ECO)

- The ECO will be appointed by the Client (or Engineer) as an independent environmental representative to monitor the Contractor's compliance with the EMPr and EA conditions.
- The ECO shall have unrestricted access to the construction site and project records.
- The Contractor shall cooperate fully with the ECO during audits, site inspections, and investigations.
- The appointed Environmental Control Officer (ECO) shall hold a tertiary qualification in Environmental Science, Environmental Management, Natural Sciences, or a related discipline, be professionally registered with a recognised body such as SACNASP or EAPASA and have a minimum of five (5) years' experience in environmental monitoring,

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

auditing, and compliance management on construction or infrastructure projects of

similar scope and complexity.

d) Subcontractors and Suppliers

- The Contractor shall ensure that all subcontractors and suppliers are made fully aware

of their environmental obligations prior to commencing work.

Environmental performance requirements shall be incorporated into all subcontractor

agreements.

The Contractor remains accountable for environmental non-compliances caused by

subcontractors.

- Subcontractors must have proven experience in similar projects and demonstrate

competence in complying with environmental, safety, and quality requirements.

C3.4.3.2.4. LEGAL REQUIREMENTS

The Contractor shall comply fully with all applicable environmental laws, regulations, and

municipal by-laws relevant to construction activities in South Africa, as well as with all site-

specific environmental authorizations issued for the project.

Compliance shall extend to:

- The National, Provincial, and Local Government levels of legislation.

- Any standards, guidelines, or codes of practice that support the implementation of these laws.

- All permit conditions, licence requirements, and site-specific environmental commitments.

The Contractor remains legally responsible for ensuring that all employees, subcontractors,

and suppliers working under their control are informed of and adhere to these environmental

obligations.

a) Applicable Legislation and Regulations

The following key legislation and statutory instruments shall apply to the execution of the works:

- National Environmental Management Act (Act No. 107 of 1998) - NEMA: This Act

establishes the framework for sustainable environmental management in South Africa.

The Contractor shall operate according to the principles of environmental protection,

duty of care, and polluter pays principle as outlined in Chapter 1 of NEMA. All activities

must avoid causing pollution or degradation of the environment.

Environmental Impact Assessment Regulations (GN R.982 – R.985, as amended):

These regulations govern the environmental authorisation process. The Contractor

shall ensure that all construction activities remain within the scope of the approved

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Environmental Authorisation (EA) and any amendments thereto. No activity listed under these regulations may commence without the required authorisation.

- National Water Act (Act No. 36 of 1998): The Contractor shall comply with the provisions of the National Water Act, which seeks to protect, use, and manage South Africa's water resources sustainably. All construction works must prevent contamination of surface and groundwater. The Contractor shall adhere strictly to the Water Use Licence (WUL) conditions issued for the project, including requirements relating to abstraction, discharge, stormwater management, and protection of nearby watercourses.
- National Environmental Management: Waste Act (Act No. 59 of 2008) NEM: WA: This Act regulates waste management in order to prevent harm to human health and the environment. The Contractor shall ensure that all waste generated on-site is classified, stored, handled, transported, and disposed of in accordance with NEM: WA and the EMPr. Waste minimisation and recycling initiatives must be implemented wherever feasible.
- Occupational Health and Safety Act (Act No. 85 of 1993) OHSA: The Contractor shall comply with OHSA requirements to ensure that all environmental and health risks are managed in the workplace. Particular attention shall be paid to hazardous materials handling, dust and noise control, and worker exposure to environmental contaminants.
- Thabazimbi Local Municipality Environmental By-laws: The Contractor shall comply with all applicable municipal by-laws governing waste management, air quality, noise control, water use, and stormwater management within the Thabazimbi Local Municipality jurisdiction.
- b) Compliance with Authorisations and Permits

The Contractor shall ensure full compliance with all environmental approvals associated with the project, including but not limited to:

- Environmental Authorisation (EA) issued under the National Environmental Management Act;
- Water Use Licence (WUL) issued under the National Water Act;
- Approved Environmental Management Programme (EMPr); and
- Any additional permits, licences, or directives issued by competent authorities (e.g., Department of Water and Sanitation, Department of Forestry, Fisheries and the Environment, or the local municipality).

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.2.5. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

General Requirements

The Contractor shall establish and maintain a structured and auditable system for the administration, implementation, and reporting of all environmental obligations during the construction phase.

This administrative framework shall ensure that all environmental requirements of the following are effectively implemented and complied with:

- The approved Environmental Management Programme (EMPr);
- The Environmental Authorisation (EA) and its conditions;
- The Water Use Licence (WUL) issued in terms of the National Water Act (Act 36 of 1998);
- The Environmental Management Specification (EMS);
- Relevant legislation and municipal by-laws (including those enforced by LEDET and DWS); and
- The requirements of the Engineer and Environmental Control Officer (ECO).

b). Environmental File / Record Keeping System

The Contractor shall establish and maintain an Environmental File or Environmental Management System Folder at the site office.

This file shall be readily available for inspection by the Engineer, ECO, and representatives of LEDET, DWS, or any other competent authority during the construction phase.

The Environmental File shall include, but not be limited to, the following documents:

- Copies of all permits, authorisations, and licences (EA, WUL, waste disposal permits, etc.);
- The approved EMPr and this Environmental Management Specification;
- Approved Method Statements for specific environmental activities (e.g., batching, refuelling, waste handling);
- Environmental induction and training records:
- Weekly inspection reports and monthly environmental performance reports;
- Incident and non-conformance registers;
- Complaints register and records of stakeholder communication;

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Waste management documentation, including disposal certificates and transport manifests:
- Water and dust monitoring data, where applicable;
- Audit reports and corrective action records;
- Environmental photographs showing compliance and progress of rehabilitation activities.

c). Method Statements

Prior to commencing any activity that may have a potential environmental impact, the Contractor shall prepare and submit a Method Statement for approval by the Engineer and ECO.

- Each Method Statement shall describe in detail:
- The nature of the activity to be undertaken;
- The location of the activity on site;
- Timing and duration of the activity;
- Materials, equipment, and resources to be used;
- Potential environmental risks or impacts associated with the activity; and
- Mitigation, control, and monitoring measures that will be implemented.

d). Environmental Reporting

The Contractor shall submit the following environmental reports in accordance with the requirements of the EMPr and the ECO during the construction phase:

Report Type	Frequency	Submitted To	Purpose
Weekly Environmental Inspection Report	Weekly	ECO / Engineer	Summary of site inspections, compliance status, and corrective actions.
Monthly Environmental Compliance Report	Monthly	ECO / Engineer / Client	Overview of environmental performance, incidents, training, and monitoring results.
Incident Reports	Within 24 hours of occurrence	ECO / Engineer	Immediate notification of any spill, pollution event, or non-compliance.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Corrective Action Reports	Within 7 days of incident	ECO / Engineer	Documentation of root cause analysis and preventive actions implemented.
Environmental	Upon	Client / ECO /	Final summary demonstrating compliance and site rehabilitation status.
Close-Out Report	completion	Authorities	

All reports shall be written in clear, factual language and supported by photographs, checklists, or data where applicable.

e). Communication and Coordination

The Contractor shall ensure effective communication between all parties involved in environmental management, including:

- The Engineer;
- The Environmental Control Officer (ECO);
- The Environmental Site Officer (ESO);
- Subcontractors and suppliers; and
- Relevant authorities (e.g., LEDET, DWS, Municipality).

Regular environmental coordination meetings shall be held typically at least once per month to review environmental performance, audit results, incidents, and upcoming high-risk activities. Minutes of these meetings shall be recorded and included in the Environmental File.

f). Non-Conformance and Corrective Action

If the Contractor fails to comply with any environmental requirement of the Contract:

- The ECO shall issue a Non-Conformance Report (NCR) specifying the nature of the breach, corrective measures required, and timeframes for rectification.
- The Contractor shall implement corrective action immediately and provide written feedback to the ECO and Engineer.
- Repeated or serious non-compliance may result in penalties, work stoppage, or referral to authorities as per the contract and environmental legislation.

The Contractor shall maintain a Non-Conformance Register to record all NCRs, actions taken, and closure status.

g). Liaison with Authorities

The Contractor shall:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- Cooperate fully with officials from LEDET, DWS, DFFE, and the Thabazimbi Local Municipality during site inspections or audits.
- Provide access to environmental records and assist in any investigation related to environmental compliance.
- Immediately notify the ECO and relevant authority in the event of a major environmental incident, such as a spill into a watercourse or unauthorised clearing of vegetation.

h). Environmental Performance Evaluation

Environmental performance will be evaluated based on:

- The Contractor's compliance with the EMPr, EA, and WUL conditions;
- Audit findings by the ECO;
- Responsiveness to incidents and corrective actions;
- Quality and punctuality of environmental reporting; and
- Cooperation with the Engineer, ECO, and authorities.

The results of these evaluations will influence the Contractor's performance rating and may affect eligibility for future municipal or departmental projects.

i). Close-Out and Handover

Upon completion of the works, the Contractor shall:

- Submit an Environmental Close-Out Report compiled with input from the ESO and verified by the ECO;
- Ensure all temporary works, stockpiles, and waste are removed;
- Complete all rehabilitation and reinstatement measures to the satisfaction of the ECO and Engineer; and
- Hand over all environmental records, monitoring data, and compliance certificates to the Client.

No final completion certificate shall be issued until the Environmental Close-Out Report has been approved and the site is deemed environmentally compliant.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

j). Responsibilities Summary

Role	Key Environmental Administration Responsibilities	
Contractor's Project Manager	Overall accountability for compliance with all environmental obligations and record-keeping.	
Environmental Sit	Daily environmental monitoring, inspections, and maintenance of the Environmental File.	
Environmental Contro Officer (ECO)	Independent auditing, reporting, and verification of compliance with the EMPr and EA.	
Engineer	Oversight of environmental compliance as part of contractual obligations.	
LEDET / Authorities	External compliance monitoring and enforcement under applicable legislation.	

C3.4.3.2.6. IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

General Requirements

The Contractor shall identify, assess, and document all environmental aspects associated with construction activities and determine their potential environmental impacts.

This process is required to ensure that:

- All significant environmental risks are known before commencing work;
- Appropriate mitigation and management measures are implemented;
- Environmental performance is monitored and auditable; and
- Compliance with the EMPr, Environmental Authorisation (EA), Water Use Licence (WUL), and relevant legislation (NEMA, NWA, NEM: WA) is maintained.

The identification of aspects and impacts shall cover:

- Direct impacts caused by the Contractor's activities;
- Indirect impacts resulting from associated activities (e.g., transport, subcontractors, supply chain);
- Cumulative impacts arising from prolonged or combined activities; and
- Potential emergency or accidental events (spills, pollution incidents, fire).

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

a). Environmental Aspects

Environmental aspects are elements of the Contractor's activities, products, or services that can interact with the environment. Examples relevant to the construction phase include:

Activity / Aspect	Description
Earthworks and Excavation	Disturbance of soil, erosion, dust generation, sedimentation of watercourses.
Construction Access Roads	Vegetation clearance, soil compaction, noise, and dust emissions.
Concrete Batching and Storage	Water pollution from runoff, chemical spills, solid waste from cement bags.
Fuel and Chemical Handling	Risk of spills and leaks leading to soil and groundwater contamination.
Waste Management	Generation of general, hazardous, and construction waste; improper disposal risks.
Vehicle and Plant Operation	Air emissions, noise, vibration, and potential oil/fuel leaks.
Water Use and Discharge	Abstraction or discharge affecting water quality and flow in nearby watercourses.
Rehabilitation / Landscaping	Risk of invasive species introduction, improper topsoil handling, or poor vegetation establishment.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Contractor shall ensure that all aspects are recorded in an Environmental Aspects Register, which forms the basis for impact assessment, mitigation planning, and monitoring.

b). Environmental Impacts

Environmental impacts are changes to the environment resulting from environmental aspects. Impacts can be:

- Positive (e.g., creation of temporary wetland buffers, improved site drainage); or
- Negative (e.g., soil erosion, water contamination, loss of biodiversity, dust or noise nuisance).

The Contractor shall assess impacts using the following criteria:

- Severity / magnitude of the impact;
- Likelihood of occurrence:
- Duration (temporary, short-term, long-term, permanent);
- Reversibility (reversible or irreversible);
- Regulatory or community significance (legal or social implications).

Each impact shall be rated using a risk matrix to determine the significance and guide the implementation of mitigation measures.

c). Risk Assessment and Prioritisation

The Contractor shall conduct a formal environmental risk assessment for all identified aspects and impacts, considering:

- Probability of occurrence;
- Potential severity;
- Receptor sensitivity (e.g., watercourses, wetlands, sensitive species, community areas); and
- Legal or contractual obligations.

The results shall be used to:

- Prioritise mitigation measures for high-significance aspects and impacts;
- Develop environmental control measures within the EMPr; and
- Establish monitoring and audit requirements for critical activities.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The Environmental Risk Assessment shall be reviewed periodically, particularly if:

- New activities are introduced.
- Significant changes to the construction methodology occur; or
- Environmental incidents or complaints arise.

d). Documentation and Registers

The Contractor shall maintain the following documents as part of environmental administration:

Document	Purpose
Environmental Aspects and Impacts Register	Lists all aspects, potential impacts, associated risks, and mitigation measures.
Risk Assessment Table / Matrix	Prioritises environmental risks for management and monitoring.
Incident and Near-Miss Reports	Identifies unforeseen impacts and triggers review of risk assessment.

All documentation shall be kept in the Environmental File, updated continuously, and made available for inspection by the ECO, Engineer, and relevant authorities (LEDET, DWS, Municipality).

e). Continuous Improvement

The Contractor shall implement a continuous improvement approach by:

- Regularly reviewing the Environmental Aspects and Impacts Register;
- Updating risk assessments in response to incidents, audits, or changes in work scope;
- Implementing corrective actions for recurring or high-risk impacts;
- Integrating lessons learned into training and daily site practices.

This process will ensure that environmental management evolves proactively throughout the construction phase.

C3.4.3.2.7. ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 7/1: Aspects or Activities that Cause Environmental Impacts

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

during Construction Activities, which is to be found at the end of this part. This list is not exhaustive and shall be used for guideline purposes only.

C3.4.3.2.8. ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

i) Site Establishment

i) Site Plan

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course as possible. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site. Read with COLTO Specification 1302(a), 1402 (e).

ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, the same species of indigenous trees as were occurring, shall be re-established.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. (Read in conjunction with COLTO Specification 5801(b), 5802(b), (c), (d) and (e), 5804, 5805, 5806 and 5807). Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

iv) Water for human consumption

Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp / office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc). Only domestic type wastewater shall be allowed to enter this drain.

v) Heating and Cooking fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage treatment

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as "enviro loos", or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system and should be placed in a concrete bunded area to avoid leaks. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

shall be done in consultation with the engineer. Read with COLTO Specifications 1402(g) and

1404(a).

Toilets and latrines shall be easily accessible and shall be positioned within walking distance

from wherever employees are employed on the works. Use of the veld for this purpose shall

not, under any circumstances, be allowed.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them

from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The

contractor shall arrange for regular emptying of toilets and shall be entirely responsible for

enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition

to the satisfaction of the engineer.

c)Waste Management

The contractor's intended methods for waste management and waste minimisation shall be

implemented at the outset of the contract. All personnel shall be instructed to dispose of all

waste in the proper manner.

i)Solid Waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection

and disposal. A refuse control system shall be established for the collection and removal of

refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a licensed landfill

site or at a site approved, in the event that an existing operating landfill site is not within

reasonable distance from the site offices and staff accommodation. No waste shall be burned

or buried at or near the site offices, nor anywhere else on the site, including the approved solid

waste disposal site. Read with COLTO Specification 1404(a).

ii) Litter

No littering by construction workers shall be allowed. During the construction period, the

facilities shall be maintained in a neat and tidy condition, and the site shall be kept free of litter.

Measures shall be taken to reduce the potential for litter and negligent behaviour with regard

to the disposal of all refuse. At all places of work the contractor shall provide litter collection

facilities for later safe disposal at approved sites. (Read with COLTO Specification 1302(b)).

iii) Hazardous waste

Hazardous waste such as sludge screens, oils etc. shall be disposed of in an approved landfill

site. Special care shall be taken to avoid spillage of sludge, oil, or paints to avoid water-soluble

chemicals from contaminating the ground or surface water.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Under no circumstances shall the spoiling of hazardous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected oil or paint products shall be returned to the supplier's production plant. Any spillage of petrol, oil, or paints products shall be attended to immediately and affected areas shall be promptly reinstated to

the satisfaction of the engineer/ECO.

iv) Sludge Handling, Storage and Disposal

Any sludge or sludge-like waste generated during construction, including trial commissioning of process units, excavation of existing tanks, or cleaning of legacy infrastructure, shall be handled with due care. The Contractor shall ensure that appropriate containment measures

(e.g., lined skips, sealed containers) are used to prevent spillage, odour, and contamination.

Manual handling of untreated sludge must be avoided unless protective equipment and health and safety protocols are in place. Sludge must not be allowed to enter stormwater systems,

watercourses, or municipal drains.

Sludge Storage on Site

Temporary on-site storage of sludge must be in leak-proof, covered containers or lined holding areas situated on an impermeable surface with bunding. Storage areas must be clearly demarcated, with signage and controlled access. Storage duration shall not exceed 90 days without prior written approval from the DEO/Employer and relevant environmental authorities.

Sludge Disposal Requirements

The Contractor shall classify any sludge waste in accordance with SANS 10234 and the Waste Classification and Management Regulations. Disposal shall only be conducted at licensed waste disposal or treatment facilities authorised to accept such sludge. Disposal to land, water bodies, or unauthorised sites is strictly prohibited. Disposal certificates and weighbridge slips

must be retained and submitted as part of monthly reporting.

Sludge Transport

The Contractor shall use only registered and licensed waste transporters for all sludge and sludge-derived waste. All sludge transport vehicles shall be sealed, leak-proof, and compliant with relevant road and environmental safety standards. A spill contingency plan shall be in place for all sludge transport operations.

. . .

Reporting and Records

The Contractor shall maintain detailed records of the volume and type of sludge handled, storage and containment locations, disposal facility details and permits, and waste manifests

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

and transport records. Monthly reports shall be submitted to the Engineer/DEO summarising sludge handling, storage, and disposal activities, including supporting documentation.

Sludge Handling PPE

Due to the health and environmental risks associated with sludge handling, it is essential that all personnel involved in sludge-related activities are equipped with appropriate Personal Protective Equipment (PPE). Sludge may contain harmful biological agents, hazardous chemicals, and unpleasant odours, posing risks through skin contact, inhalation, or accidental ingestion. The Contractor shall ensure that all workers handling, storing, transporting, or disposing of sludge are properly trained and consistently provided with suitable PPE as outlined below. This includes protective clothing, gloves, respiratory gear, and other safety equipment necessary to minimise exposure and ensure safe operations.

PPE Item	Description	Purpose
Chemical- Resistant Coveralls	Full-body, preferably disposable or easily washable	Prevents skin contact with sludge and pathogens
Waterproof Safety Gumboots	PVC or nitrile, steel-toe preferable	Protects feet from sludge, contamination, and heavy equipment injury
Long Nitrile or Neoprene Gloves	Elbow-length, chemical- resistant	Prevents contact with sludge and contaminated surfaces
Face Shield or Goggles	Full-face shield preferred	Protects eyes from splashes of sludge or chemicals
Respiratory Protection	Half-mask respirator with P2/P3 filters or gas/vapour cartridges (if odour or gases are present)	Prevents inhalation of bioaerosols, hydrogen sulphide, ammonia, etc.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Hard Hat	SABS-approved, with chin strap	Head protection in areas with overhead risk
High-Visibility Vest or Jacket	Reflective, especially for transport or confined site work	Ensures visibility to machine operators and vehicles
Hearing Protection	Ear plugs or earmuffs (if working near machinery)	Prevents hearing damage from noise in dewatering or pumping areas
Rubber or PVC Apron	Used for high-exposure tasks like pump cleaning	Adds extra torso protection over coveralls
Disposable Boot and Glove Covers (Optional)	For entering clean zones after handling sludge	Prevents cross- contamination

a) Control at the workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless of whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials e.g. oils or petrol shall be stored in a secured, appointed

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

area that is fenced and has restricted entry. Storage of oils or petrol products shall only take

place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures, he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse

or spillage that will negatively affect an individual or the environment.

iii) Fuel and Gas Storage

Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil.

Any leakage, spillage or overflow of fuel shall be attended to without delay.

Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

iv) Oil and Lubricant Waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection

by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

b) Clearing the Site

In all areas where the contractor intends to or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer/ECO for his approval.

The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer/ECO for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be responsible for the re-establishment of grass within all areas disturbed during construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction must be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the defect's notification period.

f) Soil Management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved waste disposal site. (Read with COLTO Specifications 3104(a), 5802(a), (g), 5804(a), (b) and (c)). The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may

have been affected by such negligence.

ii)Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation

purposes.

g) Drainage

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, and organic materials.

The contractor shall submit to the engineer/ECO his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

h) Earthworks and Layer works

This section includes all construction activities that involve the excavation of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the contractor shall have complied with the requirements of sections C1008 (e) and C1008 (g). In addition, the contractor shall take cognisance of the requirements set out below.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

i) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity. (Read with COLTO Standard Specification clauses 1217 and 3309) ii)Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects notification period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after re-vegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilising methods. The engineer may only approve a completed spoil site at the end of the defect's notification period upon receipt from the contractor of a landowner's clearance notice and an engineer's certificate certifying slope stability (Read with COLTO standard Specifications clause 1214). The contractor's costs

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

incurred in obtaining the necessary certification for opening and closing of spoil sites shall be

deemed to be included in the tendered rates for spoiling.

iii) Stockpiles

The contractor shall plan his activities so that materials excavated from cuttings, in so far as

possible, can be transported direct to and placed at the point where it is to be used. However,

should temporary stockpiling become necessary, the areas for the stockpiling of excavated and

imported material shall be indicated and demarcated on the site plan submitted in writing to the

engineer for his approval, together with the contractor's proposed measures for prevention,

containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that

may be damaged during operations. Care shall be taken to preserve all vegetation in the

immediate area of these temporary stockpiles. During the life of the stockpiles the contractor

shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact.

- Constructed and maintained so as to avoid erosion of the material and contamination

of surrounding environment; and

- Kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original

condition. No foreign material generated / deposited during construction shall remain on site.

Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the

contractor's cost until clearance from the engineer and the relevant Authority is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved

by the engineer within the road reserve, shall be subject to the same condition as other

stockpiled materials. Excess materials from windrows, in-situ milling or any detritus of material

from road construction activities may not be swept off the road and left unless specifically

instructed to do so in the contract drawing or under instruction from the engineer

In all cases, the engineer/ECO shall approve the areas for stockpiling and disposal of

construction rubble before any operation commences and shall approve their clause only when

they have been satisfactorily rehabilitated. (Read with COLTO Specification 3203 and 4306).

iv)Batching sites

Asphalt plants are considered scheduled processes listed in the second schedule to the

Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt

plant be considered on site, the contractor shall be responsible to obtain the necessary permit

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

from the Limpopo Department of Economic Development, Environment and Tourism (LEDET), regardless of where they are sited.

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bunded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer/ECO will assist the contractor in his submissions to the relevant authority.

Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.

The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals, thereafter, not exceeding 12 months apart

v) Spillages

Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, and organic materials. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her SEO/ECO or to the engineer. The Site Environmental Officer will assess the situation in consultation with the engineer/ECO and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the SEO and the engineer/ECO. Areas cleared of hazardous waste shall be re-vegetated according to the engineer/ECO's instructions

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.

vi) Areas of Specific Importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer/ECO in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

vii) Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the ESO/ECO/engineer of such discovery. The South African Heritage Research Agency (SAHRA) is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. (Read with COLTO General Condition of Contract Subclause 4.24 as amended by Particular Condition).

viii) Graves and middens

If a grave or midden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/middens shall be stopped and the engineer informed of the discovery. SAHRA/LIHRA should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The Employer will be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. (Read with COLTO General Conditions of Contract Subclause 4.24 as amended by Particular Condition).

ix)Noise Control

The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

carried out during daylight hours. Compliance with the appropriate legislation with respect to

noise, shall be mandatory.

Should noise generating activities have to occur at night the people in the vicinity of the drilling

shall be warned about the noise well in advance and the activities kept to a minimum.

x)Dust Control

Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust

omission from batching plants shall be subject to the relevant legislation and shall be the

subject of inspection by the relevant office of the Limpopo Department of Economic

Development, Environment and Tourism.

xi) Alien Vegetation

The contractor shall be held responsible for the removal of alien vegetation within the road

reserve disturbed during temporary road construction. This includes, for example, service

roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from

road construction has been stored temporarily or otherwise within the road reserve. This

responsibility shall extend for the duration of the defect's notification period.

C3.4.3.2.9. RECORD KEEPING

The engineer and the ECO will continuously monitor the contractor's adherence to the

approved impact prevention procedures, and the engineer shall issue to the contractor

a notice of non-compliance whenever transgressions are observed. The ECO should

document the nature and magnitude of the non-compliance in a designated register,

the action taken to discontinue the non-compliance, the action taken to mitigate its

effects and the results of the actions. The non-compliance shall be documented and

reported to the engineer in the monthly report.

C3.4.3.2.10. COMPLIANCE AND PENALTIES

The contractor shall act immediately when such notice of non-compliance is received and

correct whatever is the cause for the issuing of the notice. Complaints received regarding

activities on the construction site pertaining to the environment shall be recorded in a dedicated

register and the response noted with the date and action taken. This record shall be submitted

with the monthly reports and a verbal report given at the monthly site meetings.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Any avoidable non-compliance with the above-mentioned measures shall be considered sufficient ground for the imposition of a penalty. The following penalties shall apply for environmental violations:

a) Unnecessary removal or damage to trees;

- 2600mm girth or less; R 5 000 per tree
- Greater than 2600mm, but less than 6180mm girth; R10 000 per tree
- Greater than 6180mm girth; R30 000 per tree

b) Serious violations:

- Hazardous chemical/oil spill and/or dumping in non-approved sites: R10 000 per incident
- General damage to sensitive environments: R 5 000 per incident
- Damage to cultural and historical sites: R 5 000 per incident
- Uncontrolled/unmanaged erosion (plus, rehabilitation at contractor's cost): R1 000 to R5 000 per incident
- Unauthorised blasting activities: R 5 000 per incident
- Pollution of water sources: R 10 000 per incident

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final.

Less serious violations:

- i). Littering on site: R1 000 per incident
- ii). Lighting of illegal fires on site: R1 000 per incident
- iii). Persistent or un-repaired fuel and oil leaks: R1 000 per incident
- iv). Excess dust or excess noise emanating from site: R1 000 per incident
- v). Dumping of milled material inside drains or on grassed areas: R1 000 per incident
- vi). Possession or use of intoxicating substances on site: R500 per incident
- vii). Any vehicles being driven in excess of designated speed limits: R500 per incident
- viii). Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife: R2 000 per incident
- ix). Illegal hunting: R2 000 per incident
- x). Urination and defecation anywhere except in designated areas: R500 per incident

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

C3.4.3.2.11. MEASUREMENT AND PAYMENT

The cost of complying to this specification shall be deemed to be included in the rates tendered for this project.

Item Unit

C100.01 Penalty for unnecessary removal or damage to trees

for the following diameter sizes:

- (a) 2600mm girth or less number (No)
- (b) Greater than 2600mm, but less than 6180mm girth number (No)
- (c) Greater than 6180mm girth number (No)

The unit of measurement shall be the number of trees by diameter size removed unnecessary or damaged. The penalty rates applied shall be those stated in clause C3.5.2.10.

CONTRACT NO: TECH/02/2025-26

Item

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

Unit

C100.02	Penalty for serious violations
(a)	Hazardous chemical/oil spill and/or dumping in non-approved sites number (No)
(b)	General damage to sensitive environments
(c)	Damage to cultural and historical sites number (No)
(d)	Pollution of water sources number (No)
(e)	Unauthorised blasting activities number (No)
(f)	Uncontrolled/unmanaged erosion per incident, depending on environment
	impacts, plus rehabilitation at contractor's cost) number (No)

The unit of measurement for C100.02 (a) to (f) shall be the number of serious violation incidents. The penalty rates to be applied shall be those stated in clause C3.5.2.10.

Item Unit

C100.03 Penalty for less serious violations

- Littering on site number (No)
- Lighting of illegal fires on site number (No)
- Persistent or un-repaired fuel and oil leaks number (No)
- Excess dust or excess noise emanating from site number (No)
- Dumping of milled material inside drains or on grassed areas number (No)
- Possession or use of intoxicating substances on site number (No)
- Any vehicles being driven in excess of designated speed limits number (No)
- Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife number (No)
- Illegal hunting number (No)
- Urination and defecation anywhere except in designated areas number
 (No)

The unit of measurement shall be the number of less serious violation incidents. The penalty rates applied shall be those stated in clause C3.5.2.10.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

The engineer/ECO's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

CONTRACT NO: TECH/02/2025-26

Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

			EN	VIRONMENTAL IMPACT	S	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
1300	Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
1400	Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply	Selection of site	Selection of site	Preserve indigenous vegetation	

CONTRACT NO: TECH/02/2025-26

			EN	VIRONMENTAL IMPACT	rs	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
		Spillage Storage Noise/lights	Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Preserve indigenous vegetation Preserve topsoil	Preserve topsoil Management of weeds	
1500	Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage	Selection of site Preserve indigenous vegetation	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil	

CONTRACT NO: TECH/02/2025-26

			En	VIRONMENTAL IMPACT	гѕ	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
		Storage Noise/lights Dust control	Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Preserve topsoil	Management of weeds	
1600	Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil	

CONTRACT NO: TECH/02/2025-26

			Envi	RONMENTAL IMPACTS		
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
1700	Clearing and grubbing	Waste treatment Hazardous waste Water supply Noise /lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Protection of indigenous vegetation Preserve topsoil	
2100 2400	Drainage	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil	

CONTRACT NO: TECH/02/2025-26

			Env	VIRONMENTAL IMPACTS	3	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
			Preserve topsoil	Preserve topsoil	Management of weeds	
3100	Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
3200	Stockpiling	Waste treatment Hazardous waste Water supply	Selection of site	Selection of site	Preserve indigenous vegetation	

CONTRACT NO: TECH/02/2025-26

			EN	IVIRONMENTAL IMPACT	-S	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
		Spillage Storage	Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	Preserve topsoil Management of weeds	
3300	Mass Earthworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

CONTRACT NO: TECH/02/2025-26

			En	VIRONMENTAL IMPACT	S	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
3400 3900	Pavement layers	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

CONTRACT NO: TECH/02/2025-26

			En	IVIRONMENTAL IMPAC	TS	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	Alien Vegetation	SENSITIVE AREAS (to be completed by compiler)
4100	Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control Smoke control Storage of materials	Selection of site Preserve indigenous vegetation Preserve topsoil Turning circles Parking areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	

CONTRACT NO: TECH/02/2025-26

			Env	/IRONMENTAL IMPACTS	3	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
5000	Ancillary roadworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
6000	Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation	Selection of site Preserve indigenous vegetation	Preserve indigenous vegetation Preserve topsoil	

CONTRACT NO: TECH/02/2025-26

			En	IVIRONMENTAL IMPAC	TS	
SECTION	CONTENTS	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (to be completed by compiler)
			Preserve topsoil	Preserve topsoil	Management of weeds	
7000	Concrete pavements etc	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.3	PROVISION OF STRUCTURED TRAINING
CONTENTS	
C3.4.3.3.1	SCOPE
C3.4.3.3.2	GENERIC TRAINING
C3.4.3.3.3	PROCESS CONTROL TRAINING
C3.4.3.3.4	MEASUREMENT AND PAYMENT

C3.4.3.3.1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

C3.4.3.3.2 GENERIC TRAINING

C3.4.3.3.2.1The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

C3.4.3.3.2.2The generic training will inter alia comprise, but not be limited to the following subjects:

COURSE DESCRIPTION		ESTIMATED No. OF TRAINEES	ESTIMATEDDU RATION (DAYS)
HEALTH AND REPRESENTATIVES	SAFETY	2	15

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.3.2.3 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

C3.4.3.3.2.4 The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:

- (a) The name of the training institution and programme
- (b) The manner in which the training is to be delivered.
- (c) The numbers and details of the trainers

Such details shall be entered on or attached to Form RDP 6 (E) included herein.

C3.4.3.3.2.5 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

- (a) A suitable venue with sufficient furniture, lighting and power.
- (b) All necessary stationery consumables and study material
- (c) Transport of the students (as necessary)

C3.4.3.3.2.6 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.

C3.4.3.3.2.7 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so, instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

C3.4.3.3.2.8 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form is illustrated in Part C5 of this document (form RDP 10 (E))

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.3.3 SKILLS TRAINING (STRUCTURED)

C3.4.3.3.1 Candidates nominated by the Thabazimbi Local Municipality will be entitled to

receive a structured training programme, which will comprise technical and operational skills to

comply with the Department of Water and Sanitation (DWS) Green Drop and relevant

regulations aligned to the National Water Act.

C3.4.3.3.3.2 The contractor shall closely work and facilitate training on-site for all candidates.

C3.4.3.3.3 The training will be delivered by trainers who are accredited by the

Mechanical/Electrical Engineering Training Scheme (CEITS) or other institutions recognised

by the Department of Labour. Accredited training refers to both the trainers as well as to the

training material.

C3.4.3.3.3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating

the candidates regarding attendance and participation therein.

C3.4.3.3.5 The contractor shall further make all reasonable efforts to co-ordinate the

programming of the candidates' work with that of the delivery of the structured training.

C3.4.3.3.6 The structured training will comprise out of the following as decided by the

Employer:

Process Controllers Training Program

For: Thabazimbi Wastewater Treatment Works (WWTW)

1. Objective

To develop and certify process controllers capable of operating, monitoring, and maintaining

the refurbished Thabazimbi Wastewater Treatment Works (WWTW) in accordance with the

standards set by the Department of Water and Sanitation (DWS), the Institute for Municipal

Engineering of Southern Africa (IMESA), and the IRIS system for Process Controller

classification.

2. Training Duration & Delivery Method

This is a 12-month comprehensive Process Controller development program comprising:

- Six (6) months of in-class theoretical training through a SAQA-registered training institution.

- Six (6) months of practical, on-site training at the Thabazimbi WWTW under supervision.

The program must be facilitated by a SAQA-accredited institution aligned with the National

Qualifications Framework (NQF), targeting levels appropriate for WWTW operations (NQF

Level 2-4).

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

3. Entry Requirements

- Basic numeracy and literacy
- Medical fitness to perform on-site duties
- Preference given to unemployed local youth and EPWP participants

4. Curriculum Modules

The curriculum must include but is not limited to the following core modules:

- 1. Introduction to Water and Wastewater
- 2. Wastewater Treatment Process Overview
- 3. Unit Operations: Screens, Clarifiers, Reactors, Sludge Handling
- 4. Sampling Techniques and Water Quality Monitoring
- 5. Process Control Instrumentation and SCADA systems
- 6. Workplace Safety and Emergency Protocols (OHS Act)
- Chemical Handling and Dosing
- 8. Asset and Maintenance Management
- 9. Data Logging, Reporting, and Compliance with DWS
- 10. Ethics, Communication, and Teamwork in Operations
- 11. IRIS-aligned competency preparation for classification

5. Compliance & Standards

The training must adhere to:

- SAQA unit standards applicable to wastewater treatment
- IRIS Process Controller classification requirements
- Department of Water and Sanitation (DWS) guidelines and competency framework
- NQF-aligned curriculum requirements
- Health and Safety protocols (COIDA, OHS Act)

6. Certification and Classification Pathway

Participants will be assessed continuously and at the end of the program both theoretically and practically. Successful candidates will:

- Receive an accredited Certificate of Competence from a SAQA-accredited provider
- Be eligible to apply for classification through the IRIS system
- Qualify for registration as Class I Process Controllers upon meeting DWS criteria
- Be issued with reference letters and logbook of hours for IRIS verification

CONTRACT NO: TECH/02/2025-26

C3.4.3.3.4

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

7. Institutional Requirements

The training service provider must:

- Be accredited with EWSETA or relevant ETQA
- Provide qualified facilitators with proven wastewater training experience
- Deliver training at venues with simulation tools or treatment plant models

MEASUREMENT AND PAYMENT

- Conduct final evaluations with plant-based practical tasks
- Issue training material and logbooks to all trainees

<u> </u>		<u> </u>
E12.05	Provision for accredited training	
(a)	Generic skills	Provisional sum
(b)	Process Controller	Provisional sum
(c)	Transport and accommodation (only if required)	lump sum
(d)	Handling cost and profit in respect of sub-item	
	E12.05(a), (b) and (C) above	percentage (%)
(e)	Training venue (only if required)	lump sum

The prime cost sums are provided to cover the actual costs (including wages) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item E4.1(c) is a percentage of the amount actually spent under sub-items E4.1(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for E4.1(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue. Payment of the lump sum will be made in two installments as follows:

(i) The first installment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

(ii) The second and final installment, 25% of the lump sum, will be paid after the provision of all the accredit training as specified in the document.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.4 PROVISION OF THE TEMPORARY WORKFORCE

CONTENTS

C3.4.3.4.1	SCOPE
C3.4.3.4.2	INTERPRETATIONS
C3.4.3.4.3	PERMITTED SOURCES OF TEMPORARY WORKERS
C3.4.3.4.4	EMPLOYMENT RECORDS TO BE PROVIDED
C3.4.3.4.5	VARIATIONS IN WORKER PRODUCTION RATES
C3.4.3.4.6	TRAINING OF THE TEMPORARY WORKFORCE
C3.4.3.4.7	RECRUITMENT AND SELECTION PROCEDURES
C3.4.3.4.8	TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE
C3.4.3.4.9	LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES
C3.4.3.4.10	THE SUBCONTRACTORS' WORKFORCES
C3.4.3.4.11	MEASUREMENT AND PAYMENT

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

This Specification covers the provisions and requirements relating to the provision of the

temporary workforce.

C3.4.3.4.1 INTERPRETATIONS

C3.4.3.4.2.1 Supporting documents

The Tender Rules, Conditions of Contract, Standard and Project Specifications, Drawings and

statutory minimum requirements relating to the employment and remuneration of labour shall

inter alia be read in conjunction with this Specification.

C3.4.3.4.2.1.2 Definitions and abbreviations

For the purposes of this specification, the definitions given in the Conditions of Contract, the

Standard Specifications and the Project Specifications, together with the following additional

definitions shall, unless the context dictates otherwise, apply:

(a)"Key Personnel" means all contracts managers, site agents, materials and survey

technicians, trainers, supervisors, foremen, skilled plant operators, artisans and the like, and

all other personnel in the permanent employ of the Contractor or Subcontractor who possess

[special skills and/or who play key roles in the Contractor's or Subcontractor's operation

(b) "Project Committee" means a committee consisting of the Employer, the Engineer, the

Contractor, (or their nominated representatives) as well as representatives of the temporary

workforce, which is convened from time to time at the discretion of the Engineer, for the

purposes of acting as an avenue for effective communication and liaison between all the parties

referred to, in all matters pertaining to the Contract

(c)"Subcontractor" means any person or group of persons in association, or firm, or body

corporate (whether formally constituted or otherwise) not being the Contractor, to whom

specific portions or aspects of the Works are sublet or subcontracted by the Contractor in

accordance with the provisions of the Contract

(d)"Worker" for the purposes of this Specification means any person, not being one of the

Contractor's key personnel, nor any key personnel of any Subcontractor, who is engaged by

the Contractor, a Subcontractor or the Employer to participate in the execution of any part of

the Contract Works and shall include unskilled labour, semi-skilled and skilled labour, clerical

workers and the like

(e)"Workforce" means the aggregate body comprising all workers and shall, unless the context

dictates otherwise, include the workforces of the Contractor and all Subcontractors

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

(f)"Liaison Officer" means a representative from the temporary workforce, duly elected by them,

to act on their behalf and through whom all matters pertaining to the temporary workforce can

be channelised.

C3.4.3.4.2.1.3Status

Where any provisions or requirements of this Specification conflict with anything elsewhere set

out in the Contract, the provisions and requirements of this Specification shall take precedence

and prevail.

C3.4.3.4.3PERMITTED SOURCES OF TEMPORARY WORKERS

The Contractor shall as far as possibly make optimum use of the human resources outside his

own workforce and the workforces of all subcontractors. The temporary workforce that is to be

used in the execution of the Works in terms of Part C3 may consist of the workers of various

communities and shall not be bound to one particular community.

C3.4.3.4.4EMPLOYMENT RECORDS TO BE PROVIDED

(a) The Contractor shall maintain accurate and comprehensive records of all workers engaged

on the Contract and shall provide the Engineer at monthly intervals from the commencement

of the Contract, with interim records substantiating the actual numbers of employment

opportunities that shall have been generated to date and the amounts actually paid in respect

thereof. Such interim records shall be in a format approved by the Engineer. An example of

the forms to be used is illustrated in Part C5 of this document, (forms RDP 9 and 10 (E).

(b) The Contractor shall, on completion of the Contract, and as a pre-requisite event to the

release of any retention money in terms of the Conditions of Contract, provide the Engineer

with copies of the Terms of Employment as well as independently audited documentary

evidence of the total number of temporary and permanent employment opportunities actually

generated during the Contract.

C3.4.3.4.5 VARIATIONS IN WORKER PRODUCTION RATES

Notwithstanding anything to the contrary as may be stated in or inferred from any other

provision of this Contract, the Contractor shall not be entitled to any additional payment or

compensation whatever, in respect of any differences as may result between the production

rates actually achieved by workers in the course of the execution of the Contract Works and

those production rates on which he has based his tender.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.4.6TRAINING OF THE TEMPORARY WORKFORCE

(a) Selected members of the workforce are to be provided with structured training in accordance

with the provisions of Part C3.4.3.3.

(b)The Contractor shall make all necessary allowances in his programme of work to

accommodate and facilitate the delivery of such structured training and shall comply fully with

the requirements of Part C3.4.3.3.

(c)The provision of structured training as described in Part C3.4.3.3. shall not relieve the

Contractor of any of his obligations in terms of the Conditions of Contract and the Contractor

shall remain fully liable for the provision, at his own cost, of all training of the workforce,

additional to that as provided for in Part C3.4.3.3, as may be necessary to achieve the execution

and completion of the works strictly in accordance with the provisions of the Contract.

C3.4.3.4.7RECRUITMENT AND SELECTION PROCEDURES

C3.4.3.4.7.1The Contractor shall be fully responsible for the recruitment and selection of

workers to constitute the temporary workforce.

C3.4.3.4.7.2The Contractor shall advise the Engineer in writing of the numbers of each

category of temporary worker which he requires, together with the personal attributes which he

considers desirable that each category of worker shall possess (taking due cognisance of the

provisions of the Contract relating to training).

C3.4.3.4.7.3The Contractor shall, at his own cost, take all necessary actions to advertise within

the communities comprising the personnel resources, the fact that temporary employment

opportunities exist and the time and place where recruiting will occur.

C3.4.3.4.7.4The Contractor shall record in writing, the details of all persons applying for

employment, including inter alia:

(a)Name, address, age and sex

(b)Marital status and number of dependants

(c)Qualifications and previous work experience (whether substantiated or not)

(d)Period since last economically active

(e)Preference for type of work or task.

C3.4.3.4.7.5The Contractor shall make his selection of workers from amongst the applicants,

taking due cognisance of his requirements for the workforce and the provisions of the contract

in regard to the provision of training to the workforce and in accordance with the following

principles:

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

- (a)No potential temporary worker shall be precluded from being employed by the Contractor on the execution of the Works, by virtue of his lack of skill in any suitable operation forming part of the Works, unless -
- (i)all available vacancies have been or can be filled by temporary workers who already posses' suitable skills, or
- (ii)the Time for Completion allowed in the Contract, or the remaining portion of the Contract Period (as the case may be) is insufficient to facilitate the creation of the necessary skills.
- (b)Preference shall be given to the unemployed and single heads of households.
- (c)The Contractor shall, in so far as is reasonably practicable, give priority to accommodating the applicants expressed preferences regarding the types of work for which they are selected.
- (d)The selection process shall not be prejudicial to youth (over the age of fifteen years) and women.
- C3.4.3.4.7.6After making his selection, the Contractor shall advise the Engineer thereof, in writing and the Engineer shall, without undue delay, ratify the Contractor's selection.
- C3.4.3.4.7.7The provisions of this clause shall apply *mutatis mutandis* in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the Contract.
- C3.4.3.4.7.8The Contractor shall, after selecting his temporary workforce, arrange at his own cost for the appointment of the Liaison Officer as representative of the workforce to act on their behalf with regards to all matters pertaining to the workforce."

C3.4.3.4.8TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE

- C3.4.3.4.8.1All temporary workers engaged in accordance with the provisions of Part A of the Project Specifications, shall be employed on the terms and conditions of employment as are consistent with those as set out in this Contract. The Contractor shall implement and adhere strictly to such terms and conditions relating to the employment of the temporary workforce, and subject only to the provisions of this Contract, shall not employ any temporary worker on terms and conditions which are less favourable to the worker or inconsistent with the standards and norms generally applicable to temporary workers in the Mechanical/Electrical/Civil Engineering Industry and applicable to the particular area.
- C3.4.3.4.8.2 The Contractor shall pay to all temporary workers engaged in terms of Part A of the Project Specifications, not less than the minimum rate of remuneration as specified in Form P: Appendix to Tender.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.4.9 LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES

C3.4.3.4.9.1 The Contractor, as the Employer of the workforce, shall be fully responsible for the establishment and maintenance at his own cost, of satisfactory labour relations on site and the resolution of all grievances of temporary workers as may occur.

C3.4.3.4.9.2 The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the Mechanical/Electrical/Civil Engineering Construction Industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the Contract.

C3.4.3.4.9.3 In the event of any temporary worker engaged by the Contractor in terms of the Contract, being aggrieved with regard to his Terms of Employment, working conditions and training, he shall have the right, at his discretion, to be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor in terms of Subclause C3.4.3.4.9.2 above, by one member of the temporary workforce and one member of the Project Committee, which persons shall be nominated by the worker.

C3.4.3.4.9.4 In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures in accordance with Sub clauses C3.4.3.4.9.2 and C3.4.3.4.9.3, then either the Contractor or the worker concerned may require that the matter be referred to the Project Committee for further consideration, with a view to facilitate the resolution thereof.

C.311

THABAZIMBI LOCAL MUNICIPALITY

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.4.3.4.10 THE SUBCONTRACTORS' WORKFORCES

C3.4.3.4.10.1. The provisions of this Part C shall apply *mutatis mutandis* to the workforces employed by all subcontractors engaged by the Contractor and the Contractor shall be fully responsible for ensuring, at his own cost, that the terms of every subcontract agreement entered into are such as to facilitate the application of these provisions in respect of the

workforces of all subcontractors.

C3.4.3.4.10.2. The Contractor shall at his own cost and to the extent necessary, assist and monitor all subcontractors in the application of the provisions of this Specification, and shall, in terms of the Conditions of Contract, remain fully liable in respect of the acts, omissions and neglects of all subcontractors, in respect of the application of the provisions of this Specification.

C3.4.3.4.11 MEASUREMENT AND PAYMENT

The Contractor will not be separately reimbursed or compensated in respect of the provision of the workforce and creation of temporary employment opportunities and all the Contractor's costs associated with compliance with the provisions of this part of the Project Specifications shall, except to the extent provided for in Part C3.4.3.3. as relevant, be deemed to be included in the rates tendered for the various items of work listed in the Schedule of Quantities.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.5 WASTEMENT WATER TREATMENT WORKS OPERATION

C3.5.1 Scope

C3.5.1.1Operational Responsibility

- The Contractor shall assume full operational responsibility of the WWTW for the entire duration of the second six-month period.
- Operation shall be in accordance with the Operations and Maintenance Manual (O&M Manual) developed and submitted during the earlier phase.

C3.5.2 Staffing and Supervision

- The Contractor shall deploy qualified personnel to manage all operational aspects of the plant.
- The Employer (Thabazimbi Local Municipality) will assign designated operational staff to work alongside the Contractor.
- This process allows for **on-the-job training** and practical skills transfer to municipal employees.

C3.5.3 Monitoring and Reporting

The Contractor shall prepare and submit monthly operational reports detailing:

- Process control metrics
- Operational challenges
- Maintenance performed
- Effluent quality results
- Safety compliance and incidents (if any)
- Reports must demonstrate compliance with the Department of Water and Sanitation (DWS) and environmental standards.

C3.5.4 Effluent Quality Compliance

- The Contractor shall be responsible for ensuring treated effluent meets or exceeds all **prescribed discharge parameters**.
- Any deviation from standards must be addressed immediately, with corrective action taken and reported.

C3.5.5 Maintenance Requirements

- Preventive and corrective maintenance shall be carried out as per the schedule in the O&M Manual.
- The Contractor is responsible for the availability and functionality of all equipment.

C3.5.6 Health, Safety, and Environmental Compliance

- Operations must align with the Occupational Health and Safety Act, Mine Health and Safety Act, and Environmental Management Programme.
- The Contractor must maintain a safe working environment for both municipal and contractor personnel.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C3.5.7 Performance Evaluation

- Performance of the operations shall be evaluated periodically by the Employer and/or the appointed Engineer.
 - Evaluations will consider:
 - Effluent quality
 - Plant uptime and performance
 - Staff development progress
 - Safety compliance

C3.5.8 Exit and Handover

- Towards the end of the second six-month period, a comprehensive handover process must be conducted.
- This includes:
 - Final training and assessment of municipal staff
 - Documentation of operational procedures and lessons learned
 - Handover of tools, spares, and updated records

C3.5.9 Key Deliverables during this Phase:

- Monthly operation and compliance reports
- Skills transfer documentation and attendance logs
- Final O&M evaluation report
- Full compliance with effluent discharge and operational standards

To ensure that, by the end of this phase, the Thabazimbi Local Municipality is fully equipped, both technically and operationally, to take over and sustainably manage the WWTW with minimal external support.

C3.6 MANAGEMENT

C3.6.1 MANAGEMENT MEETINGS

The following meetings will be required as minimum for the management of the contract.

- (a)Monthly client site meeting (using standard agenda for management control).
- (b)Technical meetings as required for each phase of the work.
- (c)Monthly safety meetings in terms of the OHS requirements.
- (d)Weekly progress meetings.

C3.6.2 QUALITY CONTROL

Contractor to supply details of quality plan and procedures. These shall include:

Accommodation of traffic.

CONTRACT NO: TECH/02/2025-26

- List of Long-lead Items
- Handling procedures and Disposal Certificates (Sludge handling, Scum, Screenings and Waste/Rubble)
- Inspection and test plans.
- Approval process.
- Hold-points.
- Milestones.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

PART C4: SITE INFORMATION

C4.1	SITE INFORMATION	. C.316
C4.2	LOCALITY PLAN	C.317

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C4.1 SITE INFORMATION

C4.1.1 Site location

The Thabazimbi Local Municipality (TLM) is situated within the Limpopo Province and extends to the Botswana border and the North West Province, representing one of six municipalities within the Waterberg District area of jurisdiction. TLM consists of 11 wards, one of which is Thabazimbi. The ward is demarcated into Thabazimbi, Thabazimbi A, and Thabazimbi NU (Census 2011). Thabazimbi is the municipal capital, has a well-established business and industrial zone, and is undergoing significant residential expansion (IDP 2023).

The site is located at 24°36'24.99"S; 27°23'17.53"E.



Figure 1: Aerial View of Thabazimbi Wastewater Treatment Works

C4.1.2 Condition assessment report

The Thabazimbi Wastewater Treatment Works (TWWTW) started as a 3 ML/d Biological Trickling Filter plant with extended aeration. It was upgraded in 2014 by an additional 3.5 ML/d Activated Sludge Plant (ASP) to bring the total works to 6.5 ML/d.

The plant has been out of operation for a several years, leading to discharge of untreated sewer into the Crocodile River. There has been extensive vandalism to the fence, electrical cables and motor control centres (MCCs).

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C4.2 LOCALITY PLAN

Attached in the Book of Drawings

CONTRACT NO: TECH/02/2025-26

РΔ	RT	C5·	ΔN	NFX	URES

C5.1	PROFORMA DOCUMENTS	C.319
C5.2	Contract drawings	C.323

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C5.1 PROFORMA DOCUMENTS

The following is a list of proforma documents and examples that are required to be completed by the successful tenderer.

C5.1.1	RETENTION MONEY GUARANTEE PROFORMA	.C.320
C5.1.2	EXAMPLE OF ABE DECLARATION AFFIDAVIT	C.322

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C5.1.1 RETENTION MONEY GUARANTEE PROFORMA

EXAMPLE

THABAZIMBI LOCAL MUNICIPALITY FOR INFORMATION ONLY:

This Guarantee is not to be completed and signed by the Guarantor. A separate form will be issued to the successful Tenderer

Notes to Tenderer

- 1. This pro forma is for information only. The successful tenderer's guarantor will need to reproduce it without amendment, omission or addition for completion and lodgement with the Employer.
- 2. The tenderer's guarantee will have to be on letterheads indicating the contact details of the guarantor, shareholders/board of directors, guarantee number and the company registration number.

CONTRACT NO.

FOR

DESCRIPTION OF THE CONTRACT:

The guarantee is issued on behalf of

Registration No

(hereinafter referred to as "the Contractor") in connection with the above-mentioned contract (hereinafter referred to as "the Contract").

Whereas you have agreed that the Contractor may provide a guarantee in lieu of the retention monies provided for under the Contract.

Now therefore we, the undersigned, being duly authorised to represent the

(full name of guarantor) registration number

undertake to pay you such amounts as you may from time-to-time demand from us, immediately upon receipt of a written demand from you.

- 1.Each demand shall be in writing and delivered to us at or such other address as we shall in writing notify to you.
- 2. Our liability to make the payments herein referred to shall be unconditional and not be affected or diminished by any disputes, claims or counterclaims between you and the Contractor.
- 3. Our aggregate liability under this guarantee is limited to (R.....) and is restricted to payment of monies only.
- 4. This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by you, becomes payable to the Contractor.

CONTRACT NO: TECH/02/2025-26

ADDRESS

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

ADDRESS

5. This guarantee is neither negotiable nor transferable and must be returned to us against final payment of our aggregate liability or on the date of the expiry of the guarantee in terms of Clause 4 (above), whichever is the earlier.

Signed at	for	and on behalf of		
on this the		day of in the	e year	
GUARANTOR:				
AS WITNESS:				
1.	2.			
NAME(Print):	NAME(Print):			

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C5.1.2 EXAMPLE OF ABE DECLARATION AFFIDAVIT

Name	ID. No.	Citizen of RSA Yes/No	PDI status Yes/N o	%own ed
6. Lis	st all partners, proprietors	and shareholders:		
as a Sub-contrain a Joint Ventuwith main contrwith a sub-cont	re Y actor Y	es/No es/No es/No es/No		
5.Participation in this	contract			
4.Service/work to be	performed on this contra	ct:		
3. Principal Business	Activities			
- Pty Ltd: regist	ration no			
- Company: re	gistration no			
- Date of registr	ation			
- Close corpora	tion: registration no			
- One person b	usiness/sole trader			
- Partnership				
2.Type of firm (tick as	appropriate)			
VAT registration no. :				
Contact person :				
Telephone no. :	Fax no			
Postal address :				
1. Name of firm :				
(facsimiles will be pro	vided by the Employer to	be completed by A	ABEs)	

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

7.List the last four contracts/assignments completed by your firm. If required, a separate sheet may be used and attached to this page. Reference may be called from the Employers of the projects listed.

PROJECT AND WORK PERFORMED	EMPLOYER (NAME, ADDRESS, TEL, FAX)	VALUE OF RANDS

Notes to tenderer:

Under column 1 state the assignment or contract (e.g. Contract XYZ0123): Construction of rural roads) and follow this with the work carried out (e.g. construction of pipe culverts).

Under column 2, if it was a sub-contract give the required details of the employer for the main contract and also of the Contractor who employed you.

Under column 3 give the value of the main contract (if any and if known) and also the value of the work carried out by you.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

8. Declaration		
I,	•	duly tated
Signature		
Name (print)		
Date		
Signed on behalf of (print name)		
Address		
Telephone no.		
Commissioner of Oath		
Date		

Note: In the case of a Company a certificate of authority for signatory must be provided.

CONTRACT NO: TECH/02/2025-26

REFURBISHMENT OF THABAZIMBI WASTEWATER TREATMENT WORKS PHASE 1

C5.2 DRAWINGS

Refer to attachment