VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C

BUNGENI XIKHULU - 02

(RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

TENDERER: ……

……

CIDB GRADE: 8CE OR HIGHER

TENDER AMOUNT (VAT INCLUSIVE): ……

TENDERER CIDB GRADING & NUMBER: ……

PREPRED FOR	PREPARED BY
VHEMBE DISTRICT MUNICIPALITY PRIVATE BAG X5006 THOHOYANDOU, 0950. Tel: 015 962 1017 Fax: 015 960 2000	T2 TECH ENGINEERS (PTY) LTD 16 A CHURCH STREET POLOKWANE Tel: 015 291 3320 Email: office@t2tech.co.za

mig | Municipal Infrastructure Grant

EXPANDED PUBLIC WORKS PROGRAMME
CONTRIBUTING TO A NATION AT WORK

VHEMBE DISTRICT MUNICIPALITY

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C - BUNGENI XIKHULU 02 (RETICULATION)
BID NUMBER - VDM/TECH/02/02/2026/03

CONTENTS.

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION PHASE II-C BUNGENI XIKHULU 02 (RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

T1.1 TENDER NOTICE AND INVITATION TO TENDER

VHEMBE DISTRICT MUNICIPALITY

INVITATION FOR TENDER

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION PHASE II-C - BUNGENI XIKHULU 02 (RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

Tenderers are hereby invited from prospective contractors for the **CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION PHASE II-C - BUNGENI XIKHULU- 02 (RETICULATION)** located within the Vhembe District Municipality, in the Limpopo Province. The project involves construction of Bulk line and water reticulation networks of varying sizes to be installed at the respective settlements as well as refurbishment of existing water supply facilities.

Only tenderer's who are registered with the CIDB with an estimated contractor grading of **8CE** or **higher** are eligible to submit tenders.

Tender documents can be obtained from the Cashier's Office, Ground Floor, Vhembe District Municipality Offices, Thohoyandou upon payment of a non-refundable amount of **R2077.00** or (download freely in the Vhembe district municipality website) per document as from the **24 February 2026** Monday – Friday only.

Complete Bid documents, fully priced and signed must be sealed in an envelope marked Bid:

PROJECT NAME : CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION – PHASE II-C BUNGENI XIKHULU- 02 (RETICULATION)

BID NUMBER : VDM/TECH/02/02/2026/03

CLOSING DATE: : 08 April 2025

CLOSING TIME: : 12h00.

TENDERER NAME : ……

Completed Tender Document sealed in a higher envelope marked the above mentioned, must be deposited in the box, next to the entrance of Vhembe District Municipality Offices, next to Khoroni Hotel (former Venda Tusk Hotel) wherein the bids will be opened in public.

NB: Compulsory briefing session will be held at the **Bungeni-Xitaci AFM Church**

The following documents are required and shall form part of the bid: CSD summary report, Tax clearance compliance status letter or tax clearance compliance number, Company Registration Certificate, Proof of Purchased tender document receipt(for only purchased tender documents),Bidders Certified copy of ID Document, Proof that the bidder municipal business account or any of the directors municipal account is not in arrears (N.B. Municipal Clearance not older than three month) or NB: Letter from Traditional authority indicating that they are not paying Municipal rates and taxes, Audited financial statements **(only bid above R10 000 000.00).**

Late bid, telegraphic, e-mails or telefax transmission documents will not be accepted. Vhembe District Municipality reserves the right to accept a tender as a whole or in part and does not bind itself to accept the lowest or any tender.

NB: All service providers/bidders are requested to pre-number and initial their documents before submission. No bid will be accepted from person in the service of the state.

Administrative enquiries can be directed to Supply Chain Practitioners of Vhembe District Municipality at telephone number **(015) 960 2129/2130/2131/2132 & 2133**.

Municipal Manager: **Mr Z. N. Kutama**
Vhembe District Municipality
Private Bag X 5006
Thohoyandou,
0950.

T1.1 Bid Notice and Invitation to Bid

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION- PHASE II-C BUNGENI XIKHULU 02 (RETICULATION) - BID NUMBER: VDM/TECH/02/02/2026/03

The Vhembe District Municipality, LIMPOPO Province invites Bids for the construction of water infrastructure for Chavani and the surrounding villages.

Bid documents containing the Conditions of Bid as well as the Supply Chain Management Policy are available from the office of the Supply Chain Management Unit, situated 3rd floor, Office 306, Vhembe District Municipality.

A non-refundable deposit of **R2077.00,** will be charged for each set of documents issued. All payments and deposits are to be made in the currency of the Republic of South Africa. Cash or bank guaranteed cheques made out to Vhembe District Municipality will be accepted.

An official and compulsory site inspection will be held on **03 March 2026 at 10h00** Bidders are requested to meet the Engineer at the **Bungeni - Xitaci AFM Church**

Late bid, telegraphic, e-mail or telefax transmission documents will not be accepted. Vhembe District Municipality reserves the right to accept a tender as a whole or in part and does not bind itself to accept the lowest or any tender.

The Council also reserves the right to negotiate further conditions and requirements with the successful bidder.

Complete Bid documents, fully priced and signed must be sealed in an envelope marked Bid: CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION – PHASE II-C BUNGENI XIKHULU - 02 (RETICULATION) - BID NUMBER: VDM/TECH/02/02/2026/03

Closing date 08 April 2026 and should be deposited in the tender box at the Vhembe District Municipality, Old Parliament Buildings, Thohoyandou, not later than **12h00.**

Bidders must submit the original tender document and no copy will be accepted

The Municipality shall adjudicate and award bids in accordance with the Preferential Procurement Policy Framework Act, 5/2000, **on a 90/10 point system where 90 for price and 10 for specific goal**. and prospective bidders must accept that the bid price will be adjudicated according to the said legislation. Bids will remain valid for **90 (ninety)** days.

Only bidders who are registered in the relevant contractor category in the Construction Industry Development Board Register of Contractors will be considered. This requirement will remain in force as long as it is a requirement of the CIDB.

With reference to Joint Ventures, all entities, which are part of the joint venture, must be registered with the CIDB. The entity that meets the grading for the bid under consideration must be in possession of at least a **8CE or Higher**

Administrative enquiries can be directed to supply chain practitioners of Vhembe District Municipality at telephone number **(015) 960 2129/2130/2131/2132 & 2133**. Technical enquiries can be directed to Mr. W. Maluleke at telephone number (015) 960 2000.

Municipal Manager: Mr Z. N. Kutama
Municipal Manager
Vhembe District Municipality
Private Bag X 5006
Thohoyandou
0950

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

T1.2 TENDER DATA

T1.2 Tender Data

1. CONDITIONS OF TENDER

The Conditions of tender are the standard conditions of tender as contained in annex F of SANS 294: 2004, published by Standards South Africa, Private Bag X191, Pretoria 0001, Tel 012 428 7911.

The standard conditions of tender for procurements make several references to the Tender Data. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender.

Where applicable, items of data given here below are cross-referenced to the sub-clause in the standard conditions of tender to which it applies.

2. EMPLOYER (Cl. F1.1)

The "Employer" is "Vhembe District Municipality".

3. TENDER DOCUMENTS (Cl. F.1.2)

The tender document issued by the Employer is a **single** document and comprises the following:

Portion	Part	Section	Heading
1			**TENDER**
	1		**Tendering Procedures**
		1	Invitation to Tender
		2	Tender Data
	2		**Returnable Documents**
		1	List of Returnable Documents
		2	Returnable Schedules
2			**CONTRACT**
	1		**Agreements and Contract Data**
		1	Form of Offer and Acceptance
		2	Contract Data
	2		**Pricing Data**
		1	Pricing Instructions
		2	Schedules of Quantities
	3		**Scope of Works**
	4		**Project and Standard Specifications**
	5		**Site Information**
3			**Drawings**

4. EMPLOYER'S AGENT (Cl. F.1.4)

The Employer's agent's is

T2 Tech Engineers

Physical Address:
16A Church Street
Polokwane
0700
Tel.: 015 291 3320
Fax: 086 684 3986
E-mail: office@t2tech.co.za

Postal Address:
PO Box 233
Fauna Park
0787

5. TENDERER'S OBLIGATIONS

5.1 Eligibility (Cl. F.2.1)

A tender offer may only be submitted if the Tenderer satisfies the criteria stated in the Tender Data and if the Tenderer, or any of his principals, is not under any restriction to do business with the Employer.

5.2 Site Visit and Clarification Meeting (Cl. F.2.7)

The arrangements for a compulsory pre-tender meeting are:

Location: Bungeni-Xitaci AFM Church

5.3 Insurance (Cl. F.2.9)

No insurance cover will be provided by the Employer.

5.4 Alternative Tender Offers (Cl. F.2.12)

Unless anything to the contrary has been determined in the Contract Data, a Tenderer may, together with his tender for the original designs contained in the contract documents, submit alternative designs and tender offers for consideration. All designs, calculations, drawings and Operation and Maintenance manuals shall be fully endorsed by a third party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor. Such alternative designs and offers shall be subject to the following conditions and requirements:

5.4.1 Tenders

An alternative offer or design will be considered only if the tender for the original items has been fully priced and completed. The alternative tender offer is to be submitted in **the same envelope as the main tender offer**, together with a schedule that compares the requirements of the tender documents with the alternative requirements the Tenderer proposes. No alternative tender will be considered unless a tender free from qualifications is also submitted.

Unless the alternative offer stipulates to the contrary, it shall be assumed that the period for completion of the Works shall be the same as for the original design.

Designs, calculations, drawings and a modified schedule of quantities (as determined hereafter) in respect of each alternative offer or design shall accompany the alternative tender offer and shall be endorsed fully by a third party registered engineer, accomplished in such specific field of practice.

5.4.2 Preliminary calculations

Preliminary calculations for an alternative design shall be submitted with the tender. Such calculations shall give adequate details so as to enable an assessment to be made of the general efficacy of the design and of its principal elements, also of the degree to which the design prescriptions and codes of the Employer are being complied with. The calculations shall be clear and in a logical sequence and shall clearly reflect all the design assumptions.

5.4.3 Preliminary drawings

Preliminary drawings of the alternative designs shall also be submitted with the tender. These drawings shall comprise adequate layout plans, elevations and sections and shall clearly illustrate the general efficacy of the design and its principal elements.

5.4.4 Quantities

Each alternative offer shall be accompanied by a modified priced schedule of quantities compiled in accordance with the specifications, in so far as it is applicable, which clearly shows the manner in which the price for the alternative offer has been determined and the items in the original schedule of quantities which fall away or are being changed. In addition to the schedule of quantities, a set of calculations shall be supplied to show how the quantities have been determined. All assumptions in regard to factors which will determine quantities shall be clearly and conspicuously marked by underlining or colouring, and shall indicate whether or not the assumptions have been based on information furnished in the Contract Data (with the necessary references).

5.4.5 Further details

Should the Employer's Agent find that the calculations and drawings submitted for alternative designs are not complete enough for proper adjudication of the alternative designs, the Employer reserves to itself the right to call on the Tenderer to submit such further calculations and drawings as may be required. If such further details are not submitted within ten days of having been requested, the alternative designs will not be given further consideration.

5.4.6 Preliminary adjudication of alternative designs

The Employer's Agent will undertake a preliminary scrutiny of any alternative designs for compliance with the specified requirements of the Employer. Should he find any mistakes or unsatisfactory aspects, he may afford the Tenderer the opportunity to rectify them within a period to be determined by the Employer's Agent. However, it is emphasized that the preliminary scrutiny of the design and tender by the Employer's Agent, by its very nature, cannot be comprehensive, and no guarantee can be given in this regard that all the mistakes made by the

Tenderer will in fact be detected. Any correction of such mistakes shall be made with the tender price of the tenderer being retained, and, wherever necessary, the priced schedule of quantities for the alternative design shall be adjusted accordingly.

5.4.7 Acceptance of alternative design

The Tenderer shall note that the acceptance of a tender which includes alternative designs shall mean that the alternative designs have been approved in principle only. If the final calculations, drawings and details do not comply with the specified requirements, such alternative designs may be rejected, unless they are suitably amended by the Tenderer so as to be acceptable to the Employer.

5.4.8 Final drawings and calculations and the priced schedule of quantities

Where a tender with an alternative design has been accepted, the Contractor shall, not less than two months before he intends starting with the construction of such design, submit to the Employer's Agent a complete set of working drawings, detailed calculations and a complete schedule of quantities, for approval. The schedule of quantities shall be based on the preliminary schedule of quantities, but with the necessary adjustments in quantities and prices and with the tendered price for the alternative design being retained.

Within three weeks of having received the above, the Employer's Agent will indicate which drawings, calculations, quantities, prices and other particulars are acceptable to him and which not, with reasons furnished. The Contractor shall then submit to the Employer's Agent in good time any modified drawings and other particulars for approval, for which he will require two weeks. Any delay arising from the fact that the amended particulars do not meet the requirements shall be the responsibility of the Contractor.

No work which will be affected by an alternative design may be commenced, unless the drawings, schedule of quantities and prices for such alternative design have been approved. Should the Contractor fail to modify any drawings, calculations, quantities, prices or any other particulars to the satisfaction of the Employer's Agent, the alternative design will be rejected and the original design shall be constructed for the same amount as has been tendered for the alternative design.

5.4.9 Responsibility for alternative design

The approval of a design by the Employer's Agent shall not in any way relieve the Tenderer of his responsibility to produce a design which conforms in all respects to all the specified requirements and which will be suitable for the purpose envisaged.

Should it appear later during construction or during the maintenance period that the design does not conform to the specified requirements, the Contractor only, shall be liable for any damage arising there from and he shall, at his own expense, do all the necessary work to ensure that the Works conforms to all the specified requirements.

5.4.10 Indemnity

Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Employer, its agents and assigns, against all claims howsoever arising out of the said design whether in contract or delict.

5.5 Submitting a Tender Offer (Cl. F2.13.1)

5.5.1 Whole of the Works (Cl. F.2.13.1)

Tenderers shall offer to provide for the whole of the Works identified.

5.5.2 Original tender documents (Cl. F2.13.3)

The original tender document, issued to the Tenderer, shall be submitted in its entirety. No copies are required.

5.5.3 Marking of Tender Submissions (Cl. F2.13.5)

The complete tender documents shall be enclosed and sealed in a single envelope, marked:

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION PHASE II-C BUNGENI XIKHULU - 02 (RETICULATION)

Bid Number: VDM/TECH/02/02/2026/03

Closing Date: 08 April 2026 at 12 Hrs 00

The Employer's address for delivery of tender offers to be shown on each tender submission package is the Tender Box located at:

Vhembe District Municipality
Old Parliament Buildings
Thohoyandou
VHEMBE DISTRICT

0950

5.5.4 Two envelope system (Cl. F.2.13.6)

A two-envelope procedure will not be followed.

5.5.5 Closing time (Cl. F2.15)

The closing time for submission of tender offers is:

Date: 08 April 2026 at **12h00**

Telegraphic, telephonic, telex, facsimile, e-mail, electronic and late tender offers will not be accepted.

5.5.6 Tender offer validity (Cl. F.2.16)

The tender offer validity period is **90 days** after tender closing date.

5.5.7 Clarification of tender offer after submission (Cl. F2.17)

Delete the last part of the second sentence, commencing with the word “and”. Furthermore, delete the last two sentences of Cl. F2.17.

Add the following sentence:

“The rates stated by the Tenderer shall be binding”.

5.5.8 Provide other Material (Cl. F2.18.1)

Upon request by the Employer, the Tenderer shall promptly supply any other material that has a bearing on the tender offer, the tenderer’s commercial position (including, where applicable, notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair assessment. Should the Tenderer not provide the information or material called for, by the time for submission stated in the Employer’s request, the Employer will regard the tender offer as being non-responsive.

5.5.9 Certificates (Cl. F.2.23)

The following certificates are to be provided with this tender:

a) Tax Clearance Certificate

b) Compensation Fund registration certificate

c) Certificate of Contractor Registration issued by the Construction Industry Development Board or a copy of the application Form for registration in terms of the Construction Industry Development Board Act (Form F006). A minimum grading of **8CE or Higher** is required.

In the event of a Joint Venture submitting a tender, every member of the joint venture must submit proof of registration with the CIDB within 10 days from the closing date for tenders; and the lead partner must have a minimum contract grading designation in the **8CE or Higher** civil engineering construction.

Important Note:

Failure to provide the required particulars as per the above-listed certificates implies a non-responsive tender and warrants rejection of the tender on account of non-compliance with the requirements of the Tender Data.

6. EMPLOYER'S UNDERTAKING

6.1 Opening of tender submissions (Cl. F3.4)

The time and location for opening of the tender offers are:

Date: **08 April 2026 at 12H00**

Location: **Tender Box, Vhembe District Municipality, next to Khoroni Hotel, Thohoyandou**

6.2 Arithmetical errors (Cl. F.3.9.1)

Delete paragraphs (b) and (c) of Cl. F.3.9.1 and replace with:

b) If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the tender offer will be corrected by the Employer in determining the Contract Price.

c) Where there is an error in addition, either as a result of other corrections required by this checking process or in the Tenderer's addition of prices, such error will be corrected by the Employer in determining the Contract Price.

d) The Contract Price for the completed Contract shall be computed from the actual quantities of authorised work done and compliant with the Contract Data, valued at rates contracted against the respective items in the bill of quantities, schedule of Quantities or schedule of rates and shall include such authorised Provisional Sums and items of extra work as have become payable in terms of the Contract Data.

6.3 Evaluation of tender offers (Cl. F3.11)

The procedure for evaluation of responsive tender offers is Method 4, viz. The case of a financial offer, quality (functionality) and preferences.

The procedure for the evaluation of responsive tenders is Method 4.

Method 4: Based of financial offer, quality and preferences

Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FQ} + N_P + N_Q$$

Where: N_{FQ} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.
N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

Tender offers are ranked from the highest number of tender evaluation points to the lowest.

The financial offer will be scored using Formula 2 (option 1) where the value of W1 is:

1) 90 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R 50 000 000
   - Price = 90 points
   - Functionality = 30 points
   - Specific goals = 10 points

Up to 100 minus W1 tender evaluation points will be awarded to tenderers who complete the preferencing schedule and who are found to be eligible for the preference claimed.

6.3.1 Business Registration

Prospective tenderers shall be registered:
(a) with the South African Revenue Services for all categories of taxes applicable to it.
(b) with the Compensation Commissioner
(c) with the Construction Industry Development Board.
A minimum grading of **8CE** is required.

6.4 Acceptance of Tender Offer (Cl. F3.13)

Tender offers will only be accepted if:

a) the tenderer has in his or her possession an original valid Tax Clearance Certificate issued by the South Africa Revenue Services;

b) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation.
A minimum grading of **8CE** is required;

c) the tenderer or any of its principals is not listed on the Register of Tender Defaulters 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

d) the tenderer has not abused the Employer's Supply Chain Management System,

e) the tenderer has not failed to perform on any previous contract.

f) has complete the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.

6.5 Provide copies of the Contract Document (Cl. F3.18)

The number of paper copies of the signed Contract to be provided by the Employer to the successful tenderer is **one**.

VHEMBE DISTRICT MUNICIPALITY

Evaluation Criteria

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION PHASE II-C

(VDM/TECH/02/02/2026/03)

1. Company's Experience & References

No.	**Target goals** Name reference with contact details: (Water Reticulation projects, valued at **R 60 million** and above. Attach appointment letters and completion certificates) for previous 10 years' experience	**Weighting**	**Score**
1.		10	
2.		10	
3.		10	
4.		10	
	SUBTOTAL: Experience & References	**40**	

Note: Please attach appointment letters and signed completion certificate issued by the client as proof for having completed such a project.
For completion certificate, only signed completion certificate by the client (implementing agent/ institution)

If the service provider is sub-contracted, the main contractor's appointment letter and completion certificate should be attached, together with the appointment letter of sub-contractor and completion certificate of work done by the sub-contractor.

2. Representative experience

No.	**Target goal** (attach CV & certified copy of qualifications)	**Weighting**	**Score**
1.	Contract manager in water reticulation projects 5 years and above = 6 points 4 years = 5 points 3 years = 3 points 2 years = 2 points 1 year = 1 point	6	
2.	Site agent in waste water reticulation projects 5 years and above = 4 points 4 years = 3 points 3 years = 2 points 2 years = 1 point	4	
3.	Foreman in waste water reticulation projects 5 years and above = 3 points 4 years = 2 points 3 years = 1 point	3	
4.	Health & Safety Officer years' experience in water reticulation projects 5 years and above = 2 points 3 years and below=1 point	2	
	SUBTOTAL: Representative experience	**15**	

3. Representative Qualifications

No.	Target goals (certified copy of qualifications)	Weighting	Score
1.	**Contract Manager** BSc/B.Tech in Civil Engineering = 04 points National Diploma in Civil Engineering=03 points Certificate in Civil Engineering= 02 points	04	
2.	**Site Agent** National Diploma or higher in Civil Engineering = 02 points Certificate in Civil Engineering = 01 point	02	
3.	**Foreman** National Diploma or higher in Civil Engineering=02 points Certificate in Civil Engineering= 1 point	02	
4.	**Health and safety Officer** National Diploma or higher in Civil Engineering=02 points Certificate in Civil Engineering=01 point	02	
	SUBTOTAL: Representative Qualification	**10**	

Note: Project organogram of the project team should be attached. Curriculum vitae with certified copies of qualifications should be attached to the tender document for verification by the clients. NB foreign qualifications certified copies from SAQA must also be attached.

4. Financial Reference

No.	Target goals	Weighting	Score
1.	Tenderer submitted bank details proof attached	3	
2.	Bank rating “C” or better	4	
3.	Registered financial institution’s full details as guarantor in the amount of 10% as specification for surety purposes shall be submitted	3	
	SUBTOTAL: Financial references	**10**	

5. Plants & Equipment

No.	Target goals	Weighting	Score
1.	TLB	07	
2.	20 Ton Excavator (Attach Tax Invoice & delivery note)	08	
3.	Tipper truck (6-10m³)	05	
4.	Water Truck	05	
	SUBTOTAL: Plant & equipment	**25**	

Note: Proof of ownership to be submitted with tender. If plant will be hired, a letter from plant Hire Company is required.
A signed letter from the plant Hire Company as well as Proof of ownership of the plant Hire Company must be attached

Summary of table 1-5

No.	Summary of tables	Weighting	Score
1.	Experience & References	40	
2.	Representative Qualifications	15	
3.	Financial references	10	
4.	Representative Qualifications	10	
5.	Plants & Equipment	25	
	Sub-Total	**100**	
	PRICE	**90**	
	SPECIFIC GOALS	**10**	
	HDI	05	
	Locality • 02 points within the district • 01 point within Limpopo Province 01 point within South Africa (CSD report of the bidder will be used to verify the locality of the bidder)	02	
	Youth	01	
	Women	01	
	Disability (Attach proof from the Doctor)	01	

NB: Functionality will be scored out of 100 and Bidders who do not reach the 70% threshold will not be evaluated further.

GRADING = 8CE or higher

Annexure A : Standard Conditions of Tender

F.1 General

F.1.1 Actions

The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently.

F.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions for the calling for expressions of interest, the following definitions apply:

a) **comparative offer** means the tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other tendered parameters that will affect the value of the financial offer have been taken into consideration
b) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
c) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
d) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

F.1.4 Communication and employer's agent

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be read, copied and recorded. Writing shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

F.1.5 The employer's right to accept or reject any tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

F.2 Tenderer's obligations

F.2.1 Eligibility

Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

F.2.2 Cost of tendering

Accept that the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.

F.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five working days before the closing time stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.

F2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers

F.2.12.1 Submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements the tenderer proposes.

F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.

F.2.13 Submitting a tender offer

F.2.13.1 Submit a tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing in black ink.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked “financial proposal” and place the remaining returnable documents in an envelope marked “technical proposal”. Each

envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

F.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept tender offers submitted by telegraph, telex, facsimile or e-mail, unless stated otherwise in the tender data.

F.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender offer validity

F.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

F.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period.

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the total of the prices or substance of the tender offer is sought, offered, or permitted. The total of the prices stated by the tenderer shall be binding upon the tenderer.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

F.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies, etc.

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

F.3 The employer's undertakings

F.3.1 Respond to clarification

Respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until seven days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened, the total of his prices, preferences claimed and time for completion, if any, for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, on opening and before detailed evaluation, whether each tender offer properly received:

a) complies with the requirements of these Conditions of Tender,
b) has been properly and fully completed and signed, and
c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

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.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors

F.3.9.1 Check responsive tender offers for arithmetical errors, correcting them in the following manner:

a) Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.

b) If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

F.3.9.2 Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of his arithmetical errors in the manner described in F.3.9.1.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate it using the tender evaluation method that is indicated in the Tender Data and described below:

Method 1: Financial offer	1) Rank tender offers from the most favourable to the least favourable comparative offer. 2) Recommend highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 2: Financial offer and preferences	1) Score tender evaluation points for financial offer. 2) Confirm that tenderers are eligible for the preferences claimed and if so, score tender evaluation points for preferencing. 3) Calculate total tender evaluation points. 4) Rank tender offers from the highest number of tender evaluation points to the lowest. 5) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 3: Financial offer and quality	1) Score quality, rejecting all tender offers that fail to score the minimum number of points for quality stated in the Tender data. 2) Score tender evaluation points for financial offer. 3) Calculate total tender evaluation points. 4) Rank tender offers from the highest number of tender evaluation points to the lowest. 5) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 4: Financial offer, quality and preferences	1) Score quality, rejecting all Tender offers that fail to score the minimum number of points for quality stated in the Tender data. 2) Score Tender evaluation points for financial offer.. 3) Confirm that Tenderers are eligible for the preferences claimed, and if so, score Tender evaluation points for preferencing. 4) Calculate total Tender evaluation points.. 5) Rank Tender offers from the highest number of Tender evaluation points to the lowest. 6) Recommend Tenderer with the highest number of Tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.2 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

NFO = W1 x A where:
NFO = the number of tender evaluation points awarded for the financial offer.
W1 = the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.
A = a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

Formula	Comparison aimed at achieving	Option 1	Option 2
1	Highest price or discount	$A = (1+ \frac{(P - Pm)}{Pm})$	A = P / Pm
2	Lowest price or percentage commission / fee	$A = (1 - \frac{(P - Pm)}{Pm})$	A = Pm / P

where:

Pm = the comparative offer of the most favourable tender offer.
P = the comparative offer of tender offer under consideration.

F.3.11.3 Scoring quality (functionality)

Score quality in each of the categories in accordance with the Tender Data and calculate total score for quality.

F.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

F.3.13 Acceptance of tender offer

F.3.13.1 Accept tender offer only if the tenderer complies with the legal requirements stated in the Tender Data.

F.3.13.2 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful tenderer as described in the form of offer and acceptance.

F.3.14 Notice to unsuccessful tenderers

After the successful tenderer has acknowledged the employer’s notice of acceptance, notify other tenderers that their tender offers have not been accepted.

F.3.15. Prepare contract documents

If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

a) addenda issued during the tender period,
b) inclusion of some of the returnable documents,
c) other revisions agreed between the employer and the successful tenderer, and
d) the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful tenderer for acceptance as soon as possible after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of tender require the tenderer to submit, after acceptance by the employer, shall be included.

F.3.17 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.18 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

A: SCHEDULE OF 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 **6%** of the contract value

Type of Labour	Man-hours	Minimum Wage Rate per Unit	Total Wage Cost (Excl VAT)
Permanent Labour			
Temporary Labour			
SMME/HDI's Labour			
		TOTAL	
		PERCENTAGE	

Notes to Tenderer:

(1) Labour is defined as hourly paid personnel.

(2) The penalty will be applied for non-compliance during the contract or for fraudulent disclosure

(3) The minimum wage rate to be R191.60 per day

SIGNED ON BEHALF OF THE TENDERER: …….

B: EMPLOYMENT OF AFFIRMATIVE BUSINESS ENTERPRISE (ABE)

Target values of work to be executed by and goods & services to be procured from ABEs shall be **10%**.

Schedule Item No	Name of ABE	Item Description/ Goods & Services to be provided	Value	
			Rands (Excl VAT)	% of Tender Sum (Excl VAT)
TOTAL				

Notes to tenderer:

1. **Regardless of whether the tenderer fits the classification of an SMME/PDI, as defined in Section 3.3 of this specification, the tenderer nevertheless retains the obligation to commit to the target values prescribed**
2. **Tenderers shall insert "unknown" if an SMME/PDI has not been selected prior to tender closing date.**
3. **The penalty will be applied for non-compliance during the contract or for fraudulent disclosure**

SIGNED ON BEHALF OF THE TENDERER ……

B.1 EMPLOYMENT OF AFFIRMATIVE BUSINESS ENTERPRISE DECLARATION AFFIDAVIT (ABE).

It is understood and agreed that should this contract be awarded to me, an ABE Declaration Affidavit will be completed by each and every ABE employed by me on this contract and will be submitted to the Employer immediately upon demand by the Employer.

SIGNED ON BEHALF OF THE TENDERER ……

1. TRAINING

Name of Training Institution:……

Name of Programme:……

TRAINER'S NAME	QUALIFICATION	SUBJECT

Notes to tenderer:

Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.

SIGNED ON BEHALF OF THE TENDERER……

2. ENGINEERING STUDENT TRAINING

Name of Training Institution:……

Name of Programme:……

Trainer's Name	Qualification	Subject

Notes to tenderer:

1. **Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.**
2. **Provision should also include on-job student / (in-service) training for the duration of the contract at a minimum monthly stipend of R 4 500.00**

SIGNED ON BEHALF OF THE TENDERER ……

Annexure B : Tax Compliance Permission Declaration

Where Tax Clearance certificates and VAT Registration certificates are no longer issued by SARS, the Service Provider shall complete the declaration below.

I, ... (name) the undersigned in my capacity as ..... (position) on behalf of ..... (name of company) herewith grant consent that SARS may disclose to the Vhembe District Municipality (VDM) our tax compliance status on an ongoing basis for the contract term. For this purpose our unique security personal identification number (PIN) is .....

In addition, the Service Provider shall obtain written consent from each of its sub-contractors, undisclosed principals and partners involved in this contract confirming that SARS may, on an ongoing basis during the contract term disclose the sub-contractors' tax compliance status to the Employer. For this purpose the Service Provider shall provide the Employer with the unique security personal identification number (PIN) for each of its sub-contractors, undisclosed principals and partners involved in this contract.

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION- PHASE II-C - BUNGENI XIKHULU - 02 (RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

T2.1 LIST OF RETURNABLE DOCUMENTS

VHEMBE DISTRICT MUNICIPALITY

T2.1 List of Returnable Documents

The tenderer must complete the following returnable documents:

1. Returnable Schedules required only for tender evaluation purposes

- Certificate of Attendance at Site Clarification Meeting
- Certificate of Authority of Signatory (On company letterhead)
- Certificate of Registration with the Construction Industry Development Board
- Certificate of joint venture or agreement
- Certificate of authority for joint ventures (where applicable)
- Compulsory Enterprise Questionnaire
- Record of Addenda to Tender Documents
- Proposed Amendments and Qualifications
- Form of Intent to Provide a Demand Guarantee
- Schedule of Subcontractors
- Schedule of Available Infrastructure, Resources and Experience
- Financial Information of the Tenderer
- Certificate for Municipal Services and Payments
- Authorisation for deduction of outstanding amounts owed to Council
- MBD 1, MBD 4, MBD 6.1 & 6.2
- Evaluation Criteria
- MBD 7.1, MBD 7.2, MBD 8 & MBD 9.
- Compliance with OHSA (Act 85 of 1993)
- Dayworks Schedule

2. Other documents required only for tender evaluation purposes

- Compensation Fund Registration Certificate
- Curricula Vitae of Personnel
- Schedule of Proposed Sub-Contractors
- Schedule of Available Infrastructure, Resources and Experience
- Rates of Labour and Materials (Daywork Rates)
- Certificate of Contractor Registration issued by the Construction Industry Development Board (CIDB)
- Copy of company registration certificate (C.K. Certificate) with shareholding
- An original valid Tax Clearance Certificate issued by the South African Revenue Services.
- CSD Summary
- Where the tendered amount inclusive of VAT exceeds R 10 million:

i) audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing;

ii) certificate certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;

iii) particulars of any contracts awarded to the tenderer 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;

iv) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or Municipal entity is expected to be transferred out of the Republic.

3. Returnable Schedules that will be incorporated into the contract

- Preferencing Schedule

4. Other documents that will be incorporated into the contract

4.1 The offer portion of the C1.1 Offer and Acceptance

4.2 C1.2 Contract Data (Part 2)

4.3 C2.2 Bills of Quantities

4.4 C2.2 Drawings

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C

BUNGENI XIKHULU - 02

(RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

T2.2 RETURNABLE SCHEDULES

CERTIFICATE OF ATTENDANCE AT SITE CLARIFICATION MEETING

This is to certify that:

…….. (Tenderer)

of …….. (Address)

…….

was represented by the person(s) named below at the compulsory meeting held for all tenderers at

..... (location) on ..... (date), starting at .....

We acknowledge that the purpose of the meeting was to acquaint ourselves with the Site of the Works and/or matters incidental to doing the work specified in the tender documents in order for us to take account of everything necessary when compiling our entire tender submission.

Particulars of person(s) attending the meeting:

Name ..... Signature .....

Capacity .....

Name ..... Signature .....

Capacity .....

Note: All particulars above this horizontal divide line to be filled in by the Tenderer **prior to** signature by Employer's representative.

Attendance of the above persons at the meeting is confirmed by the representatives of T2-Tech Engineers and Vhembe District Municipality namely:

Name (ENGINEER)…..... Signature .....

Capacity ..... Date .....

Time .....

Name (EMPLOYER)..... Signature .....

Capacity ..... Date .....

Time .....

A2

CERTIFICATE OF AUTHORITY OF SIGNATORY

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.

A	Company	☐
B	Partnership	☐
C	Joint Venture	☐
D	Sole Proprietor	☐
E	Close Corporation	☐

A. Certificate for company

I, ……., (name) chairperson of the board of directors of ……

…….(Tenderer)

hereby confirm that by resolution of the board (copy attached) taken on …… Date,

Mr/Ms ……: (Name)

acting in the capacity of ……., ……was authorised to sign all documents in connection with this tender and any contract resulting from it on behalf of the company.

As witnesses:

1. ....
Signature Chairman

....
Print Name Print Name

2. ....
Signature Date

.....
Print Name

B. Certificate of partnership

We, the undersigned, being the key partners in the business trading as ……

....., hereby authorise Mr/Ms ……, acting in

the capacity of ……..., to sign all documents in connection with

the 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 each and all of the key partners** upon whom rests the direction of the affairs of the Partnership as a whole.

C. Certificate for Joint Venture

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorize Mr

Ms …….., authorised signatory of the firm .....

....., acting in the capacity of lead partner, to sign all documents in

connection with the tender offer for Contract …… and any contract resulting from it on our behalf.

This authorisation is evidenced by the attached power of attorney signed by legally authorised signatories of all the partners to the Joint Venture.

Name of Firm	**Address**	**Authorising**	
		Signature	**Name**
Lead Partner			

D. Certificate for sole proprietor

I, ……, hereby confirm that I am the sole owner of the

business trading as ……...

As witnesses:-

1. …… ……
Signature: Sole Owner

…… ……
Print Name Print Name

2. …… ……
Date

……
Print Name

E. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as ……..

…… hereby authorise Mr/Ms ……., acting in

the capacity of ……, to sign all documents in connection with

the 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 each and all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

Certificate of Registration with the Construction Industry Development Board

1. General

The Register of Contractors is established by the Construction Industry Development Board in terms of the CIDB Act 38 of 2000 and Construction Industry Development Regulations as published in Government Gazette number 26427 of 2004.

The Act makes it mandatory for public sector clients to apply this register when considering tenders. Any enterprise that submits a tender or enters into contract for construction works with the public sector, must be registered.

Once-off joint ventures do not have to register, provided that each partner of the joint venture is separately registered.

2. Status

Tenderers shall fill in the following sections of this form, depending on their status:

2.1 Section A

Tenderers who have accomplished registration and can provide proof of their grading designation.

2.2 Section B

Tenderers who are in the process of registration of an update to an existing registration or a renewal.

2.3 Section C

Tenderers who have submitted the first application.

2.4 Section D

Tenderers submitting this Tender offer in Joint Venture and can provide proof that each partner of the Joint Venture is separately registered.

Note: Only complete one of Sections A, B, C or D.

SECTION A

I, …….. Acting in capacity of ……
was authorised to sign all documents in connection with this tender an any contract resulting from it on behalf of the following entity: ……..
hereby declare that the above mentioned entity has achieved registration with the CIDB on date …… and declare that the grading designation is reflected in the following **symbols** on the registration certificate.

Contract Value		
Type of Work		

…….. ……..
Signature of Tenderer Signature of Witness

…….. ……..
Print Name Print Name

SECTION B

I, …… acting in capacity of …… was authorised to sign all documents in connection with this tender an any contract resulting from it on

behalf of the following entity: …… hereby declare that the above mentioned entity has achieved registration with the Construction Industry Development Board on date ……., furthermore declare that the existing grading designation is:

Contract Value		

Type of Work		

and the following update has been applied for:

Amendment of category status	
Change of Particulars	
Annual confirmation of Particulars	
Renewal of Registration	

mark with "❄"

…….. ……..
Signature of Tenderer Signature of Witness

…….. ……..
Print Name Print Name

SECTION C

I, ……. acting in capacity of ……
was authorised to sign all documents in connection with this tender an any contract resulting from it on

behalf of the following entity: …….
hereby declare that the above mentioned entity has submitted its FIRST APPLICATION FOR REGISTRATION with the Contraction Industry Development board on date ……..

I furthermore accept that failure to achieve registration with the Construction Industry Development Board in a category stipulated in the Tender Data within 10 days from the date of closing this tender, implies a non-responsive tender and warrants rejection of the Tender on account of non-compliance with the requirements of the Tender Data.

……..	……..
Signature of Tenderer	Signature of Witness
……..	……..
Print Name	Print Name

SECTION D

I, …….. acting in capacity of the LEAD PARTNER in the Joint Venture

……..

was authorised to sign all documents in connection with this tender and any contract resulting from it, hereby declare that each partner of the Joint Venture is separately registered with the Construction Industry Development Board and declare that the grading designation is reflected in the following **symbols** on the registration certificates:

Name of Lead Partner:		
Contract Value		
Type of Work		

Name of 2nd Partner:		
Contract Value		
Type of Work		

Name of 3rd Partner:		
Contract Value		
Type of Work		

…….. ……..
Signature of Tenderer Signature of Witness

…….. ……..
Print Name Print Name

Certificate of Authority for Joint Ventures (where applicable)

Employer: …….

Contract Number: …….

NOTE 1 This form need only be completed in the event of a Joint Venture submitting this tender.

NOTE 2 Fill in all the information requested in the spaces provided. Attach additional sheets if required.

NOTE 3 Provide a copy of the Joint Venture agreement. Demonstrate that the partners to the Joint Venture share in the ownership, control, management responsibilities, risks and profits of the Joint Venture. The Joint Venture agreement shall include specific details relating to:

a) the contributions of capital and equipment;
b) portions of the Contract to be performed by the partner's own resources; and
c) portions of the Contract to be performed under the supervision of each partner.

NOTE 4 Provide copies of all written agreements between partners concerning the Joint Venture, including those that relate to ownership options and to restrictions/limits regarding ownership and control.

1. Joint Venture Particulars

Name ……...

Postal Address ……...

Physical Address ……

……...

Telephone ……...

Fax ……...

Name of authorized representative ……

2. Identity of Partner No. 1

Name ……...

Postal Address ……...

Physical Address ……

……...

Telephone ……...

Fax ……...

Contact Person ……

3. Identity of Partner No. 2

Name ……...

Postal Address ……...

Physical Address ……

……...

Telephone ……...

Fax ……...

Contact Person …….

4. Identity of Partner No. 3

Name ……...

Postal Address ……...

Physical Address ……

……...

Telephone ……...

Fax ……...

Contact Person …….

5. Description of the role of the partners in the joint venture

Partner No. 1: ……...

……

Partner No. 2: ……...

……

Partner No. 3: ……...

……

6. Ownership of the joint venture

(i) Ownership percentage(s) Partner No. 1 …….. %

Partner No. 2 …….. %

Partner No. 3 …….. %

(ii) Partner percentage in respect of:

a) Profit and loss sharing: Partner No. 1 …….. %

Partner No. 2 …….. %

Partner No. 3 …….. %

b) Initial capital contribution Partner No. 1 R…….

Partner No. 2 R…….

Partner No. 3 R…….

(iii) Anticipated ongoing capital contributions:

Partner No. 1 R.....

Partner No. 2 R.....

Partner No. 3 R.....

(iv) Contributions of equipment (specify types, quality and quantities of equipment) to be provided by each partner:

Partner No. 1 …….

…….

Partner No. 2 …….

…….

Partner No. 3 …….

…….

7. Recent contracts performed by partners in their own right or as partners in other joint ventures

a) Partner No. 1

(i) ……..

(ii) ……...

(iii) ……...

(iv) ……...

(v) ……...

b) Partner No. 2

(i) ……...

(ii) ……...

(iii) ……...

(iv) ……...

(v) ……...

c) Partner No. 3

(i) ……...

(ii) ……...

(iii) ……...

(iv) ……...

(v) ……...

8. Control and participation in the joint venture

(Identify by name and firm those individuals who are, or will be, responsible for, and have authority to engage in the relevant management functions and policy and decision making, indicating any limitations in their authority, for example, co-signature requirements and monetary limits).

a) Joint Venture cheque signing

……

……

……

b) Authority to enter into contracts on behalf of the Joint Venture

……

……

……

c) Signing, co-signing or collateralizing of loans

……

……

……

d) Acquisition of lines of credit

……

……

……

e) Acquisition of demand bonds

……

……

……

f) Negotiating and signing of labour agreements

……

……

……

9. Management of the performance of the Contract

(Fill in the name and firm of the responsible person)

a) Supervision of field operations ……

……

b) Major purchasing ……..

……

c) Estimating ……

……

d) Technical management ……

……

10. Management and control of the joint venture

a) Identify the managing partner

……

……

……

……

b) What authority does each partner have to commit or obligate the other to financial institutions, insurance companies, suppliers, subcontractors or other parties participating in the performance of the contemplated works:

Partner No. 1: ……

……

Partner No. 2: ……

……

Partner No. 3: ……

……

c) Describe the management structure for the joint venture's work under this Contract

Management Function/Designation	Name	Partner

11. Personnel

a) State the approximate number of operative personnel (by trade/function/discipline) needed to execute the Joint Venture contract.

Trade/function/discipline	Number

b) State the number of operative personnel to be employed on the Contract who are currently in the employ of partners:

……

c) State the number of operative personnel who are not currently in the employ of the respective partners and shall be engaged on the project by the Joint Venture:

……

d) State the name of the individual who shall be responsible for hiring Joint Venture employees:

……

e) State the name of the partner who shall be responsible for the preparation of Joint Venture payrolls:

……..……

……..

12. Services

List the firms who provide the following services:

Service	Name	Contact Person	Telephone No.
Accounting			
Auditing			
Banking			
Insurance			
Legal			

13. Control and structure of the Joint Venture

Briefly describe the manner in which the Joint Venture is structured and controlled.

……

……

……

……

The undersigned warrants that he/she is duly authorised to sign this Joint Venture disclosure form and affirms that the foregoing statements are correct and include all the material information necessary to identify and explain the terms and operations of the Joint Venture and the intended participation of each partner in the undertaking.

The undersigned further covenants and agrees to provide the Employer with complete and accurate information regarding actual joint venture work and the payment therefore, and any proposed changes in any provisions of the Joint Venture Agreement, and to permit the audit and examination of the books, records and files of the Joint Venture, or those of each partner relevant to the Joint Venture, by duly authorized representatives of the Employer.

Duly authorized to sign on behalf of: …….

…… (**the Joint Venture**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of: ……

…….. (**Partner No. 1**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of: ……

……..…… (**Partner No. 2**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Duly authorized to sign on behalf of: …….

…… (**Partner No. 3**)

Signature: ..... Print Name: .....

Name: .....

Address: .....

.....

Telephone: .....

Date: .....

Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise: . ……..……...……...……...

Section 2: VAT registration number, if any: . . . . . .

Section 3: CIDB registration number, if any: . . …. . . . . .

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*
N/A		

***** Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number . . . .……..

Close corporation number . . . .

Tax reference number . . . . . .……. . . .

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

Name of spouse, child or parent	**Name of institution, public office, board or organ of state and position held**	**Status of service (tick appropriate column)**	
		Current	**Within last 12 months**

*insert separate page if necessary

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed ---------- Date _____

Name ---------- Position _____

Enterprise name

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 or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Attach additional pages if more space is required.

Signed ..... Date .....

Name ..... Position .....

Tenderer .....

Proposed amendments and qualifications

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

Signed ..... Date .....

Name ..... Position .....

Tenderer .....

Form of Intent to Provide a Demand Guarantee

If my/our tender is accepted, I/we will, when required and within the time stipulated, provide a guarantee of

(*) Insurance Company (name) ……...

(of address) …….

…….

(*) Commercial Bank (Name) ……...

(Branch) ……...

(of address) …….

…….

to be approved by you, the Employer, for the amount stipulated.

(*) : delete whichever is not applicable.

I/we understand that failure to produce an acceptable Demand Guarantee within the stipulated period is a fundamental breach of Contract, entitling the Employer to:

(i) withhold all payments which may be due to the Contractor pending compliance with the stipulated requirements to produce an acceptable Demand Guarantee.

(ii) instruct the Contractor to cease all work pending provision of the Demand Guarantee, and

(iii) cancel the Contract.

Signed ……. Date …….

Print Name ……. Position …….

Tenderer …….

Schedule of Available Infrastructure, Resources and Experience

1. Tenderer's Plant and Equipment

The Tenderer must list below all the items of major Plant and Equipment which he guarantees will be provided on Site in perfect working order to complete the Works. This list shall include, or additional lists shall be supplied to include all Plant provided by sub-contractors.

The lists of items of Equipment shall provide the Tenderer's warranty of ownership of such Plant unless specifically endorsed herein to the contrary as "hired" or "hire purchase".

This Schedule must be accurately completed. Phrases such as 'adequate equipment will be provided', will not be accepted.

Year of Manufacture	Make & Description (Mass, condition, etc)	Ownership (attach proof)

2. Tenderer's List of Third Party Design Engineers

In the event that the Tenderer desires to design all or part of the Works or submit any alternative, he/she shall list here following, the Design Engineers, accomplished in the specific field of practice, which he/she proposes to employ for the purpose of third party certification of all works designed by the Tenderer for the Works.

Notes: (i) All costs of third party designs shall be borne solely by the Tenderer.
(ii) This Schedule must be accurately completed. Phrases such as "to be advised" will not be accepted.

Section of Works	Name and Address of Registered Engineer	ECSA Registration No.

3. Tenderer's Personnel Profile

Key Staff Permanently employed, of foreman level and above	**Number of staff**
Sub-Total	
Other Permanent Staff	**Number of staff**
Sub-Total	
Temporary Staff	**Number of staff**
Sub-Total	

4. List the Firms who provide the following services:

Service	**Name**	**Contact Person**	**Telephone**
Accounting			
Auditing			
Insurance			
Legal			

5. Identify any amounts of money loaned to your enterprise, indicating the loan source, date and amount

Loan Source	**Address**	**Date of Loan**	**Loan Amount**

6. List a maximum of five contract which your enterprise is engaged in and has not yet completed

Contract Description	Location	Client	Contract Amount	Expected Completion (month & year)

7. List the four largest assignments completed by your enterprise in the last three years

Nature of Work Performed	Client	Consultant Contact Person	Telephone No.	Contract Amount

8. Address of workshop facilities from where maintenance of works will be undertaken

……..

9. Address of Branch Offices in the RSA

……..

10. Address of Nearest Representative to Vhembe District

……..

11. Has work previously been performed for the Employer? YES/NO* - Specify

……..

……..

12. Tenderer's Financial Ability to execute and complete the Works

Provide the estimated cash flow on the project in terms of submissions of payment certificates or payment schedules of the Employer.

NOTES APPLICABLE:

(i) Value added tax to be included in all amounts

(ii) Assume for the purpose of this estimate, payment of certificates within 30 days after receipt by the Employer.

(iii) In calculation of the last column,

j = d	m = l + g
k = j + e	n = m + h
l = k + f	etc

(iv) Failure to detail the required information, shall automatically signify that the Tenderer lacks the infrastructure and resources necessary to execute and complete the Works.

Month No. in Contract Period	Estimated amount in Rands (VAT included)			
	a Received	b Payments made	(a-b) Net cash flow	Cumulative cash flow
1	-		d	j
2			e	k
3			f	l
4			g	m
5			h	n
6			etc.	etc.
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
Maximum negative cash flow. Take the largest negative number in the last column and write in here → → → → →				

Signed …… Date ……

Print Name …… Position ……

Tenderer ……

Financial Information of Tenderer

This information sheet has to be filled in by the financier of the Tenderer, duly signed and stamped on behalf of the financial institution he represents.

Tenderer / Tender Details

Tender Description : …….

Contract Period : …….

Name of Tenderer : …….

Bank Account Number : …….

Tendered Amount : …….

Demand Guarantee will be provided by this Bank: YES □ NO □

If yes, state amount of Demand Guarantee: R ……

Financial Institution

Name of Commercial Bank : …….

Branch : …….

Name of Bank Manager : …….

Telephone Number : …….

I / We acting on behalf of the above Commercial Bank confirm that

……. (Tenderer)

has operated an account with us for the last ..... years.

We have been requested to provide a bank rating based in relation to the financial capability of the Tenderer, taking into account directives set out in the following two tables.

Financial Capability

Maximum value of contract that the Tenderer is considered capable of	Value on which Bank Rating must be used
up to R300 000	R24 000
R1 000 000	R78 000
R3 000 000	R240 000
R5 000 000	R480 000
R10 000 000	R900 000
R30 000 000	R2 400 000
R100 000 000	R7 800 000

BANK RATING

Bank Code	Description of Bank Code
A	Undoubted for the amount of enquiry
B	Good for the amount of enquiry
C	Good for the amount quoted if strictly in the way of business
D	Fair trade risk for amount of enquiry
E	Figures considered too high
F	Financial position unknown
G	Occasional dishonours
H	Frequent dishonours

The value on which our Bank Rating of the Tenderer is based is R……..

(In words …… only)

The Bank Rating is code: ……

…… …….. ……..
Signature: Manager Financial Institution Print Name Date

RUBBER STAMP OF INSTITUTION

Certificate for Municipal Services and Payments

TO: MUNICIPAL MANAGER, VHEMBE DISTRICT MUNICIPALITY

FROM: _____(Name of Bidder)

FURTHER DETAILS OF BIDDER(S); DIRECTORS/SHAREHOLDERS/PARTNERS, ETC.

Directors/share holders/Partner	Physical address of the Business	Municipal Account No.	Physical residential address of the Director/ Shareholder/ Partner	Municipal Account No.

NB: Please attach certified copy (ies) of ID document(s)

_____ _____
Signatory Date

Witnesses

1. _____ _____ _____
Full Names Signature Date

2. _____ _____ _____
Full Names Signature Date

Authorisation for Deduction of Outstanding Amounts Owed to Council

TO: MUNICIPAL MANAGER, VHEMBE DISTRICT MUNICIPALITY

FROM: _____ (Name of the Bidder or Consortium)

I, _____ the undersigned, hereby authorise the Vhembe District Municipality to deduct the full amount outstanding by the business organisation/Director/Shareholder/Partner, etc. from any payment due by us/me.

Signed at _____ Date_____ Month _____ 20_____

Print Name: _____

Signature: _____

Thus done and signed for and on behalf of the bidder/Contractor

_____ _____
Signatory Date

Witnesses

1. _____ _____ _____
Full Names Signature Date

2. _____ _____ _____
Full Names Signature Date

MBD 1

INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF MUNICIPALITY/ENTITY)

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 CONDITIONS OF CONTRACT

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)

THE FOLLOWING PARTICULARS MUST BE FURNISHED

(FAILURE TO DO SO MAY RESULT IN YOUR BID BEING DISQUALIFIED)

NAME OF BIDDER
……

POSTAL ADDRESS
……

STREET ADDRESS
……

TELEPHONE NUMBER
CODE……NUMBER……

CELLPHONE NUMBER
……

FACSIMILE NUMBER CODE ……

NUMBER……

E-MAIL ADDRESS
……

VAT REGISTRATION NUMBER
……

HAS AN ORIGINAL AND VALID TAX CLEARANCE CERTIFICATE BEEN ATTACHED? (MBD 2)
YES/NO

HAS A SPECIFIC GOAL 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 SPECIFIC GOAL STATUS LEVEL VERIFICATION CERTIFICATE MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR SPECIFIC GOAL**)

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: ……..

MBD 4

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state*.
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 and/or take an oath declaring his/her interest.

3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Full Name: ……

3.2 Identity Number: ……

3.3 Company Registration Number: ……

3.4 Tax Reference Number: ……

3.5 VAT Registration Number: ……

3.6 Are you presently in the service of the state* **YES / NO**

3.6.1 If so, furnish particulars.

……

……

3.7 Have you been in the service of the state for the past twelve months? **YES / NO**

3.7.1 If so, furnish particulars.

……

……

3.8 Do you, have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? YES/NO

3.8.1 If so, furnish particulars.

---

* MSCM 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;
(c) an official of any municipality or municipal entity;
(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution 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 a provincial legislature.

……

……

3.9 Are you, aware of any relationship (family, friend, other) between a bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? YES/ NO

3.9.1 If so, furnish particulars

……

……

3.10 Are any of the company's directors, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.10.1 If so, furnish particulars.

……

……

3.11 Are any spouse, child or parent of the company's directors, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.11.1 If so, furnish particulars.

……

……

CERTIFICATION

I, THE UNDERSIGNED (NAME) ……

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

…….. ……
Signature Date

…… ……
Position Name of Bidder

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.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

(a) Price; and

(b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	
SPECIFIC GOALS	
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).

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**

$$Ps = 80\left(1 - \frac{Pt - P\,min}{P\,min}\right) \text{ or } \quad Ps = 90\left(1 - \frac{Pt - P\,min}{P\,min}\right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = 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**

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

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

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.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(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.

***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)

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm…….

4.4. Company registration number: ……...

4.5. TYPE OF COMPANY/ FIRM

- ϒ Partnership/Joint Venture / Consortium
- ϒ One-person business/sole propriety
- ϒ Close corporation
- ϒ Public Company
- ϒ Personal Liability Company
- ϒ (Pty) Limited
- ϒ Non-Profit Company
- ϒ 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.

……
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME: ……
DATE: ……

ADDRESS: ……
……
……
……

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)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution)…….…… in accordance with the requirements and specifications stipulated in bid number……..…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.

2. 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.

4. 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.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

DATE …….

WITNESSES

1 ……

2. ……

DATE: ……

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I…… in my capacity as……..…..
accept your bid under reference number ……dated……for the supply of goods/works indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating delivery instructions is forthcoming.

3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

***ITEM* NO.**	**PRICE (ALL APPLICABLE TAXES INCLUDED)**	**BRAND**	**DELIVERY PERIOD**	**SPECIFIC GOAL STATUS LEVEL OF CONTRIBUTION**	**MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)**

4. I confirm that I am duly authorized to sign this contract.

SIGNED AT ……ON……..

NAME (PRINT) …….

SIGNATURE …….

OFFICIAL STAMP

WITNESSES

1. ……

2. ……

DATE ……

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)

7. I hereby undertake to render services described in the attached bidding documents to (name of the institution)……. in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number…….…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.

8. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (iv) 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;

   (v) General Conditions of Contract; and
   (vi) Other (specify)

9. 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.

10. 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.

11. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

12. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

DATE …….

WITNESSES

1 ……

2 ……

DATE: ……..

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

PART 2 (TO BE FILLED IN BY THE PURCHASER)

4. I……. in my capacity as……..……
accept your bid under reference number ……dated……for the rendering of services indicated hereunder and/or further specified in the annexure(s).

5. An official order indicating service delivery instructions is forthcoming.

6. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	**PRICE (ALL APPLICABLE TAXES INCLUDED)**	**COMPLETION DATE**	**SPECIFIC GOAL STATUS LEVEL OF CONTRIBUTION**	**MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)**

4. I confirm that I am duly authorised to sign this contract.

SIGNED AT …… ON ……..

NAME (PRINT) …….

SIGNATURE ……

OFFICIAL STAMP

WITNESSES

1 ……

2 ……

DATE: ……..

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)

13. I hereby undertake to purchase all or any of the goods and/or works described in the attached bidding documents from (name of institution)…….…..…. in accordance with the requirements stipulated in (bid number)……..…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the seller during the validity period indicated and calculated from the closing time of bid.

14. The following documents shall be deemed to form and be read and construed as part of this agreement:

    (vii) 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;

    (viii) General Conditions of Contract; and
    (ix) Other (specify)

15. 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.

16. 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.

17. I undertake to make payment for the goods/works as specified in the bidding documents.

18. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

19. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

DATE …….

WITNESSES

1.…..…….

2.…..…….

DATE: ……

MBD 7.3

CONTRACT FORM - SALE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE SELLER)

7. I…… in my capacity as……..….. accept your bid under reference number ……dated……for the purchase of goods/works indicated hereunder and/or further specified in the annexure(s).

8. I undertake to make the goods/works available in accordance with the terms and conditions of the contract.

***ITEM* NO.**	**DESCRIPTION**	**PRICE (ALL APPLICABLE TAXES INCLUDED)**		

4. I confirm that I am duly authorized to sign this contract.

SIGNED AT ……ON……..

NAME (PRINT) …….

SIGNATURE …….

OFFICIAL STAMP

WITNESSES

1……

2……

DATE …….

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1 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;
b. been convicted for fraud or corruption during the past five years;
c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
d. 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? (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 *audi alteram partem* 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.**	Yes ☐	No ☐
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)? **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.**	Yes ☐	No ☐
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 ☐

4.3.1	If so, furnish particulars:		
Item	**Question**	**Yes**	**No**
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) ……..……..……

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION 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.

……... **……..**

Signature **Date**

…… **……..**

Position **Name of Bidder**

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Municipal Bidding Document (MBD) must form part of all bids[1] invited.

2 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.

3 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:

a. take all reasonable steps to prevent such abuse;

b. 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

c. 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.

5 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.

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 complete in every respect:

I certify, on behalf of:_____that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. 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
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 consortium[3] will not be construed as collusive bidding.

7. 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;
   (b) 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;
   (e) 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.
8. 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.
9. 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.

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

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C1.1 FORM OF OFFER AND ACCEPTANCE

VHEMBE DISTRICT MUNICIPALITY

C1.1 Form of Offer and Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of construction works viz.:

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE & WATER RETICULATION PHASE II-C - BUNGENI XIKHULU - 02 (RETICULATION) - BID NO: VDM/TECH/02/02/2026/03

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 this 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.

The offered total of the prices inclusive of value-added-tax is …….

……..

……. (amount in words); R…….. (amount 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 terms of the Conditions of Contract identified in the Contract Data.

Signature(s) ....

Print Name(s) ..... …….....

Capacity ....

For the Tenderer .....

…….....
(Name and address of organization)

Signature of witness ..... Date: .....

Print Name .....

Important Note

This page to be duly completed by the **Tenderer** before submitting the Tender.

ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer 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 1 : Agreements and Contract Data (which include this Agreement)

Part 2 : Pricing Data

Part 3 : Scope of Work

Part 4 : Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into parts 1 to 4 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 shall be signed by the authorized representative(s) of both parties.

The Tenderer shall, within 7 days of 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 guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfill any of the 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 one fully completed copy of this original document, including the Schedule of Deviations (if any). Such date should be confirmed in a manner that can be read, copied and recorded and shall be accepted by the contracting parties as the Commencement Date. This agreement shall constitute a binding contract between the parties.

Signature(s) ....

Print Name(s) ....

Capacity ....

For the Employer .....

.....
(Name and address of organization)

Signature of witness ..... Date: .....

Print Name .....

SCHEDULE OF DEVIATIONS

The extent of deviations from the tender documents issued by the Employer before the tender closing date is limited to those permitted in terms of the Conditions of Tender.

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, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

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.

Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final Contract Document.

3.1 Subject ……...
Details ……...

3.2 Subject ……...
Details ……...

3.3 Subject ……...
Details ……...

By the duly authorized representatives signing this Schedule of Deviations, the Employer and the Contractor agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Contractor and the Employer in concluding this process of offer and acceptance; in witness thereof the parties hereto have caused this agreement to be executed.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Contractor of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

Signed by:	.....	Signed by:	.....
Print Name:	.....	Print Name:	.....
Address:	.....	Address:	.....
	.....		.....

for and on behalf of the **Employer** in the presence of	for and on behalf of the **Contractor** in the presence of

Witness:	.....	Witness:	.....
Print Name:	.....	Print Name:	.....
Date:	.....	Date:	.....

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C1.2 CONTRACT DATA

VHEMBE DISTRICT MUNICIPALITY

C1.2 Contract Data

1. CONDITIONS OF CONTRACT

The conditions of contract are the General Conditions of Contract for Construction Works (3rd Edition 2015) published by the South African Institute of Civil Engineering, Private Bag X 200, Halfway House, 1685, Tel 011 805 5947.

The General Conditions of Contract make several references to the Contract Data. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

Where applicable, items of data given here below are cross-referenced to the sub-clause in the General Conditions of Contract to which it applies.

2. AMPLIFICATIONS OF THE GENERAL CONDITIONS OF CONTRACT

2.1 General

The following clauses amplify the General Conditions of Contract and highlight areas in this document that require specific attention.

2.2 Data Provided by the Employer

2.2.1 Employer (CL 1.1.1.15)

The Employer is: Vhembe District Municipality

2.2.2 Delivery of Notices to the Employer (CL 1.2)

The Employer's address for receipt of communications is :

Postal: Private Bag X 5006, Thohoyandou, 0950
Telephone : 015 960 2000
Facsimile : 015 962 1017

2.2.3 Engineer (CL 1.1.1.16)

'Engineer' means any Director, Associate or Professional Engineer appointed by a Director of *T2 Tech Engineers* to fulfil the functions of the Engineer in terms of the Contract Data. The Engineer for this project is Mr I Ryoba.

2.2.4 Delivery of Notice to Engineer (CL 1.2)

The Engineer's address for receipt of communications is :

Postal : PO Box 233, Fauna Park, Fauna Park, 0787
Telephone : 015 291 3320
Facsimile : 086 684 3986
E-mail : office@t2tech.co.za

2.2.5 Special non-working days (CL 1.1.1.12)

The special non-working days are statutory holidays and the period 15 December to 5 January inclusive.

2.2.6 Governing Law (CL 1.3.2)

The governing law is the law of the Republic of South Africa.

2.2.7 Specific Approval of the Employer (CL 3.1.3)

The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties:

2.2.7.1 Nominating the Engineer's Representative in terms of Cl 3.2.1
2.2.7.2 Delegation of Engineer's authority in terms of Cl 3.2.4
2.2.7.3 The issuing of further drawings or instructions in terms of Cl 5.9.1
2.2.7.4 The issuing of instructions for dealing with fossils and the like in terms of Cl 4.7
2.2.7.5 Authorizing the Contractor to repair and make good excepted risks in terms of Cl 8.2.2.2
2.2.7.6 The issuing of a variation order in terms of Cl 6.3.2
2.2.7.7 Issuing of instructions to carry out work on a daywork basis in terms of Cl 6.5.1
2.2.7.8 Granting permission to work during non-working times in terms of Cl 5.8.1
2.2.7.9 Suspend the progress of the works in terms of Cl 5.11.1
2.2.7.10 The issuing of an instruction to accelerate progress in terms of Cl 5.7.3
2.2.7.11 The reduction of a penalty for delay in terms of Cl 5.13.2
2.2.7.12 The determination of additional or reduced costs arising from changes in legislation in terms of Cl 6.8.4
2.2.7.13 The giving of a ruling on a contractor's claim in terms of Cl 10.1.5
2.2.7.14 The agreeing of an extension to the 28 period in terms of Cl 10.1.5.1
2.2.7.15 The inclusion of credits in the next payment certificate in terms of Cl 10.1.5.2
2.2.7.16 The agreeing of the adjustment of the sums for general items in terms of Cl 6.11.1.

2.2.8 Security / Guarantee (CL 6.2)

The Security / Demand Guarantee shall be in the form appended to the Contract Data.

The guaranteed amount of the Demand Guarantee shall be **ten percent** of the Contract Price.

The Demand Guarantee shall be delivered to the Employer within **21 days** after the appointment before commencement.

2.2.9 Commencement of The Works (CL 5.3)

The Contractor shall commence executing the Works within **14 days** of the Commencement Date taken as the date of Site Hand-over.

2.2.10 Programme of the Works and Supporting Documents (CL 5.6)

The Contractor shall deliver to the Engineer, within **14 days** calculated from the Commencement Date, a realistic programme in terms of Clause 5.6.

2.2.11 Information in respect of Employees (CL 4.10.2)

The Contractor shall deliver to the Engineer, on a monthly basis, a return in detail of supervisory staff and the number of categorized classes of labour employed each day for the said period by the Contractor for execution of the Contract. Such return shall be submitted by the seventh day of the month following the month to be reported.

2.2.12 Information in respect of Construction Equipment (CL 4.9)

The Contractor shall deliver to the Engineer, on a monthly basis, a detailed inventory of Construction Equipment kept on Site, full particulars given for each day of the month. Distinction shall be made between Owned Equipment and Hired Equipment as well as Equipment in working order and Equipment out of order. Such inventory shall be submitted by the seventh day of the month following the month to be reported.

2.2.13 Insurance to Cover Professional fees (CL 8.6.1.1.3)

The insurance amount to cover professional fees, not included in the Contract Price, payable in respect of the repair or reinstatement of damage to the Works, is **NIL**.

2.2.14 Special Risks Insurance (CL 8.6.1.2)

A Coupon Policy for Special Risks **is required**.

.

2.2.16 Liability Insurance (CL 8.6.1.3)

The limit of indemnity for liability insurance required should not be less than **the contract amount.**

2.2.17 Daywork Schedule (CL 6.4.1.2)

If work is to be executed on a daywork basis, the Contractor shall be paid for such work set out in the Daywork Schedule included in the Pricing Data.

2.2.18 Time for Practical Completion (CL 5.5.1)

The whole of the Works shall be completed within **twelve (12) months** calculated from the Commencement Date.

.

2.2.19 Penalty for Delay (CL 5.13.1)

The penalty for failure to complete the Works is **0.01 per centum** of the Contract Price **per calendar day** with a **minimum** of **R1100 per calendar day**.

2.2.20 Contract Price Adjustment (CL 6.8.2)

Clause 6.8.2 is hereby cancelled and substituted with the following:

“Contract rates shall remain fixed and firm for the duration of the Contract

2.2.21 Variation in Cost of Special Materials (CL 6.8.3)

Price adjustments for variations in the costs of special materials **are permitted**.
Special materials are only bitumen products.

2.2.22 Percentage Limit on Materials (CL 6.10.1.5)

The percentage limit on materials not yet built into the Permanent Works is **80 per centum**.

2.2.23 Percentage Retention (CL 6.10.3)

1. The percentage retention on amounts due to the Contractor is **10 per centum**.

2. The limit of retention money is **10 per centum** of the Contract Price.

2.2.24 Retention Money Guarantee (CL 6.10.5)
A Retention Money Guarantee **is permitted**.

The form approved by the Employer, referred to in Clause 6.10.5 is contained in the Appendix to the Contract Data.

2.2.25 Defects Liability Period (CL 1.1.1.13 & CL 7.8.1)

The Defects Liability Period is **12 calendar months**.

2.2.26 Adjudication (CL 10.5)
Disputes are to be referred to **adjudication board**.

2.2.27 Reference to Court (CL 10.8.1)
Disputes are to be referred for **final settlement to Court**.

2.3 Data Provided by the Contractor

2.3.1 Contractor (CL 1.1.1.9)

The Contractor is _____

2.3.2 Delivery of Notices to the Contractor (CL 1.2.1)

The Contractor's address for receipt of communication is:

Postal: _____

_____

Telephone : _____

Facsimile : _____

E-mail : _____

Important Note

Paragraphs 2.3.1 and 2.3.2 hereabove to be duly completed by the **Tenderer** before submitting the Tender.

3. ADDITIONAL SPECIAL CONDITIONS OR AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT

3.1 General

The following clauses add to, vary or otherwise amend the General Conditions of Contract:

3.1.1 Cession (CL. 2.5.1)

Delete the words “without the written consent of the other”.

3.1.2 Subcontracting (CL. 4.4)

Delete the contents of Clause 6.1 and insert:

“The Contractor shall not subcontract the whole Contract.”

3.1.3 Guarantee (CL 6.2)

Delete the contents of the first paragraph of Clause 6.2 and insert:

“The Contractor shall deliver to the Employer within such time as may be stated in the Contract Data a Demand Guarantee, of Insurance Company registered in terms of the Short-term Insurance Act (Act 53 of 1998) or registered Commercial Bank, in a sum equal to the amount stated in the Contract Data. The Demand Guarantee shall be issued by an entity approved by the Employer, and shall conform in all respects to the format contained in the Appendix to the Contract Data.

Wherever a joint venture constitutes the contracting party, the Demand Guarantee shall be issued on behalf of the joint venture.

Failure to produce an acceptable Demand Guarantee within the period stated in Clause 2.2.7 of the Contract Data is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 with specific reference to sub-clause 9.2.2 as amended in the Special Conditions of Contract.”

3.1.4 Programme

Add the following sub-clause 5.6.6 to Clause 5.6:

“Failure on the part of the Contractor to deliver to the Engineer, the

- programme of the Works in terms of Clause 5.6

within the period stated in the Contract Data, shall be sufficient cause for the Engineer to retain 25 per centum of the value of the Fixed Charge and Value-related items in assessment of amounts due to the Contractor, until the Contractor has submitted aforementioned first Programme of the Works and Supporting Documents”.

3.1.5 Contractor’s Designs and Drawings (CL 5.9.7)

Add:

"All designs, calculations, drawings and operation and maintenance manuals shall be fully endorsed by a third party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor.

Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Engineer, the Employer, their agents and assigns, against all claims howsoever arising out of the said design, whether in contract or delict"

3.1.6 Facilities for Others (CL 4.8.2)

Delete Clause 4.8.2 and insert:

"The Contractor's attention is drawn to the fact that other construction services might be executed concurrently by independent Contractors or bodies under separate Contracts.

The other Works which will be in progress or come into operation during the progress or tenancy of this Contract are likely to include, but are not limited to the following:

- …….
- …….
  …….

The Contractor shall ensure that neither his operations nor his employees shall interfere with or hinder the operations of the Employer or of other Contractors and he shall indemnify the Employer against all claims arising through default of this requirement.

The Contractor shall hand over portions of the Site of Works (whether completed or not), or completed portions of Works, to these Contractors when required by the Employer. The Contractor shall cause no interference with or delays in the execution of these Contracts.

No discount or commission for the Contractor is allowed on these contracts and it will be assumed that he has fully allowed in the Contract Price for the presence of these contractors on Site. Any service rendered or assistance given by the Contractor to these contractors save as are contained in the Works Specifications, shall be for their accounts only and the Employer shall in no way be responsible to the Contractor for any payments in this respect.

The Contractor shall protect all existing services and all work being carried out and structures being erected on the Site by other contractors. Any damage caused to these services or structures or any obstructions or hindrance caused to other contractors by the Contractor and claims arising there from will be the sole responsibility of the Contractor.

Any repair work shall be carried out at the Contractor's expense, in conformity with the Works Specifications.

The same obligations shall be imposed on the Employer and on other Contractors in respect of the Works being executed under this Contract."

3.1.7 Contractor's Superintendence (CL 4.12)

Add the following sub-clause 4.12.4 to Clause 4.12 :

"Where a form is included in the Appendix to the Contract Data for this purpose, the Tenderer shall fill in the name of the person he proposes to entrust with the post of Contractor's Site Agent on this Contract in the space provided therefor. Previous

experience of this person on work of a similar nature during the past five (5) years is to be entered in the list.

The Contractor's Site Agent shall be on Site at all times when work is being performed.

The person as approved of by the Engineer in writing shall not be replaced or removed from Site without the written approval of the Engineer."

3.1.8 Insurances (CL 8.6)

3.1.8.1 Contractor to produce proof of payment

Delete sub-clause 8.6.6 and substitute with:

"The Contractor shall before commencement of the Works produce to the Engineer:

8.6.6.1 The policies by which the insurances are effected,

8.6.6.2 Proof that due payment of all premiums there under, covering the full required period has been made, and

8.6.6.3 Proof of continuity of the policies for the required period.

Should, during the currency of the Contract, the required period of insurance be extended for any reason, the Contractor shall timeously extend (so as to maintain) the said insurances for the full extended duration.

The Engineer shall be empowered to withhold all payment certificates until the Contractor has complied with his obligations in terms of this Clause 8.6."

3.1.8.2 Remedy of Contractor's failure to insure

Delete sub-clause 8.6.7 and substitute with:

"Failure on the part of the Contractor to effect and keep in force any of the insurances referred to in Clause 8.6.1 and its sub-clauses, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 and with specific reference to sub-clause 9.2.2, as amended, in the Special Conditions of Contract."

3.1.9 Variations (CL 6.3)

Omit the words "Provided that" under Clause 6.3.2 and omit Clause 6.3.2.1.

3.1.10 Suspension of the Works (CL 5.11)

Add the following sub-clause 5.11.4 to Clause 5.11:

"If the Contractor does not receive from the Employer the amount due under an Interim Payment Certificate within 28 days after expiry of the time stated in sub-clause 6.10.4 within which payment is to be made (except for deductions in accordance with sub-clauses 6.10.1.6 and 6.10.1.7), the Contractor may, after giving 14 days' notice to the Employer, suspend the progress of the Works.

The Contractor's action shall not prejudice his entitlements to a claim in terms of Clause 10 and to cancellation of the Contract in terms of Clause 9.3.

If the Contractor subsequently receives full payment of the amount due under such Interim Payment Certificate before giving a notice of cancellation of the Contract, the Contractor shall resume normal working as soon as is reasonably practicable."

3.1.11 Extension of Time Arising from Abnormal Rainfall (CL 5.12)

Add the following to sub-clause 5.12.2.2 :

"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 :

$$V = (Nw - Nn) + \left(\frac{Rw - Rn}{x}\right)$$

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: Thohoyandou**
Years of record: 1904 – 1984

Month	Average rainfall for calendar month Rn	Average number of days for calendar month on which a rainfall of 10 mm or more were recorded Nn
	(mm)	(days)
January	91	3
February	72	2
March	61	2
April	3	1
May	22	0
June	4	0
July	5	0
August	4	0
September	14	1
October	41	1
November	80	3
December	91	3

The factor (Nw - Nn) shall be considered to represent a fair allowance for days during which rainfall exceeds 10 mm and the factor (Rw - Rn)/x shall be considered to represent a fair allowance for those days when rainfall does not exceed 10 mm but wet conditions prevent or disrupt work.

The total extension of time shall be the algebraic sum of all monthly totals for the contract period, but if the algebraic sum is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for a part of a month shall be calculated using pro rata values of Nn and Rn."

3.1.12 Interim Payments (CL 6.10)

Add to the end of Clause 6.10.1 the following paragraph :

"The Contractor shall complete the 'Contractor's Monthly Report Schedule', which pro forma documentation is obtainable from the Engineer. Pursuant to Sub-Clause (1), these, duly signed by all concerned, together with the Contractor's statement and a VAT invoice in original format are to be submitted to the Engineer. Issue by the Engineer to the Employer and Contractor of any signed payment certificate is conditional to this information being fully endorsed, accurately and timeously submitted to the Engineer".

Add to the end of Clause 6.10.1.5 the following paragraph :
"All documentary evidence of such materials shall be unambiguous with respect to ownership having fully passed to the Contractor on or before the date of submittal of the Contractor's monthly statement.

Should the Contractor fail to supply unambiguous documentary evidence, he shall, prior to submittal of his monthly statement, deliver to the Employer a Guarantor Guarantee in the form contained in the Appendices to the Contract Data."

3.1.13 Variations Exceeding 15 Per Cent (CL 6.11)

In sub-clause 6.11.1.3 omit the words "15 per cent" and replace with "'20 per cent".

3.1.14 Cancellation of the Contract (CL 9.1)

Alter the numbering of:

Clause 9.1.5 to 9.1.6,
Clause 9.1.6 to 9.1.7 and

insert the following new clause 9.1.5:

"The Employer shall be entitled to cancel the Contract, at any time for the Employer's convenience, by giving written notice of such cancellation to the Contractor. The termination shall take effect 28 days after the later of the dates which the Contractor receives this written notice or the Employer returns the Demand Guarantee. The Employer shall not cancel the Contract under this sub-clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor.

This restriction on the Employer shall lapse 18 months after the date of receipt by the Contractor of cancellation in terms of this sub-clause".

3.1.15 Termination by Employer (CL 9.2)

Delete the contents of Clause 9.2 and substitute with:

"9.2.1 The Employer may terminate the Contract by written notice to the Contractor if:

9.2.1.1 Sequestration of the Contractor's estate is ordered by a Court with due jurisdiction, or

9.2.1.2 The Contractor publishes a notice of surrender or presents a petition for the surrender of his estate as insolvent, or makes a compromise with his creditors, or assigns in favour of his creditors, or agrees to carry out the Contract under the supervision of a committee representing his creditors, or (being a company) goes into liquidation, whether provisionally or finally (other than a voluntary liquidation for the purpose of amalgamation or reconstruction), or if the Contractor assigns the Contract without having first obtained the Employer's consent in writing, or if execution is levied on his goods, or

9.2.1.3 The Contractor, or anyone on his behalf, or in his employ, offers to any person in the employ of the Employer or the Engineer, a gratuity or reward or commission, or

9.2.1.4 The Contractor furnished materially inaccurate information in his Tender, which had a bearing on the award of the Contract, or

9.2.1.5 The Contractor has abandoned the Contract

9.2.2 If the Contractor:

9.2.2.1 Has failed to commence the Works in terms of Clause 10 hereof, or has suspended the progress of the Works for fourteen (14) days after receiving from the Engineer written notice to proceed, or

9.2.2.2 Has failed to provide the Guarantee in terms of Clause 7 within the time stipulated in the Contract Data, or

9.2.2.3 Has failed to proceed with the Works with due diligence, or

9.2.2.4 Has failed to remove materials from the Site or to pull down and replace work within fourteen (14) days after receiving from the Engineer written notice that the said materials or work have been condemned and rejected by the Engineer in terms of these conditions, or

9.2.2.5 Is not executing the Works in accordance with the Contract, or is neglecting to carry out his obligations under the Contract, or

9.2.2.6 Has, to the detriment of good workmanship or in defiance of the Engineer's instructions to the contrary, sublet any part of the Contract, or

9.2.2.7 Has assigned the Contract or any part thereof without the Employer's consent in writing,Then the Employer may give the Contractor 14 days' notice to rectify the default, and if the Contractor fails to rectify the default in said 14 days, then, without further notice, notify the Contractor in writing of the termination of the Contract and expel the Contractor and order the Contractor to vacate the site within 24 hours of issue of the Notice of Termination and to hand the Site over to the Employer, and the Employer may then enter upon the Site and the Works without affecting the rights and powers conferred on the Employer or the Engineer by the Contract and the Employer may himself complete the Works or may employ another contractor

to complete the Works, and the Employer or such other contractor may use for such completion so much of the Construction Equipment, Temporary Works and materials brought onto the Site by the Contractor as the Employer may think proper, and the Employer may at any time sell any of the said Construction Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any sums that may be due or become due to the Employer by the Contractor under the Contract. In such circumstances the Contractor shall forthwith vacate the Site and shall not be entitled to remain on the Site on the grounds that he is entitled to do so on a right of retention until amounts due to him have been paid, neither will the Contractor be entitled to any further payments in terms of this Contract.

9.2.3 If the Contractor, having been given notice to rectify a default in terms of 9.2.2 above, rectifies said default, but later repeats the same or substantially the same default, then the Employer may notify the Contractor of the immediate termination of the Contract, and proceed as stated in the paragraph following the word “writing” in Clause 9.2.2.7 above.

9.2.4 Should the amounts the Employer must pay to complete the Works exceed the sum that would have been payable to the Contractor on due completion by him, then the Contractor shall upon demand pay to the Employer the difference, and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly. Provided that should the Contractor on demand not pay the amount of such excess to the Employer, such sum may be determined and deducted by the Employer from any sum due to or that may become due to the Contractor under this or any previous or subsequent contract between the Contractor and the Employer.”

3.1.16 Cancellation by the Contractor (CL 9.3)

Add the following paragraph as Clause 9.3.5:

"In addition to, or as an alternative to the rights to termination contained in this Clause 9.3, the Contractor may notify the default to the Employer, with a copy to the Engineer, and if the default is not rectified within 10 days the Contractor may suspend progress of the works until a date 7 days after the default is rectified. The Contractor shall be entitled to extension of time to the extent of delay caused by or resulting from such suspension, and to payment of additional costs caused by or resulting from the suspension. Such extension of time and additional costs shall be promptly ascertained by the Engineer, who shall then grant the extension of time and include the additional costs in all future payment certificates. Such suspension, extension of time and/or payment of additional costs, shall not prejudice the Contractor's rights to cancel the contract."

4. PRIORITY OF DOCUMENTS

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purpose of interpretation, the priority of the documents shall be in accordance with the following sequence:

a) the Form of Offer and Acceptance.
b) amplifications of the General Conditions of Contract within the Contract Data.
c) additional special conditions or amendments to the General Conditions of Contract within the Contract Data.
d) the General Conditions of Contract.
e) the Specifications, Drawings, Schedules and other documents forming part of the Contract (in that order) contained in the Scope of Work and the Site Information.

If any ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION- PHASE II-C

BUNGENI XIKHULU 02

(RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

C1.3 DEMAND GUARANTEE

VHEMBE DISTRICT MUNICIPALITY
(not to be completed at tender stage)

C1.3 Demand Guarantee

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition (2015).

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: ……

Physical address: ……

"Employer" means: ……

"Contractor" means: ……

"Employer's Agent" means: …….

"Works" means: ……

"Site" means: ……

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R …….

Amount in words: ……

"Guaranteed Sum" means: The maximum aggregate amount of R ……...

Amount in words: ……

Type of Performance Guarantee: …… ……. (Insert Variable or Fixed)

"Expiry Date" means: the date of issue by the Employer's Agent of the Final Certificate of Completion of the Works.

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

1. VARIABLE PERFORMANCE GUARANTEE

1.1 Where a Variable Performance Guarantee has been selected, the Guarantor's liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:

1.1.1 From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:

R……..

(Amount in words ……..)

1.1.2 From the day following the date of the said interim payment certificate up to and including the Expiry Date, or the date of issue by the Employer's Agent of the Certificate of Completion of the Works, whichever occurs first:

R……

(Amount in words ……)

1.2 The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum, has been issued and the date on which the Certificate of Completion of the Works has been issued.

2. FIXED PERFORMANCE GUARANTEE

2.1 Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

2.2 The Guarantor's period of liability shall be from the date commencement of Works, notwithstanding the date on which the Performance Guarantee is signed, up to the date of issue by the Employer's Agent of the Final Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.

2.3 The Employer's Agent 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. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

3.1 The Guarantor hereby acknowledges that:

3.1.1 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.

3.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.

3.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:

3.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent 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 3.2.2;

3.2.2 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 3.2.1 and the sum certified has still not been paid;

3.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.

3.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, 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:

3.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or

3.3.2 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 3.3; and

3.3.3 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.

3.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.

3.5 Where the Guarantor has made payment in terms of 3.3, 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.

3.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

3.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.

3.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider 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.

3.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.

3.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 1.1.2 or 2.2, 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.

3.11 This Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3, shall be regarded as a liquid document for the purposes of obtaining a court order.

3.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrates' Courts Act 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) ………

RETENTION MONEY GUARANTEE

(not to be completed at tender stage)

TO: .....
.....
.....
.....
(whom the Contract defines as “the Employer”)

Re: Retention Money Guarantee in respect of : …….

Contract Number : …….

For supply of : …….

Contractor : …….

I/We, the undersigned,

…….

and

…….

of

…….
(hereinafter referred to as the “Bank”)

address:

…….

…….

and acting on behalf of the Bank have been informed that ..... (hereinafter called the “Contractor”) is your contractor under such Contract and wishes to receive early payment of the retention money, for which the Contract requires him to obtain a guarantee.

We hereby irrevocably undertake to pay you, the Employer, any sum or sums not exceeding in total the amount of R..... (in words ……) (the “guaranteed amount”, upon receipt by us of your demand in writing and your written statement stating:

- that the Contractor failed to carry out his obligation(s) to rectify defect(s) for which he is responsible under the Contract.

The Bank’s liability under this guarantee is principal in nature and is not subject to the Contract. The Bank’s liability shall not be reduced, or in any way be affected by any alteration of the terms of the Contract, or any other arrangements made between the Employer and Contractor.

The Bank will pay on demand and will not determine the validity of the demand or the correctness of the amount demanded, or become party to any claim or dispute of any nature which any party may allege.

The Bank will pay the amount demanded into the Bank account to be notified by the Employer.

This guarantee is neither negotiable nor transferable, is restricted to the payment of a sum of money only and is limited to the Guaranteed Amount.

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 the Employer, becomes payable to the Contractor.

This original guarantee must be returned to the Bank by the Employer or the Employer's duly authorised agent either:

- on expiry of the guarantee; or
- against payment of the Guaranteed Amount.

This guarantee shall be governed by the law of the Republic of South Africa.

The Bank chooses as its domicilium citandi et executandi for the purpose of the service of all notices and legal processes the following address:

THUS DONE AND SIGNED AT ..... ON ..... 20.....

In the presence of the following:

AS WITNESSES: on behalf of the Bank and duly authorised thereto

1. .....
.....
Print Name

1. .....
.....
Print Name

and

on behalf of the Bank and duly authorised thereto

2. .....
.....
Print Name

2. .....
.....
Print Name

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION -PHASE II-C BUNGENI XIKHLU - 02 (RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

This agreement is mandatory for all contractors appointed by the Vhembe District Municipality or any other institution that do work for or on behalf of Municipality.

This agreement is between:

THE CONTRACTOR:

Herein represented by ……..……...…….

In his capacity as ……..…...……Being duly authorized hereto hereinafter referred to as “contractor”.

Compensation Commissioner Number:

(Attach a copy of the Registration
Certificate to this agreement)

Company : Name: …….

Registration Number: ……

CEO : Name: ……..

ID Number: …….

Physical Address: …….

……

And the VHEMBE DISTRICT MUNICIPALITY
(Hereinafter referred to as “the Council”)

1. DEFINITIONS

1.1	**CONTRACTOR**	Means the “Contractor” as defined in the “Principal Contract”. Annexed hereto in his capacity as mandatory.
1.2	**MANDATORY**	Includes an agent, contractor or subcontractor for work to be done or service rendered, but without derogating from his status in his own right as an employer of people or user of equipment, machinery, tools or materials.
1.3	**THE PRINCIPAL CONTRACT**	Means the contract annexed hereto as annexure “A”.
1.4	**COUNCIL**	Means the Vhembe District Municipality
1.5	**RISK CONTROL OFFICER**	A person appointed in writing by Council.

1.6 Any definitions contained in any Statute hereinafter mentioned shall have the meaning allocated to it by the specific statute.

2. OBJECTIVE

2.1 Whereas Council and the Contractor have entered into a contract for service (work) as fully indicated in the “Principle Contract” and whereas the “Contractor” agreed to indemnify Council against the risks stated hereunder whether foreseeable or not, and, whereas it is agreed between the parties that it is of cardinal importance to safeguard both Council and the Contractor’s obligation in terms of relevant legislation as well as to extend the obligation as a company and/or legal person and/or person as an entity concerned with health, safety and the environment.

2.2 These rules are applicable to all contractors performing work for Council within the jurisdictional area of the Council and on any premises, which are owned, rented or developed by the Council.

2.3 The Council acts though those officials or persons who are generally or specifically charge with the responsibility, in terms of legislation, as well as any other official or person who is generally or specifically charged with the control and supervision of the project.

IT IS HEREBY AGREED AS FOLLOWS:

3. INDEMNITIES

3.1 The "Contractor" hereby indemnifies the "Council" against any loss in respect of all claims, proceeding, damages, costs and expenses arising out of any claim or proceeding pertaining to the non-compliance by the "Contractor" of any statutory requirements and/or requirements regarding the following Acts in particular pertaining to the provisions of:

3.1.1 The Occupational Health and Safety Act 85 of 1993 (as amended), including the Construction Regulations, 2003 as promulgated on 18 July 2003, in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), in Government Gazette No. 25207 and Regulation Gazette No. 7721. See Annexure B.
3.1.2 The Health Act 63 of 1977.

3.1.3 Road Traffic Act 29 of 1989 (as amended).
3.1.4 Environment Conservation Act 73 of 1989.
3.1.5 The National Water Act 36 of 1998.
3.1.6 The Criminal Procedure Act 51 of 1977.
3.1.7 The Explosives Act 26 of 1956.
3.1.8 The Arms and Ammunition Act 75 of 1969.
3.1.9 Compensation for Occupational Injuries and Diseases Act 130 of 1993.
3.1.10 The Labour Relations Act 66 of 1995.
3.1.11 The Unemployment Insurance Act 30 of 1966 (as amended).
3.1.12 The Basic Conditions of Employment Act 75 of 1997 (as amended).
3.1.13 Standards Act 29 of 1993.
3.1.14 any statutory provisions in any act and/or any law or bylaw of any local government and/or any published official standard incorporated into any statute or bylaw relating to the completion of the work set out in the "Principal Contract".
3.1.15 Any other health and safety standard prescribed by the "Council".

3.2 The "Contractor" shall ensure that he familiarizes himself with the requirements of the above legislation and that he, his employees and any subcontractor will comply with all the statutory provisions contained in them.

3.3 The "Contractor" shall indemnify the "Council" in respect of any physical loss or damage to any plant, equipment or other property belonging to the "Contractor" or for which he is responsible and he hereby indemnifies the "Council" against any loss in respect of all claims, proceedings, damages, costs and expenses consequent upon the loss of or damage to any plant, equipment or other property belonging to, or which is the responsibility of, any subcontractor, agent or employee of the subcontractor.

3.4 The "Contractor" shall and hereby indemnifies the "Council" against any liability, loss, claim or proceedings whatsoever, whether arising in common law or by statute, consequent on personal injuries to or the loss of health or death of any person whosoever arising out of or in the course of or caused by the execution of the "Principal Contract".

3.5 The "Contractor" shall and hereby indemnifies the "Council" against any liability, loss, claim or proceedings consequent on loss of or damage to any movable or immovable property arising out of or in the course of or caused by the execution of the "Principal Contract" and due to any act or omission of the "Contractor", his agents, servants or subcontractors.

4. PERFORMANCE SAFE WORKING PRACTICE

4.1 The “Council” requires a high standard of safe work performance from all employees and expects that the standard be maintained by the “Contractor” within the “Council’s” jurisdictional area or on its premises.

4.2 Irrespective of human considerations, the maintaining of these health and safety rules shall be the execution of the prescribed legal requirements. These rules are not to hinder the “Contractor” in rendering services or indemnify the “Contractor” from any legal responsibility to ensure healthy and safe work circumstances.

4.3 The “Council” shall assist the “Contractor” in any practical considerations to accommodate the healthy and safe execution of work and therefore require co-operation in the execution of these safety rules.

5. LOCK OUT PROCEDURE

5.1 When power or air driven machines or equipment, electrical apparatus or pipe lines are examined, repaired, adjusted, cleaned, lubricated or serviced in any other way than normal servicing, then all isolating switches, -levers, valves or appliances must be put in the “off” or “closed” position and locked.

5.2 Should more than one team work on a machine, then each person in control of a team, must put a separate lock on the switch, lever, valve or appliance.

6. CRANES, VEHICLES AND HOISTING

6.1 For each crane or hoisting equipment used, the “Contractor” must submit a valid and recent test certificate or other form of the last examination of the machine or equipment, to the “Council”.

6.2.1 Only trained personnel with written permission and where determined by Law, with a valid driver’s license, may be allowed to operate any electrical diesel or petrol driver overhead crane, hydraulic or electrical hoisting equipment, self driven forklift, tractor or any other crane or vehicle. No employee of the “Contractor” may perform any overhead work or work on an overhead crane or hoisting equipment or work near cranes or crane rail, before:

i) An agreement was concluded with the “Council”.
ii) Approval has been obtained from the “Council” to perform the work.
iii) All applicable danger – and warning symbolic signs are put into position, or exemption, if applied for, is in operation.

6.3 The “Contractor” shall be wholly responsible for any loss or damage to cranes, hoisting equipment, plant, machines or equipment brought onto the work site by the “Contractor”

7. MACHINE VALANCES, PROTECTION AND FENDING

7.1 No machine valances, protection or fending may be removed from machines, manholes, etc without the written permission of “Council” if applicable exemption procedures were not appropriated.

8. SCAFFOLD, LADDERS, TOOLS AND EQUIPMENT

8.1 No equipment or appliance belonging to “Council” may be used without written permission from “Council”.

8.2 Unless prior arranged, “Contractors” must bring sufficient tools and equipment to the site to finish the contract, including offices and storerooms. The mentioned equipment remains the responsibility of the “Contractor” with respect to loss, damage and theft.

8.3 In exceptional cases, where tools and equipment belonging to “Council” are used to finish the contract, the said equipment and tools are used on own risk and the “Contractor” indemnifies “Council” from any claims that may arise. The said indemnity must be in writing, as well as information regarding the loan period, identification and condition of tools and equipment. The “Contractor” is responsible for the returning of said tools and equipment in the same condition or better. The “Contractor” is responsible to “Council” for any damage or excessive wear of such tools or equipment and material.

9. EXCAVATIONS

9.1 Before any excavations commence, written permission must be obtained from “Council” to confirm the location of existing electrical cables, water pipes, etc.

9.2 All excavations and obstructions in floor, tar and dirt surfaces must be fenced effectively and safeguarded between sundown and sunup with a sufficient amount of red/yellow warning lights and symbolic signs.

9.3 The surrounding area must be kept clean, safe and tidy during excavation. Excess material may not obstruct unnecessarily.

9.4 If any property is in danger during excavation, it must be supported and the proposed support work must be submitted to the Department of Labour (OHS) and “Council” for approval.

9.5 Written permission must be obtained from “Council” to grant admittance to restricted areas as well as areas where dangerous or poisonous gases are present.

10. FIRST AID

10.1 The “Contractor” must provide and maintain a first aid box equipped according to legal requirement where more than (5) five persons are employed. The first aid box must be in the care of a person with a competency certificate from one of the following organizations:

(i) SA Red Cross Association;
(ii) St Johns Ambulance;
(iii) SA First Aid League; or
(iv) A person or organization approved by the Chief inspector for this purpose.

10.2 A visible notice must be put up on any work premises with the name of the person responsible for first aid. In an emergency “Council’s” Ambulance / Fire Department or emergency services may be contacted at (015) 290 2000.

11. FLAMMABLE LIQUIDS

11.1 The “Contractor” shall be held responsible for the necessary precautionary fire prevention measures. No smoking signs must be put up where applicable. The “Contractor’s” employees must be informed of “Council’s” fire prevention measures and evacuation procedures.

12. COMPENSATION BY CONTRACTOR

12.1 The “Contractor” shall be held responsible for all loss of and damage to property, the death or injury of persons, the resultant loss or damage suffered as well as all law suits, claims, costs, charges, fines and expenses due to negligence, violation of statutory liability or neglect of the “Contractor” or the “Contractor’s” employees.

13. TRANSGRESSION OF RULES AND MISBEHAVIOUR

13.1 The “Contractor” is warned that any act(s) leading to damage or loss of employees of the “Contractor” or the “Council” shall not be tolerated. The “Council” may (without any reason) demand that any employee of the “Contractor” be withdrawn from the principal “Contract” or site.

14. INCIDENT REPORTING

14.1 All incidents referred to in Section 24 of the Occupational Health and Safety Act and or other incidents shall be reported, by the “Contractor”, to the Department of Labour, as well as to the “Council” and should such an incident take place outside normal working hours, on a Saturday, Sunday or Public holiday provided with a written report relating to any incident.

14.2 The “Council” will obtain an interest in the issue of any formal inquiry conducted in terms of the Occupational Health and Safety Act in any incident involving the “Contractor” and/or his employees and/or his subcontractors.

14.3 The “Contractor” undertakes to report to “Council” anything deemed to be unhealthy and/or unsafe and that he undertakes to verse his employees and/or subcontractors in this regard.

15. LIAISON AND SUPERVISION

15.1 The “Contractor” hereby undertakes to liaise on a regular basis with the designated Risk Control Officer and “Council” representative regarding any hazards or incidents that may be identified or encountered during the performance of the “Principal Contract”.

16. SERVICE INTERRUPTION

16.1 Should any work done by the “Contractor” cause a possible interruption, written permission must be obtained from “Council”, before such work commences. The “Contractor” may not switch on or off any compressed air, steam, oxygen, vacuum supply or electrical supply without written permission from the “Council”.

17. CONFIDENTIALITY

17.1 The “Contractor” and his employees shall regard all data, documentation and information of the contract and related documentation as confidential.

17.2 Lost documentation/plans or related documentation shall immediately be reported in writing to the “Council”.

17.3 The “Contractor” shall not put up any advertisements or billboard at the site without permission.

17.4 The “Contractor” shall not take photographs of the contract site or part thereof or any work process or part thereof, without written permission from the “Council”, or have photographs taken, published or let it be published.

18. CONTRACT SITE AND PRESERVATION

18.1 Employees of the “Contractor” shall not be allowed entrance to the site unless a valid identity document, issued by “Council”, is displayed. The mentioned documents shall only be valid for a limited period, where after it must be renewed.

19. COMPLETION OF WORK

19.1 The “Contractor” or his employees shall not leave the contract site before the “Council” is satisfied that the contract is completed according to the requirements and standards set out in the contract and that the working site is left in a satisfactory and safe condition.

20. LIQUOR, DRUGS, DANGEROUS WEAPONS AND FIREARMS

20.1 The “Contractor” shall ensure that no liquor, drugs, dangerous weapons or firearms be brought onto the premises.

21. SEARCHES

21.1 The “Contractor” and any person engaged in the contract work may at any time be searched by “Council” appointed security personnel and all packages, suitcases, etc. must be presented to the access control point for examination prior to them being brought onto the property or leaving the property.

22. GENERAL CONDITIONS

22.1 Notwithstanding anything to the contrary in this agreement, it is hereby specifically determined that the “Contractor-“

22.1.1 shall have acquainted himself and be conversant with the contents of all statutory provisions applicable to the health and safety of workers and other persons on the site including the execution of the work, and in particular the conditions contained in the Occupational Health and Safety Act, 1993 (Act 85/1993), and the regulations promulgated in terms thereof, and shall comply therewith meticulously and in all aspects and/or take care that it is complied with;

22.1.2 shall be obliged to immediately execute all instructions given to him by an authorized representative of “Council” in order to ensure and uphold the implementation and enforcement of the provisions referred to in sub-paragraph 1, to the satisfaction of the said representative;

22.1.3 shall indemnify the “Council” against any or all liability which may be incurred by the “Council” as a result of the omission of the “Contractor”, his employees, sub-contractors and/or representatives to comply with the provisions referred to in sub-paragraph 1, or to ensure that it shall be complied with;

22.1.4 shall undertake to pay upon demand any and/or all legal costs and other expenses which “Council” may have incurred as a consequence of any criminal charges or other proceedings pending against, or involving the “Council” as a result of the contravention or non-compliance by the “Contractor”, his employees, sub-contractors and/or representative of any of the statutory provisions referred to in sub-paragraph 1.

22.1.5 Should the “Contractor” neglect to immediately execute any health and safety written orders issued to him, or to his employee in charge of the works, in terms of the stipulations of sub-paragraph 2, the “Council” shall be entitled to suspend the execution of the works and take the necessary steps to execute or have such order executed. Under these circumstances the contractor shall be obliged to pay “Council”, upon demand, all costs and expenses incurred by “Council”, in order to execute or have the said orders executed.

22.1.6 Should the abovementioned steps not establish a healthy and safe work environment the “Council” will be entitled to terminate the contract without incurring any further costs or claims from the contractor?

23. "CONTRACTOR" IDENTIFICATION BOARD

23.1 The "Contractor" shall provide on any work premises a temporary identification board containing at all worksites the following information:
Company name on behalf of which division/department the work is being done.
The contact number and name of the person representing the "Contractor".
The contact number and name of the person representing "Council"

24. ACKNOWLEDGEMENT

24.1 The "Contractor" hereby acknowledges that he has read and received a copy of the "Principal Contract" and agrees to be bound by and undertakes to observe all the terms and conditions of the "Principal Contract". This appointment is made in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993.

25. EXCEPTIONS AND OMISSIONS

_____

_____

_____

_____

_____

_____

_____

_____

26. REMARKS

_____

_____

_____

_____

_____

_____

_____

_____

_____

THE CONTRACTOR

SIGNED AT …… ON THIS …… DAY OF ……..……..

WITNESSES:

…… 1. …….
THE CONTRACTOR

2. …….

THE COUNCIL

SIGNED AT …… ON THIS …… DAY OF ……..……..

WITNESSES:

…… 1. …….
THE COUNCIL

2. …… ……..……

b) INDEMNITY CERTIFICATE

Contractor: ……

Employer: Vhembe District Municipality

Contract: ……

I/we ……
Hereafter the "Contractor"

"Contractor" hereby indemnifies the Vhembe District Municipality (Council) against any claim of whatever sort which may arise directly or indirectly from the execution by me/us of the above-mentioned contract and which may be instituted against "Council", as well as of any loss or damage which the "Council" suffers or expenditure the "Council" incurs to prevent responsibility for such claim, loss or damage, whatever the cause of such claim may be or whatever loss or damage the "Council" suffers.

THUS done and signed at …… on this ……. day of

…….. 20…...

WITNESSES:

1. …….. ……..
CONTRACTOR

2. …….. ……
COUNCIL

R2
REVENUE
STAMP

C) ACKNOWLEDGEMENT CERTIFICATE

I, in my capacity as……..……

Duly authorized hereto ……..……. representing

…… Contractors, acknowledge receipt

of a copy of the Vhembe District Municipality's safety manual for contractors and the under mentioned person as my supervisor regarding all works and services which must be executed by the Contractor. The appointment is done in terms of the Occupational Health and Safety Act, 1993 (Act 85/1993).

SIGNED AT ……. ON ……. 20...

I, ……..…….. accept the abovementioned appointment, and declare that I am familiar with the contents of the Vhembe District Municipality's Safety Manual for contractors.

CASUALTIES REGISTRATION NUMBER

_____

_____

SIGNED AT ……. ON ……..……. 20….

SIGNATURE:

WITNESSES: 1. ……..

2. ……..

A copy of this certificate shall be submitted to the "Council" before any work commences.

R2
REVENUE
STAMP

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C2.1 PRICING INSTRUCTIONS

VHEMBE DISTRICT MUNICIPALITY

C2.1 Pricing Instructions

1. GENERAL

The pricing instructions describe the criteria and assumptions which will be assumed in the Contract that the Tenderer has taken into account when developing his prices. The Bills of Quantities record the Contractor's rates for providing supplies, services, engineering and construction works in accordance with the Scope of Work.

The terms of payment and the provisions for price adjustment, if applicable, are established in the Contract Data. These items are not described in the Pricing Data.

The Tenderer's obligations in pricing the tender offer and the Employer's undertakings in the checking and correction of arithmetical errors are dealt with in the Standard Conditions of Tender contained in Annexure F of SANS 294, as amended in and read in conjunction with the Tender Data.

2. DOCUMENTS MUTUALLY EXPLANATORY

The documents forming the Contract are to be taken as mutually explanatory of one another. The Bill of Quantities forms an integral part of the Contract Documents and shall be read in conjunction with the Tender Data, Contract Data, Scope of Work, Site Information General and Special Conditions of Contract, the Specifications and the Drawings.

3. DEFINITIONS

For the purpose 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 Scope of Work and Site Information.
Quantity	:	The number of units of work for each item.
Rate	:	The payment per unit of measurement at which the Contractor contracts to do the work.
Amount	:	The product of the quantity and the rate tendered for an item.
Sum	:	An amount contracted for an item, the extent of which is described in the Bill of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

4. DESCRIPTIONS

Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict

with the terms of the Bill, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.

5. REFERENCES

The clauses in a specification in which further information regarding the schedule item can be obtained appears under “Reference clause” in the Bill. The reference clauses indicated are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the letter or letters which follow SABS in the SABS 1200 series of specifications, eg. G for SABS 1200 G.

6. UNITS OF MEASUREMENT

The units of measurement indicated in the Bill of Quantities are metric units.

The following abbreviations are used in the Bill of Quantities:

%	=	per cent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
MN	=	meganewton
MN-m	=	meganewton-metre
MPa	=	megapascal
m^2	=	square metre
m^3	=	cubic metre
m^3-km	=	cubic metre-kilometre
m^2-pass	=	square metre-pass
no	=	number
PC sum	=	Prime Cost sum
Prov Sum	=	Provisional Sum
sum	=	lump sum
t	=	ton (1 000 kg)

7. NET MEASUREMENTS

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for off-cuts and waste.

8. QUANTITIES

The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

The Contract Amount to be determined in accordance with the conditions of contract identified in the Contract Data shall be computed from the actual quantities of authorized work done, value at rates determined in terms of the Contract Data, against the respective items in the Bill of Quantities.

9. CURRENCY

All rates and sums of money quoted in the Bill of Quantities shall be in Rand and whole cents. Fractions of a cent shall be discounted.

10. VALUE ADDED TAX

Value Added Tax shall be excluded from the rates and sums contracted for the various items of work included in the Bill of Quantities. VAT will be added as a single entry to the summary.

11. RATES AND PRICES

11.1 General

a) The Contractor must price each item in the Bill of Quantities in BLACK INK. Reproduced computer printouts of the Bills of Quantities will not be acceptable.

b) The rates and prices to be inserted in the Bill of Quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.

c) Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items scheduled in the Bill of Quantities. Separate additional payments will not be made.

d) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill. The Contractor will not be paid for items against which no rate or lump sum has been entered in the Bill of Quantities.

e) Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

f) Should the Contractor indicate against any item that compensation for such item is included in another item, the rate for the item included in another item shall be deemed nil.

g) A submission may be regarded as non-responsive if any rates or lump sums in the Bill of Quantities are, in the opinion of the Employer, unreasonable or out of proportion.

11.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

11.3 Arithmetic

Excepting where Sum Amounts are required or where Provisional Sums have been indicated, the Contractor shall enter an applicable rate in the Rate Column of the Bill of Quantities for each scheduled item. He shall also enter an appropriate sum in the Amount column for each scheduled item, by determining in the applicable line item the product of the Quantity and the Unit Rate.

If there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the tender offer will be corrected by the Employer in determining the Contract Price.

Where there is an error in addition, either as a result of other corrections required by this checking process or in the Tenderer's addition of prices, such error will be corrected by the Employer in determining the Contract Price.

12. VARIATION IN TEXT

No alteration, erasure or addition is to be made in the text of the Bill of Quantities. Should any alteration, erasure or addition be made, it will not be recognized; the original wording of the Bill of Quantities will be adhered to.

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C2.2 SCHEDULE OF QUANTITIES

CLIENT: VHEMBE DISTRICT MUNICIPALITY

CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHULU 02

PROJECT NO.: VDM/TECH/02/02/2026/03

NB: **TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK.**

SCHEDULE 01 : PRELIMINARY & GENERAL

ITEM NO.	PAY REF	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
	SANS	**GENERAL**				
	1200A					
1.1	8.3	**Fixed Charges and Value Related Items**				
1.1.1		**Contractual Requirements**				
	8.3.1	a) Fixed preliminary and general items	Sum	1		R -
	8.3.2	b) Value related preliminary and general items	Sum	1		R -
1.1.2	8.3.2	**Provision of Facilities on the Site**				
1.1.2.1	8.3.2.1	FACILITIES FOR ENGINEER				
		a) Tests ordered by the engineer.	PC Sum	1	350,000.00	R 350,000.00
		b) Accommodation	PC Sum	12	22,500.00	R 270,000.00
		c) Communication	PC Sum	12	15,000.00	R 180,000.00
		d) Office	PC Sum	12	12,500.00	R 150,000.00
1.1.2.2	8.3.2.2	Handling cost in respect of sub-items 8.3.2.1 (a - d)	%	950,000	.....%	R -
1.1.2.3	8.3.2.2	FACILITIES FOR CONTRACTOR				
		a) Offices, stores, workshops	Sum	1		R -
		b) Housing for staff	Sum	1		R -
		c) Ablution and latrine facilities	Sum	1		R -
		d) Fencing off site of construction camp	Sum	1		R -
		e) Tools and equipment	Sum	1		R -
1.2	8.4	**TIME RELATED COSTS**				
1.2.1	8.4.1	**Operation and Maintenance of Facilities on Site**				
		FACILITIES FOR THE CONTRACTOR				
		a) Offices, stores, workshops	Sum	1		R -
		b) Housing for staff	Sum	1		R -
		c) Toilets and ablutions	Sum	1		R -
		d) Provision of water, power and communication facilities	Sum	1		R -
		e) Tools and equipment	Sum	1		R -
1.2.2	8.4.3	**Supervision for duration of construction**				
		a) Contractors supervision and management	LSum	1		R -
		b) Company and head office overhead costs	LSum	1		R -
		d) SMME supervisior	LSum	1		R -
		CARRIED FORWARD				R -

SCHEDULE 01 : PRELIMINARY & GENERAL

ITEM NO.	PAY REF	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
		BROUGHT FORWARD				**R -**
1.3	8.5	**PROVISIONAL SUMS**				
1.3.1		Allowance for construction work Permit application	PC Sum	1	150,000.00	R 150,000.00
1.3.2		Handling cost in respect of sub-items 1.3.1	%	150,000.00	.....%	R -
1.3.3		Provisional sum for CLO officer Employment of full time labour desk officer for the duration of the contract including cost of calls	PC Sum	12	8,500.00	R 102,000.00
1.3.4		Handling cost in respect of sub-items 1.3.3	%	102,000.00	.....%	R -
1.3.5		Allowance for 2 Students	PC Sum	12	14,000.00	R 168,000.00
1.3.6		Provision for remuneration of PSC per citting @200 for max of 10 members	PC Sum	12	24,000.00	R 288,000.00
1.3.7		Appointment of OHS Agent as per Construction Regulations 2014 clause 5(5) and 5(7) - (Including the aplication fo work permit)	PC Sum	12	55,000.00	R 660,000.00
1.3.8		Allowance for the appointment of Environmentalist to undertake Construction monitoring (inlcuding water uselincence on stream crossing)	PC Sum	12	55,000.00	R 660,000.00
1.3.9		Allowance for the appointment of social facilitator (Inlcuding initial training and facilitation)	PC Sum	12	60,000.00	R 720,000.00
1.3.10		Relocation of existing services including electricity poles & yard fences	PC Sum	1	450,000.00	R 450,000.00
1.3.11		Handling cost in respect of sub-items 1.3.5 to 1.3.10	%	2,946,000.00	.....%	R -
1.4		**NAMEBOARD**				
1.4.1	PSAB	Supply and install construction name board				
	8.2.2 (a)	Approximate size 4m x 3,5m (MIG Specification)	No.	1		R -
SCHEDULE 1		**TOTAL CARRIED TO SUMMARY**				**R -**

CLIENT: VHEMBE DISTRICT MUNICIPALITY
CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHULU 02
PROJECT NO.: VDM/TECH/02/02/2026/03

SCHEDULE 2: TRAINING & OHS

ITEM NO.	PAY REF	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
2.1		**ENVIRONMENTAL MANAGEMENT PLAN**				
2.1.1		Enviromental compliance and monitoring	PC Sum	12	7,500.00	R 90,000.00
2.1.2		Handling costs and profit in respect of sub-item 2.1.1 above	%	90,000.00	.....%	R -
2.1.3		Compliance with the "Enviromental Management Plan"	Sum	1		R -
2.2		**OCCUPATIONAL HEALTH AND SAFETY**				
2.2.1		a) Contractor's initial obligations in respect of the "Occupational Health and Safety Act and Construction Regulations" (include all general requirement in terms of safety on site & Provision of safety nets on deep excavations & all safety feature	LSum	1		R -
		b) Protection of exavation walls by shoring or similar Methord irespective of the depth of excavations	LSum	1		R -
2.2.2		Submit and maintain the Health and Safety File	LSum	1		R -
2.3		**PROVISION OF STRUCTURED TRAINING**				
2.3.1		(a) Provision of structured training including Generic skills,, Enterpreneurial Skills, PSC training and training venues where required	PC Sum	1	350,000.00	R 350,000.00
2.3.2		Handling costs and profit in respect of sub-item 2.3.1 above	%	350,000.00	.....%	R -
SCHEDULE 2		**TOTAL CARRIED TO SUMMARY**				**R -**

CLIENT: VHEMBE DISTRICT MUNICIPALITY
CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHULU 02
PROJECT NO.: VDM/TECH/02/02/2026/03

SCHEDULE 03: DAYWORKS

ITEM NO.	PAY REF	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
	SANS					
3	1200 A	**DAYWORKS AND TEMPORARY WORKS**				
	8.7	**DAYWORKS**				
		Note:				
		Dayworks executed on instruction of the Engineer only				
		Tender rates shall include for transport in both directions to and from site				
3.1	8.7	**LABOUR**				
		(a) Skilled	hr	300		R -
		(b) Semi-skilled	hr	500		R -
		(c) Un-skilled	hr	1000		R -
3.2	8.7	**PLANT HIRE (WORK RATES ON SITE)**				
3.2.1		**TRUCKS**				
	8.7	Tipper trucks				
		(a) Capacity 5m³ (small)	hr	35		R -
		(b) Capacity 10m³ (medium)	hr	35		R -
3.2.2		**LDV'S**				
	8.7	LDV				
		(a) LDV 1ton	km	3500		R -
3.2.3		**WATER TANKERS**				
	8.7	Water tankers				
		(a) Capacity 10,000 liter (medium)	hr	35		R -
3.2.5		**GRADERS**				
	8.7	Motor graders				
		(a) Model 140G or similar	hr	35		R -
3.2.6		**TLB'S**				
	8.7	Tractor loader backhoe (TLB)				
		(a) Mode JCB 3CX	hr	35		R -
3.2.7		**COMPACTORS**				
	8.7	Plate compactors				
		(a) Model Reversible Plate Compactor	hr	35		R -
3.2.8		**CONCRETE MIXERS**				
	8.7	Concrete mixers				
		(a) Volume 200 liter (small, towable)	hr	35		R -
3.2.9		**DUMPERS**				
	8.7	Concrete dumpers				
		(a) Capacity 200 liter (medium)	hr	35		R -
3.2.10		**COMPRESSORS**				
	8.7	Portable diesel compressors				
		(a) Capacity 160cfm (small)	hr	35		R -
3.2.11		**WATERPUMPS**				
	8.7	Water pump				
		(a) Capacity 1.5 liter/sec (small)	hr	35		R -
3.2.12		**WELDERS**				
	8.7	Welding unit				
		(a) 200 Amp	hr	35		R -
3.2.13		**GENERATORS**				
	8.7	Mobile generator set				
		(a) 6 KVA	hr	35		R -
3.4	8.8	**TEMPORARY WORKS**				
		Excavation by hand in soft material to expose services	m³	10		R -
SCHEDULE 3		**TOTAL CARRIED TO SUMMARY**				R -

CLIENT: VHEMBE DISTRICT MUNICIPALITY
CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHLU 02
PROJECT NO.: VDM/TECH/02/02/2026/03

SCHEDULE 04: SITE CLEARANCE & EARTHWORKS (Water Pipe Trenches)

ITEM NO.	PAY REF	LI	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
4.1	SANS 1200 C		**SITE CLEARANCE**				
4.1.1	8.2.1		Clear and grub strips for				
			(a) Pipeline 2m wide	m	65,089		R -
			LARGE TREES				
4.1.2	8.2.2		Remove and grub large trees and tree stumps of girth				
			(a) Exceeding 1m and up to and including 2m	no	22		R -
4.1.3	8.2.5	LI	Take down existing fences	m	13,018		R -
4.2	SANS 1200 D		**EARTHWORKS**				
	8.3.8		**Existing services:**				
4.2.1		LI	Hand excavation for locating and exposing existing services:				
			(a) In roadways	m³	655		R -
			(b) In all other areas	m³	523		R -
			EARTHWORKS (WATER PIPE TRENCHES)				
4.3	SANS 1200 DB		**EXCAVATION AND BACKFILLING**				
	8.3.1		Excavate in all materials for trenches, backfill,'compact and dispose 'of surplus material				
4.3.1			Up to 1.5m wide				
			(a) Up to 1.5m deep	m	80,305		R -
4.3.2	8.3.2		Extra over items 4.3.1 for				
4.3.2.1			(a) Intermediate excavation	m³	8,031		R -
4.3.2.2			(b) Hard rock excavation	m³	6,424		R -
4.3.3	8.3.2	LI	Excavate unsuitable material from trench bottom, 'dispose within the free haul 'distance, and re-fill 'with suitable imported material compacted to '90% mod AASHTO density	m³	4,015		R -
4.4			**BACKFILLING OF EXCAVATION & ANCILLARIES**				
4.4.1	8.3.3		Make up deficiency in backfill material:				
			(a) From other necessary excavations on site	m³	4,015		R -
			(b) By importation from designated borrow pits	m³	803		R -
			(c) By importation from commercial sources	m³	402		R -
4.4.2			Opening up and closing down of designated borrow pits	PC sum	1	115,000.00	R 115,000.00
			Handling cost & profit on iterm 4.4.2	%	115,000	.....%	R -
4.4.3			Compaction in road crossings	m³	5,550		R -
4.4.4			Overhaul:				
			(a) Long overhaul	m³-km	1,046		R -
4.4.5	8.3.6		**Finishing:**				
			Reinstate road surfaces complete with all courses:				
			(a) Gravel on shoulders	m³	6,225		R -
			(b) Asphalt of thickness 40 mm in roadway	m²	640		R -
			(c) Gravel surfacing	m³	4,225		R -
			(d) Concrete, class 20 MPa/19 mm	m³	216		R -
		LI	(e) Paving blocks/bricks	m²	921		R -
SCHEDULE 4			**TOTAL CARRIED TO SUMMARY**				**R -**

CLIENT: VHEMBE DISTRICT MUNICIPALITY

CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHULU 02

PROJECT NO.: VDM/TECH/02/02/2026/03

SCHEDULE 05: PIPE BEDDING

ITEM NO.	PAY REF	LI	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
	SANS 1200 LB		**PIPE BEDDING**				
5.1			Provision of bedding from trench excavations				
			(a) Selected granular material	m³	19,527		R -
			(b) Selected fill material	m³	3,905		R -
5.2			Supply only of bedding by importation:				
5.2.1			From other necessary excavations:				
			(a) Selected granular material	m³	4,882		R -
			(b) Selected fill material	m³	7,500		R -
5.2.2			From borrow pits:				
			(a) Selected granular material	m³	3,923		R -
			(b) Selected fill material	m³	8,700		R -
5.2.3			From commercial sources:				
			(a) Selected granular material	m³	3,291		R -
			(b) Selected fill material	m³	3,233		R -
5.3			Concrete bedding cradle:				
			(a) Class 15 MPa/19 mm	m³	255		R -
			(b) Class 20 MPa/19 mm	m³	172		R -
5.4			Encasing of pipes in concrete:				
			(b) Class 20 MPa/19 mm	m³	142		R -
5.5			Overhaul of material for bedding cradle and selected fill blanket				
			(a) Long overhaul	m³-km	110,000		R -
SCHEDULE 5			**TOTAL CARRIED TO SUMMARY**				**R -**

CLIENT: VHEMBE DISTRICT MUNICIPALITY
CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHLU 02
PROJECT NO.: VDM/TECH/02/02/2026/03

SCHEDULE 06: MEDIUM PRESSURE PIPELINES - RETICULATION

ITEM NO.	PAY REF	LI	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
	SANS						
6.1	1200 L		**MEDIUM PRESSURE PIPELINES**				
			PIPELINES				
6.1.1	8.2.1	LI	(a) Supply, lay, joint, bed (class B bedding) and test uPVC spigot and socket water pipes with molded rubber rings to SABS 966				
6.1.1.1			Class 9 pipes				
			a) 75mm Diameter	m	43,107.60		R -
			b) 110mm Diameter	m	10,776.00		R -
			c) 160mm Diameter	m	11,205.60		R -
6.1.1.2			Class 12 pipes				
			a) 75mm Diameter	m	2,661.00		Rate only
			b) 110mm Diameter	m	5,227.00		Rate only
			c) 160mm Diameter	m	1,616.00		Rate only
			d) 200mm Diameter	m	2,400.00		Rate only
6.1.2	8.2.1		Disinfect pipes				
			a) 75mm Diameter	m	43,107.60		R -
			b) 110mm Diameter	m	10,776.00		R -
			c) 160mm Diameter	m	11,205.60		R -
	8.2.2	LI	Extra over items 6.1.1 for supply, install, bed pipes, couplings, etc				
6.1.3	8.2.2		uPVC Class 16 pressure long radius bends				
			a) 75mm Diameter 11.25°	no	327.00		R -
			b) 75mm Diameter 22.5°	no	310.00		R -
			c) 75mm Diameter 45°	no	355.00		R -
			d) 75mm Diameter 90°	no	292.00		R -
			e) 110mm Diameter 11.25°	no	115.00		R -
			f) 110mm Diameter 22.5°	no	89.00		R -
			g) 110mm Diameter 45°	no	190.00		R -
			h) 110mm Diameter 90°	no	119.00		R -
			i) 160mm Diameter 11.25°	no	86.00		R -
			j) 160mm Diameter 22.5°	no	86.00		R -
			k) 160mm Diameter 45°	no	67.00		R -
			l) 160mm Diameter 90°	no	59.00		R -
6.1.4	8.2.2	LI	CI socket-ended equal tee's, including all adaptors, reducers, etc to SABS 546				
			a) 75x75x75mm	no	551.00		R -
			b) 110x110x75mm	no	278.00		R -
			c) 160x160x75mm	no	255.00		R -
6.1.5		LI	CI socket-ended female reducers to SABS 546				
			a) 200x160mm	no	15.00		Rate only
			b) 160x110mm	no	19.00		R -
			c) 110x75mm	no	74.00		R -
			CARRIED FORWARD				R -

BROUGHT FORWARD							R	-
6.1.6		LI	CI socketed end caps					
			a) 75mm dia.	no	42.00		R	-
			b) 110mm dia.	no	22.00		R	-
			c) 160mm dia.	no	17.00		R	-
			d) 200mm dia.	no	5.00		R	-
6.1.7			**VALVES**					
6.1.7.1	8.2.3	LI	Extra over items 6.1.1 for supply, install, bed and test line RSV gate valve (cap top) assembly as SABS 664, including cutting of pipes, couplings, etc					
			a) 75mm Diameter	no	630.20		R	-
			b) 110mm Diameter	no	372.60		R	-
			c) 160mm Diameter	no	257.60		R	-
			d) 200mm Diameter	no	17.25		Rate only	
6.1.7.2	8.2.4	LI	Extra over item 6.1.7.1 for cutting of pipe and supplying and fixing of extra couplings					
			a) 75mm Diameter	no	388.00		R	-
			b) 110mm Diameter	no	325.00		R	-
			c) 160mm Diameter	no	294.00		R	-
			d) 200mm Diameter	no	233.00		Rate only	
6.1.8		LI	**ANCILLARIES**					
	8.2.11		Anchor/thrust blocks and pedestals in strength concrete 25Mpa/19mm, including all formwork, reinforcement, etc					
			(a) Measured per m^3 Thrust blocks	m^3	385.00		R	-
6.1.9		LI	**VALVE CHAMBERS**					
	8.2.8		Valve chambers complete with pipework and fittings					
			(c) Isolation valve chambers complete, as per drawing.	no	1,277.65		R	-
6.2	SABS 1200LF		**DOMESTIC ERF CONNECTIONS**					
			Supply and install all components of Erf connections including all excavations, earthworks and fittings Including Stand pipe & valve up to the water meter box as specified and indicated on the detail drawings. Exclude meter installation to be done by Municipality					
6.2.1		LI	(a) Short single connection	no	834.60		R	-
			(b) Short double connection	no	494.00		R	-
6.2.2		LI	(a) Long single connection	no	286.00		R	-
			(b) Long double connection	no	377.00		R	-
6.2.3		Li	Installation of stand pipes completewith Stopcock Valve	no	1,991.60		R	-
SCHEDULE 6			**TOTAL CARRIED TO SUMMARY**				R	-

CLIENT: VHEMBE DISTRICT MUNICIPALITY

CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHULU 02

PROJECT NO.: VDM/TECH/02/02/2026/03

SCHEDULE 12: PROVISIONAL SUMS

ITEM NO.	PAY REF	LI	DESCRIPTION	UNIT	TENDER QTY	RATE	TENDER AMOUNT
12.2	SABS 1200DB		**ROAD CROSSINGS - HORIZONTAL DIRECTIONAL DRILLING & RIVER CROSSINGS**				
12.2.1			Allow for supply, installation, testing and commissioning with horizontal directional drilling method complete with HDPE pipe PN10 PE100 at a depth not exceeding 4m	PC Sum	1.00	300,000.00	R 300,000.00
12.2.2		LI	Allow for supply, pipelaying, testing and commissioning at river crossings	PC Sum	1.00	450,000.00	R 450,000.00
12.2.3			Handling costs and profit in respect of sub-item 12.2.1 & 12.2.2 above	%	750,000.00	.....%	R -
SCHEDULE 12			**TOTAL CARRIED TO SUMMARY**				**R -**

CLIENT: VHEMBE DISTRICT MUNICIPALITY

CHAVANI WATER SUPPLY PROJECT - PHASE II-C - BUNGENI XIKHULU 02 (RETICULATION)

PROJECT NO.: VDM/TECH/02/02/2026/03

SUMMARY OF BILL OF QUANTITIES

SCHEDULE	DESCRIPTION	AMOUNT (R)
SCHEDULE 1:	PRELIMINARY & GENERAL	
SCHEDULE 2:	TRAINING & OHS	
SCHEDULE 3:	DAYWORKS	
SCHEDULE 4:	SITE CLEARANCE & EARTHWORKS	
SCHEDULE 5:	PIPE BEDDING	
SCHEDULE 6:	MEDIUM PRESSURE PIPELINES (RETICULATION))	
SCHEDULE 12:	PROVISIONAL SUMS	
SUB-TOTAL TO CALCULATION OF TENDER		

VHEMBE DISTRICT MUNICIPALITY
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION
PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C2.2.2 CALCULATION OF BID SUM

1.	**TOTAL FROM SCHEDULE OF QUANTITIES**	**R…….**
2.	**CONTINGENCIES *(5 % on item 1*)** **Note** ***The sum provided here is under the sole control of the Engineer and may be deducted in whole or in part***	**R…….**
3.	**SUBTOTAL (1)** ***(Sum of Items 1 and 2)***	**R……**
4.	**CPA (3%)**	**R……**
5.	**SUBTOTAL (2)** (Sum of Items 3 and 4)	**R……**
6.	**VALUE ADDED TAX (VAT)** (15% on item 5)	**R……..……..**
7.	**BID SUM CARRIED FORWARD TO FORM OF OFFER** (Sum of items 5 and 6)	**R……**

SIGNED ON BEHALF OF Bidder : ……..

DATE : ……

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C3 SCOPE OF WORK

TABLE OF CONTENTS – SCOPE OF WORK

VHEMBE DISTRICT MUNICIPALITY

CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C

BUNGENI XIKHULU - 02

(RETICULATION)

BID NO: VDM/TECH/02/02/2026/03.....

C3 SCOPE OF WORK

GENERAL

This section specifies and describes the supplies, services and engineering and construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract work is to be performed.

SCOPE

The Scope of the Work is set out in two portions:

Portion 1: PROJECT SPECIFICATION covers a general description of the project, the facilities available and the requirements to be met.

Portion 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS covers variations to the standardised specifications and particular specifications, which are applicable to the contract.

Should any requirement of the Project Specification conflict with any requirement of the standardised or particular specifications, the requirements of the Project Specifications shall prevail.

PORTION 1: PROJECT SPECIFICATION

DESCRIPTION OF THE WORKS

PS 1.1. Employer's Objectives

The Employer's objective, as the water and sanitation service provider for the Vhembe District, is to refurbish and upgrade the water infrastructure (bulk supply, storage and reticulation) to Chavani and the surrounding villages which is no longer operating optimally.

PS 1.2. Overview of the Works

The project requires the provision of bulk water supply infrastructure in Chavani and surrounding areas, including the provision and replacement of pipes, construction/refurbishment of concrete reservoirs and construction and refurbishment of pumping stations.

PS 1.3. Extent of the Works

Scope of work for this phase can be summarised as follows:

- Installation of internal reticulation at Bungeni – XIKHULU 02 approximately 65,089.20 km in various diameters ranging from Ø75mm to Ø160mm uPVC class 9 & 12 pipes.
- Installation of house connections.
- Valves along the pipeline
  - Isolating valves
  - Air valves
  - Flow control valves
  - Non-return valves
  - Scours

The above works also includes, but is not limited to:

a) Site clearance
b) Trench excavating
c) Bedding and laying of indicated pipes
d) Backfilling of trenches and testing of pipelines
e) Construction of valve chambers, where applicable
f) Reinstatement of surfaces to original condition
h) Installation of house connections

Location of the Works

The project is located in Makhado and Collins Chavani Local Municipalities in the Vhembe District Municipality of Limpopo Province. It is located in the south east of Makhado town at approximately 30km and about 7km to the east of Elim town. The terrain varies from flat to rolling and the area is mainly serviced by the R578 provincial road. See attached Locality Plan in **Section C4: Site Information.**

The general co-ordinates of the main villages are as shown in the **Table 1** below:

Table 1: VILLAGE CO-ORDINATES

Village Name	Longitude	Latitude
Bungeni XIKHULU 02	30^0 14' 23 4"	23^0 12' 42 3"

The project falls within Wards 1;5;11,12 and 14 (Makhado Local Municipality) and Wards 4;5,6,8 and 9 (Collins Chabane Local Municipality) as shown ward map attached in **Section C4: Site Information**.

PS 1.4 Particular Conditions of Contract

i) The Client reserve the right to reduce the scope of work if the budget is not available
ii) Any changes by the bidder relating to resources allocated to the project will require VDM approval prior to deployment by the bidder.
iii) Non or poor performance by the bidder will result in cancellation of works orders and removal from the panel.
iv) Due diligence will be performed on bidders meeting minimum requirements to establish their capacity to undertake VDM projects. Due diligence will include financial position (resources), verification of work successfully completed work.
v) Contracts will be entered and accepted by the bidders involved.
vi) Contractors will be required to submit a performance guarantee amounting to 10% of the contract value, for every contract entered into.
vii) The contractor will be required to submit a letter of intent to produce a performance guarantee of 10 percent of the appointment value of any project awarded.
viii) Penalties of 0.07% of the Contract Sum per day are applicable on this contract for failure to complete the project within the due completion time.
ix) The contractor must comply with the provisions and contractual arrangements of the Occupational Health and Safety Act (OHSA) as well as the Environmental Management Act (NEMA): Waste Management.
x) Project Specific Baseline Risk Assessment and Specifications will be provided once the contractor is appointed.
xi) All workers of any project undertaken as part of this bid must undergo a medical fitness test by an Occupational Health and Safety Practitioner who is registered with the South African Nursing Council (SANC) before and at the end of their employment.
xii) The medical test certificates must be presented by the successful bidder to VDM after the appointment of the successful bidder.
xiii) The EPWP Guidelines will be implemented on all gravel roads projects.
xiv) The contractor must employ unskilled labourers only from targeted community.

PS 1.5 LOCATION OF THE WORKS

The project is located in Makhado and Collins Chavani Local Municipalities in the Vhembe District Municipality of Limpopo Province. It is located in the south east of Makhado town at approximately 30km and about 7km to the east of Elim town. The terrain varies from flat to rolling and the area is mainly serviced by the R578 provincial road. See attached Locality Plan in **Section C4: Site Information.**

Temporary Works

Temporary works shall:

a) include the works required to locate, verify and protect existing services within the works area;

b) be such to ensure no or limited interruption to vehicular and pedestrian traffic;

c) de-watering of works;

d) site offices and facilities

Further the Contractor shall note that no stockpiling of materials, plant, excavated material or any other construction related infrastructure shall be allowed in locations that may interfere with the operations of the Employer and the public in general.

ENGINEERING

Employer's Design

The key requirement for this project is that the work are to be executed to VHEMBE DISTRICT MUNICIPALITY specifications and to SANS/SABS requirements and specifications with minimum costs and inconvenience to customers and affected parties. The contractor undertakes only to construct on the basis of full designs as issued by the engineer.

Isolation Valves

In accordance to standard specifications.

PS 2.1.2 Fittings and Specials

Pipe fittings and couplings shall be as specified in SANS 815, Class 16. Flanges shall be in accordance with SANS 1123, Table 1600, suitable for maximum working pressure rating of 1600 kPa. Electrostatic epoxy powder coating, in accordance with SANS 1217, will protect all fittings internally and externally.

Air Valves

Where applicable replace existing air valves with suitable new double acting air release valves.

Hydrants

Hydrants shall be in accordance with the standard drawings and specifications provided.

Valve Chambers and Boxes

Chambers and valve boxes shall be in accordance with the standard drawings and specifications provided.

PROCUREMENT

Preferential Procurement Procedures

The Contractor's attention is drawn to the following returnable schedules contained in Part T2:

a) Empowerment and Preferential Procurement and

b) Enterprise Declaration Affidavit

These schedules contain all requirements regarding preferential procurement. Preference will apply to this tender in respect of equity ownership by Historically Disadvantaged Individuals in the enterprise as contemplated in the Preferential Procurement Policy Framework Act, 2000 (Act no 5 of 2000), as published in Government Gazette No 20854 dated 3 February 2000.

CONSTRUCTION

PS 4.1 Applicable Standards

The Standard Specifications for all associated civil work applicable to this Contract shall be:

SANS 1914-5	:	Participation of Targeted Labour
SABS 1200 A	:	General
SABS 1200 AB	:	Engineer's Office
SABS 1200 C	:	Site clearance
SABS 1200 DA	:	Earthworks (small works)
SABS 1200 DB	:	Earthworks (pipe trenches)
SABS 1200LB	:	Bedding (Pipes)
SABS 1200L	:	Medium Pressure Pipelines
SABS 1200G	:	Concrete (Structural)

These Specifications are not issued with this volume but are available at the Contractor's expense from Standards South Africa:

Office Address:	Postal Address:
1 Dr Lategan Road	Private Bag X191
Groenkloof	PRETORIA
PRETORIA	0001
Telephone:	Telefax:
National: (012) 428 7911	National: (012) 3441568
International: + 27 12 428 7911	International: + 27 12 344 1568
Email: sales@sabs.co.za	

Particular Generic Specifications

General

For the purpose of this Contract:

a) where gender terms are used, it shall be applicable to both male and female; and

b) "VAT" shall mean Value Added Tax in terms of the Value Added Tax Act 89 of 1991 as amended.

Applicable labour laws

The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997by the Minister of Labour in Government Notice N° R63 of
25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

1 INTRODUCTION

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

1.2 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 semi-skilled 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.

1 TERMS OF WORK

2.1 Workers on an EPWP are employed on a temporary basis.

2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.

2.3 Employment on an EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3 NORMAL HOURS OF WORK

3.1 An employer may not set tasks or hours of work that require a worker to work–
(a) more than forty hours in any week
(b) on more than five days in any week; and
(c) for more than eight hours on any day.

3.2 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.

3.3 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.

4 MEAL BREAKS

4.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

4.2 An employer and worker may agree on longer meal breaks.

4.3 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.

4.4 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.

5 Special Conditions for Security Guards

5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

5.2 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.

6 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.

7 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”).

8 WORK ON SUNDAYS AND PUBLIC HOLIDAYS

8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

8.2 Work on Sundays is paid at the ordinary rate of pay.

8.3 A task-rated worker who works on a public holiday must be paid –
(a) the worker’s daily task rate, if the worker works for less than four hours;
(b) double the worker’s daily task rate, if the worker works for more than four hours.

8.4 A time-rated worker who works on a public holiday must be paid –
(a) the worker’s daily rate of pay, if the worker works for less than four hours on the public holiday;
(b) double the worker’s daily rate of pay, if the worker works for more than four hours on the public holiday.

9 SICK LEAVE

9.1 Only workers who work four or more days per week have the right to claim sick pay in terms of this clause.

9.2 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.

9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

9.4 Accumulated sick-leave may not be transferred from one contract to another contract.

9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

9.7 An employer must pay a worker sick pay on the worker's usual payday.

9.8 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.

9.9 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.

9.10 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.

10 MATERNITY LEAVE

10.1 A worker may take up to four consecutive months' unpaid maternity leave.

10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.

10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

10.4 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.

10.5 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
(c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.

10.6 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.

10.7 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.

11 FAMILY RESPONSIBILITY LEAVE

11.1 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.

12 Statement of Conditions

12.1 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.

12.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

12.3 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping Records

13.1 Every employer must keep a written record of at least the following –
(a) the worker's name and position;
(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.

13.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

14 Payment

14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

14.2 A task-rated worker will only be paid for tasks that have been completed.

14.3 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.

14.4 A time-rated worker will be paid at the end of each month.

14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

14.6 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.

14.7 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.

14.8 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.

14.9 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.

15 Deductions

15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

15.3 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.

15.4 An employer may not require or allow a worker to –
(a) repay any payment except an overpayment previously made by the employer by mistake;
(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.

16 Health and Safety

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

16.2 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 instruction;
(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.

17 Compensation for Injuries and Diseases

17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

17.2 A worker must report any work-related injury or occupational disease to their employer or manager.

17.3 The employer must report the accident or disease to the Compensation Commissioner.

17.4 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.

18 Termination

18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

18.2 A worker will not receive severance pay on termination.

18.3 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.

18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

18.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

19 Certificate of Service

19.1 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.

Plant and materials

The Contractor is required to provide all plant and materials necessary to carry out the works as required. No additional allowances other than those already specified in the bill of quantities shall be allowed for with respect to plant and materials.

Construction equipment

See clause PS4.3.

Existing services

The Contractor:

must make provision for the possible existence of numerous services (e.g.: Stormwater, Water, Electricity, Gas, Telephone and the like) within and in close proximity to the work areas.

is to obtain way leaves indicating the location of existing services from all affected service providers prior to the commencement of construction. The Contractor is to comply with the conditions of the way leaves received from the various service providers.

is to ensure the protection and integrity of all existing services exposed and encountered through the course of construction activities. Adequacy in terms of protection of existing services shall be at the discretion of the Engineer. The Contractor is to make good the protection of and any breakages to existing

services. The Contractor is to record on as built drawings the location of existing services or services which have been relocated during Contract Period. Surveyed coordinates may be required.

must inform the relevant service provider immediately (within 2 hours of incident) such that procedures for the reinstatement of the service can be effected, should he damage or break an existing service (whether known or unknown).

is responsible to provide his own equipment in order to determine the location of existing services.

Site establishment, facilities available and required

The Contractor will be responsible to locate his own site for the purpose of a construction camp and will be responsible for obtaining all relevant permissions from the relevant authorities. He shall additionally be responsible for the provision (and cost thereof) of the other required facilities as detailed in this document, which includes but is not limited to the items as detailed in the following paragraph.

The Contractor shall provide at the site camp; a meeting room, with adequate seating and table to hold site and other meetings, an office and table with three chairs for the Engineer, sanitary facilities and water for the Engineer, adequate parking space for the Employer, Engineer and visitors.

Site usage

Site usage shall be limited to hours as specified in the Contract Data.

Permits and wayleaves

The Contractor will be required to obtain permits and wayleaves from all the applicable service provider's within the jurisdiction of Vhembe District Municipality.

The Employer will assist the Contractor to obtain clearance from the various departments with services that are likely to be affected by the Contract. It is, however, the Contractor's responsibility to obtain final permit and wayleave approval according to applicable procedures and specifications.

Permits and way leave associated costs shall be deemed to have been included in the scheduled rates for excavation and location of existing services under the relevant section of SANS 1200 A.

Alterations, additions, extensions and modifications to existing works

The Contractor is required to verify the accuracy of all drawings and levels provided by the Engineer prior to commencing with any construction activities.

Inspection of adjoining properties

The Contractor shall carry out inspections and evidence collection, as he deems appropriate, of properties adjoining the works to ensure that in the event of a claim arising from any of the owners of the adjoining properties for damage to property and the like, the Contractor has substantial evidence to support or refute such claims. The Contractor accepts full liability and responsibility for damage which he causes to adjoining properties as well as any costs involved in refuting or processing of such claims.

Water, sanitation and electricity for construction purposes

Water

The Contractor shall make his own arrangements with the Employer to obtain a potable water metered standpipe connection for which at least 14 days notice shall be given. The size of the connection provided will be as specified in the Water and Sanitation By-laws.

The Contractor may only draw water from fire hydrants through means of a legal, Employer owned, potable water metered standpipe/ connections. Failure to use such Employer owned potable water metered standpipes/ connections, or using illegal, non-Employer owned equipment for purposes of drawing water from fire hydrants, will result in the Contractor having to pay an account to Employer, for an amount determined by Employer

The potable water metered standpipe(s) must be made available to the Employer's water inspectors for purposes of reading and inspection, and failure to do so, will result in the immediate withdrawal of such potable water metered standpipe(s). The onus is on the Contractor to return such potable water metered standpipe(s) if they are found to be defective (not registering consumption). Failure to do so will result in an account being levied, payable to and determined by the Employer. Claims for delays caused where standpipe(s) are withdrawn and/or replaced will not be considered.

The current water tariffs applicable to the Contract are available from the Employer.

Sewer

The Contractor shall provide, maintain, move to positions as required and finally remove proper sanitary accommodation at each work front. Sanitary accommodation shall be properly screened and its use strictly enforced. The Contractor shall comply with the Employer's Sanitation General By-Laws Section 19(1) and 19(3).

The situation of sanitary accommodation prescribed in terms of the Sanitary General By-Laws shall be approved by the Engineer as being convenient for the person for whose use it is intended. The sanitary accommodation provided must be adequately ventilated, properly disinfected and kept in a thoroughly clean condition at all times.

The Contractor shall bear all costs associated with the provision of sanitary accommodation. Compensation for these costs will be made under the relevant item in the Schedule of Quantities.

Power

The Contractor shall make arrangements with the relevant authority for the supply and distribution of power for purposes of this Contract, the cost of which shall be deemed to be included in the rates inserted in the Schedule of Quantities.

Power used for carrying out of the works in accordance with these Specifications will not be subject to measurement or payment.

Survey control and setting out of the works

The Contractor is to confirm the levels and coordinates of all benchmarks prior to commencing with construction.

MANAGEMENT OF THE WORKS

Applicable SANS 1921 Standards

SANS 1921-1:2004: Construction and management requirements for works contracts Part 1: General engineering and construction works shall be applicable to this Contract.

PS 5.2 Planning and Programming

a) Planning

The Contractor shall ensure that he:

1) is well informed with regard to the Employer's overall implementation programme for the implementation of its prepayment programme and avail resources as required to efficiently complete this Contract; and
2) delivers good and services timeously as not to unnecessarily delay any other contractors, service providers and suppliers.

b) Programming

In order to ensure a clear understanding, at the inception of the Contract, of the programming and documentation format requirements, the Contractor shall appoint a project programmer/ planner for liaison during the Contract. The Contractor shall for the Contract Period provide and regularly update (maximum monthly) a Contract Programme.

The programme shall at minimum contain:

a) Time Scale (minimum):
   - Days, where the period does not exceed three months. Weeks, where the project period exceeds three months.
   - Months, where the period does not exceed one year.
   - Years, where the project period exceeds one year.
b) Tasks: Where phases or stages are anticipated, this shall be the highest level of division and all tasks related to the successful accomplishment of that phase of the area shall be grouped. Resources allocation and task dependency shall be indicated.
c) Start and Finish Dates: All tasks shall have specific start and finish dates.
d) Critical Path: All tasks forming the programme line that will establish any delays in the overall Contract Period shall be clearly indicated and an indication of their sensitivity characteristics shall be provided.
e) Progress Tracking: The Contractor shall be required to periodically indicate progress per task graphically and on a percentage basis.
f) Non-working Time: All South African public holidays, weekends and the local traditional annual builder's break shall be incorporated in the programme..

No deviation from the approved sequence of construction shall be accepted without prior written approval.

The programme shall not be in the form of a bar chart only, but shall show clearly the anticipated quantities of work to be performed each month, together with the manner in which the listed plant is to be used, as well as the anticipated earnings for the various sections of work.

A Contract programme shall be submitted no later than 7 days after Contract Commencement Date.

The Contractor shall provide the Engineer with a method statement indicating the manner and sequence in which he intends to construct the works, for each work area, with the program. In the method statement the Contractor must address at least the following items:

1. Sequence of the works for the relevant works area.

2. Target dates for the tasks identified in sequence of the works for the relevant works area.
3. Materials requirements.
4. Construction Plant to be used.
5. Services affecting construction
6. Any factors that could affect construction progress after commencement.

The method statement must be approved by the engineer before commencement of construction. In order to minimize the impact on traffic, pedestrians and business the Contractor will be required to segment the works in such a manner that no portion of the works is more than one day ahead of the following position. These segments of the works shall be clearly defined in the Contractor's method statement for each work area.

If, during the progress of the work, the quantities of work performed per month fall below those shown on the program or if the sequence of operations is altered, or if the program is deviated from in any other way, the Contractor shall, within one week after being notified by the Engineer, submit a revised program.

If the program is to be revised by reason of the Contractor falling behind his program, he shall produce a revised program showing the modifications to the original program necessary to ensure completion of the Works or any part thereof within the time for completion. Any proposal to increase the rate of work must be accompanied by positive steps to increase production by providing more labour and plant on the Site, or by using the available labour and plant in a more efficient manner.
Failure on the part of the Contractor to submit or to work according to the program or revised program shall be sufficient reason for the Employer to take steps as provided for in the General Conditions of Contract.

The approval by the Engineer of any program shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out in accordance to such program and that the Contractor undertakes to carry out the work in accordance with the program. It shall not limit the right of the Engineer to instruct the Contractor to vary the program should circumstances make this necessary.

PS 5.3 Sequence of the works

The sequence of works to be executed shall be agreed between the Engineer and the Contractor. It is envisaged that the verification of pipe diameters and material be conducted prior to the commencement of pipe installation.

Contractor shall addresses matters regarding the approval of his Health and Safety Plan, thereafter the works shall commence.

PS 5.4 Software application for programming

The construction programme shall be completed in Microsoft ® Project Standard 2002 or compatible software. The construction programme and updated versions thereof shall be made electronically available to the Engineer.

PS 5.5 Methods and procedures

The methods and procedures for the execution of the works shall be in accordance with the standard specifications and the variations and additions thereto.

PS 5.6 Quality plans and control

The Contractor shall be required to provide and maintain a quality plan to ensure that the quality of all work components is of a high standard.

PS 5.7 Accommodation of traffic on public roads occupied by the Contractor

a) Accommodation of traffic

The Contractor shall ensure the safe accommodation of traffic at all areas where the work may impact on traffic and shall provide all delineators, watching, lighting, signs and barricades required by the road authorities, and in accordance with the South African Road Traffic Signs Manual.

b) Access to properties

Adequate access shall at all times be maintained to public and private properties unless otherwise arranged and approved. Details of the proposed means of access shall be submitted before any such access is restricted. Claims arising from impeded access shall be the responsibility of the Contractor.

At least 7 days before commencing any work affecting access to a property, the Engineer and the occupier/owner of each such property shall be notified of the Contractor's intention to commence work, the date of commencement, expected duration and arrangements which will be made regarding maintenance of access.

c) Transport Department requirements

The Contractor must provide a bridge with side rails across excavations to allow pedestrians access to the sidewalk. Allowance for the costs associated with providing pedestrian access to sidewalks will be deemed to have been included under Item (Accommodation of Traffic) of the Schedule of Quantities.

PS 5.8 Other contractors on site

There may be other contractors working within the same area. As such, the Contractor is required to make adequate allowances for such possibilities. No claims with respect to works being carried out by other contractors will be entertained by the Employer.

PS 5.9 Testing, completion, commissioning and correction of defects

The onus is on the Contractor to produce goods and services which shall conform in quality and in accuracy of detail to the requirements hereinafter specified. The Contractor must clearly understand that it is not a duty of the Engineer or his representative to act as foreman or surveyor on the Works.

The Contractor shall, at his own expense, provide experienced engineers, foremen and surveyors together with all transport, instruments and equipment for supervising, checking and controlling the work.

The act of passing any completed work for payment by the Engineer shall not be construed as signifying approval or acceptance there-of. Failure on the part of the Engineer to reject any defective work or material shall not in any way relieve the Contractor of his obligations under the Contract, nor prevent later rejection when such work or material is discovered.

The Contractor shall, when submitting any work to the Engineer for examination, satisfy himself by testing, measurement and otherwise as may be necessary that the work does in fact meet with the requirements of the Specifications. This information shall be submitted with the Contractor's request for examination and the Engineer shall be authorised to decide on the number and type of tests, measurements, etc. required to enable him to judge the quality of the work.

The submission of this information shall in no way diminish the authority of the Engineer to conduct such tests as he may consider necessary in order to determine the quality of the work performed by the Contractor, nor will he be bound to take account of the Contractor's tests, measurements, etc. should he consider these to be either incorrect or not representative.

Quality control and completion tests shall be in accordance with the relevant standard and amended specifications and additional specifications.

PS 5.11 Format of communications

All communication shall be in writing and any verbal agreements shall only be binding once confirmed and agreed to in writing. Communication via, registered post, email or facsimile is acceptable.

PS 5.12 Key personnel

PS 5.12.1 General

The Contractor is to provide the Curriculum Vitae's of key personnel to be employed on the project as well as the person's position and responsibilities within the project team. The Contractor shall provide the following minimum key staff:

a) Site Agent;
b) Quality Manager/Auditor/Controller;
c) Health and Safety Officer/s; and
d) Foremen.

PS 5.12.2 Labour-intensive competencies of supervisory and management staff

Established contractors 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 2005, are registered for training towards, the skills programme outlined in Table 5.2.

Emerging contractors shall have personally completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for the NQF level 2 unit standard. All other site supervisory staff in the employ of emerging contractors must have completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 5.2: 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 Stormwater Drainage	any one of the 3 unit stand standards.
		Use labour Intensive Construction Methods to Construction 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 Construction and Maintain	any one of the 3 unit stand standard s.
		Roads and Stormwater Drainage Use Labour Intensive Construction Methods to Construct and Maintain	
		Water and Sanitation Services Use Labour Intensive Construction Methods to Construct, repair and maintain Structures	

Site Agent / Manager (ie. 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

Details of these skills programmes may be obtained from the CETA ETQA manager (e-mail:gerard@ceta.co.za , Tel: 011-265 5900)

PS 5.12.2 Employment of unskilled and semi-skilled workers in labour-intensive works
1.1 Requirements for the sourcing and engagement of labour.
1.1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

1.1.2 The rate of pay set for the EPWP per task or per day, shall be used.(Insert value determined by public body in terms of clause 2.2 of these Guidelines)

1.1.3 Tasks 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.

1.1.4 The 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 1.1.3.

1.1.5 The 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 have less than one full time person earning an income;
c) where subsistence agriculture is the source of income; and
d) those who are not in receipt of any social security pension income.

1.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
a) 60 % women;
b) 20% youth who are between the ages of 18 and 25; and
c) 2% on persons with disabilities.

1.2 Specific provisions pertaining to SANS 1914-5
1.2.1 Definitions
Targeted labour: Unemployed persons who are employed as local labour on the project.

1.2.3 Contract participation goals
1.2.3.1 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.

1.2.3.2 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.

1.2.4 Terms and conditions for the engagement of targeted labour
Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

1.3 Training of targeted labour

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

1.3.2 The cost of the formal training of targeted labour, will be funded by the local office of the Department of Labour. This training will take place as close to the project site as practically possible. The Contractor must access this training by informing the relevant regional 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 and the Department of Public Works (Fax: 012 3258625/ EPWP Unit, Private Bag X65, Pretoria 0001) must be furnished with a copy of this request.

1.3.3 The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

1.3.4 An 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 1.3.3 above.

1.3.5 Proof of compliance with the requirements of 1.3.2 to 1.3.4.must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

PS 5.13 Management meetings

Fortnightly site meetings shall be arranged and facilitated by the Engineer. Senior Contractor management staff attendance shall be compulsory.
The Contractor shall be required to provide reporting with regard to project progress, resources (human, plant and equipment), community issues, environmental and health and safety aspects.

PS 5.14 Forms for contract administration

The Contractor shall maintain a file which shall contain project information related to project progress, resources (human, plant and equipment), community issues, environmental, health and safety aspects, penalties imposed, claims lodged and outcomes, disputes and resolutions, payment and variations.

PS 5.15 Daily records

The Contractor shall keep daily site records as required by the Employer and as specified herein. Daily records shall include, labour, plant, materials, rainfall, daily diary and the like.

PS 5.16 Bonds and guarantees

The Contractor shall within 21 days from the date of Offer Acceptance by the Employer with a Surety Bond in the form of a Bank Guarantee, Bank Transfer or a Guarantee from an approved Insurance Company to the satisfaction of the Employer in the form included in the Tender Documents. The Bank Guarantee shall be for an amount equal to ten percent (10%) of the Tender Sum, for the due and punctual fulfilment and completion of all the Contractor's obligations under the Contract. No Extension of Time or any variation of the Contract nor the determination of the Contract by the Employer in terms of Clause 58 hereof shall in any way impair or diminish or terminate any liability to the Employer under and by virtue of such Surety Bond. The cost of the Surety Bond to be so entered into shall be at the expense in all respects of the Contractor; the Surety Bond to be released upon issue of the Engineer's Certificate of Completion of the Works.
Should the Contractor, when notified of the acceptance of his offer, fail to provide an approved Surety Bond within 21 days, then the Employer may, at his sole discretion:
(a) Grant the Contractor a further reasonable period in which to provide the bond; or

(b) Withdraw his acceptance of the tender in which case the Contract shall be deemed to be void, but without prejudice to the Employer's rights to recover whatever damages he may have suffered by virtue of the Contractor's failure to fulfil his obligations.

PS 5.17 Payment certificates

Payment certificates shall be submitted to the Engineer, in the format required, for approval and final submission to the Employer on a monthly basis.

PS 5.18 Permits

Refer to PS 4.8

PS 6 FEATURES REQUIRING SPECIAL ATTENTION

PS 6.1 Security

The Contractor is responsible to provide his own security on site, as he deems necessary. The Employer shall not be held responsible for any loss or damage suffered by the Contractor, his plant, equipment, materials, subcontractors or employees as a result of a security incident of any nature.

PS 6.2 Operation of valves

Only employees of the Employer are permitted to operate water valves.

PS 6.3 Work outside normal working hours

The Contractor is permitted to work outside of normal working hours (07h00 to 18h00) only upon obtaining written permission from the Engineer. It is anticipated that all switch-over work (tying new infrastructure into existing) will be completed during hours that will not affect the supply of water to affected communities.

PS 6.4 Sanitary facilities

The Contractor is required to supply adequate sanitary facilities for employees, visitors and the Engineer.

PS 6.5 Community liaison and community relations

A community liaison officer will be appointed by the contractor on behalf of VHEMBE DISTRICT MUNICIPALITY to provide a communication link between the construction team and the residents (See PS 6.6)

PS 6.6 Notices and warning to consumers

The Contractor must provide written notice to all consumers affected by the construction activities. The written notice shall outline the:

a) nature of the works;
b) expected inconvenience / disruption that the consumers can expect;
c) timeframes for construction; and
d) contact details in case of problems encountered.

PS 6.7 Continuity of water supply to consumers

The activities of the Contractor shall not interfere with the supply of water to consumers. Should any claims arise from a lack of water supply as a result of the Contractor's activities, it shall be for the account of the Contractor.

PS 6.8 Conditions and procedures for service agencies

The Contractor shall comply with the conditions and procedures of the various affected service agencies laid out in the relevant way leaves.

PS 6.9 Reinstatement of asphalt by Vhembe District Municipality

The Vhembe District Municipality shall be given first option to provide for the reinstatement of asphalt at places where excavation is within the roadway.

PS 6.10 Generic labour intensive specifications

The following sub-clauses shall only be applicable where the project is specifically indicated under clause PS 1, to be executed in terms of the Expanded Public Works Programme Guidelines.

PS 6.10.1 Scope of Generic Specification

This specification establishes general requirements for activities that are to be executed by hand involving the following:

a) Excavation and backfilling of trenches for reticulation of small bore water pipes (e.g. up to 200mm diameter).
b) Excavation for shallow valve boxes & manholes.
c) Installation of small bore water pipes, valves, etc
d) Construction of brick manholes.
e) Other suitable work.

PS 6.10. 2 Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

PS 6.10.3 Hand Excavatable Material

Hand excavatable material is material:

a) granular materials:
    i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
    ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or Isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
b) cohesive materials:
    i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
    ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note:

1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

2) A dynamic cone penetrometer is an instrument used to measure the in situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 6.1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	**DESCRIPTION**	**CONSISTENCY**	**DESCRIPTION**
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-

			40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumbnail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

PS 6.10.4 Trench excavation
All hand excavatable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

PS 6.10.5 Compaction of backfilling to trenches (areas not subject to traffic)
Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers

a) to 90% Proctor density;
b) such that in excess of 5 blows of a dynamic come penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

PS 6.10.6 Excavation
All hand excavatable material including topsoil classified as hand excavatable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material, which presents the possibility of danger or injury to workers, shall not be excavated by hand.

PS 6.10.7 Clearing and grubbing
Grass and small bushes shall be cleared by hand.

PS 6.10.8 Shaping
All shaping shall be undertaken by hand.

PS 6.10.9 Loading
All loading shall be done by hand, regardless of the method of haulage.

PS 6.10.10 Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

PS 6.10.11 Offloading
All material, however transported, is to be off- loaded by hand, unless tipper trucks are utilized for haulage.

PS 6.10.12 Spreading
All material shall be spread by hand.

PS 6.10.13 Compaction
Small areas may be compacted by hand provided that the specified compaction is achieved.

PS 6.10.14 Grassing
All grassing shall be undertaking by sprigging, sodding, or seeding by hand.

PS 6.10.15 Stone pitching and rubble concrete masonry
All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must to be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

PS 6.10.16 Manufactured elements
Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. In addition the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper handhold on them.

PS 6.11 Causes for rejection

Causes for rejection shall include meter and chamber not complying to the Employer's requirements and/or specifications, thus:

- incorrect class of meter;
- a non-SANS approved meter;
- inaccurate meter readings; and
- meter gauge not operating properly.

Additionally the Employer shall reserve the right to reject works where:

- valves and fittings are not SANS approved; and
- jointing, bolts and welding, is found to be inferior and/or non-compliant to SANS specifications.

PS 7 HEALTH AND SAFETY SPECIFICATION FOR CONSTRUCTION WORK

Tendering Contractors are to prepare Health and Safety Plans in accordance with Johannesburg Water's Health and Safety Specification (refer to Volume 2: Occupational Health and Safety Specification and Environmental Management Plan for Capital Investment Projects). The legal imperatives for this requirement stem from the Construction Regulations (2003), and more specifically the following:

Regulation 4(1)(a): A client shall prepare a documented health and safety specification for the construction work, and provide any principal contractor who is making a bid or appointed to perform construction work for the client with the same

Regulation 4(1)(d): A client shall take reasonable steps to ensure that each principal contractor's health and safety plan is implemented and maintained on the construction site.

Regulation 4(2): A client shall discuss and negotiate with the principal contractor the contents of the health and safety plan and thereafter finally approve the health and safety plan for implementation.

Regulation 5(1): A principal contractor shall provide and demonstrate to the client a suitable and sufficiently documented health and safety plan, based on the client's documented health and safety specification.

PS 7.1 Project-related Occupational Health and Safety Risks

According to the Construction Regulations (2003), a Health and Safety Plan "means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified". Apart from complying with the Health and Safety Specification (Volume 2), specific attention is drawn to the identification and assessment of risks. The tendering Contractors are required to consider *inter alia* the following risks (where applicable):

Project- and site-specific risks:

- Working close to traffic;
- Working in deep trenches (i.e. >1.5m);
- Traffic control;
- Excavator;
- Existing services;
- Overhead power lines;
- Digging of trenches;
- Hand tools;
- Laying of pipes;
- Machine operator;
- Third party exposures;
- Use of portable electrical tools;
- Location of site camp;
- Offloading of material;
- Storage and handling of material;
- Storage of hazardous materials;
- Fire prevention and protection;
- Fuel supply;
- Refuelling vehicles/plant;
- Welding;
- Handling of compressed gas cylinders;
- Plant and machinery operation.

Safe work and emergency procedures need to be prepared to address the abovementioned risks.

PS 7.2 Guide to risk assessments

PS 7.2.1 Nine steps to Effective Risk Assessments

Step 1 Identifying the current as well as emerging hazard, risks or exposures.

Step 2 Aim to identify major hazards, don't waste time on the minor and detail except if such hazard has the potential be repeat itself on a frequent basis.

Step 3 Involve as many people as possible in the ongoing risk assessment process especially those at risk.

Step 4 Gather all the information and analyse it.

Step 5 Look at what actually could or has occurred including non-routine operations.

Step 6 Use a systematic approach to ensure all hazards are adequately addressed.

Step 7 Assess the risks identified or the risk has occurred by taking into account the effectiveness of current as well as controls under consideration.

Step 8 Ensure the process is practical, realistic, cost and business effective.

Step 9 Always record the assessment in writing including i.e. assumptions, date and why a particular decision has been made.

PS 7.2.2 How serious is it?

Probability		**Consequences**	
A	Common	1	Fatality or permanent disability.
B	Has Happened	2	Major injury.
C	Could Happen	3	Average Lost Time Injury.
D	Not Likely	4	Minor Injury.
E	Practically impossible	5	Medical Treatment or less.

		Probability				
		A	**B**	**C**	**D**	**E**
Consequence	**1**	1	2	3	4	5
	2	2	3	4	5	6
	3	3	4	5	6	7
	4	4	5	6	7	8
	5	5	6	7	8	9

Risk rating		**Action**
1 - 3 =	Serious	Immediate (within 1 week).
4 - 5 =	High	Within 1 month.
6 - 7 =	Moderate	> 4 weeks.
8 - 9 =	Acceptable	No action but will consider from time to time.

PS 8 ENVIRONMENTAL MANAGEMENT PLAN

Tendering Contractors are to adhere to the mitigation measures listed in the Environmental Management Plan (EMP) which will be made available upon request. Environmental mitigation measures are actions needed to align a project implementation phase with environmental control principles, where potential impacts to the natural and social environment are prevented, minimised or remediated. Environmental safeguarding is governed by various sets of legislation, with the most noteworthy for this project constituting the National Environmental Management Act (No. 107 of 1998) and the National Water Act (No. 36 of 1998).

PS 8.1 Measurement and payment **Unit: Sum**

The rate shall include the complete cost for the provision of resources (human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to fully comply with the implementation and maintenance of the Environmental Management Plan contained in Volume 2 for the duration f the Contract. Remuneration shall be on a monthly basis for services rendered, by dividing the total sum tendered by the construction duration.

No payment shall be applicable where equipment is not provided and services are not rendered in terms of the approved Environmental Management Plan.

PRELIMINARY AND GENERAL ITEM PAYMENT LIMITATION

The gross amount for items 8.3 plus 8.4, as per SANS 1200A, may not exceed more than a maximum of 15% of the total contract amount excluding contingencies and VAT.

DECOMMISSIONING PIPELINES

PS 10.1 Drainage of abandoned secondary mains

The Contractor shall be required to drain all abandoned secondary mains, upgraded under this Contract from remaining water after new main reticulation have been connected, tested and commissioned, to all pipe sizes and materials. Draining shall typically be for a group of stands and into natural streams or existing stormwater drainage infrastructure with prior permission obtained from Vhembe District Municipality. Draining of the system shall be done in a safe and controlled manner to insure public, labour, animal property, roads and surface safety and preservation.

Measurement and payment **Unit: m**

The rate shall include the cost for locating the mains, all types surface removals, excavation in all materials (with no extra-over item for hard and rock excavation), cutting into pipes of all materials and sizes, provision of all drainage equipment (if any), labour to conduct drainage, plugging redundant system, backfilling, compaction and surface reinstatements.

MARKERS

PS11.2 Markings and marker post

PS11.2.1 Road crossing markings

The Contractor shall labelled with durable paint similar to road marking paint (refer to applicable specification not included in this document), all existing surfaced and kerbed roads where water mains cross directly underneath from one side to the other. Markings shall be as per the applicable detail drawing.

Measurement and payment
Unit: No.

The rate shall include the complete cost to labelled with durable paint similar to road marking paint (refer to applicable specification not included in this document), all existing surfaced and kerbed road crossings as per applicable detail drawing.

PS11.2.2 Fittings marker posts

a) rectangular in shape with maximum dimensions: width = 250 mm, thickness = 75 mm and length = 1,000 mm.
b) installed to protrude above the ground no more than 500 mm and grounded no less than 400 mm.
c) additional to be prescribed road crossing markers for water lines.
d) positioned clear of traffic (roads and sidewalks, formal or informal) areas.
e) colour coded (durable paint, similar to road marking paint (refer to applicable specification not included in this document)) as per the Employer's requirements in co-ordination with the applicable fitting chamber cover.
f) labelled with durable paint (similar to road marking paint (refer to applicable specification not included in this document)), with regards to distance of fitting chamber cover centre.
g) positioned to face in the direction of the fitting chamber.

Measurement and payment **Unit: No.**

The rate shall include the complete cost to provide, transport, handle and install (including excavations in all materials, backfilling and compaction, all types of surface removals and reinstatements and

TRAINING FOR TARGETED LABOUR

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

12.2 The cost of the formal training of targeted labour, will be funded by the local office of the Department of Labour. This training will take place as close to the project site as practically possible. The Contractor must access this training by informing the relevant regional 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 and the Department of Public Works (Fax: 012 3258625/ EPWP Unit, Private Bag X65, Pretoria 0001) must be furnished with a copy of this request.

12.3 The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

12.4 An 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 1.3.3 above.

12.5 Proof of compliance with the requirements of 12.2 to 12.4.must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

12.6 The contractor shall provide formal training of targeted labour by an accredited training provider.

PSPA: FENCING

PA 01 : SCOPE

This is a particular specification and covers the erection of new fences.

PA 02: TYPE OF FENCE

The fence shall be a security fence and shall be erected in accordance with the dimensions shown on the drawings.

PA 03: MATERIALS

PA 03.1: Posts, stays and standards

Posts, stays and standards shall be of the type and size indicated on the drawings. Posts shall include gate posts, straining posts and corner posts.

Metal posts, stays and standards shall comply with the requirements of CKS 82 and SABS 280. “Acceptable” in CKS 82 means “acceptable to the engineer”.
Tubular posts, standards shall be galvanized in accordance with SABS 763 Table 1 for type B-articles. All rail and Y-section shall be provided with a protective coating of tar or other approved material.

Corner, gate and straining posts shall be suitably drilled for stay bolts or gate fittings as indicated on the drawings.

PA 03.2: Bolts for stays

Bolts shall be of mild steel and galvanized in accordance with SABS 763 Table 1 for type C-article. The length and diameter of the bolts shall be as shown on the drawings. All the necessary bolts, together with nuts and washers, shall be supplied with each post.

PA 03.3: Wire

All wire shall conform to the requirements of SABS 675 and shall be class B galvanized, except where otherwise specified below.

Barbed wire

Barbed wire shall be one or both of the following types:

High-tensile grade, oval shaped, single-strand wire, 2,60 mm x 2, 00 mm.
Mild-steel grade, double strand, uni-directional twist wire, each strand 2,50 mm in diameter.

Barbs shall be spaced at not more than 150 mm intervals.

Smooth wire

Smooth wire shall be of the types specified below:

Straining wire shall be mild-steel wire, 4,00 mm in diameter.
Fencing wire shall be high-tensile-grade 2,24 mm diameter wire.
Tying wire or binding wire shall be 2,50 mm diameter, mild-steel, class C galvanized wire for tying fencing wire to standards and 1, 60 mm diameter, mild-steel, class C galvanized wire for tying wire mesh to fencing wire.

Barbed-tape concertinas

Barbed-tape concertinas shall comply with the requirements for type A in CKS Specification 592 and shall consist of close-coiled high tensile wire with a continuous strip of flat steel barbs (barbed tape) crimped to the wire along the entire length of the wire. The coils shall further be attached together by clips to give a concertina configuration when pulled apart. The coils shall be of the diameter as shown on the drawings. Each concertina shall have a minimum of 55 coils, and the maximum effective length of open concertina, when pulled apart, shall depend on the diameter of the roll, but shall be at least 12 m.

The high-tensile wire shall be class B galvanized and the barbed tape shall be made of cold-rolled carbon steel galvanized to class Z450. The concertina clips shall be manufactured from steel strip galvanized to class Z450.

PA 03.4: Diamond mesh
Diamond mesh (chain-link fencing) shall comply with the requirements of SABS 1373. The width shall be as shown on the drawings, and both edges shall be clinched.

The diameter of the wire shall be 2,5 mm and the mesh size shall be as shown on the drawings and the wire shall be class B galvanized.

PA 03.5: Gates
Gates shall comply with the requirements of CKS 146 and shall be manufactured to the dimensions shown on the drawings.

Gates shall be complete in every respect, and shall include hinges, washers, bolts and the locking mechanism shown on the drawings

PA 03.6: Concrete
Concrete used for fencing shall comply with the requirements of SABS 1200 G.

PA 04: CLEARING OF FENCE LINE
Strip clearing for the fence shall be carried out in accordance with SABS 1200 C and will be measured and paid for under 1200 C of the schedule of quantities.

PA 05: INSTALLING POSTS AND STANDARDS
Straining posts shall be erected at all ends, corners and bends in the line of fencing and at all junctions with other fences. Straining posts shall not be spaced further apart than shown on the drawings. The height of the posts above the ground shall be such that the correct clearance between the lowest wire and the ground can be obtained.

Posts shall be accurately set in holes and, where indicated, shall be provided with concrete bases to the dimensions shown on the drawings.

Holes shall be dug to the full specified depth. Where, due to the presence of rock, the holes cannot be excavated by hand or by pneumatic tools and the contractor has to resort to the use of explosives, he will be paid separately for the drilling and blasting operations required.

Corner, gate, end and straining posts shall be braced by means of stays or anchors, as shown on the drawings. Pipe stays shall be bolted to the posts. Gate posts shall not be used as straining posts, but at each gate post a straining post shall be placed as shown on the drawings and stayed by means of an anchor consisting of six strands of wire.

Standards shall be firmly planted in the ground at the spacing shown on the drawings or as directed by the engineer. The spacing of standards between any two straining posts shall be uniform. In rock or hard material standards shall either be driven or set in holes drilled into the rock. The size of drilled holes shall be such that a tight fit is obtained. Care shall be taken not to buckle or damage the standards when driven. Where indicated, standards shall be provided with concrete bases to the dimensions shown on the drawings.

All posts and standards shall be accurately aligned and set plumb and shall be planted with the overhang as shown on the drawings and at right angles to the direction of the fence. After posts and standards have been firmly set in accordance with the foregoing requirements, the fencing wire shall be attached thereto as described below.

PA 06: INSTALLING WIRE
All fencing wire shall be carefully stretched and hung without sag and with true alignment, and care shall be taken not to stretch the wire so tightly as to cause breaking, to pull up straining posts, or to be easily damaged during veld fires.

Each strand of fencing wire shall be securely fastened in the correct position to each standard with galvanized binding wire. The binding wire for each horizontal fence wire shall pass through

a hole or notch in the standard, and the ends of the wire shall be wound at least four times around the fencing wire.

At the end, corner, straining and gate posts the fencing wire shall be securely wrapped twice around the post and secured against slipping by tying the end tightly around the wire by means of at least six snug, tight twists. In the case of high-tensile wire, two long windings must first be made before the six tight twists, to prevent the wire from breaking at the first twist. Where smooth wire is used, the loose end shall be bent back and hooked into the opening between the fencing wire and the first winding.

Splices in the fencing wire will be permitted if made in the following manner with the use of a splice tool: The end of each wire at the splice shall be carried at least 75 mm past the splice tool and wrapped snugly around the other wire for not less than six complete turns, after which the two separate wire ends shall be wound in opposite directions. After the splice tool has been removed, the space left by it in the splice wire shall be closed by pulling together the wire ends. The unused ends of wire shall be cut close, to leave a neat splice.

The gaps between gate posts and the adjacent straining posts shall be fenced off with short fencing wires.

PA 07: INSTALLING DIAMOND MESH
Where indicated on the drawings, diamond mesh shall be stretched against the fence and properly tied to the fencing wire. The diamond mesh shall be secured by means of binding wire at 1,2 m centres along the top and bottom wires and at 3 m centres along each of the other fencing wires, unless shown otherwise on the drawings.

PA 08: INSTALLING BARBED-TAPE CONCERTINAS
Barbed-tape concertinas shall be positioned on the fence as shown on the drawings. The concertinas shall be fastened to the appropriate fencing wires at each standard as well as at 1,0 m maximum intervals between standards.

Rolls of barbed-tape concertinas shall be joined with binding wire at four points spaced at equidistant intervals around the circumference of the loop. Joints shall be made to coincide with the positions of standards.

PA 09: CLOSING OPENING UNDER FENCE
At ditches, streams, drainage channels or other hollows where the fence cannot follow the general ground contour, the contractor shall close the opening under the fence by means of horizontal barbed wires 150 mm apart and stretched between additional straining posts as shown on the drawings. The opening shall be covered with strips of diamond mesh, 1 000 mm wide, fixed to the barbed wires.

In the case of larger streams, the opening below the lower fencing wire shall be closed by means of loose-hanging wire nets as shown on the drawings. These mats shall be erected at streams only on the instructions of the engineer.

PA 10: INSTALLING GATES
Gates shall be installed at the positions indicated on the drawings or pointed out on site. The gates shall be hung on gate fittings in accordance with the details shown on the drawings. Gates shall be so erected that they swing in a horizontal plane at right angles to the gate posts and clear of the ground in all positions. Double swing gates shall close to have a gap of not more than 25 mm between them, and other gates shall close to be not further than 25 mm from the gate post.

PA 11: GENERAL REQUIREMENTS AND TOLERANCES
The completed fences shall be plumb, taut, true to line and to the ground contour, and with all posts, standards and stays firmly set.

The height of the lower fencing wire above the ground at posts and standards shall not vary by more than 25 mm from that shown on the drawings. Other fencing wires shall not vary by more than 10 mm from their prescribed relative vertical positions.

Anchoring of a fence to structures shall be done as shown on the drawings.

The contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or mesh so as to leave the fence with a neat and furnished appearance.

PA 12: MEASUREMENT AND PAYMENT

PA.01: Supply and erection of new fencing material

Barbed wire (grade, size and type of wire indicated) **Unit: m**

Smooth wire (grade and size indicated) **Unit: m**

Barbed tape concertinas (coil diameter indicated) **Unit: m**

The unit of measurement shall be the metre of each type of fencing wire and barbed-tape concertinas measured between end posts. Binding wire and wire used for the bracing and anchoring of posts shall not be measured for payment.

Diamond mesh (mesh size indicated)

The unit of measurement shall be the square metre of diamond mesh and the quantity shall be calculated on the prescribed width and the length between straining posts or gate posts, or the length of strips for covering openings under fences, or the length used for the covering of gates.

Corner, end, and straining posts, including anchors (type, size and length indicated)

The unit measurement shall be the number of posts erected in accordance with the maximum specified spacing or such lesser spacing as authorized by the engineer.

Standards (length and type indicated)

The unit of measurement shall be the number of standards erected in accordance with the maximum specified spacing or such lesser spacing as authorized by the engineer.

The tendered rates shall include full compensation for all excavations, concrete, binding wire, straining wire, bolts, washers and nuts, for the drilling of holes for standards, and for the complete erection of the fence as specified and as shown on the drawings. The tendered rate for posts shall make provision for the construction of the stays of the types shown on the drawings.

The quantity of material used shall be determined by measuring the quantities of individual items of materials installed in the completed fence. No linear measure of completed fence shall be applicable.

PA.02: New gates:

Single leaf (size and type indicated) **Unit: No**

Double leaf (size and type indicated) **Unit: No**

The unit of measurement shall be the number of new gates erected. A pair of gates shall be measured as one.

The tendered rate shall include full compensation for gate posts, hinges, bolts, concrete, locking mechanism and straining wire, and for the erection of the gates as specified and as shown on the drawings. It shall not include compensation for any fencing wire or mesh used on the gate.

PA.03: The drilling and blasting of holes for posts and anchors **Unit: No**

The unit of measurement shall be the number of holes for posts and anchors made by drilling and blasting where excavation by hand tools or pneumatic tools cannot be done economically.

PS PWA: WATERTIGHTNESS TESTING OF TANKS

SCOPE

This specification covers the watertightness testing of tanks retaining aqueous liquids.

Watertightness

General

Before testing for watertightness commences, a thorough inspection shall be done to ensure that all joints have been properly sealed and that no cracks are visible on structural elements.

Unless otherwise specified by the Engineer, backfill behind the walls of water retaining structures may only commence once the structure has passed the watertightness requirements and has been signed off by the Engineer.

For potable water structures, the structure shall be cleaned and disinfected. Thereafter the outlet and scour valve shall be closed or temporarily plugged, if applicable

Disinfection

Before disinfection of tanked areas, the roof shall have been tested for watertightness as specified. The structure shall be thoroughly cleaned and washed. Roofs, beams, columns and walls shall be sprayed down with pressurized equipment using water containing 0,015g/litre chloride or lime. The same solution shall be used for scrubbing the floor.

On completion of disinfection wash water shall be run to waste.

Should the structure not pass the watertightness test and require remedial work, it shall be disinfected again before refilling. The cost of this disinfection will be carried by the Contractor.

PWA1.1.3 Initial filling and testing

The structure shall be filled with water at a uniform rate not exceeding 2,0 m in 24 hours until the top water level has been reached. The water level will then be carefully noted and recorded by the Engineer in relation to a fixed bench-mark, and the structure shall be allowed to remain filled for a period of 21 days to permit complete absorption of water by the concrete and for auto geneous healing.

Any loss of water which may have occurred shall then be made up by again filling the structure to the top water level and by allowing the water to remain undisturbed for a period of not less than four days. The structure shall be considered to be watertight if the drop in level in 96 hours (less the drop caused by evaporation) does not represent more than 0,06% of the volume of the reservoir.

The evaporation shall be measured by the mean drop in level caused by the evaporation of the water in three flat containers floating in the water, being recorded.

For structures with multiple compartments, the test shall be conducted for each compartment individually without the adjacent compartment being filled.

The Contractor is free to attend the taking of all measurements by the Engineer.

In the event of an appreciable leakage being evident or visible at any stage of the filling or testing, or in the event of the final degree of watertightness being unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue such filling or testing and shall, at his own expense, take approved steps to rectify

the leakage, until a test proves that a sufficient degree of watertightness has been obtained.

Before the expiry of the defects liability period, the Engineer shall have the right to retest the structure for watertightness, results of such further tests will be made available for the information of the Contractor. In the event of these tests indicating an unsatisfactory degree of water-tightness, the Engineer will, before issuing the final certificate, again require the Contractor to rectify the leakage, at his own expense, in such a manner as will cause the least interruption of the water supply to consumers and as will ensure the soundness of the work, to the satisfaction of the Engineer.

Should the failure of the reservoir to pass the first or any subsequent test for watertightness necessitate the draining of the structure, the Employer reserves the right to utilise the water by discharging it into its water-reticulation network, in which case the Contractor –

i shall not have to pay for the subsequent refilling of the reservoir;

ii shall, if applicable, reimburse the Employer for any additional costs incurred to make the water fit for consumption; and

iii shall not be entitled to claim for extra time whilst waiting for the water to be discharged into the network.

The costs of retesting the reservoir for watertightness shall be borne by the Contractor.

PWA1.1.4 Testing of roofs and slabs

Roofs of structures retaining liquids shall be tested by ponding the roof with 25mm of water for 36 hours. For domed or sloped slabs where ponding is not practical, the structure may be continuously hosed or irrigated using a sprinkler system for 8 hours. The slab or roof will be considered satisfactory if leaks or damp patches are visible on the soffit .

PWA1.1.5 Cost of water

Water for the initial filling will be supplied free of charge by the Employer.

MEASUREMENT AND PAYMENT

Watertightness testing Unit : Lump sum

The tendered amount shall include full compensation for the provision of labour, plant and materials necessary for testing the structure for watertightness as specified, as well as for the installation and removal of any temporary plugs to blank off pipes, to the satisfaction of the Engineer.

PS 13 PREFABRICATED TANK

PS13.1 Supply, handle, install, erect ABECO or similar steel tank.

Xm length x Xm width x Xm deep, complete with structural steel supports 10m high.

The rate shall cover a hot dip galvanized basic tank, including :

- Caged external ladder

- Internal access ladder
- Hinged lockable manhole
- Float and pointer type water level indicator
- Screened ventilator
- As well as all standard fittings required for installation.

PORTION 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS

SANS 1914-5: PARTICIPATION OF TARGETED

PS.8.1 VARIATIONS TO SANS 1914-5

a) 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.
b) The schedule referred to in 5.2 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.

SANS 1200A: CIVIL ENGINEERING CONSTRUCTION: PRELIMINARY AND GENERAL

PSA 2 INTERPRETATIONS

Add the following new sub-clause:

PSA 5 CONSTRUCTION

(New sub-clause)
PSA 5.1.8 Dealing with traffic
The Contractor shall comply with the requirements of Vhembe District Municipality
The complete closure of any road shall not be permitted without the prior written consent of the Engineer.

PSA 8 MEASUREMENT AND PAYMENT

PSA 8.2.2 Time-Related Items
Replace this sub clause with the following:

"Subject to the provisions of 8.2.3 and 8.2.4, payment of item 8.4.1 (time-related item) will take place in equal monthly amounts, calculated on the tendered amount for the item, divided by the contract period in months, with the understanding that the total of the monthly payments which was paid for this specific item does not exceed the proportion that the progress of the works to date bears in relation to the works as a whole.

Should the Engineer grant an extension of time, the Contractor is entitled to an increase in the amount tendered for time related items, and this increase must be kept in the same proportion to the original tender amount as the extension of time is to the original time period of the completion of the works.
Payment for such increased amounts will be considered as full compensation for all time related, provisional and general costs which arise as a result of the extension of time.

PSA 8.3 SCHEDULED FIXED-CHARGED AND VALUE-RELATED ITEMS

PSA 8.3.2.1 Facilities for Engineer
Delete items (b) to (d) and replace with:

a) Nameboard ..... Unit: Sum

b) Engineer’s office and parking facilities..... Unit: Sum

c) Latrine facilities ..... Unit: Sum

PSA 8.3.2.2 Facilities for the Contractor

a) Delete items (c) and (d).

PSA 8.4 SCHEDULED TIME-RELATED ITEMS

PSA 8.4.2.1 Facilities for Engineer

Delete items (a) to (d) and replace with:

a) Nameboard .....Unit: Sum

b) Engineers' office and parking facilities.....Unit: Sum

c) Latrine facilities .....Unit: Sum

The transportation item shall cover the traveling costs of the Engineer, who shall be traveling between sites, for the duration of the Contract Period.

PSA 8.4.2.2 Facilities for the Contractor

Delete items (c) and (d).

PSA 8.5 Sums stated provisionally by Engineer

Add the following to this sub-clause:

b) Traffic Accommodation .....Unit: P Sum

This item shall be applicable for all other parts/sections of the works.

c) Protection of various structures until construction in vicinity is complete.....Unit: P Sum

The above-mentioned items shall be removed from temporary works, and shall be priced as a provisional sum. The description of the items shall remain as described in temporary works.

PSA 8.8 Temporary works

Delete the following from this sub-clause:

8.8.2 Accommodation of traffic .....Unit: P Sum

8.8.3 Protection of various structures until construction in vicinity is complete.....Unit: P Sum

Add the following to this sub-clause:

e) Establish pipe diameter and material type (No).....Unit: Sum

The rate shall include the costs of confirming and reporting on, the diameters of the existing pipes, in addition to the material types and all hand excavations required.

SABS 1200 AB : ENGINEER'S OFFICE

PSAB 1 SCOPE

PSAB1.1 Delete this sub-clause and substitute:

This Specification covers the requirements for offices, carports and the minimum associated facilities for the use of the Engineer on the site.

THE CONTRACTOR SHALL NOTE THAT THESE ARE GENERAL REQUIREMENTS AND THAT ONLY THOSE ITEMS THAT ARE SPECIFICALLY REQUIRED ON THIS CONTRACT ARE ITEMISED IN THE SCHEDULE OF QUANTITIES

The Contractor is to price the items scheduled in the Schedule of Quantities. The Contractor shall not order any buildings, material, equipment or fittings on the basis of what is specified or scheduled without the written confirmation from the Engineer. No buildings shall be erected without the Engineer's written instructions as to the exact position or orientation of the buildings.

The offices and car ports shall, unless otherwise agreed or instructed, be erected in close proximity to the Contractor's offices and laboratory and the entire area shall be fenced with security fencing and provided with a gate. The contractor shall take all reasonable precautions to prevent unauthorised entry to the offices and laboratories and to ensure the general security of the offices.

PSAB 3 MATERIALS

PSAB 3.1 Nameboards

Add the following:
The nameboard shall be of size 1,0 m x 1,5 m and the wording shall be finalised after the award of the Contract.

PSAB 3.2 Office building(s)

Delete this sub-clause entirely and re-title the sub-clause "FACILITIES FOR ENGINEER".
Add the following sub-clauses:

PSAB 3.2.1 Office Buildings

The Contractor shall provide, furnish and equip one or more offices (as scheduled) for the use of the Engineer.

Buildings for offices shall be constructed of timber, asbestos or other approved materials. The buildings shall have double walls filled with insulating material and lined on the inside with timber or other approved material. Ceilings shall be provided and offices shall have timber or concrete floors with edge to edge carpeting with foam-backed needle punch carpeting.
Office buildings shall be painted with an approved paint after erection and the paintwork shall be maintained during the contract period.
Each door shall be provided with a lock and two keys.

The siting of all offices shall be to the Engineer's satisfaction and shall be decided upon in consultation with him and confirmed in writing before erection. All accommodation shall include the provision of a constant 220 volt A.C. electrical supply, access roads where required, fresh clean potable water and sewerage, including septic tanks which will be considered as part and parcel of the accommodation provided and will not be paid for separately.

All accommodation shall meet with the approval of the Engineer.

The offices shall comply with the following requirements:

Dimensions	Type 1 Office	Type 2 Office
Minimum floor area	40,0 m²	16,0 m²
Minimum window area	6,0 m²	2,4 m²
Minimum window area opening	3,6 m²	1,5 m²
Minimum clear height	2,4 m	2,4 m

Furniture and equipment:

Each office shall be equipped with the following:

(i) Office desk with a surface area of at least 1,5 m² with at least 3 drawers, one of which can be locked.

(ii) General purpose steel cabinet with doors, lock and two keys with at least 1,5 m² shelf area and a volume of 0,7 m³.

(iii) Two office chairs.

(iv) Double 80 watt fluorescent light fittings complete with ballast and tubes (3 per Type 1 office, 1 per Type 2 office).

(v) A table with a smooth flat top having an area of at least 3 m².

(vi) 220 / 250 volt 15 amp power points (4 per Type 1 office, 2 per Type 2 office).

(vii) Windows shall be fitted with Venetian or opaque roller blinds.

In addition to the above the Type 1 office shall be equipped with the following:

(viii) A table large enough to accommodate ten people and have an area of at least 3 m². This table may be the table referred to in (v) above.

(ix) Twelve chairs suitable for meeting chairs.

The Contractor shall also provide a toilet for the exclusive use of the Engineer. The toilet shall preferably be a flush toilet system connected to the local sewerage system but a chemical toilet might be acceptable. Provision shall be made for the washing of hands at a suitable location adjacent to the toilet. The toilet shall be cleaned and maintained on a daily schedule for the contract period.

On completion of the Works, ownership of the buildings, furnishings and equipment shall revert to the Contractor who shall remove them from the Site.

SANS 1200C: CIVIL ENGINEERING CONSTRUCTION: SITE CLEARANCE

PSC 5 CONSTRUCTION

PSC 5.3 CLEARING

Delete the existing sub-clause 5.3 (d) and replace with the following:

d) the removal of all rocks and boulders of any size that are lying on the surface to be cleared or exposed during clearing operations.

SANS 1200DA: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (SMALL WORKS)

PSDA 2 INTERPRETATION

PSDA 2.1 SUPPORTING SPECIFICATIONS

Add the following sub-clause:

3) Vhembe District Municipality, Public Road and Miscellaneous By-laws, Code of Practice for work in the road reserve (COP), Latest Version.

Should any requirement of this COP conflict with any requirement of the standardised or particular specifications the requirements of the COP shall prevail.

The COP is available at Vhembe District Municipality Offices, Wayleaves Department, Contact number: (011) 298 5000

PSDA 2.3 DEFINITIONS

Delete the definition of 'Overhaul' and replace with the following:

Overhaul is not applicable. Hence all distances applicable are considered as free haul distances and no additional payment will be applicable.

PSDA 3 MATERIALS

Add the following sub-clause

PSDA 3.3 MATERIALS FOR REINSTATEMENT OF ROADS AND PAVED AREAS

PSDA 3.3.1 Subbase and base

The quality of materials used for all pavement layers in bituminous roads and footways shall comply with the requirement of the COP.

PSDA 3.3.2 Premix carpet
Only hot premix may be used for road surfacing unless written approval is obtained from the Engineer to use cold premix.

PSDA 3.4 CLASSIFICATIONS FOR HAND EXCAVATION
Add the following new sub-clauses:

Classification of material for various types of hand excavation will be based on the results of a dynamic cone penetrometer. The category of material shall be determined by testing the material at regular intervals and at various depths along the centre line of the trench. A minimum of 5 tests shall be done at each location and the average number of blows of the tests shall be used to determine the category of material.

The interval between test locations shall be determined by the variation of material type but shall not exceed 50m. The depth of testing shall be determined by the variation of material type and can increase or decrease in hardness with increasing depth of excavation. Table PSDB 3.8 indicates the categories:

TABLE PSDA: 3.4 CLASSIFICATIONS FOR HAND EXCAVATION

Category of Material	**Consistency**		**DCP Blows to Penetrate 100mm**	
	Granular	**Cohesive**	**Granular**	**Cohesive**
Soft Soft excavation shall be excavation in material that can be efficiently removed from the trench using a pick and shovel but not requiring prior breaking using mechanical equipment such as pavement breakers	Up to medium dense	Firm to stiff	0-6	1-5
Intermediate Intermediate excavation shall be excavation in material that require loosening with a hand spike (gwala) before being removed from the trench	Dense	Stiff to very stiff	7-15	6-8
Hard Hard excavation shall be excavation in material that requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.	Very dense		16-50	-15
Rock Rock excavation shall be excavation in material other than described above which by nature of the material requires prior breaking using mechanical equipment, such as pavement breakers with moil points, before being removed from the trench	-	-	>50	>15

PSDA 5 CONSTRUCTION

PSDA 5.1 PRECAUTIONS

PSDA 5.1.1 Safety

PSDA 5.1.1.1 Barricading and lighting

Delete the existing clause and replace with the following:

In terms of the applicable regulation of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983) every excavation by which the safety of persons may be endangered, shall be

a) Adequately protected by a rubber mesh barrier / fence of height at least 1.2m and be placed as close to the excavation as practicable;
b) Provide red warning lights at night.

It shall be the responsibility of the Contractor to ensure that the barricades and lights remain functional at all times.

PSDA 5.1.1.2 Safeguarding of excavations

Add the following to this sub-clause:

g) The Contractor shall programme his activities in such a way that long sections of trenches do not lie open for undue periods of time, as it poses a security risk. The manholes shall be constructed as soon as possible after excavation and then backfilled. Under no circumstances will excavations be left open for more than 1 week.

The Contractor shall inform the Vhembe District Municipality (VDM) at least 2 days in advance of the actual date on which he proposes to excavate in any road or footway.

PSDA 5.1.8 Road Traffic Control

Delete this sub-clause and replace with the following:

The Contractor shall comply with the requirements of the COP, PS 5.7 and PSA 5.1.8.

PSDA 5.2 METHODS AND PROCEDURES

PSDA 5.2.2 Excavation

Add the following to this sub-clause:

h) Where the manholes are to be constructed in surfaced roads the Contractor shall neatly cut four parallel grooves into and through the asphalt before excavating between the grooves. The cost of this operation, where not scheduled separately it will be deemed to have been included in the general rates for excavation.

i) The Contractor shall maintain the bottoms of completed excavation in good condition. Excavation bottoms that are softened or eroded through stormwater, seepage water or otherwise, must be rectified by removal of the softened material and its replacement with approved material firmly compacted in layers not exceeding 150mm in compacted thickness or with 10MPa concrete where directed, at the Contractor's cost.

The placing of hardcore or concrete screed shall be entirely at the Contractor's cost in any section of the work where softening of floors has been due to the method of excavation or inadequate provision for drainage.

Bottoms of excavation in bad or waterlogged ground shall be excavated and replaced with hardcore filling, a hardcore base and/or a 20 MPa concrete screed as directed.

i) Hardcore filling shall consist of 75 – 150 mm stone well rammed and compacted.
ii) Hardcore base shall consist of 50 – 75 mm stone laid and compacted across the full width of the trench.

Preparation of excavation bottoms shall be included in the schedule rates for excavation. Approved granular material imported to the site, or hardcore base, hardcore filling or concrete screed, used on trench floors shall be paid for separately, where such is not as a result of the Contractor’s negligence.

PSDA 5.2.6 Transportation of Earthworks

PSDA 5.2.6.1 Free haul

Delete existing clause and replace with:

All distances applicable are considered as free haul distances and no additional payment will be applicable.

PSDA 5.2.6.2 Overhaul

Delete existing clause. Overhaul is not applicable.

PSDA 5.2.7 Backfilling

Add the following new sub-clause:

In addition to the existing clauses, backfilling work shall be carried out in accordance with the COP.

PSDA 5.2.8 Disposal of unsuitable and surplus excavation material

Add the following new sub-clause:

Excavated material that is unsuitable or has become surplus because of bulking, displacement by the manhole and/or pipework and importation shall be disposed of at approved tipping sites to be located by the Contractor. All unsuitable material shall be spoiled within 48 hours of excavation failing which the Engineer shall be entitled to suspend work under the Contract.

The prior approval of the Engineer must be obtained before surplus material may be deposited, spread and levelled at agreed sites within the area of the works.

PSDA 5.2.9 Construction in Headings

Add the following new sub-clause:

Generally in soft material the buttresses and portions of ground left for the purpose of supporting the sides of the excavations or headings providing access to private properties, shall be broken down as the refilling and compaction proceeds.

PSDA 5.2.10 Compaction of areas subject to traffic loads

Add the following new sub-clause:
In areas subject to traffic loading and in constructed footways compaction shall be done in accordance with the requirements specified in this Project Specification and the COP requirements.

PSDA 5.2.12 Kerbing
Add the following new sub-clause:
Where the Contractor has, in the process of excavating, removed kerbing, of all types of shape and all material, he shall re-instate such kerbing to its original condition with regard to alignment (vertically and horizontally). This may include cleaning, but not patching. All kerbing damaged during the removal process shall be replaced at the cost of the Contractor.

PSDA 7 TESTING
Add the following to this sub-clause:

PSDA 7.4 Quality control testing
Contractor to ensure adequate compaction and material quality throughout the contract, the Contractor should therefore carry out his own regular tests. The Contractor shall furnish the Engineer with the originals of all such test results.

In the event that the Contractor does not conduct his own regular compaction and in-situ shear strength tests, the Contractor will be liable for the costs associated with the re-testing of all failed sections of reinstated trench.

If any test result shows that the specified compaction or shear strength requirements have not been met, the Contractor shall at his own expense and within 7 days of receipt of the Engineer's instruction take the following remedial action:

1) Backfill material other than structural layers of bituminous roads and constructed footways
a) Trench excavations (other than road crossings)
The backfill material shall be removed to a depth of 450mm for a distance of 2m on either side of the point at which the test was taken. If the backfill material is suitable, it shall be replaced and re-compacted to the specified densities. Otherwise suitable material shall be imported and compacted and the excess material removed.

Where adjacent test results show that the backfill densities are below specified requirements, the entire length of trench between the points at which the tests were taken shall be re-excavated and re-compacted as required above.

Density testing along trench excavations shall be carried out at intervals, as directed by the Engineer.
b) Trench excavations (road crossings)
As for (a) above save that the backfill material shall be removed to a depth of 450mm over the full length of the trench.

c) All other excavations
As for (a) above save that the backfill material shall be removed to a depth of 450mm over the extent of the excavation.

2) Structural layers of bituminous roads and constructed footways
In the case where a structural layer does not meet the shear strength requirements, the structural layer in question shall be removed. If, however, any other layers have been constructed on top of the layer in question, then all such layers shall also be removed at the cost of the Contractor, even if the shear strengths of these layers meet the specification.
a) Trench excavation (other than road crossings)
The layer shall be removed to its full depth for a distance of 2m on either side of the point at which the test was taken. If the material is suitable, it shall be replaced and re-compacted

to the specified shear strength. Otherwise suitable material shall be imported and compacted and the excess material removed.
Where adjacent test result show that the shear strengths are below specified requirements, the entire length of trench between the points at which the tests were taken shall be re-excavated and re-constructed as required above.
In-situ shear strength testing along trench excavations shall be carried out at intervals, as directed by the Engineer.

b) Trench excavation (road crossings)
As for (a) above save that the layer shall be removed to its full depth over the full length of the trench.

c) All other excavations
As for (a) above save that the layer shall be removed to its full depth over the extent of the excavation.

3) Premix reinstatement

a) Trench excavations (other than road crossings):
The premix shall be removed for a distance of 1m on either side of the point at which the test was taken and reinstated in accordance with the COP requirement.

b) Trench excavations road crossings:
As for (a) above save that the premix shall be removed over the full width of the road.

c) All other excavations:
As for (a) above save that the premix shall be removed over the full extent of the excavation.

The Employer (where the Employer wishes to perform additional control tests) or the VHEMBE DISTRICT MUNICIPALITY shall not be liable for additional costs or delays arising from remedial work related to excavations, which have already been finally reinstated before their test results, become available.

PSDA 8.3 SCHEDULED ITEMS

PSDA 8.3.1 Excavation

c) Extra-over for:
Delete items (3) and (4) and replace with:
3) Boulder excavation .....Unit: m^3

SANS 1200DB: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (PIPE TRENCHES)

The following variations are applicable to the standard specification SANS 1200 DB:

PSDB 1 MATERIALS

PSDB1.1 Classes of excavation (clause 3.1)

a) All excavations shall be classified as either: Soft excavation, including all topsoil, sand, loam, clay and gravel, or
b) Intermediate, including boulders up to 0,1 cubic metres, or
c) Rock, including all solid un-decomposed rock, which necessitates the use of explosives, rock splitting equipment or pneumatic pavement breakers and rock drills. All boulders larger than 0,1 cubic metre in volume is included.

PSDB 4 PLANT

PSDB 4.1 Excavation equipment

Add the following at the beginning of the existing Clause:
"As far as is practical and reasonable, utilise labour-intensive methodologies for all Contract excavations but where not feasible,"

PSDB 5 CONSTRUCTION

PSDB 5.2 Minimum base widths specified

The minimum base width for secondary reticulation mains shall not be less than 600 mm wide for pipe sizes up to 110 mm diameter. For pipe sizes larger than 110 mm diameter the minimum base width shall be the pipe size plus 300 mm working space on either side as specified in SANS 1200DB.

The base width for erf connection pipes, up to 50 mm diameter, shall not be less than 400 mm.

The base width for yard connection pipes, up to 50 mm diameter, shall not be less than 300 mm.

PSDB 5.9 Reinstatement of surfaces

PSDB 5.9.1 Reinstatement – private property and commonage

Delete existing clause and replace with the following:

"Reinstatement shall be with the same type of surfacing (including supporting structures; example bedding layers, jointing sand, structural joints, etc) and to at least the same standard and conditions as existed before excavation took place.

Grass sods shall be neatly cut out from grassed areas to be excavated and shall be preserved and kept damp until they can be replaced during the reinstatement. All other material to be used for reinstatement shall be suitably stored for such purpose.

Any settlement below original ground level that occurs during the execution of the Contract or the Defects Liability Period shall be made good by and at the cost of the Contractor within a reasonable period as determined by the Engineer."

PSDB 5.9.2 Bitumen roads and surfaced footways: sub-base and base

In addition to the existing clause the following shall apply:
"No separate payment shall be made for the above procedure, which shall be deemed to be included in the rates and prices tendered.
The tendered rates shall allow for the substitution of reinstatement of sub-base and base course layers with a hydrofill layer. Additional reinstatements necessitated by cover excavation, slips or falls shall be to the account of the Contractor."

PSDB 5.9.3 Bitumen roads and surfaced footways – surfacing

Delete the existing clauses 5.9.5.1 and 5.9.5.2 and replace with the following:

PSDB 5.9.3.1 General

The Contractor shall inform the Engineer in writing when the road or surfaced verges are ready for reinstatement.
The scheduled item for reinstatement of surfacing allow for widths 0.30 m greater than the specified trench widths for road crossings. Extra reinstatements necessitated by over excavation, slips or falls shall be to the account of the Contractor.

PSDB 5.9.4 Re-instatement of concrete
In addition to the existing Clause 5.9 the following shall apply: All existing concrete surface shall be reinstated to original level and final finish (wood floated or steel floated or other) with un-reinforced concrete of 15 Mpa (minimum) strength. The reinstated concrete shall also not exceed 125 mm but shall not be less than 50 mm.)

PSDB 5.9.5 Interlocking blocks, paving slabs and bricks
All the existing blocks, slabs or bricks shall be cleaned and re-used. The blocks, slabs or bricks, which have been taken up, shall be stacked in a safe manner without restriction to vehicular or pedestrian traffic. Blocks, slabs or bricks around manhole covers shall be finished level with the manhole cover top. The cost of additional interlocking blocks, paving slabs or bricks required for complete reinstatement, over and above those taken up and stacked, shall be included in the rates tendered for the reinstatement of surfaces.

PSDB 5.9.6 Grassed areas
Refer to PSDA 5.9.2 for protection of grass sods prior to reinstatement.

PSDB 5.9.7 Kerbing
All existing types of kerbing that has been removed shall be cleaned and stacked in a safe manner without restricting to vehicular or pedestrian traffic.

The Contractor shall replace all kerbing removed during trenching.

PSDB 7 TESTING

PSDB 7.1 Density tests
Delete the existing clause and replace with the following:

“The Engineer may carry out quality control testing of compaction densities on Works sections deemed to be completed by the Contractor.

No testing by the Engineer shall, however, relieve the Contractor of his responsibility to ensure adequate compaction throughout and the Contractor should therefore carry out his own regular compaction tests. If a hydrodensimeter is used, the Contractor shall furnish the Engineer with a certificate of calibration of the instrument together with copies of all test results. A minimum of 4 random compaction tests is required of compaction production. Testing shall be to the full layer depth of material placed, or in stages not exceeding 300 mm equivalent layer depths whichever is the lesser.

If any test results show that the specified compaction requirements have not been met, the Contractor shall at his own expense and within 7 days of receipt of the Engineer instruction take the following action:

PSDB 7.1.1 Backfill material
Trench excavations (other than road crossings)

The backfill material shall be ripped (through labour-intensive methodologies) up to the depth of the failed layer for a distance of 5 m on either side of the point at which the test was taken. If the previous layers had not been tested, the untested layers shall also be ripped (through labour-intensive methodologies) up to a depth of 450mm.

If the backfill material is suitable, it shall be re-compacted in layers to the specified densities. Otherwise suitable material shall be imported and compacted in layers and the excess material removed.

Where adjacent test results show that the backfill densities are below specified requirements, the entire length of trench between the points at which the tests were taken plus 5 m outside each end of that length shall be re-excavated and re-compacted as required above.

New density testing, for the account of the Contractor, shall be conducted along the trench excavations at intervals, as directed by the Engineer.

PSDB 8 MEASUREMENT AND PAYMENT

PSDB 8.3 Scheduled Items

PSDB8.3.1 This clause shall be extended to cover surface clearance.

Add the following new clauses:

PSDB8.3.1 (d) Saw cut, remove and dispose of existing asphalt
The rate shall cover removal, handling, transport and proper off-site site disposal of all types of existing asphalt and stone crush base up to a maximum thickness of 40 mm.
Unit: m^2

PSDB8.3.1 (e) Saw cut, remove and dispose of concrete (un-reinforced)
The rate shall cover removal, handling, transport and proper off-site disposal of existing un-reinforced concrete of maximum thickness 150 mm.
Unit: m^2

PSDB8.3.1 (f) Remove and temporarily store of paving block units
The rate shall cover removal, handling, transport and proper storage of all types of existing paving block units for later re-instatement.
Unit: m^2

PSDB8.3.1 (g) Remove and temporarily store of grass sods
The rate shall cover removal, handling, transport and proper storage and maintenance of existing grass in sods for later re-instatement.
Unit: m^2

PSDB8.3.1 (h) Remove and temporarily store all types of kerbing
The rate shall cover removal, handling, transport and proper storage of all types of existing kerbing for later re-instatement.
Unit: m^2

PSDB 8.3.2 Excavation

PSDB 8.3.2 (a) Excavation (Sub Clause 8.3.2(a))
Excavation quantities for secondary water mains shall be per linear metre. The trench width for secondary water mains for pipe sizes up to 110 mm diameter shall be a minimum width of 600 mm and the depth of excavation shall be a minimum of 1200 mm. For pipe sizes larger than 110 mm diameter pipe sizes, the SANS 1200DB method of excavation shall apply.

Excavation quantities for erf connections shall be per linear metre. The trench width shall be a minimum width of 400 mm and the trench depth shall be a minimum of 900 mm in road reserves.

Excavation quantities for yard connections shall be per linear metre. The trench width shall be a minimum width of 300 mm and the trench depth shall be a minimum of 450 mm.

Excavation of intermediate shall be done making use of pneumatic equipment and shall be executed by the SMMEs, with the Contractor providing all the equipment and the necessary training for the effective use of pneumatic equipment. The use of a back acting excavator for removal of intermediate material shall only be permitted upon approval by the Engineer.

PSDB 8.3.3 Compaction in road reserves
Add the following to this clause : “at road crossings”

This clause shall be extended to cover compaction at road crossings.

PSDB 8.3.6 Finishing
General
Delete "road". This clause shall be extended to cover surfaces other than road surfaces,

The width of any trench through an area grassed or paved with bricks or pre-cast concrete units shall be the minimum practicable width, which in the opinion of the Engineer is sufficient. In the case of blocks this minimum area will be the minimum area over which units (whether bricks or pre-cast units) can be removed without requiring cutting.

The Contractor's rate for supply and lay of asphalt must provide for all plant, labour and material costs associated with the work, including inter alia:
The cost of the asphalt and hydrofill, the collection, transport to site and placing in accordance with the standard specification.

All wastage and overbreak reinstatement costs, including the purchase of the asphalt and hydrofill.

PSDB8.3.6.1 (b) Replace "parking areas" with "areas other than roadways".
Add the following new clauses:

PSDB 8.3.6.1 (d) Re-instatement of concrete, complete
The rate shall cover loading, transporting and re-instatement complete to previous levels (or levels to suite proper stormwater drainage), and surface finish of 15 MPa (minimum) un-reinforced concrete strength. The reinstated concrete shall also not exceed 125 mm but shall not be less than 50 mm.)
Unit: m^3
PSDB 8.3.6.1 (e) Re-instatement of bricks and pre-cast units, complete
The rate shall cover loading, transporting and re-instatement complete with bricks/pre-cast unit-receival area preparation, compaction (minimum 90%Mod AASHTO density), levelling, 20 mm river sand bedding, laying bricks/units, plaster sand jointing, and compaction.
Unit: m^2
PSDB 8.3.6.1 (f) Re-instatement of paving blocks units, complete
The rate shall cover loading, transporting and re-instatement complete with paving blocks, compaction (minimum 90%Mod AASHTO density), levelling, 20 mm river sand bedding, laying bricks/units, plaster sand jointing, and compaction.
Unit: m^2

PSDB 8.3.6.1 (g) Re-instatement of grass sods, complete
The rate shall cover loading, transporting, and re-instatement complete with grass-receival area preparation, compaction, levelling, laying sods, top soiling, and watering (water not from property supply).
Unit: m^2

PSDB 8.3.6.1 (h) Re-instatement of all types of kerbing, completing
The rate shall cover loading, transporting and re-instatement complete with sand-cement bedding, laying units, mortar jointing, haunching, and backfilling, compaction (minimum 90 % Mod AASHTO density) and levelling behind kerbs.
Unit: m

SANS 1200G : CONCRETE - STRUCTURAL

PSG 2 INTERPRETATIONS

PSG 2.3 Quality

This clause is amended to include:

Set (of concrete cubes). A set of cubes shall consist of 6 cubes of nominal side 150mm of which 3 will be crushed at 7 days after making and the remaining 3 at 28 days.

PSG 3 MATERIALS

PSG 3.2 Cement

Replace the entire clause with the following:

Only Ordinary Portland Cement (OPC) and Pulverised Fuel Ash (PFA) shall be used in all concrete for this contract. No other types of cement shall be permitted.

Pulverised Fuel Ash (PFA) shall comply with the following specifications:

a) PFA shall be obtained from only one power station, from which the PFA has been approved by SANS for used in concrete.
b) All PFA shall comply with requirements of SANS 1466 (1998)

PFA shall be used as partial replacement of the OPC in concrete. A maximum of 33% (by mass) of the total cementitious material in the concrete may be PFA and shall be mixed before delivery on site.

The OPC/ PFA mix shall be stored in the same manner as OPC. When stored in silo's the PFA / OPC mix shall require increased silo capacity, more efficient filters and aeration compared to OPC only.

PSG 3.5 Admixtures

PSG 3.5.2 Air-entraining agents

Replace with the following:

Air-entraining agents shall not be used

PSG 3.6 Reinforcement

Add the following:

Cover blocks for reinforcement shall be concrete, of at least the same strength as specified for the structure in which it will be used.

PSG 4 PLANT

PSG 4.5 Formwork

PSG 4.5.2 Finish – unless otherwise noted formwork is to be in accordance with the following classification:

a) Rough – where in contact with backfill or surface is not exposed;
b) Smooth – where exposed and up to 150mm below paving or ground level

PSG 5 CONSTRUCTION

PSG 5.5 Concrete

PSG 5.5.1 Quality

PSG 5.5.1.7 Strength concrete

Add the following

Although the contractor is responsible for the mix design, the following specifications apply to the mix design:

a) Minimum cement: water ratio = 2
b) For class 35/19 concrete the minimum cement content shall be 325kg/m^3
c) Maximum absorption of aggregates is 3%

The permeability of test cylinders (if ordered by the Engineer) shall not be greater than 5 x 10^{-7} mm/second.

PSG 5.5.3 Mixing

PSG 5.5.3.2 Ready mixed concrete

Add the following

Concrete for liquid retaining structures shall be mixed by batching plant.

PSG 5.5.6 Compaction

Add the following:

If re-vibration is instructed by the Engineer, the time lapse between vibration and re-vibration shall be 90 minutes

PSG 5.5 8 Curing and protection

Replace the clause with the following:

All concrete other than site concrete and porous concrete shall be cured by maintaining saturation for a minimum of 10 (ten) days after placement or after stripping formwork. No curing compound will be accepted. Curing methods other than the methods listed below, shall be approved in writing by the Engineer prior to placing of concrete.

i) Ponded water with a minimum depth of 50mm.

ii) Saturated sand with a minimum thickness of 60mm.
For floors, the sand shall be kept moist at all times using an irrigation system. Clean river sand shall be applied within 24 hours after completing the specified surface finishing and concrete has gained sufficient strength as not to damage the surface. In areas with high temperatures or wind, the surface shall be protected with plastic sheeting until it has reached sufficient strength to receive the sand.

iii) Covering the previously saturated surfaces with approved plastic sheet maintained in contact with the concrete surfaces and with all edges and joints sealed by methods approved by the Engineer. The sheets shall be partially removed on a regular basis and moisture added to ensure continuous saturation. Plastic sheets for curing shall not be dark coloured and all lapping joints shall be taped closed.

iv) Continuously saturated heavy duty sacking or geotextile or other approved absorbent material maintained in contact with the concrete surfaces by fasteners spaced at 1.5m c/c

v) Continuously irrigation or sprinkling of the entire concrete area with a mist spraying system
Sprayers shall be spaced at intervals such that the whole area of concrete is wetted and shall be fastened to the concrete at regular intervals. The system

shall be designed with an automatic timing system to ensure continuous saturation during weekends and public holidays.

Periodical hosing or curing compound will not be accepted as a curing method.

For concrete walls, both sides shall be cured using irrigation as described above. Sprayers shall be spaced at such intervals to ensure that the whole concrete face is wetted. Curing shall commence the day after concrete has been cast. If formwork is to remain in position (e.g. to support subsequent lifts), it shall be loosened as soon as the concrete has gained sufficient strength (usually within a day) to allow curing water to thoroughly wet the surfaces of the concrete.

In addition the Contractor shall also ensure that the concrete shall not be exposed to thermal shocks during the first 28 days after casting and he shall take the necessary, additional precautionary measures to shield the concrete with plastic sheets or hessian during extreme

PSG 5.5.10 Concrete Surfaces

PSG 5.5.10.2 This clause is amended to include:

'Unless otherwise noted on the drawings all exposed unformed surfaces and surfaces to receive grout are to be wood float finished."

"Wood float finish – Degree of Accuracy 11 – once the unformed surface has been brought to a plane surface it shall be uniformly floated using a wood float and shall be free from trowel marks."

"Steel float finish – Degree of Accuracy I – where this finish is specified or shown on the drawings the surface shall be treated as for wood float finish above except that when the moisture film has disappeared and the concrete hardened sufficiently to prevent laitance from being worked to the surface, the screeded surface shall be steel trowelled under firm pressure to produce a dense smooth uniform surface free from trowel marks."

"Power float finish – Degree of Accuracy I – where this finish is specified or shown on the drawings the surface shall be treated as for steel float finish above except that the screeded surface shall be power floated to produce a high quality dense smooth uniform surface free from float marks."

"Bull nose edge to joints – Degree of Accuracy I – Where this finish is specified a nosing tool shall be applied during and after the finishing of the flat surface. The purpose is to thoroughly compact the edge of the concrete and render it watertight prior to application of the joint sealer."

PSG 5.5.16 No-fines concrete (new item)

No-fines concrete will be classified by the prefix NF followed by the size of aggregate to be used.

When the no-fines concrete will be receiving reinforcement it will be sealed with a power floated 3:1 sand cement mortar.

Materials shall comply with SABS1200G section 3. The aggregate shall be a single sized aggregate, graded in accordance with SABS 1083.

The volume of aggregate per 50kg of cement for each class of no-fines shall be as follows:

Class	Aggregate per 50kg cement (m^3)
NF38	0.33
NF19	0.30
NF13	0.27

The mix will be such that the grout is smooth and adheres to and completely coats every particle of aggregate. The mix will not contain more than 20 litres of water per 50kg cement. The mix shall be weight batched.

Notwithstanding the preceding specifications, the mix design will be the responsibility of the Contractor.

The void ratio for no-fines concrete shall not be less than 27.5%.

The no-fines concrete shall be placed with a procedure as agreed with the Engineer and shall be placed in the final position within 30min after mixing. It shall be worked sufficiently to ensure that all aggregates adhere to each other, but vibrating and excessive tamping shall be avoided.

No-fines concrete shall be cured by sacking or plastic sheeting for at least 3 days after placing.

PSG 5.6 Joints (new item)

Joint filler shall be closed cell polyethylene with a density of 200/m^3. Filled joints shall be accurately formed to the dimensions shown and with the filler material specified on the Drawings. The filler shall be fixed in position to ensure position during or after placing of concrete.

Unfilled joints shall be formed accurately as indicated on the drawings. The concrete face against which the fresh concrete is placed shall be treated in good time with an approved bond breaker.

Sealed joints shall be made watertight over the full length of the joints, with dimensions as indicated on the drawings.

Preparation of joints:

The reaming of joints by sawing or other means shall be undertaken at a stage when edge spalling or raveling can be avoided and shall be subject to the Engineer's approval.

After removal of the temporary filler material or the breaking-out of the excess concrete, the inside faces of the joint shall be wire-brushed or grit-blasted to remove all laitance and contaminants. Thereafter the joint shall be cleaned and blown out with compressed air to remove all traces of dust. Solvents shall not be used for removing contaminants from concrete and porous surfaces.

Care shall be taken to ensure that primers or adhesives are applied only to surfaces that are absolutely dry and in accordance to manufactures' specifications. The sealant shall be applied within the period during which the primer remains active.

Sealants shall be applied strictly in accordance with the manufacturer's instructions by a person skilled in the use of the particular type of sealant. The trapping of air and the formation of voids in the sealant shall be avoided. The sealant shall be finished to a neat appearance flush with the edges of the concrete or to the specified depth.

Waterstops shall be supplied in unjointed standard production lengths. Site jointing shall be limited to the absolute minimum.

At intersections, transitions and abrupt changes of direction, factory-moulded watertight junction pieces shall be used so that any site jointing can be restricted to simple joints.

When a waterstop with a centre bulb is intersected, the centre bulb shall be continuous throughout the intersection irrespective of the make-up of the intersection.

PVC waterstops shall be manufactured from high-quality virgin material and shall not contain any scrap or reclaimed material. The waterstops shall be light coloured so as to reduce heat absorption when exposed to sunlight.

The waterstops shall be precision moulded or extruded to the required cross-sectional profile, they shall be free from porosity or other imperfections, and shall be provided with eyelets so that they can be securely fixed to prevent displacement during concreting.

All joints shall be butt-jointed hot-welded joints. Where joints cannot be factory made, Site joints shall be made in accordance with the manufacturer's instructions with equipment prescribed or supplied by the manufacturer and approved by the Engineer.

PSG 5.7 CONSTRUCTION JOINTS

e) Construction joints in slabs

The reinforcement shall be continuous throughout the joint. After placing the first section of concrete, the joint face shall be green-cut within 24 hours after placing of concrete to expose 3mm coarse aggregate. Prior to placing the second section of concrete, the existing concrete shall be saturated with water (min 8 hours) without visible ponding. The fresh concrete shall then be placed directly onto this surface. No wet-to-dry epoxy will be allowed.

No vertical construction joints will be allowed in the walls.

Positions of additional joints required by the contractor must be approved by the Engineer.

All kickers shall be cast monolithic with the base, ensuring that it is properly compacted. The height shall be 75mm.

PSG 7 TESTS

PSG 7.1 FACILITIES AND FREQUENCY OF SAMPLING

PSG 7.1.2 Frequency of Sampling

PSG 7.1.2.1 This clause is amended to include:

"A test result shall be taken as the average of three sample cube strengths."

PSG 7.1.2.2 This clause is amended to include:

"At least one set of samples shall after that be taken from each day's casting and from at least every 50 m³ of concrete of each grade placed or part thereof."

PSG 7.1.2.3 This clause is amended to include:

"A frequency sampling guide is shown below though final testing frequencies will be at the discretion of the Engineer."

i) One set/batch/day or
ii) One set/element/day or
iii) One set/50 m³/day such that sufficient sets are obtained to enable them to be representative of the concrete placed."

PSG 7.1.2.4 This clause is deleted in its entirety.

PSG 8 MEASUREMENT AND PAYMENT

PSG 8.1 Measurement and rates

PSG 8.1.1 Formwork

PSG 8.1.1.2 Add the following sub-clauses:

Forming Sloping Surfaces

Forming a sloping top surface of concrete will be scheduled for sloping top surfaces of unfinished concrete where the angle of inclination from the horizontal is over 0° and up to 20°, and shuttering will not be measured to such surfaces.

Beams

Unless otherwise stated casing to sides and soffits of beams shall be for all depths of beams. In case where differentiation for depths is made, items will be scheduled separately where beams exceed 1.00m overall depth.

Items will be scheduled for casing to soffits of beams.

Items will be scheduled separately where beams exceed 1.00m overall depth, sides scheduled separately from soffits as described above.

Slabs

Unless otherwise stated horizontal shuttering to soffit of slabs shall be for slabs of all thicknesses.

Columns

Separate items will not be scheduled for formwork to columns of different shapes, other than to circular columns as described below.

In the case of circular columns separate items will be scheduled in square metres stating diameters in the following stages:

Exceeding 0 and not exceeding 500mm diameter;

Exceeding 500 and not exceeding 1 000mm diameter;

Exceeding 1 000mm diameter

Column heads/bases

Special column heads formed using conical shutters will be measured as the number of conical shapes/shutters used

Curved/Radial Formwork

Separate items will be not be scheduled for curved formwork for each element.

Rates

Rates for formwork are to include for:

Chamfers or splayed edges not exceeding 25 x 25mm;

Straight cutting – raking and square (circular cutting and waste will be scheduled); Intersections;

Holing formwork for reinforcing, etc at joints;

Notchings;

Kickers;

Contractors construction joints.

PSG 8.1.2 Reinforcement

PSG 8.1.2.2 Replace subparagraph (a) with the following:

"The mass of steel bars will be measured as the total mass of steel, irrespective of diameters."

PSG 8.1.3.3 (a) Delete the words "nominal size 25 mm" in the first subparagraph

Delete subparagraph (b)

PSG 8.1.3 Concrete

- **Add the following:**

Payment for concrete in water-retaining structures will be made as follows:

a) Full payment will be made for concrete placed and approved by the Engineer as per sub-clause 8.1.3.3 and other relevant clauses. Payment testing of water tightness will be done separately.

PSG 8.1.3 Casting in of pipes and specials (Additional clause)

No separate items will be scheduled for building in items supplied under this Contract except where specially measured in the Schedule of Quantities. The rate for supply and installation shall cover the cost of casting in the items regardless if they ale positioned prior to construction or cast in boxed out holes.

PSG 8.4 Scheduled concrete items

- **Add the following:**

The tendered rate for concrete in water-retaining structures shall include storage of cement and aggregates in a cool, dry area and ensuring that these items are cool prior to mixing. Cost of curing is also included

PSG 8.4.7 No fines concrete (Additional payment item)

Describe class and position ……..……Unit: m^3

PSG 8.4.8 Sand-cement screed (Additional payment item)

Describe position ……..…Unit: m^3

PSG 8.9 Miscellaneous items (New payment item)

These items will be measured in metre, square metre, number or sum as per the schedule.

Where a sum is measured, the rate shall cover supply, installation and casting in of the item as depicted on the relevant drawings.

SANS 1200L: MEDIUM PRESSURE PIPELINES

The following variations are applicable to the standard specification SANS 1200 L:

PSL2 INTERPRETATIONS

PSL 2.4 Abbreviations

In addition to the existing clause the following shall apply:

HDPE	:	High Density Polyethelene
uPVC	:	Unplasticized Polyvinyl Chloride
DI	:	Ductile Iron
CML	:	Cement Mortar Lining

PSL3 MATERIALS

Add the following to the existing specified clauses:

PSL 3.1 General

Materials for this Contract should preferably be obtained from manufacturers who operate an effective quality management system such as that described in SANS 0157 or ISO 9000.

PSL 3.4 STEEL PIPES, FITTINGS, AND SPECIALS

Add the following to the existing sub-clauses:

PSL 3.4.1 General

All steel pipes shall be manufactured as specified in BS 534. Steel plate to BS 4360 Grade 43A is acceptable. The manufacturer of the pipes shall submit to the Engineer the steel maker's certificates covering all steel used as required in Clause 3.4 of SANS 719.
The steel pipes shall be manufactured exclusively at works of such manufacturers as may be approved by the Engineer and at only one works unless otherwise agreed by the Engineer in writing.
Contractors are to supply brochures indicating fittings and special types, sizes and manufacturer specifications.

PSL 3.4.2 Pipes of nominal bore over 150mm

Steel pipes larger than 150mm diameter shall conform to API 5L and have a minimum thickness of 4.5mm

PSL 3.7.1 PVC-U pipes

PVC-U pipe systems shall conform to SABS 966 – 1998 Part I or II as applicable. All PVC-U pipes shall have integral pipe-end sockets of the rubber ring joint type. All PVC-U pipes shall be in 6m lengths
Fittings and specials for PVC-U pipes shall be manufactured in Grade 14 cast iron, rated to at least 1 600 kPa working pressure. Unless otherwise specified by the engineer, fittings and specials shall be bitumen dipped. Fittings and specials shall comply with SABS 546. Socketed ends shall be to SABS 966. Flanged ends shall comply with PSL 1.1.

PSL 3.7.2 Polyethylene pipes

Class 16 HDPE type IV pipes, plain ended for butt-welding, shall be used unless otherwise indicated. All HDPE pipes greater than or equal to 75 mm diameter are to be heat fusion welded (i.e. butt welded) in accordance with SABS specifications. The internal butt welds shall not protrude by more than 4 mm. Pipes smaller than 75 mm are to be jointed with compression type fittings.

PSL 3.7.3 Ductile Iron pipes

Ductile Iron pipes, fittings and accessories shall be fitted with spigot and socket rubber ring joints and shall comply with the relevant requirements of BS, EN 545: 2010 and ISO 2531-2009.

The following documents form a part of this Specification to the extent specified herein. In any case of conflict, the requirements of this Specification shall prevail. The latest issues shall apply.

BS EN545: 2010	:	Ductile Iron pipes, fittings, accessories and their joints for water pipelines – Requirements and test methods.
ISO 2351 – 2009	:	Ductile Iron pipes and fittings, fittings, accessories and their joints for water pipelines – Requirements and test methods.
ISO 4179	:	Ductile Iron pipes for pressure and non-pressure pipelines – Centrifugal cement mortar lining – general requirements.
ISO 8179-1/2	:	Ductile iron pipes – External zinc coating with finishing layer.
ISO 8180	:	Ductile iron pipes – Polyethylene sleeving.
ISO 4633	:	Rubber seals-Joining rings for water supply, drainage and sewerage pipelines- Specification for materials
EN15189	:	Ductile Iron pipes – External polyurethane coating
BS EN 14901:2006	:	Epoxy coating for Ductile Iron pipes and fittings

PSL 3.7.4.1 Ductile Iron Fittings and Accessories

All bends, fittings, couplings and other accessories for ductile iron (DI) pipe shall be fabricated from ductile iron (DI) and shall comply with the test pressures as specified.

Corrosion protection coatings (external) and linings (internal) for fitting and accessories shall be as specified for pipes save that, where appropriate, hand application of linings and coatings may be used.

Repair work shall be carried out as for pipes.

PSL 3.7.4.2 Corrosion Protection of Ductile Iron (DI) Pipes

Unless otherwise stated, ductile iron pipes shall be cleaned and then externally zinc sprayed with a finishing layer (coating) to ISO 8179-1.

Pipe ends shall be coated as follows:

1. External surface of spigot: Zinc spray coating with finishing layer
2. Flanges and sockets (face and internal surface): Bituminous paint or synthetic resin paint to supplement the zinc spray coating. All paints shall be approved for use on potable water applications by an approved body (USA Environmental Protection Agency (EPA) or similar).

<u>External Zinc Coating and Finishing Layer</u>

The external coating of centrifugally spun ductile iron pipes shall comprise a layer of metallic zinc, covered by a finishing layer of bituminous or synthetic resin paint compatible with zinc. Both layers (zinc and finishing layer) shall be works-applied using suitable spray equipment.

The metallic zinc coating shall cover the external surface of the pipe and provide a dense and continuous uniform layer. It shall be free of bare patches, areas of lack of adhesion or other defects and shall be visually uniform. The mean mass of zinc shall not be less than 200 g/m^2. Zinc purity shall be at least 99.99%.

The finishing layer (bituminous or synthetic resin paint) shall be physically and visually uniform over the entire metallic zinc layer and shall be free from defects such as bare patches, areas of lack of adhesion, air bubbles, pinholes, runs and sags. The mean thickness of the finishing layer shall not be less than 70 µm and the local absolute minimum thickness shall be 50 µm.

Shop and Field Repairs

Damage to coatings where the area of total removal of zinc has a width exceeding 5 mm or other areas designated by the Engineer shall be repaired in the following manner:

Where applicable, remove the finishing layer by mechanical or other means, to 50mm beyond the zinc area to be repaired, to achieve a sound, clean zinc substrate surround.

Repair the damaged area by means of metallic zinc spray or by means of a zinc rich paint containing at least 90% zinc by mass as appropriate. The mean mass of the cured applied zinc paint dry film shall not be less than 200 g/m^2. The zinc paint repair shall terminate 10 to 15 mm from the finishing layer of the repair site. The zinc repair site shall appear visually uniform and shall be free of defect.

Once the zinc repair has cured completely, the entire area shall be painted with bituminous or synthetic resin paint, overlapping at least 20mm onto the sound undisturbed finishing layer and allowed to cure. The finishing layer shall be defect free and appear to be visually uniform and shall be allowed to cure completely before being handled or buried.

Polyethylene Sleeving

Where specified for Ductile Iron pipes as an additional external corrosion protection barrier to the zinc coating and finishing layer, polyethylene sleeving shall comply with ISO 8180 – 1995. The nominal thickness of the sleeving shall not be less than 200 µm and the density shall be between 910 and 930 kg/m^3.

Internal Cement Mortar Lining

The cement mortar lining of ductile iron pipes shall constitute a dense, homogeneous layer covering the entire internal surface of the pipe barrel. It shall be works applied by centrifugal spinning process or by centrifugal spray head or a combination of these methods. Trowelling to achieve a smooth internal bore shall be permitted.

The cement mortar mix shall comprise cement (or high alumina cement) to ENV 197-1, suitably graded sand (with no organic impurities, fine clay particles or other deleterious matter that may adversely affect the mortar quality) and potable water. Chloride-free admixtures shall be permitted with the approval of the Engineer. The ratio of sand to cement shall not exceed 3.5 by mass. The water / cement ratio shall be determined for the particular lining process and this ratio shall be maintained to achieve the relevant specifications.

The freshly applied lining shall be cured by approved means to provide sufficient hydration of the cement and, after curing, the cement mortar shall have a minimum 28-day compressive strength of 50 MPa.

The surface of the cement mortar lining shall be uniform and smooth and shall have a nominal lining thickness and minimum lining thickness as indicated below. Trowel marks may be evident but there shall be no recesses, intrusions or local defects which reduce the thickness to below the minimum thickness specified below. Upon installation, the pipes shall have a minimum

Hazen Williams smoothness coefficient of 120 (C >= 120).

Fine crazing or hairline cracking associated with cured cement-rich mortars will be acceptable provided there is no evidence of mortar disbondment from the substrate. The maximum permissible shrinkage crack width and radial displacement is given below.

CEMENT MORTAR LINING THICKNESS AND PERMISSIBLE CRACK WIDTH			
Diameter Nominal (DN)	**Lining Thickness**		**Maximum crack width and radial displacement**
	Nominal [1]	**Tolerance [2]**	
40 to 300	4.0	-1.5	0.4
350 to 600	5.0	-2.0	0.5
700 to 1200	6.0	-2.5	0.6
1400 to 2000	9.0	-3.0	0.8

NOTE:
1. Pipe ends may have a chamfer not exceeding 20 mm in length
2. Negative tolerance specified only

Shop and Field Repairs

Where cement mortar lining repair is deemed to be necessary, it shall be repaired in the following manner:
Defective mortar shall be carefully removed to ensure that adjacent sound mortar is fully bonded to the ductile iron pipe substrate.

The adjacent sound mortar shall not be feathered but shall be cut-back at approximately an 80° angle to achieve a “dove-tail” joint.

All mortar shall be removed from the repair area to achieve a clean ductile iron pipe substrate and the repair area shall be washed with copious quantities of potable water.

The repair shall be effected using either a rich cement mortar or a compatible polymer mortar (EPIDERMIX 338 or similar approved) which shall be worked in by hand; care being taken to avoid the inclusion of air bubbles. Latex additives designated (by EPA or similar body) as being suitable for use on potable water installations may be used.

Large Repair Areas.

The repair shall be smoothly and neatly trowelled to match the adjacent pipe profile.

PSL 3.8 JOINT MATERIALS
Replace the existing sub-clause with the following:

PSL3.8.3 Flanges (clause 3.8.3)
Flanges shall comply with the requirements of SANS 1123 (as amended). Flanges designed for working pressures of less than 1 600 kPa shall have flat flange faces and those for working pressures equal or greater than 1 600 kPa shall have raised flange faces.

It shall be the responsibility of the Contractor to ensure that flanges on pumps, valves, fittings, specials and pipes to be fitted together, are fully compatible.
Machined surfaces shall be coated with a mixture of white lead and tallow or another approved protective composition before these are affected by rust.

PSL 3.8.8 Welding

Welding shall be Grade B spiral steel continuously welded pipe. The qualification of welders shall be in accordance with the relevant clauses of the above standards, and specifically SANS 044 Part III and shall be Grade 1 welders. Grade 2 welder shall be permitted only with the Engineer's approval.
The Contractor shall provide evidence, acceptable to the Engineer, that welding procedures and welders have been tested in accordance with the requirements of AWS D1.1.

PSL 3.8.9 Jointing of HDPE pipe
Jointing of HDPE pipe shall be by means of welding, welded flanges or approved external compression type fittings (Plasson or similar approved).

PSL 3.9 CORROSION AND PROTECTION

PSL 3.9.2 Steel pipes

Add the following new sub-clauses:

PSL 3.9.2.4 General

Coatings shall comprise a coherent lining bonded to the inside surface of pipes and pipe specials in order to prevent corrosion of the inner pipe surface and to reduce friction and a coherent external coating bonded to the outside surface of each pipe in order to prevent corrosion.
Unless otherwise specified or indicated on the drawing or Schedule of Quantities, all bolts, nuts and washers shall be hot-dip galvanized to SANS 763 after threading. All bolts, nuts and washers within water retaining structures or exposed to rain water shall be fabricated from stainless steel, every bolt shall have at least one washer at the nut side.

The following corrosion protection specifications shall apply to pipework, specials and valves:

Steel pipes and fittings above ground and in valve chambers	-	internal and external hot-dip heavy duty galvanized pipework
Buried steel pipes and fittings	-	Fusion bonded coating medium density polyethylene or similar approved combination of petrolatum impregnated cloth tape and a PVC outer wrap.

PSL 3.9.2.5 Internal Lining or Coating

PSL 3.9.2.5.1 Cement Lining

The cement mortar lining shall be applied in accordance with the American Water Works Association Specification C205-80 or as amended except where the Specification C205-80 is at variance with the requirements of this Contract.

PSL 3.9.2.6 External Coating

PSL 3.9.2.6.1 Bitumen Coating
Bitumen shall be an approved bitumen pipe coating enamel of the quality and applied in accordance with SANS 1137 – 1977 and SANS 1178 – 1979.

PSL 3.9.6 Corrosive soil
Delete the existing clause and replace with:
All steel or cast iron fittings and joints shall be treated with a compatible primer, packed with a bitumen-based or tar-based mastic, and wrapped with an approved plastics tape, or protected with scheduled or approved materials. Tape shall be Denso wrapping, 150mm wide.

PSL 3.10 Valves (clause 3.10)
PSL 3.10.1 General

All valves for this Contract shall be supplied with a full set of instruction manuals describing routine maintenance and repairs, as well as a complete parts list.
All wearing parts for all valves used during this Contract shall be readily available in South Africa.

PSL 3.10.2 Gate valves

All gate valves up to 200 mm shall be a resilient seal gate valve type and have a 1 000 kPa working pressure. All other gate valves shall be wedge gate valves up to 1 600 kPa working pressure. Both valves shall have flange adapters both sides.
Resilient seal gate valves (RSV) shall comply with SANS 664 (as amended). All RSV valves shall be Class 16. Plain-ended valves shall be suitable for the type of pipe specified, and, in the case of spigotted valves shall be complete with couplings for the type of pipe specified. The valves shall have a straight, unobstructed body passage without pockets. The valves shall allow back sealing to allow replacing of spindle seals under pressure. The spindle seal shall consist of a double O-Ring arrangement with a wiper ring. RSV valves shall have non-rising stainless steel spindles. Gates shall be completely rubber covered and shall be supported by guides.
Wedge gate valves shall be of the class as specified, but not less than Class 16. Plain-ended valves shall be suitable for the type of pipe specified, and, in case of spigotted valves shall be complete with couplings for the type of pipe specified. All wedge gate valves shall be of Trim C: Stainless steel trim. Seat rings shall be pinned in position. The gland shall have a back sealing ring and at least 3 rings of acceptable packing material. The lugs on the gate and spindle are to be machined.
On all valves the design of the guides shall be such that the valve can be mounted in any position. All flanges, unless otherwise required, shall be to SANS 1123-1600. Flanges for valves larger than 200 mm and/or working pressure higher than 1 600kPa shall be spot-faced. All valves larger than 150 mm to be installed in pump stations shall have indicators. All valves shall, unless otherwise specified, be clockwise closing. Gearing shall be chosen to limit the effort on hand wheels or valve keys to 500N. Unless otherwise specified caps for key operations will be required for buried valves and hand wheels on valves situated in accessible chambers.

PSL 3.10.3 Air valves

All air valves shall be double purpose air valves suitable to:
- Vent a filling pipeline.
- Release pressurized air from a full pipeline.
- Relieve vacuum (allow air intake) during emptying of a pipeline.

The air valve shall be of a single chamber design incorporating an integral “anti shock” orifice to limit shock induced pressure to twice the rated working pressure of the valve.
The air valve shall have an intake orifice diameter of at least the nominal diameter of the valve.
The valve design shall incorporate an over-pressure safety feature that will prevent explosive failure. The feature shall consist of easily replaceable components.

Air valves up to 50 mm nominal diameter shall, unless otherwise specified, be for a screwed BSP connection. All other air valves shall be flanged.
The air valve provision and installation shall also include the provision and installation a control valve and a chamber as per the applicable detail drawing.

PSL 3.10.4 Control valves (pressure reducing / sustaining / relief, rate-of-flow)

The control valves shall be fully automatic, requiring no external power source.
The control valves shall have large filter(s) in the control circuit. All pilot valves shall after being set, be sealed with sealing wire and lead seals. All pilot valves shall be permanently marked.
The valve shall be delivered complete with an appropriate brick chamber (similar to that of the bulk meters) and a full set of operating instructions and a diagram indicating the control logic.

PSL 5 CONSTRUCTION

In addition to the existing clause the following shall apply:

PSL 5.1.3 Keeping pipelines clean

Pipe laying operations and precautions taken during pipe laying shall be aimed at eliminating the necessity for cleaning of completed mains. However, should foreign matter have entered or remained in the pipelines, the Contractor shall arrange for the mains to be cleaned (at the Contractor's expense) to the satisfaction of the Engineer prior to testing.

PSL 5.6 Valve and hydrant chambers

Valve, scour valve and hydrant chambers shall be constructed as detailed on the standardised typical drawings of the Employer or approved designed chambers by the Engineer.
The rate tendered for the specific valve and hydrant chamber shall exclude all pipes, valves, hydrants and fittings but shall include excavation, compacted backfill, all concrete or brick work, formwork and steel reinforcing as well as concrete covers.

PSL 5.8 Brickwork

The joints of exposed faces shall be flush trowelled, hard and smooth and shall be rubbed for the full width of the joint as the work proceeds to give a hard polished finish.

PSL 5.10 Disinfection of water pipelines

Delete existing clause and replace with:

On satisfactory completion of hydrostatic testing all pipelines shall be flushed with potable water supplied by the Employer. The Contractor shall ensure that the water used for flushing is disposed of in an approved manner without causing damage, nuisance or injury.
If required the Contractor shall arrange for all pipelines to be sterilised by chlorination by an approved specialist firm after flushing has been complete. The preferred method of sterilisation is as follows:
The volume of the section of the pipeline to be chlorinated is calculated. A concentration of 8 – 10 ppm of chlorine to this volume of water is injected into the pipeline at the point of charging to form a highly concentrated chlorine block about 20 m in length. Charging of the pipeline is then commenced with chlorine being continuously inject at a concentration of 3 – 4 ppm. This moves the highly concentrated block throughout to end of that section of the pipeline.
This results in high concentration and short contact times in the high contamination zones and lower chlorine concentration with longer contact times in the other zones.
During this process each scour is left closed. When the section of pipeline is fully charged each scour in "blown" under pressure until there is no evidence of turbidity. The highly concentrated block is scoured out of the pipeline at the end of the section of pipeline. During this scouring process, chlorine is injected into the pipeline at the charging point at a concentration of 3 – 4 ppm.
Generally after a 24 hour contact time water sample analysis indicates chlorine concentrations of 1-2 ppm.
In all cases of chlorination, HTH granular chlorine is to be dissolved with water prior to injection.
The chlorinated water shall thereafter be drained from the pipelines and disposed of in an approved manner if necessary, after de-chlorination, without causing damage, nuisance or injury. The mains shall then be refilled with potable water.

TELEMETRY

All remote reservoirs that are linked to pumping stations, by means of supply or delivery pipelines, shall be equipped with level indicators, which will relay level signals to their respective pumping stations. Water levels from these reservoirs will also be relayed to a dedicated control room, although it will not be possible to start pumps from the Control Room. The operator will still be expected to be at the pumping station concerned in order to operate pumps.

Reservoirs that are in Phase 1, that require telemetry equipment are listed below.

ID	Reservoir No.	Reservoir Name	Capacity (kl)	Type	Telemetry Type	Power (Solar, Elec)

To implement appropriate designs that cater for the whole regional water scheme, it is essential to also mention other reservoirs that will be implemented in future phases. Reservoirs that are in Phases 2 and 3 (not this project) that require telemetry equipment are:

ID	Reservoir No.	Reservoir Name	Capacity (kl)	Type	Telemetry Type	Power (Solar, Elec)

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

DETAILED SPECIFICATION FOR MECHANICAL AND ELECTRICAL WORK

MECHANICAL INSTALLATIONS

1.0 SCOPE

This specification covers the detailed design parameters, manufacture, supply, installation, test and commissioning of Centrifugal Pumps. The Specification shall be read in conjunction with that of the Project Specification.

2.0 INTERPRETATIONS

Abbreviations In this Specification the following abbreviations will apply: -

- ANSI: American National Standards Institute
- ASTM: American Society for Testing and Materials
- BS: British Standards Institution
- SANS: South African National Standards
- SIS: Swedish Institute of Standards
- DIN: Deutsch Industry Normen
- ISO: International Organisation for Standardization
- ASME: American Society of Mechanical Engineers
- SAECC: South African Electrolytic Corrosion Committee
- AGMA: American Gear Manufactures Association

2.1.1 Security

The Contractor shall be responsible for ensuring the security of all his facilities, plant, equipment and personnel on the site. Prior arrangement must be made with the client to house guards after hours on the site.

2.1.2 Programme

The contractor shall supply detailed work programme 14 days after the award of the tender.

21.3 Occupational health and safety

The contractor shall submit a Health and Safety plan to the engineer who shall submit the file to the appointed OH&S Agent. The Agent will review the file and if the file adheres to the applicable legislation and specification, will approve the file. No work shall commence without an approved OH&S file (including site establishment).

3.0 Standards

All design standards for the centrifugal pumps shall be subject to the latest amendments and editions of the following standard specifications: -

- SANS 10400: National Building Regulations
- BS 5304: Code of practice for safeguarding of machinery
- SANS 9096-1: 1994: Testing of welders, where applicable to the type of welding required

- BS 292 Part 1: 1987: Dimensions of ball bearings, cylindrical and spherical roller bearings
- SANS 10162-4: Structural use of Steel Part 4: The design of cold-formed stainless steel structural
- SANS 1044-3: Welding Part 3: The fusion of steel (including stainless steel): Tests for the approval of welding procedures
- SANS 10044-4: Welding Part 4: The fusion welding of steel (including austenitic stainless steel): Tests for the approval of welders working where weld procedure approval is not required.
- SANS 10064: The preparation of steel surfaces for coating
- SANS 10102-4: Selection of pipes for buried pipelines Part 1: General Provisions
- SANS 10104: Hand railing and balustrading (safety aspects)
- SANS 10341: Installation and maintenance of bearings – General guidelines
- SANS 1700-5-9: Fasteners Part 5: General requirements & material properties
- Section 8: Corrosion resistant stainless-steel fasteners-Bolts, Screws & Studs
- SANS 1700-5-10: Fasteners Part 5: General requirements & material properties Section 8: Corrosion resistant stainless-steel fasteners-Nuts
- BS EN ISO 14847:1999: Rotary positive displacement pumps. Technical requirements
- BS EN 734:1995: Pumps and pump units for liquids. Common safety requirements
- BS EN 12162:2001: Liquid pumps. Safety requirements. Procedure for hydrostatic testing
- BS EN 60041:1995: Field acceptance tests to determine the hydraulic performance of hydraulic turbines, storage pumps and pump-turbines.
- BS EN 60994:1993: Guide for field measurement of vibrations and pulsations in hydraulic machines (turbines, storage pumps and pump-turbines)
- BS EN 22858:1993: End-suction centrifugal pumps (rating 16 bar). Designation, nominal duty points and dimensions
- BS EN 23661:1993: End-suction centrifugal pumps. Baseplate and installation dimensions
- BS EN 733:1995: End-suction centrifugal pumps, rating with 10 bar with bearing bracket. Nominal duty point, main dimensions, designation system
- SANS 1123: Pipe Flanges
- ISO 281: Rolling bearings -- Dynamic load ratings and rating life
- BS 4999: General requirements for rotating electrical machines. Specification for standard dimensions
- BS 5316 Part 2: Pump test code

4.0 PUMPS

Design Parameters

Centrifugal pumps shall have stable non-overloading characteristics and the shaft speed shall not exceed 1500 rpm.

The pumps shall be of the highest quality and shall be suitable for continuous operation over long periods with a minimum amount of maintenance at high-sustained efficiency. In all applications, with exception of clear water pumps, non-clogging impellers must be used.

Pumps shall be designed as to remove the impeller cover without moving the pump, pipe work or motor. Each pump shall have a drip tray with a 20 mm diameter galvanised drain pipe to the nearest drainage point.

The pump design shall make adequate provision for the balancing of residual axial thrust.

Pumps shall be supplied complete with suction and delivery pressure gauges complete with air bleed and isolating cocks, shaft couplings and guards, gland leakage piping, base plates, foundation bolts and other necessary equipment.

Detailed performance curves for the pump type shall be provided during the tendering process from the pump supplier.

The curves shall indicate the following:

- Head (metres) vs. flow (litres/second) - 0% to 120% duty flow
- Power absorbed in kW - 50% to 120% of duty flow
- Pump efficiency – 0% to 120% duty flow
- Net positive suction head curves required by the pumps at the specified flow rate.

The efficiency curve shall be flat over a wide range in order to provide efficient working at various pump operating conditions.

Pumps shall be able to operate without cavitation over a full range as specified without throttling. Pumps are required to operate continuously at an ambient temperature of 40°C.

The following quantities shall be guaranteed by the Contractor:

- Minimum flow rate of the pump at the specified total head.
- Maximum power demand at the specified total head.
- Minimum efficiency at the specified total head.
- Maximum net positive suction head required by the pump at the specified flow rate.

5.0 PUMP CASING

The pump casings shall be manufactured from cast iron or cast steel depending on the stresses corresponding to the required test pressures. Unless otherwise stated the dimensions and drilling of the suction and discharge flanges shall be SANS 1123 to the design pressures as specified but with a minimum of 10 Bar.

The pressure rating of the flanges shall at least be equal to the maximum static pressure plus the pump shut-off pressure.

Casings shall be designed for not less than the following working pressures or 1.5 times the actual working total discharge pressure, whichever is the greater.

- Horizontal Split casing: 1000 kPa
- End Suction type: 1000 kPa
- Vertical Split Casing: 600 kPa
- Single stage: 1.5 times working pressure.

6.0 END SUCTION PUMPS

End suction pumps are arranged with a central suction connection and a tangential discharge connection. Both these connections shall be suitably flanged. The casings shall be split at right angles to the shaft to enable the easy withdrawal of the impeller assembly. The volute casing shall be preferably a separate casing from the pump bearing and base assembly, but bolted and spigoted thereto.

For end suction pumps of more than 5.5l/s and not more than 70 l/s capacity, the casing shall be arranged to have a removable casing cover on the motor side so that the pump may be dismantled without disturbing the suction or delivery piping.

7.0 HORIZONTALLY SPLIT CASINGS

These shall be double entry type casings, which are split on the axial centreline. The suction and delivery branches must be cast integral with the part of the pump incorporating the pump base.

The other half of the casing must be easily removable for an internal examination of the pump without the necessity of disturbing either the suction or delivery pipe work or rotating assembly.

The casing shall be fitted with suitable renewable corrosion resisting wearing rings and bushes in all positions where fine clearances require to be maintained. Wearing rings shall be made of high-quality bronze or stainless steel.

All casings must be fitted with ceramic or stainless-steel neck rings where fine clearances must be maintained between stationary and moving parts, to suit the fluid pumped.

8.0 SEMI-CONCENTRIC BACK PULL-OUT DESIGN CASINGS

The pump casing shall be semi-concentric back pull-out design, with the first half of the circumference after the pump outlet being cylindrical. The remaining circumference shall spiral outwards towards the flanged centreline discharge. The casing shall be manufactured from cast iron.

All casings shall be provided with the following tappings as a minimum requirement:

- One suction pressure gauge tapping
- One discharge pressure gauge tapping
- One bleeder cock tapping
- One filling point tapping
- Suitable tapping or, where possible, internal drilling to provide water for the glands.

All casings shall be heavily ribbed and strengthened as necessary to resist hydraulic forces, and internal passages shall be smoothly finished to minimize hydraulic forces.

9.0 PUMP IMPELLER

Each impeller after machining and dressing shall be independently statically balanced and the complete rotating assembly with coupling shall be dynamically balanced. All impellers shall be of a non over loading design. Impellers shall be securely keyed and fixed to the shaft by means of suitable shaft nuts and locking sleeves.

All bolting devices must be securely locked so that they cannot accidentally come loose. Bolting devices shall be made of corrosion resistant materials.

10.0 PUMP SHAFT

The pump shafts shall be of sufficient dimension in order to avoid excessive torsional or bending stresses and deflection. The pump shaft shall be designed so that the critical speed of the rotating assembly is well above the maximum pump operating speed.

The impeller shall be secured to the shaft in such a way that it can be readily removed without any damage to the impeller and the shaft. The shafts shall be protected by replaceable sleeves manufactured from non-corrosive material. The shaft shall be manufactured from stainless steel.

11.0 Shaft Coupling

The pump and motor shall be connected by a flexible coupling in such a way as to prevent them from uncoupling regardless of which way the impeller may be rotating.

The coupling shall accommodate small axial, lateral and angular misalignments without imposing undue stresses on the shaft and bearings. The coupling shall be enclosed in a stationery solid-plate guard to the Engineers satisfaction.

12.0 BEARINGS

All bearings shall be suitable for shaft rotation in both directions. All bearings shall be for a life of at least 100 000 hours at an (L10) rating. Bearings for the output shaft shall be designed to withstand bending, up thrust, down pull, thermal expansion and radial loads imposed by the impeller.

The rotating assembly shall be positively located in the axial direction and thrust bearings will therefore be required.

For ease of lubrication all bearing grease pipes must be piped to grease nipples on the outer cover of the pump support frame.

13.0 BEARING HOUSING

The bearing housing shall be manufactured from cast iron and shall be oil bath lubricated. Oil level sight glasses shall be provided with level markers for running and filling minimum and maximum positions respectively. These shall be arranged for easy viewing and shall take into account the angle of mounting.

The bearing housing and motor stool design shall provide accurate, self-aligning mounting for the flanged electric motor.

14.0 LUBRICATION

In the case where oil lubrication is required, adequate provision shall be made for the cooling of the oil. The bearings shall be required to operate at temperatures no higher than 60°C.

Oil reservoirs of sufficient capacity shall be fitted with easily accessible oil level indicators, which are to be clearly marked in order to indicate the oil standing and running levels.

15.0 GLANDS AND SEALS

Low pressure glands of the stuffing box pattern shall allow repacking without having to dismantle the pump. If mechanical seals are offered, they shall be manufactured from 316 SS to prevent the pump from leaking and shall be cartridge-type seals with O-rings and silicon carbide or tungsten carbide faces.

The cartridge seal shall be pre-assembled and pre-tested, requiring no adjustments and settings from the installer. Any springs required to push the seal faces together shall be shielded from the fluid that is to be pumped. The cartridge shall include a heat-treated sleeve and an iron seal gland.

Full details of the seals and glands indicating the materials, finishes, clearances etc. shall be submitted with the Tender. A spare mechanical seal for each size and type shall be supplied.

16.0 VENT COCKS

Vent cocks shall be fitted at all high points to the pump casing. These cocks shall be adequately sized in order to allow the trapped air to be released freely.

An automatic air vent shall be fitted to each pump casing if specified. This device shall be suitable for the remote operation of an indicator to show the open and closed positions of the air vent.

17.0 BASE PLATE

The base plate of the pump and motor shall be rigid. The pump and motor shall be situated on the upper face of each base plate, which shall be machined flat and smooth to ensure that the pump and motor are bedded properly without the use of spacers.

The pump/motor base plate shall be completely aligned prior to grouting and provision shall be made to grout within the base plate itself to facilitate vibration-free operation.

Base plates which have a mass greater than 200 kg shall have two jacking bolts at right angles with a lock nut at every corner of the unit.

18.0 DRIVE UNIT

The pump shall be driven by a fixed electric speed motor and a speed reducer.

19.0 GEARBOX / MOTOR COUPLING

The coupling shall be fully rated to transmit the motor full load power and tested to prove the above features together with static and dynamic balance. The motor shall be coupled to the gearbox input shaft with either a V-belt or a flexible coupling. V-belts and couplings are to be provided with protective cover guards.

20.0 MONITORING DEVICES

Full detail of all monitoring devices offered must be submitted with the Tender.

PRESSURE GAUGES

Pressure gauges shall be fitted with an isolating cock, shall be vibration and shock resistant and shall be calibrated to read with an accuracy of ±1% of the indicated pressure. Three 20mm minimum diameter ball valves shall be employed to zero the gauge, to isolate it and to vent to atmosphere. A chemical seal shall be used to insulate the gauge from the media being measured.

The faceplate diameters of the pressure gauges shall be at least 100 mm. The gauges shall indicate the water pressure in kilopascal and shall have a range of a maximum of 50% higher than the normal maximum working pressure. All gauge glass must conform to internationally recognized standards.

These standards include DIN 7081, BS 3463 and JIS B 8211.

A calibration certificate is to be provided with each pressure gauge.

TEMPERATURE DETECTORS

If required oil lubricated bearings and glands offered shall be fitted with temperature detectors. The temperature detectors shall be PT100 – RTD’s

If grease lubricated bearings are offered, the Tenderer will indicate in his Tender if temperature detectors can in fact be used. If temperature detectors are not feasible, an alternative means of monitoring bearings must be offered.

NO-FLOW PROTECTION

Each pump shall be protected against no flow by a flow meter installed in the discharge line from the pump.

INDICATOR ON AUTOMATIC AIR VENT

If an automatic air vent is required for the pump casing, it shall be fitted with an indicator to indicate the open and closed positions of the air vent. The air vent shall be suitable for remote operation and air vent control shall be mounted on the control panel inside the pump station.

21.0 GLAND LEAKAGE

If a gland leakage device is required in order to monitor the gland leakage it shall be supplied and fitted with adjustable alarm contacts designed to close when gland leakage rises to a preset value.

22.0 PIPEWORK

All suction and delivery pipes shall be connected to the pump casing by means of flexible connections. All flexible connections shall be installed as close to the pump's casings as possible, and in any event, shall be between the suction valve and the pump casing and delivery non-return valve and the pump casing. In all cases the flexible connection shall be in the section of piping of smallest diameter.

Double Victaulic joint are generally preferred for flexible connections, but approved re-enforced rubber bellow units are acceptable for low-pressure services.

All valves and pipework external to the pump casing and separated there from by means of flexible connections shall be securely anchored to prevent movement.

23.0 HOLDING DOWN BOLTS

The contractor shall be responsible for the supply of all necessary holding down bolts for the machines supplied by him/her. The holding down bolts shall be manufactured from 316 SS.

All bolts necessary for assembling all equipment shall be supplied by the contractor.

24.0 VIBRATION AND NOISE

The pumps as well as the motors will comply with the requirements of BS 4999. The Contractor may be requested by the Engineer to carry out vibration tests. The noise level shall not exceed 85 dBA at 1m.

25.0 DESIGNATION AND INFORMATION PLATES

Each pump shall be supplied with an information plate secured to the pump casing in a visible position indelibly marked with the following details: -

- Maker's name, pump type and serial number
- Year of manufacture
- Rated duty of pump in litres per second
- Head in metres at rated duty
- Pump speed in r/min
- Mass of completely assembled pump in kilogram

26.0 INTERCHANGEABILITY

Where two or more similar pump units are required, these units will be identical in all respects.

All similar parts of items supplied will be interchangeable without any additional machining or fitting.

27.0 RECOMMENDED SPARE PARTS

The Tenderer must submit details of spare parts recommended to be kept in store by the Employer with his Tender.

The detail will include a full description of the parts, part identification, number required, guaranteed delivery time and total price delivered to Site.

28.0 OPERATION AND MAINTENANCE MANUAL

The Contractor shall hand over to the Engineer four sets of the Operation and Maintenance Manual compiled for each installation not later than at the time of commissioning of the installation. These manuals are a prerequisite for final takeover of the plant. The Operation and Maintenance Manual will contain the following:

1. Brief description of the plant and installation.
2. Concise operating instructions.
3. Routine maintenance instruction.
4. Precautionary measures, elementary trouble location, rectifying measures and emergency actions.
5. Detailed information on equipment.
6. Lists of spare parts including names and addresses of suppliers.

29.0 DRAWINGS

The drawings included in the Tender Documents are the Engineer's proposal for the plant layout. Should the Tenderer offer alternative layouts, he shall submit drawings with his Tender in order for it to be evaluated.

Before the Contractor carries out any work, he will submit detailed working drawings to be approved by the Engineer. Approval of these drawings does not relieve the Contractor from his responsibility for the correctness of the drawings.

30.0 INSTALLATION

The pump and motor shall be aligned to within ± 0.025 mm full indicator movement on dial gauge, regardless of the coupling type. After the pump and motor feet are tightened down, ad pipework erected and tightened, both angular and parallel alignment shall be checked and recorded at each quarter revolution. These readings shall be submitted to the Engineer and is a prerequisite for handover.

Upon completion, dowel pins shall be fitted to facilitate relocation at any future time.

31.0 INSPECTION, TESTING AND COMMISSIONING

Testing by Manufacturer

The Manufacturer will carry out all tests on materials, quality control tests, dimensional checking and routine tests on parts to ensure that the pumps and materials conform to the requirements of the relevant SANS or BS specifications and to this Specification. The Engineer will not necessarily attend these tests but records must be kept and all test results will be made available to the Engineer.

32.0 WITNESSED TESTING

In addition to the above, a number of performance tests will also be carried out in the testing facility of the supplier before equipment is transported to Site. These tests can be carried out in the workshop of the manufacturer/supplier if it is suitably equipped or another approved test facility.

The Engineer may witness these tests and the Contractor will notify the Engineer two weeks in advance of the date and place at which the equipment may be inspected and tested. When tests and inspections have met the satisfaction of the Engineer a certificate of workshop acceptance will be issued. These certificates are a prerequisite before payment for "Materials on Site" can be passed. The Engineer's acceptance will in no way relief the Manufacturer of any of his obligations to design, manufacture and supply pumps strictly in accordance with the Specification.

Performance tests shall include: -

1. Hydraulic tests on the pump casing. The test pressure will be equal to 1½ times the maximum working pressure at the delivery end of the pump. The testing will be done with blank flanges bolted onto the flanges. The pressure will be maintained for at least 15 minutes. No sign of sweating, leaking, undue deformation and stressing or defect of any kind will be evident during the test period.

2. Tests to prove that the rotating parts are dynamically balanced.
3. Performance tests on pump and driving unit.
4. NPSH requirements if called for in the Project Specifications.

A performance test shall be carried out in accordance with BS 5316 Part 2 - Class B tests if specified. Unless otherwise stated, the Contractor will be required to conduct the performance test on the combined pump/motor unit.

If a performance test of the pump and its driving unit is not possible at the manufacturer's works, this shall be stated in the Tender with reasons to allow the Engineer opportunity to make alternative proposals.

33.0 TESTING BY AN INDEPENDENT FACILITY

The Employer may require that an independent testing facility or institution such as the South African Bureau of Standards carry out performance tests. A separate item for performance testing will be provided in the Schedule of Quantities to allow for this.

Failure to Pass Performance Test

Should the pump unit fail the performance test, whether performed at the manufacturer's works or at an independent institution, the Engineer shall authorise any amendments to the plant which may be considered necessary to meet the guaranteed quantities within the permissible tolerances laid down in BS 5316 Part 2 - Class B tests and prove with further test that the equipment conform to the Specification.

All costs involved in the re-testing of pump units will be borne by the Contractor.

Should the pump unit fail to pass the test with more than 5% variation on the actual guaranteed figures, the engineer will reject the pump unit and request the Contractor to replace the unit so rejected.

Should the pump until still fail to pass the test, but the actual figures do not vary by more than

5% from the actual guaranteed figures, the Engineer may:

1. Request the Contractor to carry out amendments to ensure the compliance of the unit with the Specification; or
2. Accept the equipment but impose a penalty for non-compliance on the Contractor. A sum will be calculated based on the additional energy used over the life expectancy of the equipment and this will be deducted from the Contract price for each pump set for every kilowatt by which the gross demand exceeds the guaranteed figure with permissible tolerances.

34.0 COMMISSIONING

On completion of the installation the Contractor will check all items for satisfactory functioning. He will then inform the Engineer of his intension to commission the plant. The Engineer may request control measurements on pump alignment at this stage.

A detailed programme of his proposed commissioning procedures will be submitted not later than two weeks prior to the commissioning date.

After a successful running period of 4 hours (to be witnessed by the Engineer) the Contractor will hand over the installation to the Employer as well as the Operation and Maintenance Manuals. The Completion Certificate will only be issued after the units have been in successful operation for 14 consecutive days and the acceptance tests successfully completed.

During the first 14 days of operation, the Contractor will rectify any problems with the units on Site within 24 hours of being telephonically notified. During the remainder of the maintenance period, the Contractor will, within 14 days of being notified, commence rectifying any possible problems that the Employer may encounter with the equipment supplied under this Contract.

Should the Contractor fail to meet the above requirements, the Employer may appoint others to undertake the necessary repair work at the Contractor's cost.

35.0 TESTS AT THE SITE OF THE WORKS

The Engineer may require that site tests are performed to verify performance figures guarantee by the Contractor. Flow rate, total head and power input to the pump/motor units shall be determined, as accurate as Site conditions permit, for one or more points on the pump curves close to the specified duty point. The Contractor shall provide suitable instruments with recent calibration certificates.

Should these measured and calculated quantities differ from those guaranteed by more than the tolerances allowed by BS 5316 Part 1 - re-testing of the unit at any testing facility, or the recalibration of the measuring instruments.

Should the subsequent test results still fall outside the allowable tolerances costs shall be borne by the Contractor. In the event of the subsequent test being successful, costs shall be borne by the employer.

36.0 COLOUR CODES

The standard final colour codes for equipment supplied under this Contract shall be in accordance determined by the contractor and be fully defined.

37.0 MEASUREMENT AND PAYMENT

Payment under scheduled items shall be made per complete installation as specified, electrical connections, etc. and grouting, etc. Measurement and payment will distinguish between supply / delivery and installation / commissioning of the equipment.

The tendered rates or sums shall cover the cost of design, drawings, manufacture, supply, testing at the manufacturers works, delivery to site, offloading, installation, site testing, setting into operation, the supply of O & M manuals, commissioning and maintenance during the warranty period of all equipment specified and also for anything not specifically mentioned but obviously required, (e.g. all ancillaries, including all bolts, fastenings and brackets, safety guards and any work or material required for the proper installation of such equipment) to enable the equipment to be installed and/or function safely and correctly as specified. No claims whatsoever for extras will be allowed on the grounds that a necessary piece of equipment or a part thereof is not specifically mentioned.

Appendix A

DATA SHEET FOR THE PUMPS

ITEM	DESCRIPTION
Pump make	
Pump Model	
Head (m)	120
Flow rate	2500L/min
Motor rating kW	90
Efficiency	
Number of stages	Single
Shaft Seal	
Impeller material	
Stage casing	
Shaft material	
Spacer sleeve	
Painting	

DATA SHEET FOR THE PUMPS

ITEM	DESCRIPTION
Pump make	
Pump Model	
Head (m)	80
Flow rate	1800L/min
Motor rating kW	45
Efficiency	
Number of stages	Single
Shaft Seal	
Impeller material	
Stage casing	
Shaft material	
Spacer sleeve	
Painting	

DATA SHEET FOR THE PUMPS

ITEM	**DESCRIPTION**
Pump make	
Pump Model	
Head (m)	150
Flow rate	7500L/min
Motor rating kW	350
Efficiency	
Number of stages	Single
Shaft Seal	
Impeller material	
Stage casing	
Shaft material	
Spacer sleeve	
Painting	

DATA SHEET FOR THE PUMPS

ITEM	**DESCRIPTION**
Pump make	
Pump Model	
Head (m)	196
Flow rate	1500L/min
Motor rating kW	90
Efficiency	
Number of stages	Single
Shaft Seal	
Impeller material	
Stage casing	
Shaft material	
Spacer sleeve	
Painting	

DATA SHEET FOR THE PUMPS

ITEM	**DESCRIPTION**
Pump make	
Pump Model	
Head (m)	180
Flow rate	500L/min
Motor rating kW	28
Efficiency	
Number of stages	Single
Shaft Seal	
Impeller material	
Stage casing	
Shaft material	
Spacer sleeve	
Painting	

END OF MECHANICAL ENGINEERING SECTION

ELECTRICAL SECTION –ELECTRICAL INSTALLATIONS AND MOTOR-CONTROL CENTERS

GENERAL

SUMMARY

Related Documents:
Drawings, Electrical BOQs and general provisions of the subcontract apply to this Section. Review these documents for coordination with additional requirements and information that apply to work under this Section.

Section Includes:
Indoor and outdoor motor control centers (MCCs) for use on AC circuits rated 400 volts or more. Electrical Installations

Related Sections:
Client "General Requirements."
Relevant requirements of local authority (Supply Authority).
All applicable Fire-regulations.
The Occupational Health and Safety Act, 1993 (Act 85 of 1993).

REFERENCES

General:
The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply.
Unless otherwise noted, the edition of the referenced code or standard that is current at the time of the “date of record” for the Work shall be considered the effective code or standard for the duration of the project.
SANS 10142: ‘Code of Practice for the Wiring of Premises’.

The National Building Regulations and Building Standards Act 1997 (Act 103 of 97)

The Electricity Act 1996 (Act 88 of 1996)

The Environmental Conservation Act 1998 (Act 73 of 1989)

The National Environmental Management Act 1998 (Act 107 of 1998), and

The Local Government Act 1998 (municipal by-laws and any special requirements of the local supply authority. IEC (International Electro-technical Commission).

The relevant SABS/SANS publications (such as SANS 10242-1, SANS 10400, etc.) and equivalent BS, NEC, ISO, JBCC, FIDIC standards IEEE (Institute of Electrical and Electronic Engineers Inc). Distribution Boards

IEC 60073	DB: Colour indicator on lamps
SANS1473-1	DB: Maintenance/Coating/Mechanical strength/PE Conductor terminals/Phase indication.
SANS 1765	DB: Safety.
SANS10142-1	DB: IP Rating/Nameplates/Door gaskets/Earthing, bonding/Colour coding/Equipment assemblies.

Electrical Equipment

.

SANS 156	Circuit Breakers.
SANS 1063 & 10199	Earth rods/Design installation of earth electrodes
SANS 908	Meter cabinet
SANS 1607 &61036	Meter
SANS 1524-1	Dispensers.
SANS 1029 & 61330	Miniature substation.
SANS 1507	PVC Cables
SANS 780	Transformers distribution

LV Assembly

SANS 60439-2	Bus bar trunking.
SANS 1213	Cable glands
SANS 10198-8	Installation of cables
SANS 10198-9, 10198-10, 10198-11	Jointing and termination of cables

SANS 1473-1 & 60439-4	LV Assembly
SANS 1507	PVC Cables
SANS 1433-1 1433-2 & IEC 60998-1 60998-2	Terminals

NFPA – National Fire Protection Association:
Standard for Electrical Safety in the Workplace (NFPA 70E)

NEMA – National Electrical Manufacturers Association:
NEMA 250 - Enclosures for Electrical Equipment
NEMA AB1 Molded Case Circuit Breakers & Molded Case Switches
NEMA ICS 2 Industrial Control Devices, Controllers and Assemblies.
NEMA ICS 2.3 Instructions for Handling Installation, Operation and Maintenance of Motor Control Centers.
NEMA KS1 Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Max.)

NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems

UL – Underwriters' Laboratories:
UL 485 Motor Control Centers.
UL 489 Molded Case Circuit Breakers and Enclosures.
UL 508 Industrial Control Equipment.

SUBMITTALS

Shop Drawings: The Subcontractor shall submit for approval Shop Drawings to the engineer prepared in accordance with the standards and as required by other sections of the Specifications like civil and structural.

All submittals and shop drawings shall be reviewed and approved by the Engineer before procurement or fabrication of material and equipment.

Submit five (5) copies of Product Data and Shop Drawings for equipment and component devices. Include time–current curves of fuses, relays, circuit breaker trip units.
Include dimensional plans and elevations; conduit entrance locations and requirements; component and device lists and descriptions; and a three-line diagram showing horizontal and vertical bus full-load and short-circuit ratings of the MCC.
Include interconnecting wiring diagrams pertinent to the class and type specified for the motor control center, and a schematic diagram of each type of controller unit indicated.

Manufacturer's Installation Instructions: Indicate application conditions and limitations of uses. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of the MCC.

Operation and Maintenance Data:

Maintenance Data: Furnish five (5) original copies and 1 compact disc /USB of recommended maintenance procedures and intervals. Include spare parts data listing; source and current prices of replacement parts and supplies.

Furnish five (5) hardcopies and 1 compact disc/USB of As-Built Drawings which include the elementary and connection diagram. Electronic drawing files shall be in AutoCAD format.

Furnish Time–Current curves of fuses, relays, circuit breaker trip units. Time–Current curves shall be first generation originals on full size 280 by 432 mm paper.

List special tools and spare parts required for maintenance and repair.

Name, address, and phone number of the service representative to be called in the event of equipment failure.

Submit five (5) copies of the warranty certificate.

The bidders shall list the exceptions taken from the specification with their quote. If no exceptions are listed with the bid, it is understood that the bidder shall meet the requirements of this specification and applicable Codes and Standards.

QUALITY ASSURANCE

Products shall be tested, approved and labeled according to **SABS** standards. All electrical equipment to bear the SABS mark.

Electrical equipment and materials shall be new and within one year of manufacture, complying with the latest codes and standards. No used, re-built, refurbished and/or re-manufactured electrical equipment and materials shall be furnished on this project.

COORDINATION

Contractor to allow for coordination onsite with other disciplines like mechanical and civil works.

Power applications, upgrades, energizing to be handled by the contractor in liaison with the local power supplier.

Specialist installations like Telemetry to be coordinated by the contractor.

DELIVERY, STORAGE, AND HANDLING

Coordinate the point of delivery with the Project Manager.

Delivery Schedule: Contractor to submit a delivery schedule which shows: On-site delivery date for motor control center, unloading of switchgear will be done by [Others] [Vendor]. Provide a minimum of five (5) business days advance notice of delivery date and time when components must be unloaded by a crane.

Cost of delivery and storage of the switchgear to be covered by the contractor.

Equipment to be stored in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to equipment and material from dirt, water, construction debris, and traffic.

Contractor to handle equipment in accordance with manufacturer's written instructions. Equipment to be lifted only by lifting lugs or devices provided for the purpose. Handle carefully to avoid damage to motor control center internal components, enclosure, telemetry and finish.

WARRANTY

Manufacturer's Warranty: Warranty period of one year minimum shall start at the date the equipment is energized after acceptance by the client. To submit five (5) copies of the warranty certificate to the engineer or project manager.

EXTRA MATERIALS

Spare fuses: Furnish six (6) spares of each type and rating of fuse and fusible devices required. Include spares for:

Spare Indicating Lights: Furnish six (6) of each type required.

Touch-Up Paint: Furnish one (1) half-pint container.

PRODUCTS

MANUFACTURERS

Only SABS approved equipment is to be installed.

MOTOR CONTROL CENTER

Motor Control Center: ASSEMBLIES located in the open shall be of a weatherproof and dust-proof construction equal to or better than IP 55, as defined in SANS 60529 or equivalent NEMA ICS 2, Class I, Type B. Provide pressure type pull-apart blocks. Components, control, power wiring, terminations, process interface elements and the like, shall be clearly marked for easy identification in accordance with the drawings and instructions issued with the engineering package covering the design of the assembly. All ASSEMBLIES wiring shall conform to the requirements for the area in which the equipment is to operate. ASSEMBLIES shall be designed for a minimum operating life of 20 years. Floor mounted ASSEMBLIES shall have full-length steel plinths and height not exceeding 2200 mm.

Ratings and Classifications:

Voltage, Phases, Wires and Frequency: [480V] [480/277V] [208V] [208/120V], 3-Phase, [3-Wire] [4-Wire], 60 Hz.
Current: Horizontal (Main) bus; _____ Amperes
Vertical bus _____ Amperes
Short Circuit Rating: [42] [65] [100] kAIC symmetrical.

Main Circuit Breaker: The MCC shall be provided with a Main Circuit Breaker with a solid-state trip unit having the following trip functions
Instantaneous
Long time pickup
Long time delay
Short time pickup
Short time delay
I2t feature
Ground fault pickup
Ground fault delay

Soft starting to be implemented for all electric motors. Incomer and feeder sections must be segregated

Bus Work: Bus work shall be copper and sized for the continuous current ratings specified above. Provide a copper ground bus the entire length of control center and bonded to each enclosure section. Provide silver plated or tin-plated contact surfaces on busses. The busbars, copperwork and connections shall comply with SANS 60439-1 and shall be marked indicating phases.

Configuration: Units front mounting only, accessible from the front only. Bus splice plates front accessible. Maximum overall length as shown on the drawings. Provide top and bottom horizontal wireways. Provide hinged vertical wireways with wire supports. Draw out units shall be in increments 150 mm with a minimum size of 300 mm. Maximum draw out units in a vertical section to be 6m.

Enclosure:
NEMA ICS 6, [Type 1 Gasketed] [NEMA Type 3R] [NEMA Type 12]. The MCC shall be full assembled and free-standing. Provide a welded steel framework, adequately braced and attached to a steel channel base, to meet the requirements of Seismic Zone 4.
Paint: The enclosure shall be thoroughly cleaned, primed and painted in accordance with the manufacturer's standard finishing process. All doors, exposed metal work, outer panels and removable parts shall be powder coated according to SANS 1274. All metal parts not powder coated shall be galvanised or nickel cadmium plated. All electrical equipment shall be painted in accordance with the following table based on the equipment nominal voltage rating: British Standards Institute (BSI 381C Specification for Colours for Identification)

EQUIPMENT	COLOUR	PAINT REFERENCE NUMBER TO BS318C AND RAL STANDARDS
525 VAC	Iron Grey	RAL – 7011
400 VAC	Light Orange	RAL – 2011
230 VAC	Mid Brunswick Green	RAL – 6005

220 VDC	Mahogany Brown	RAL – 8016
115 VAC	Traffic Orange	RAL – 2009
115 VDC	Signal Brown	RAL – 8002
32 VAC	Signal Yellow	RAL – 1003
Equipment Supplied by Emergency Power source	Traffic red	RAL – 3020

Draw out Assembly: Provide removable combination starter compartments, interchangeable for different size starters, with barriers to completely enclose a draw out starter assembly. Provide insulating barriers with openings for stab connectors on starter units located on the starter side of the vertical bus. Provide insulated covers for unused draw out openings.

Metering:

Provide electronic metering to indicate, as a minimum, the following values:

Voltage: Line-to-Line and Line-to-Neutral
Current: All Phases, neutral and Ground
Power and Energy: kWH, kW Demand, kVAH, kVA Demand
Power Factor
Frequency
Total Harmonic Distortion: Volts and Amperes

Electronic metering shall be provided with a communications module with a 10Base-T Ethernet and an industry standard RS-485 serial bus compatible with Modbus protocol.

Potential, control power and current transformers shall be completely installed and wired to the power meter in the panelboard.

The electronic power meter shall be Square D Power Logic ION7350 or higher, Siemens Model 9350 or higher, Power Measurement Limited Model 7350 or higher, or approved equal. The supplier shall obtain the written approval for substitution from the client.

MOTOR CONTROLLERS

Coordinate the features of each motor controller with the ratings and characteristics of the supply circuit, the motor, the required control sequence, the duty cycle of the motor, drive, and load; the pilot devices; and the control circuit affecting controller functions. Provide controllers that are SABS rated to suit the motor controlled. Position motor controllers within the MCC structure as shown on the drawings.

Contacts shall open each ungrounded connection to the motor or load.

Motor protection shall be provided by a solid state, microprocessor-based overload and fault protection system. Overload protection shall consist of one current sensor located on each phase monitored by a microprocessor that yields a time current curve closely paralleling that of the motor heating damage boundary, accurate to 2 percent. Running overload protection shall be field selectable for the specific motor full load amperes within the starter range. Trip class of 10, 20, and 30 shall be field selectable and provide 10, 20 or 30 second delay at six times the full load running protection respectively.

Motor protection is to monitor current in each phase to provide phase loss and phase unbalance protection, such that if the unbalance on two phases is greater than 30 percent of the selected trip rating, a phase loss/unbalance trip occurs. Provide phase loss/unbalance protection which requires no time delay for reset.

Ground fault protection shall be provided and set at 20 percent of maximum continuous ampere rating and have a start delay of 20 seconds, and a run delay of one second to prevent nuisance tripping on starting.

The microprocessor shall measure control circuit voltage and prevent closing of the coil on low voltage (78 volts AC) and/or high voltage (135 volts AC) conditions that are outside the coil ratings.

Provide full voltage, non-reversing across-the-line, magnetic controller, except where another type is required.

Provide control power transformer integral with the controller where no other supply of 120 VAC control power to the controller is indicated. Provide control power transformer with adequate capacity to operate connected pilot, indicating and control devices, plus 100 percent spare capacity.

Combination motor controller shall include motor circuit protector type molded-case circuit breaker with magnetic-only trip element calibrated to coordinate the actual locked-rotor current at the connected motor and the motor controller overload relays. Provide circuit breakers that are factory assembled with the controller, interlocked with the unit cover or door, and arranged to disconnect the controller. Provide motor circuit protectors with field adjustable trip elements as specified above.

Communications: Each motor controller shall be capable of communications via a twisted-pair network.

Provide [green "RUN" and red "STOP"] [red “RUN” and green “STOP”] indicating pilot lights, HAND-OFF-AUTO selector switch, and two each normally open and normally closed auxiliary contacts for each motor controller. Indicating lights shall be LED type.

Spaces and blank compartments shall be fully bussed and equipped with guide rails or equivalent, ready for insertion of p units. Allow for 30% spare capacity

Spare units shall be of the type, size and ratings indicated and installed in compartments indicated “spare.”

Telemetry

Local control-monitoring must provide all of the automation, electrical distribution and protection functions required for the operation of the process. The system must be capable of supplying the information required for control. In the event of a failure, it must not only inform, but also ensure a minimum of continuity of service. The system must store information locally, establish communication, either cyclical or event-driven, and transmit the information to the centralised control system.

Main functions expected of the telemetry system are:

- Data acquisition (status, measurements, counting, etc.)

- Time-tagging of events
- Processing of events
- Automatic transmission of events to the SCADA and maintenance operator
- Publication in logs, curves, mimic diagrams and reports.
- Transmission of information on incidents
- Remote monitoring of the process and installation
- Management of maintenance crew operations at the (SCADA) or front-end communication level or even via a system embedded in the product
- Reduction of maintenance time and costs remote diagnosis of the components (variable speed drives, PLCs, protection relays, instrumentation, etc.)
- Updating of the application software or automation software
- Access supervision and authorisation (badge readers)

OPTIONS AND FEATURES

Auxiliary Contacts: 2 each normally open, 2 each normally closed, convertible contacts in addition to seal-in contact.

Cover Mounted Pilot Devices: standard duty oil tight type.

Pilot Device Contacts: rated A150.

Push buttons: Flush type. Start - Stop

Indicating Lights: LED type. Two per starter. One red, one green.

Selector Switches: Rotary type, hand-off-auto (HOA).

Control Power Transformers: 120 volts secondary, in each motor starter. Provide fused primary and secondary, and bond unfused leg of secondary to enclosure.

Identification: Equip each starter cubicle door with engraved nameplate showing the circuit number of the motor controlled, the LBNL maintenance designation of the load and the horsepower of the motor. Nameplates shall be of a size to accommodate minimum one quarter-inch high letters.

Lockouts: Provide space for padlocking starters in the OFF position with at least two padlocks.

Distribution Panelboards: All distribution boards must comply with the requirements of **SANS** 10142.

Electrical Installation: All electrical installations [wiring, light fittings, plugs, switches and cabling is to comply with **SANS** 10142 “Code of Practice for **wiring** of Premises”

EXECUTION
FIELD INSTALLATION

Contractor to verify that equipment pads are poured perfectly leveled without slope/grade for installing intended equipment.

Verify field measurements are as required by manufacturer.

Verify that required utilities are available, in proper location and ready for use.

Observe restrictions imposed by safety tags and locks.

Install in accordance with manufacturer's instructions.

Install safety labels to SANS standards.

Labeling: Externally visible, permanent nameplates shall be provided to identify each protective relay, meter, instrument, selector switch, indicating light etc. Permanent equipment and terminal blocks within the compartments shall be labelled. Protective relays shall be designated as to use and the phase to which they are connected. The back side of door mounted relays shall be marked with a label bearing the appropriate ANSI device function number(s) to enable easy identification.

Provide typed [or neatly printed] 216 by 280 mm circuit directory (panel schedule) for each motor control center and associated panelboards in the format as shown on the [panel schedules] [drawings].

FIELD QUALITY CONTROL

Tests shall be made in the presence of the project manager/engineer, or the clients designated representative. The application or interruption of power shall be programmed and directed in accordance with the approved local power supplier, inclusive of the Equipment Energization Plan and necessary permits, work tasks and safety compliance steps.

Comply with requirements of SANS Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems and the manufacturer’s inspection, testing, calibration, and start-up procedures. The manufacturer’s technician shall perform inspection, testing, calibration, and start-up, with assistance from the Subcontractor as necessary. Schedule testing and start-up with at least ten (10) working days advance written notification.

Visual and Mechanical Inspection: Inspect for physical damage, proper alignment, anchorage, and grounding. Check proper installation and check correctly torqued connections of buswork with a calibrated torque wrench.

Perform insulation resistance test of motor control center buses, components, connecting supply feeder, and control circuits. Insulation resistance less than 100 megohms is not acceptable.

Perform continuity tests of circuits.

For each, motor controller, perform operational test and exercise of mechanical components and operable devices in accordance with manufacturer's instruction manual.

Verify ratings and settings of overload relays, motor circuit protectors, and overcurrent protective devices.

The Subcontractor shall submit to the Project Manager five (5) copies of test results [COCs], certified in writing, witnessed, signed and dated, immediately upon completion of work for review and acceptance by the University. An unsatisfactory condition revealed by these test results, or unsatisfactory methods of tests and/or testing apparatus and instruments, shall be bought to the attention of the Project Manager, Responsible Design Professional and the Client or the contractors designated representative. Corrections by the Subcontractor shall be validated by re-tests to the satisfaction of the Project Manager, the Registered Design Professional and the Client or the contractors designated representative.

The Project Manager reserves the right to require that the Subcontractor perform and repeat tests that are deemed necessary to complete or check the tests or the certified records of the Subcontractor at any time during the course of the work. The Subcontractor shall correct unsatisfactory portion of his work that is revealed by the tests or that may be due to progressive deterioration during this period, unless the item in question was a direct specification.

ACCEPTANCE AND ENERGIZATION

Final acceptance shall depend upon the satisfactory test results as performed in accordance with the manufacturer’s instructions and standards. After tests have been reviewed and approved by the engineer, energization may proceed in accordance with the approved Equipment Energization Plan and the Energization Validation and Authorization Package (EVAP).

Upon energization, test and record readings for proper voltages, correct (clockwise) phase rotation and phase sequence (A-B-C) for both incoming and outgoing feeder and branch circuits.

TRAINING

Contractor to conduct a minimum of four (4) hours of training in operation and maintenance for the clients representatives. The training session shall be conducted by a manufacturer's qualified representative. Schedule training with at least five (5) working days advance notification.

END OF ELECTRICAL SECTION

VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C
BUNGENI XIKHULU - 02
(RETICULATION)
BID NUMBER: VDM/TECH/02/02/2026/03

C4 SITE INFORMATION

SITE INFORMATION

1. GENERAL

1.1 Documentation

The documentation included in this section describes the site as at the time of tender to enable the Tenderer to price his tender, furthermore to decide upon his method of working and programming and to evaluate his risks.

1.2 Information

Only actual information about physical conditions of the site and its surroundings (if any available) is included in this Site Information and interpretation thereof is a matter for the Tenderer.

2. SITE INFORMATION

2.1 Records and Test Results

2.1.1 Subsoil records

No information available.

2.1.2 Borehole records

Available on request.

2.2 Reports on Physical Conditions

2.2.1 Mapping

N/A

2.2.2 Hydrographic data

N/A

2.2.3 Hydrological information

N/A

2.3 Publicly available Information

2.3.1 Published papers and interpretation of geotechnical information

N/A

2.4 Information about services below the surface of the site

2.4.1 Water

Existing underground services are not known at this stage.
Should the Contractor damage an existing service he shall immediately contact the Engineer who will investigate the matter and determine liability for the damage.

2.4.2 Sewage

Not available on site.

2.4.3 Electricity

All cables and pipes shall be considered “live” unless confirmed otherwise by the relevant authority.

2.4.4 Gas

Not available on site.

2.4.5 Communications

Not available on site.

2.5 Information about adjacent main infrastructure

2.5.1 Buildings

Unavailable.

2.5.2 Structures

Unavailable

2.5.3 Internal Roads

Unavailable.

2.5.4 Restrictions for Heavy Loads

Unavailable.

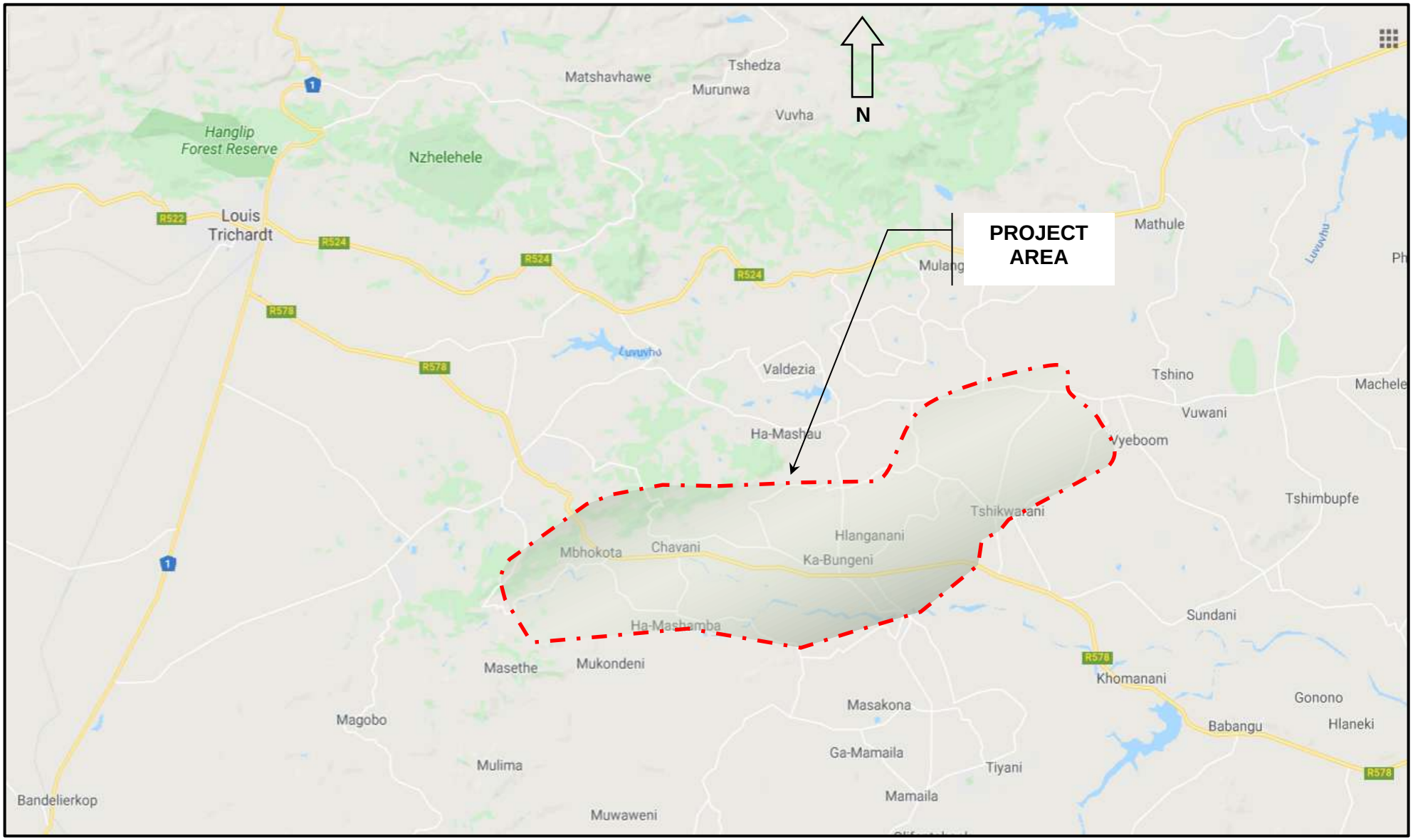
2.6 Atmospheric criteria

Unavailable.

2.7 Environmental criteria

A copy of the Environmental Management Plan is available on request.

3. LOCALITY MAP



VHEMBE DISTRICT MUNICIPALITY

BID DOCUMENT FOR:
CHAVANI AND SURROUNDING VILLAGES BULK PIPELINE AND WATER RETICULATION - PHASE II-C

BUNGENI XIKHULU - 02

(RETICULATION)

BID NUMBER: VDM/TECH/02/02/2026/03

DRAWINGS

DRAWING LIST

ITEM	DRAWING NO.	TITLE
1	T1403DD00GL08	CONTRACT 02_BUNGENI XIKHULU 02_GENERAL LAYOUT
2	T1403DD00PL51	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 01
3	T1403DD00PL52	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 02
4	T1403DD00PL53	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 03
5	T1403DD00PL54	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 04
6	T1403DD00PL55	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 05
7	T1403DD00PL56	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 06
8	T1403DD00PL57	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 07
9	T1403DD00PL58	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 08
10	T1403DD00PL59	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 09
11	T1403DD00PL60	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 10
12	T1403DD00PL61	CONTRACT 02_BUNGENI XIKHULU 02_SHEET 11
13	T1403DD00PL62	COORDINATES & PIPE DATA LIST TABLES – SHEET 01
14	T1403DD00PL63	COORDINATES & PIPE DATA LIST TABLES – SHEET 02
15	T1403PD00SD01	PIPE TRENCHES STANDARD DETAILS 01
16	T1403PD00SD02	STANDARD DETAILS 2
17	T1403PD00SD03	THRUST BLOCK DETAILS
18	T1403PD00SD04	ISOLATION VALVE DETAILS
19	T1403PD00SD05	HOUSE CONNECTION
20	T1403DD00SD06	SURGE CONTROL VALVE CHAMBER CONNECTION

BOOK OF DRAWINGS

CONSULTING LOGO:	CONSULTING ADDRESS:	CLIENT LOGO:	CLIENT ADDRESS:
T2-Tech ENGINEERS (PTY) LTD	**T2-TECH ENGINEERS (PTY) LTD** **16A, CHURCH STREET** **P.O. Box 233** **FAUNA PARK, 0787** POLOKWANE, 0700 TEL: (015) 291 3320 FAX: (015) 295 2116 E-MAIL:office@t2tech.co.za Website: www.t2tech.co.za		**VHEMBE DISTRICT MUNICIPALITY** Private Bag X5006 Old Parliament, Government Complex, Tusk Venda Street THOHOYANDOU, 0950 TEL: (015) 960 2000 FAX: (015) 962 1017 E-MAIL:enquiries@vhembe.gov.za Website: www.vhembe.gov.za

ISSUED FOR:

DETAILED DESIGNS

PROJECT TITLE:

BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

REVISION SCHEDULE			
REV'S	DATE	SIGNATURE	DESCRIPTION

DESIGNED BY:	I. BYOBA
DESIGN CHECKED:	P. MANYOWA
DRAWN BY:	I. BYOBA
DRAWING CHECKED BY:	P. MANYOWA
DIRECTOR APPROVAL BY:	TFV NDOU

CONSULTING LOGO: T2-Tech ENGINEERS (PTY) LTD

CONSULTING ADDRESS: T2-TECH ENGINEERS (PTY) LTD, 16A, CHURCH STREET, P.O. Box 233, FAUNA PARK, 0787, POLOKWANE, 0700, TEL: (015) 291 3320, FAX: (015) 295 2116, E-MAIL:office@t2tech.co.za, Website: www.t2tech.co.za

ISSUED FOR: PRELIMINARY DESIGNS

PROJECT TITLE: BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

DRAWING TITLE: BOOK OF DRAWINGS

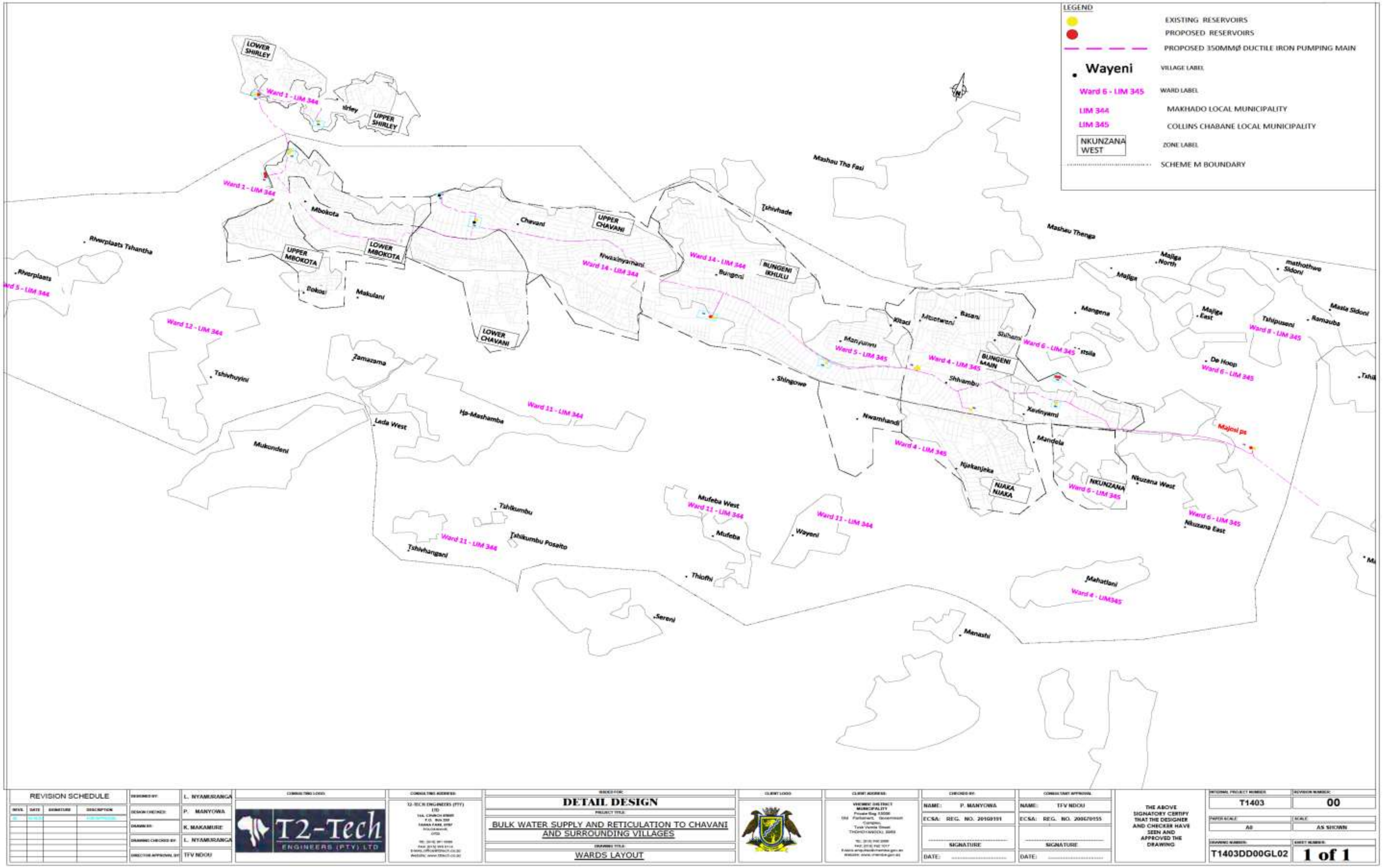
CLIENT LOGO:

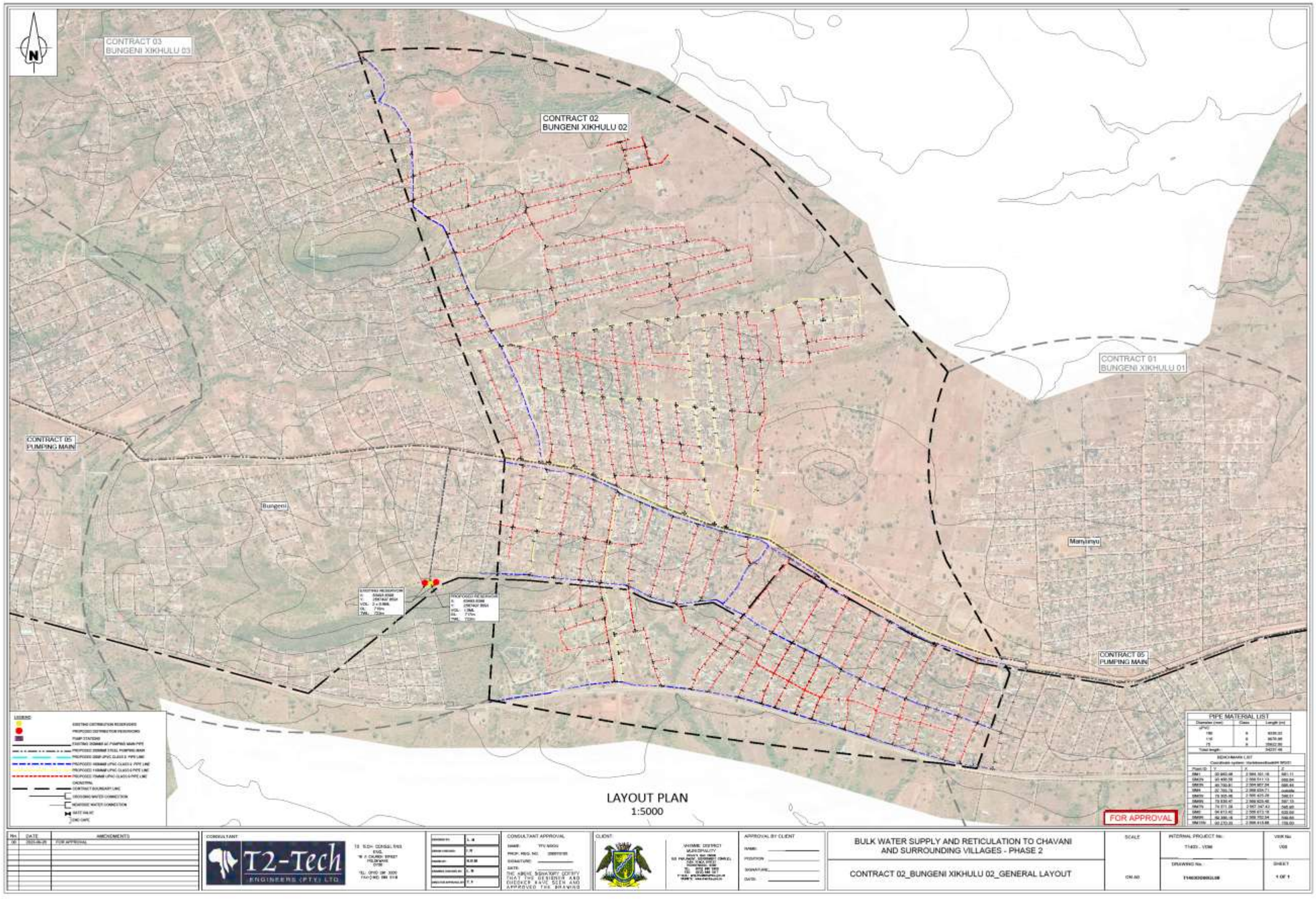
CLIENT ADDRESS: VHEMBE DISTRICT MUNICIPALITY, Private Bag X5006, Old Parliament, Government Complex, Tusk Venda Street, THOHOYANDOU, 0950, TEL: (015) 960 2000, FAX: (015) 962 1017, E-MAIL:enquiries@vhembe.gov.za, Website: www.vhembe.gov.za

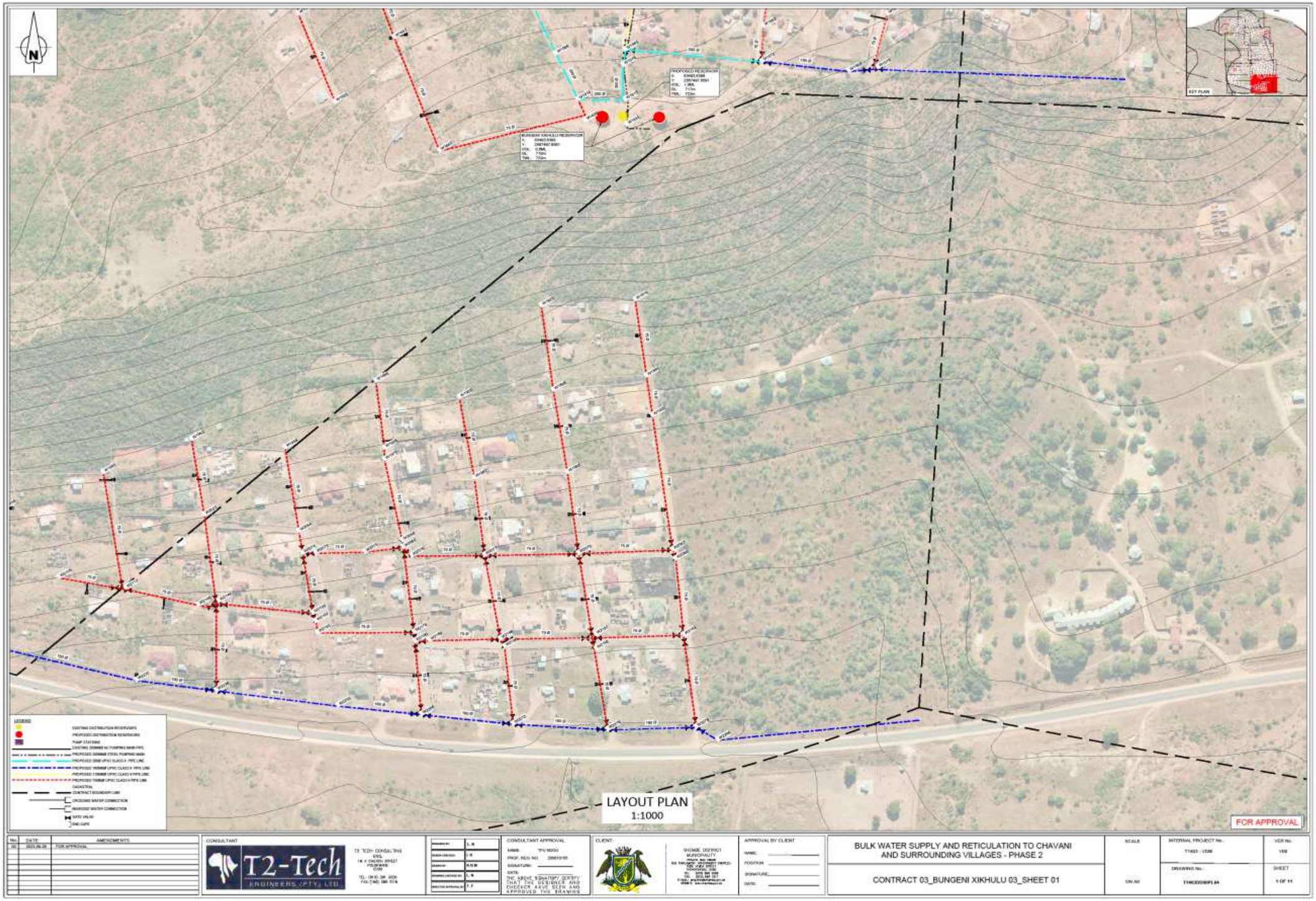
CHECKED BY:	CONSULTANT APPROVAL
NAME: P. MANYOWA	NAME: TFV NDOU
ECSA: REG. NO. 20160191	ECSA: REG. NO. 20067015S
SIGNATURE	SIGNATURE
DATE:	DATE:

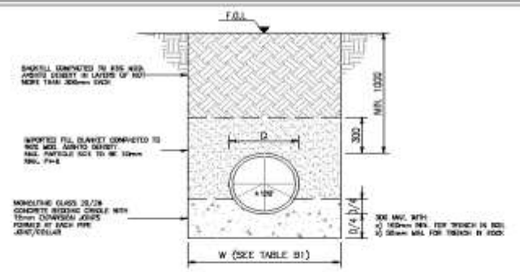
THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING

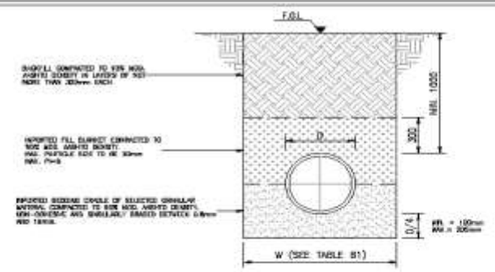
INTERNAL PROJECT NUMBER:	REVISION NUMBER:
T1403	00
PAPER SIZE: A1	SCALE: AS SHOWN
DRAWING NUMBER: T1403PD00BD01	SHEET NUMBER: 1 of 2

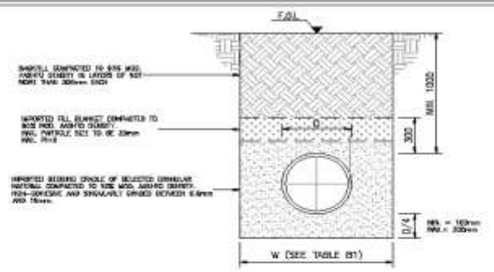

LEGEND
EXISTING RESERVOIRS
PROPOSED RESERVOIRS
PROPOSED 350MMØ DUCTILE IRON PUMPING MAIN
Wayeni
VILLAGE LABEL
Ward 6 - LIM 345
WARD LABEL
LIM 344
MAKHADO LOCAL MUNICIPALITY
LIM 345
COLLINS CHABANE LOCAL MUNICIPALITY
NKUNZANA WEST
ZONE LABEL
SCHEME M BOUNDARY
LOWER SHIRLEY
UPPER SHIRLEY
Ward 1 - LIM 344
Mbokota
UPPER MBOKOTA
LOWER MBOKOTA
Chavani
UPPER CHAVANI
LOWER CHAVANI
Nwaxinyamani
Ward 14 - LIM 344
BUNGENI IKHULU
Bungeni
Tshivhade
Mashau Tho Fasi
Mashau Thenga
Riverplaats Tshantha
Riverplaats
Ward 5 - LIM 344
Ward 12 - LIM 344
Makulani
Zamazama
Tshivhuyini
Ward 11 - LIM 344
Ha-Mashamba
Lada West
Mukondeni
Shingowe
Manyunyu
Ward 5 - LIM 345
Ward 4 - LIM 345
BUNGENI MAIN
Basani
Shivambu
Xevinyami
Nwamhandi
Mandela
Njakanjeka
NJAKA NJAKA
NKUNZANA
Ward 6 - LIM 345
Nkuzana West
Nkuzana East
Majosi ps
Mangena
Majiga North
Majiga
Majiga East
Tshipuseni
Ward 8 - LIM 345
Ramauba
Masia Sidoni
De Hoop
Mufeba West
Mufeba
Wayeni
Tshikumbu
Tshikumbu Posaito
Tshivhangani
Thiofhi
Sereni
Mahatlani
Ward 4 - LIM345
Menashi
REVISION SCHEDULE
L. NYAMURANGA
P. MANYOWA
K. MAKAMURE
L. NYAMURANGA
TFV NDOU
T2-Tech
ENGINEERS (PTY) LTD
DETAIL DESIGN
BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES
WARDS LAYOUT
NAME: P. MANYOWA
ECSA: REG. NO. 20160191
NAME: TFV NDOU
ECSA: REG. NO. 200670155
SIGNATURE
DATE:
THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING
T1403
00
A0
AS SHOWN
T1403DD00GL02
1 of 1

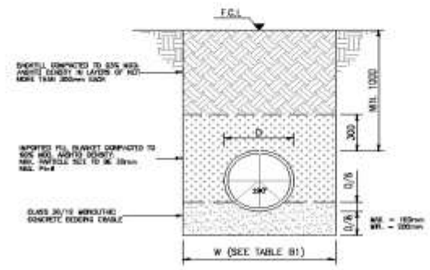

CONTRACT 03
BUNGENI XIKHULU 03
CONTRACT 02
BUNGENI XIKHULU 02
CONTRACT 01
BUNGENI XIKHULU 01
CONTRACT 05
PUMPING MAIN
Bungeni
Manyinyu
CONTRACT 05
PUMPING MAIN
LEGEND
PIPE MATERIAL LIST
LAYOUT PLAN
1:5000
FOR APPROVAL
T2-Tech
ENGINEERS (PTY) LTD.
BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES - PHASE 2
CONTRACT 02_BUNGENI XIKHULU 02_GENERAL LAYOUT

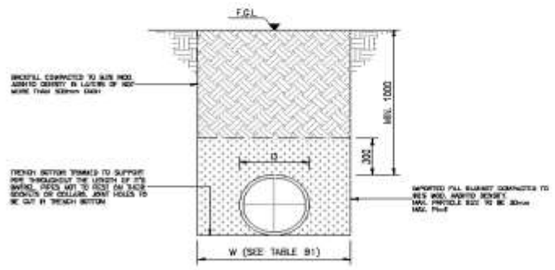

N
KEY PLAN
LEGEND
LAYOUT PLAN
1:1000
FOR APPROVAL
T2-Tech
ENGINEERS (PTY) LTD
BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES - PHASE 2
CONTRACT 03_BUNGENI XIKHLULU 03_SHEET 01



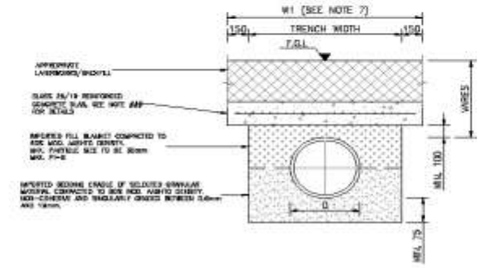








PIPE BEDDING DETAILS
N.T.S



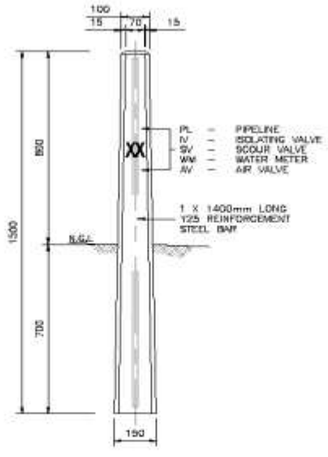
PIPE PROTECTION NOTES:

1. THIS DETAIL APPLIES WHERE COVER IS LESS THAN 900mm IN SERVITUDES AND LESS THAN 800mm IN ROAD RESERVES.
2. CLASS OF BEDDING IS SHOWN. HOWEVER PROTECTION APPLIES TO ALL BEDDING TYPES.
3. SLAB THICKNESS AND REINFORCING DETAILS WILL BE CONFIRMED BY THE ENGINEER.
4. THE SLAB IS TO CONSIST OF GRADE 25/19 CONCRETE.
5. COVER TO REINFORCEMENT TO BE 30mm.
6. CONSTRUCTION JOINTS ARE TO BE FORMED IN THE SLAB AT INTERVALS NOT EXCEEDING 6.0m.
7. W1 = TRENCH WIDTH + 300mm IN UNDISTURBED MATERIAL.

PIPE PROTECTION DETAILS FOR AREAS WITH REDUCED COVER
N.T.S

TRENCH EXCAVATION NOTES:

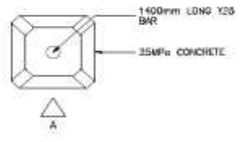
VERTICAL TRENCH EXCAVATIONS IN SURFACE (FILL, EQUIVALENT AND RESIDUAL) DEEPER THAN 1.2m WILL BECOME UNSTABLE, AS THE ANGLE OF REPOSE OF THESE MATERIALS IS APPROXIMATE AT 1 VERTICAL : 1.5 HORIZONTAL (34 DEGREES). AS SUCH, BATTERING BACK OF THE TRENCH SIDE WALLS SHOULD BE AT LEAST 1 VERTICAL : 1.7 HORIZONTAL CAN DISPENSE WALL BE REQUIRED TO PREVENT COLLAPSE OF THE TRENCH SIDEWALLS. ALTERNATIVELY, SHORING CAN BE CARRIED OUT IF THERE ARE THERE SPECIAL CONSTRAINTS.



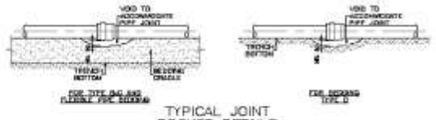
MARKER POST DETAILS
(ELEVATION A)
SCALE 1:10

NOTES:

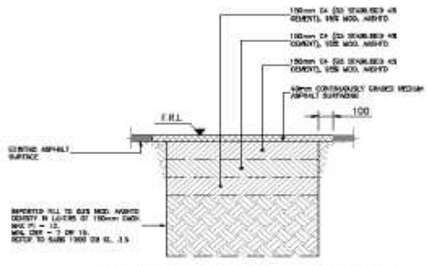
1. INITIALS TO BE RECESSED.
2. LETTERING SIZE TO BE 60mm HIGH x 35mm WIDE.
3. POST TO BE PAINTED WITH YELLOW ROAD MARKING PAINT.
4. LETTERING TO BE PAINTED WITH BLACK ROAD MARKING PAINT.



MARKER POST DETAILS
(PLAN)
SCALE 1:5



TYPICAL JOINT
POCKET DETAILS
N.T.S



ROAD REINSTATEMENT LAYERWORKS DETAILS
N.T.S

REVISION SCHEDULE			
NOTE:	DATE:	SIGNATURE:	DESCRIPTION:

DESIGNED BY:	L. NYAMURANGA
DESIGN CHECKED:	P. MANYOWA
DRAWN BY:	K. MAKAMURE
DRAWING CHECKED BY:	L. NYAMURANGA
DIRECTOR APPROVAL BY:	TFV NDOU

CONSULTING LOGO: T2-Tech ENGINEERS (PTY) LTD

CONSULTING ADDRESS: T2-TECH ENGINEERS (PTY) LTD

ISSUED FOR: DETAILED DESIGN

PROJECT TITLE: BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

DRAWING TITLE: STANDARD DETAILS 1

CLIENT LOGO:

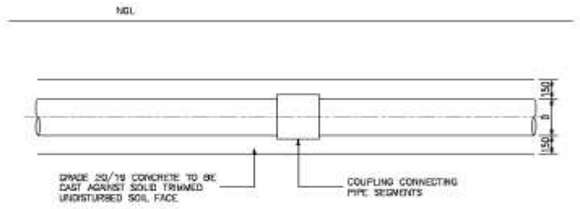
CLIENT ADDRESS: VHEMBE DISTRICT MUNICIPALITY

CHECKED BY: NAME: P. MANYOWA; ECSA: REG. NO. 20160191; SIGNATURE; DATE:

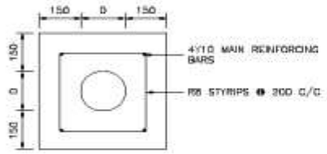
CONSULTANT APPROVAL: NAME: TFV NDOU; ECSA: REG. NO. 200670155; SIGNATURE; DATE:

THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING

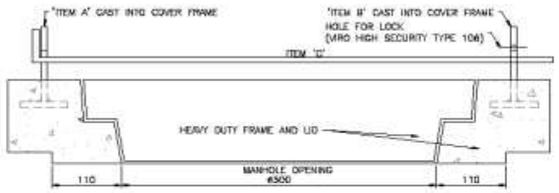
MATERIAL PROJECT NUMBER:	REVISION NUMBER:
T1403	00
PAPER SCALE: A0	SCALE: AS SHOWN
DRAWING NUMBER: T1403PD00SD01	SHEET NUMBER: 1 of 2



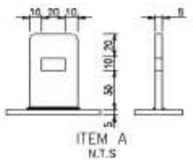
TYPICAL CONCRETE ENCASEMENT
N.T.S



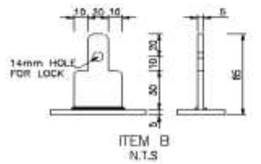
SECTION THROUGH TYPICAL CONCRETE ENCASEMENT
N.T.S



CONCRETE LID DETAILS
N.T.S

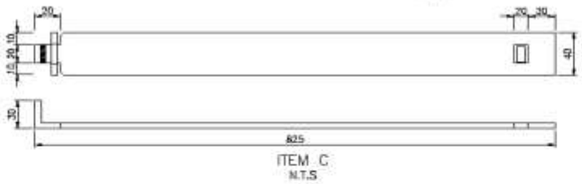


ITEM A
N.T.S

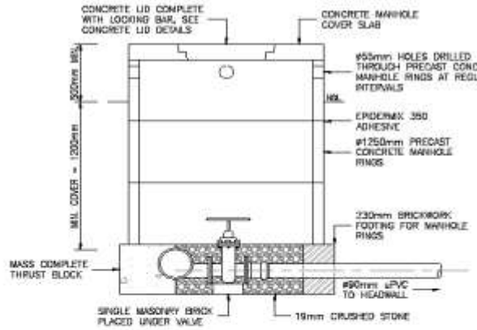


ITEM B
N.T.S

NOTES
1. THESE UNITS ARE TO BE PROVIDED FOR AIR VALVES, SCOUR VALVES AND ISOLATING VALVES ONLY.
2. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANISED TO SANS 763 AFTER FABRICATION AND THEN INSTALLED.
3. 14mm DIA. HOLE IN 'ITEM B' TO SUIT SECURITY LOCK.
4. LOCKING BAR ASSEMBLY TO BE PLACED CENTRALLY ACROSS OPENING.
5. ALL CORNERS TO BE ROUNDED TO 10mm RADIUS AS SHOWN



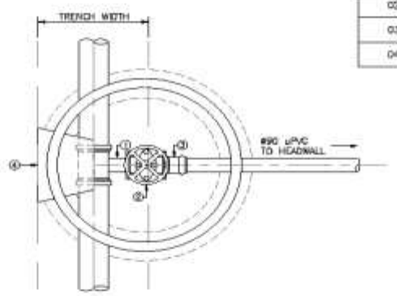
ITEM C
N.T.S



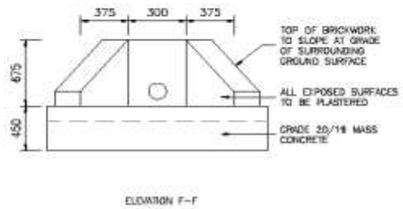
SECTION THROUGH SCOUR CHAMBER
(DUCTILE IRON MAIN)
SCALE : N.T.S

SCOUR VALVE FITTINGS SCHEDULE

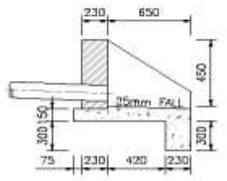
ITEM No.	DESCRIPTION	No. REQUIRED	DN 100 MAIN	DN 200 MAIN
01	DOUBLE BARREL DUCTILE IRON SCOUR TEE (BRANCH = 100mm)	01	DN 100 x 80	DN200 x 80
02	FLANGED WEDGE GATE VALVE	01	DN 80	DN 80
03	CAST IRON FLANGE ADAPTOR	01	DN 90	DN 90
04	MASS CONCRETE THRUST BLOCK	01	400 x 600 x 400	400 x 600 x 400



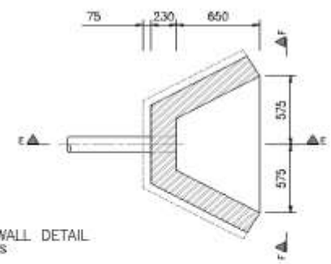
SCOUR CHAMBER PLAN
(DUCTILE IRON MAIN)
SCALE : N.T.S



ELEVATION F–F



SECTION E–E



SCOUR HEADWALL DETAIL
N.T.S

REVISION SCHEDULE

ISSUE	DATE	SIGNATURE	DESCRIPTION

DESIGNED BY: L. NYAMURANGA
DESIGN CHECKED: P. MANYOWA
DRAWN BY: K. MAKAMURE
DRAWING CHECKED BY: L. NYAMURANGA
DIRECTOR APPROVAL BY: TFV NDOU

CONSULTING ENGINEERS: T2-TECH ENGINEERS (PTY) LTD

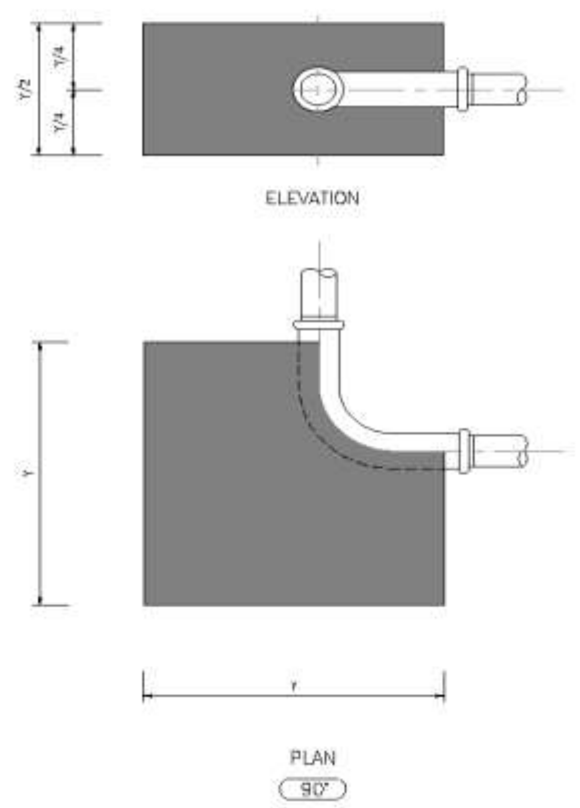
ISSUED FOR: DETAILED DESIGNS
PROJECT TITLE: BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES
DRAWING TITLE: STANDARD DETAILS 2

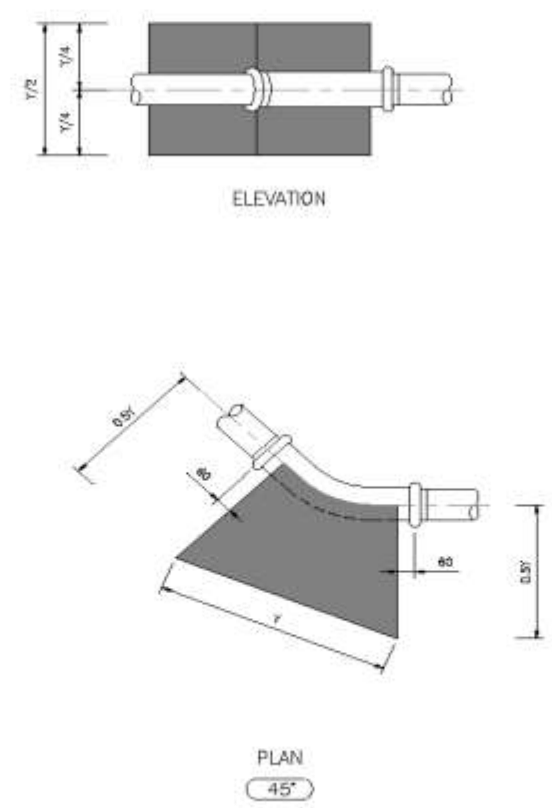
CLIENT: VHEMBE DISTRICT MUNICIPALITY

CHECKED BY: NAME: P. MANYOWA ECSA: REG. NO. 20160191 SIGNATURE DATE:
CONSULTANT APPROVAL: NAME: TFV NDOU ECSA: REG. NO. 20050155 SIGNATURE DATE:

THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING

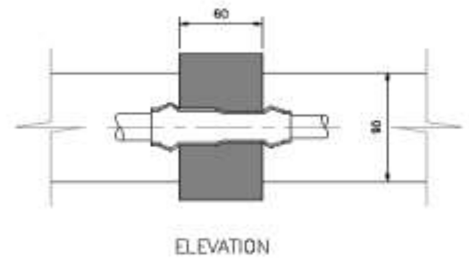
INTERNAL PROJECT NUMBER: T1403
REVISION NUMBER: 00
PAPER SCALE: A0
SCALE: AS SHOWN
DRAWING NUMBER: T1403PD00SD02
SHEET NUMBER: 2 of 2





MINIMUM VALUE OF 'Y' (METRES)

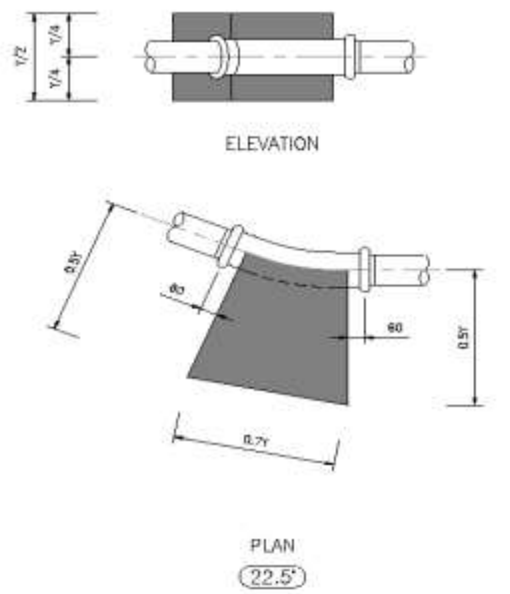
OPERATING PRESSURE (MPa)		0.6				1.2				1.6				2.0				2.5			
BEND ANGLE		90° BEND + TEE	45°	22.5°	11.25°	90° BEND + TEE	45°	22.5°	11.25°	90° BEND + TEE	45°	22.5°	11.25°	90° BEND + TEE	45°	22.5°	11.25°	90° BEND + TEE	45°	22.5°	11.25°
NOMINAL DIAMETER OF PIPE (mm)	50	0.40	0.40	0.40	0.40	0.50	0.45	0.40	0.40	0.50	0.55	0.45	0.40	0.65	0.60	0.50	0.40	0.70	0.65	0.60	0.45
	75	0.55	0.50	0.45	0.45	0.75	0.65	0.60	0.50	0.85	0.75	0.70	0.55	0.95	0.85	0.75	0.60	1.05	0.90	0.85	0.65
	90–110	0.80	0.70	0.65	0.55	1.05	0.90	0.85	0.70	1.20	1.05	1.00	0.80	1.30	1.15	1.10	0.85	1.45	1.20	1.25	0.90
	125	0.85	0.85	0.85	0.85	1.05	0.90	0.85	0.85	1.20	1.00	1.00	0.85	1.35	1.15	1.10	0.88	1.45	1.20	1.35	0.90
	150	0.9	0.9	0.9	0.9	1.25	1.05	0.95	0.90	1.40	1.15	1.10	0.90	1.55	1.30	1.25	0.95	1.65	1.35	1.40	1.10
	200	1.20	1.00	1.00	1.00	1.60	1.30	1.30	1.00	1.80	1.45	1.45	1.15								
	250	1.45	1.10	1.10	1.10	1.80	1.30	1.20	1.10												
	300	1.50	1.20	1.20	1.20	1.80	1.50	1.45	1.20												

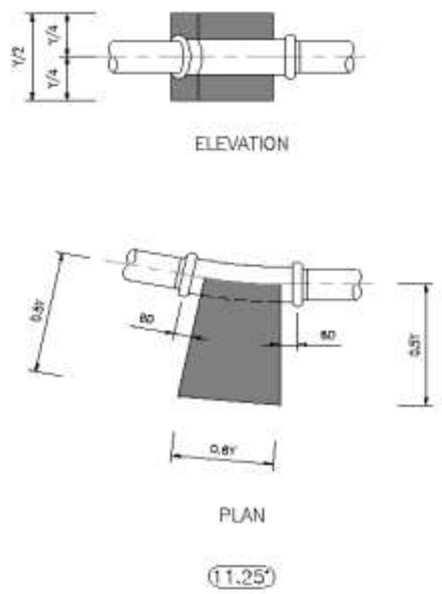


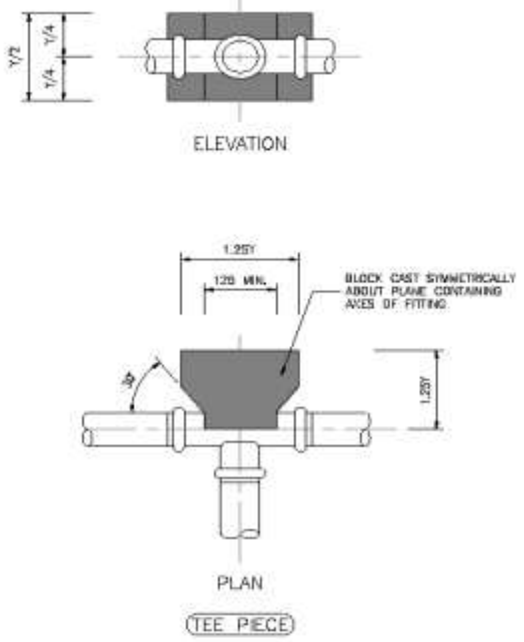
DIMENSIONS OF THRUST BLOCKS FOR DIFFERENT PIPES END CAPS, REDUCERS

PIPE DN (mm)	A x B
60 – 90	0.25 x 0.60
110	0.30 x 0.60
125 – 140	0.30 x 0.65
160	0.30 x 0.70
200	0.45 x 0.80
250	0.45 x 0.85
315	0.60 x 1.00
355	0.80 x 1.40
400	0.80 x 1.50

THRUST BLOCKS FOR DIFFERENT FITTINGS
[PIPE END CAPS AND REDUCERS]







REVISION SCHEDULE				
REVS.	DATE	SIGNATURE	DESCRIPTION	

DESIGNED BY: L. NYAMURANGA
DESIGN CHECKED: P. MANYOWA
DRAWN BY: K. MAKAMURE
DRAWING CHECKED BY: L. NYAMURANGA
DIRECTOR APPROVAL BY: TFV NDOU

T2-Tech ENGINEERS (PTY) LTD

ISSUED FOR: **DETAILED DESIGN**

PROJECT TITLE: BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

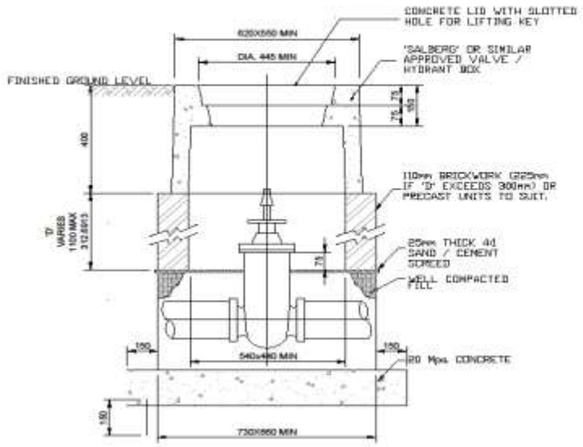
DRAWING TITLE: THRUST BLOCK DETAILS

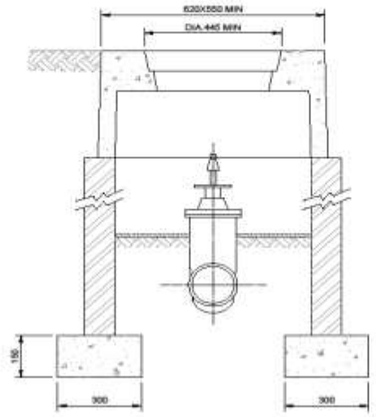
CHECKED BY:
NAME: P. MANYOWA
ECSA REG. NO. 20160191
SIGNATURE
DATE:

CONSULTANT APPROVAL:
NAME: TFV NDOU
ECSA REG. NO. 200670155
SIGNATURE
DATE:

THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING

INTERNAL PROJECT NUMBER: T1403
REVISION NUMBER: 00
PAPER SCALE: A0
SCALE: AS SHOWN
DRAWING NUMBER: T1403PD00SD03
SHEET NUMBER: 1 of 1





NOTES

a) VALVES UP TO 300mm

1) RESILIENT SEAL GATE VALVE
2) NON RISING SPINDLE
3) ANTI CLOCKWISE CLOSING
4) A REMOVABLE COUPLING MUST BE PROVIDED AT ONE SIDE OF THE VALVE AT LEAST 500 mm FROM THE SHAFT. SPECIFICATIONS TO SABS 664

b) VALVES OVER 300mm

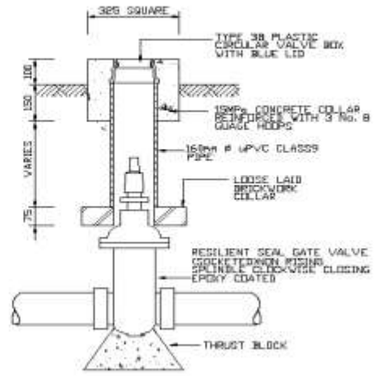
1) WEDGE GATE VALVE
2) A REMOVABLE COUPLING MUST BE PROVIDED AT ONE SIDE OF THE VALVE AT LEAST 500 mm FROM THE SHAFT. SPECIFICATIONS TO SABS 664

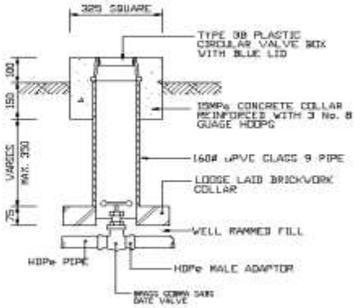
c) PRECAST SEGMENT SPECIFICATIONS

1) ALL MANHOLE SEGMENTS ACCORDING TO SABS 1294-1981
2) TOP SURFACE OF MANHOLE COVER TO BE 50 mm ABOVE THE FINISHED GROUND LEVEL EXCEPT IN PAVED AREAS
3) SEGMENTS TO BE BONDED WITH 1:3 CEMENT MORTAR TO PROVIDE A WATERTIGHT JOINT
4) DIMENSIONS OF SEGMENTS FOR VALVES BIGGER THAN 300 DIA. MUST BE ADAPTED TO FIT VALVE SIZE.

VALVE CHAMBER FOR VALVES >75mm BUT NOT EXCEEDING 300mm N.B.

SCALE 1 : 10





BOX FOR STOPCOCK VALVES
SCALE 1 : 10

VALVE BOX FOR INLINE WATER WORKS VALVES UP TO 75m DIA

SCALE 1 : 10

REVISION SCHEDULE			
REVS.	DATE	SIGNATURE	DESCRIPTION

DESIGNED BY:	L. NYAMURANGA
DESIGN CHECKED:	P. MANYOWA
DRAWN BY:	K. MAKAMURE
DRAWING CHECKED BY:	L. NYAMURANGA
DIRECTOR APPROVAL BY:	TFV NDOU

CONSULTING LOGO: T2-Tech ENGINEERS (PTY) LTD

CONSULTING ADDRESS: T2-TECH ENGINEERS (PTY) LTD

ISSUED FOR: **DETAILED DESIGN**

PROJECT TITLE: BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

DRAWING TITLE: ISOLATION VALVE DETAILS

CLIENT LOGO:

CLIENT ADDRESS: VHEMBE DISTRICT MUNICIPALITY

CHECKED BY: NAME:	P. MANYOWA
ECSA: REG. NO:	20198191
SIGNATURE	
DATE:	

CONSULTANT APPROVAL NAME:	TFV NDOU
ECSA: REG. NO:	20067155
SIGNATURE	
DATE:	

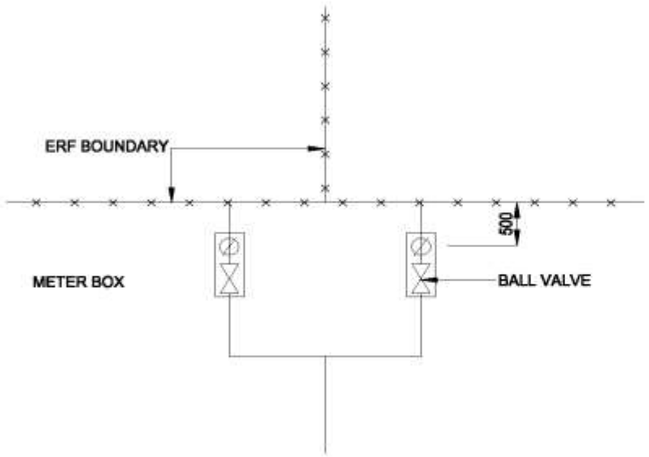
THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING

INTERNAL PROJECT NUMBER:	T1403
REVISION NUMBER:	00
PAPER SIZE:	A0
SCALE:	AS SHOWN
DRAWING NUMBER:	T1403PD00SD04
SHEET NUMBER:	1 of 1

NOTES

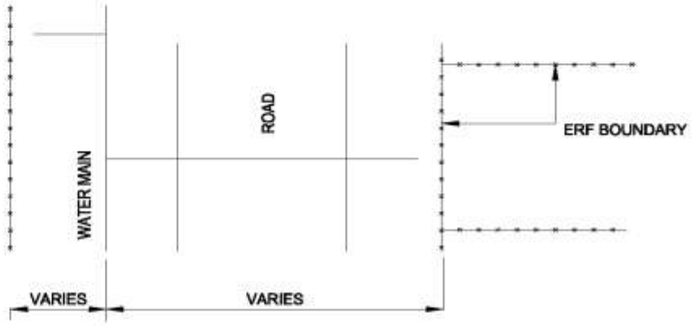
SINGLE ERVEN MIN. REQ.

SINGLE ERF CONNECTION - 25mm HDPE CLASS 12
DOUBLE ERF CONNECTION - 32mm HDPE CLASS 12
CONNECTION FOR 3 ERVEN - 40mm HDPE CLASS 12
CONNECTION FOR 4-10 ERVEN - 63mm HDPE CLASS 12

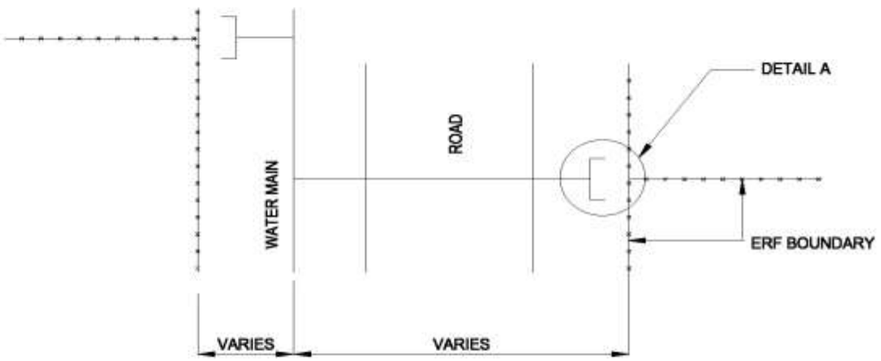


DETAIL A

SINGLE ERF CONNECTION



DOUBLE ERF CONNECTION



REVISION SCHEDULE

L. NYAMURANGA	
P. MANYOWA	
K. MAKAMURE	
L. NYAMURANGA	
TPV NDOU	

T2-Tech ENGINEERS (PTY) LTD

T2 SIZA ENGINEERS (PTY) LTD

ISSUED FOR: DETAILED DESIGNS

PROJECT TITLE: BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

DRAWING TITLE: HOUSE CONNECTIONS DETAILS

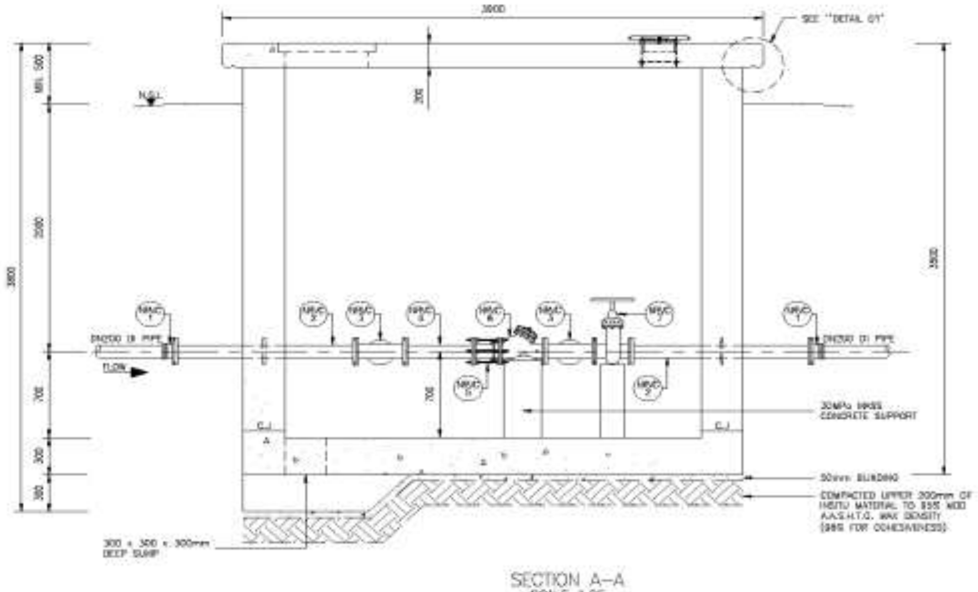
CLIENT LOGO:

NAME:	P. MANYOWA
ECSA: REG. NO.	20190191
SIGNATURE	
DATE:	

NAME:	TPV NDOU
ECSA: REG. NO.	20987192
SIGNATURE	
DATE:	

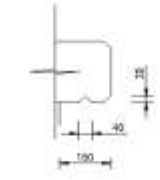
THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SIGN AND APPROVED THE DRAWING

INTERNAL PROJECT NUMBER:	T1403
REVISION NUMBER	00
PAPER SIZE:	A0
SCALE:	AS SHOWN
DRAWING NUMBER:	T1403PD00SD05
SHEET NUMBER	1 of 1



SECTION A–A
SCALE 1:25

MATERIAL SCHEDULE – DN100 NON-RETURN VALVE CHAMBER				
ITEM No.	SIZE (mm)	QTY.	MATERIAL	DESCRIPTION
NRVC1	DN 200	02	DUCTILE IRON	K12 FLANGED SOCKET
NRVC2	DN 200	02	DUCTILE IRON	1300mm LONG K9 FABRICATED PIPE WITH PUDDLE FLANGE, FBE (P = 650mm)
NRVC3	DN 200/80	02	DUCTILE IRON	DN200 x 80mm K12 DOUBLE FLANGED LEVEL INVERT (SCOUR) TEE
NRVC4	DN 200	01	DUCTILE IRON	500mm LONG K12 DI PIPE, FBE
NRVC5	DN 200	01	STANDARD ITEM	DN200 DISMANTLING JOINT
NRVC6	DN 200	01	STANDARD ITEM	DN200 HYDRAULIC NON-SLAM CHECK VALVE (NRV)
NRVC7	DN 200	01	STANDARD ITEM	DN200 WEDGE GATE VALVE WITH NON-RISING SPINDLE
NRVC8	DN 80	01	STANDARD ITEM	DN80 WEDGE GATE VALVE WITH NON-RISING SPINDLE
NRVC9	DN 80	02	DUCTILE IRON	DN80 x 90° K12 LONG RADIUS BEND, FBE
NRVC10	DN 80	02	DUCTILE IRON	200mm LONG K12 DI PIPE, FBE



DETAIL 01
SCALE 1:10

NOTES:
ALL REINFORCED CONCRETE WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH SABS 1200G AND AND PSG IN THE CONTRACT DOCUMENT AND AS MAY BE AMENDED OR ADDED THEREAFTER.

1. DATUM AS PER GENERAL LAYOUT PLAN.
2. UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS IN METERS.
3. NO SCALING OF DIMENSIONS IS PERMITTED. ALL DIMENSIONS ARE TO BE CHECKED AND ANY DISCREPANCIES REPORTED TO THE ENGINEER IMMEDIATELY.

4. FOUNDATION
4.1 DEPTHS OF ALL BASES SHALL BE SHOWN ON THE DRAWINGS AND BE FINALLY APPROVED ON SITE BY THE ENGINEER PRIOR TO PLACING OF REINFORCEMENT OR CONCRETE.
4.2 ALL BASES SHALL BE CAST ON A MINIMUM LAYER OF 50mm BLINDING.
4.3 BLINDING LAYERS SHALL NOT EXCEED 250mm IN THICKNESS.

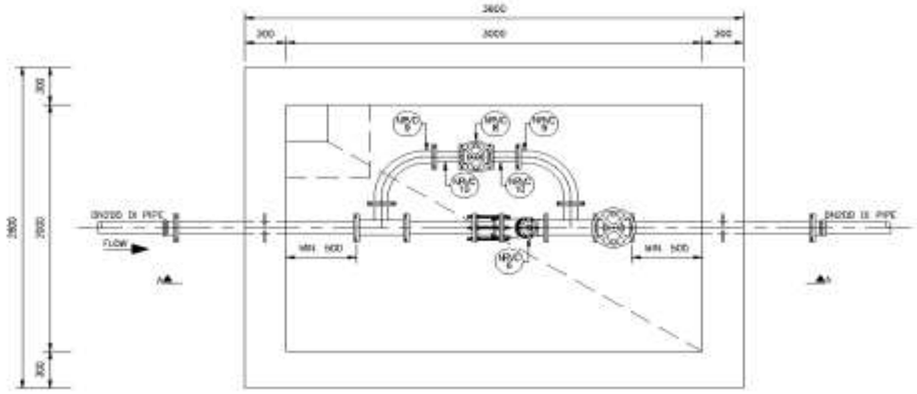
5. CONCRETE
5.1 CONCRETE TO BE MINIMUM STRENGTH MIX DESIGN OF:
5.1.1 CLASS 15/19 IN BLINDING LAYERS;
5.1.2 CLASS 30/19 IN WALL FOUNDATIONS, FLOOR AND ROOF SLABS, AND;
5.1.3 CLASS 30/19 IN RESERVOIR WALL, UNLESS OTHERWISE STATED.

5.2 MINIMUM COVER TO REINFORCEMENT INCLUDING LINKS SHALL BE:
5.2.1 50mm FOR FOUNDATION SLABS AND FOOTINGS;
5.2.2 50mm FOR WALLS AND COLUMNS, AND;
5.2.3 30mm FOR ROOF SLABS ON CHAMBERS, UNLESS OTHERWISE INDICATED.

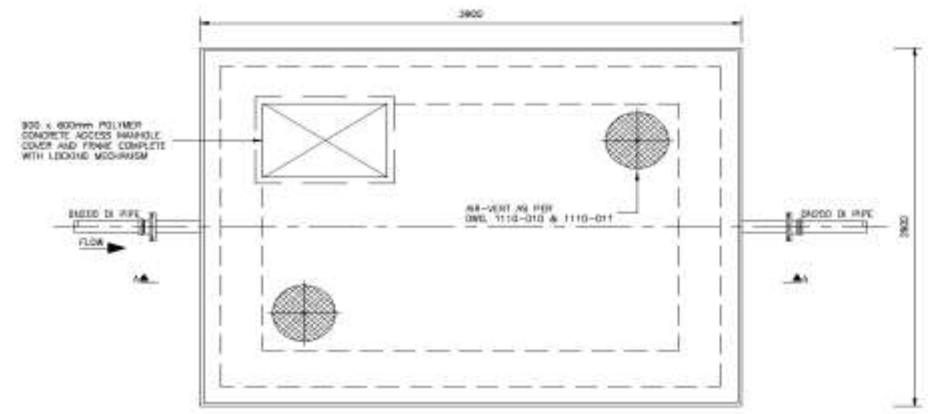
6. REINFORCING
6.1 ALL REINFORCING STEEL SHALL BE WIRE BRUSHED AND KEPT CLEAN AND FREE OF ANY MILL SCALE, RUST, OIL OR ANY OTHER DELETERIOUS COMPOUNDS.
6.2 WELDING ON REINFORCEMENT STEEL WILL NOT BE PERMITTED.
6.3 ALL REINFORCING STEEL FIXED IN POSITION ON SITE SHALL BE CHECKED BY THE ENGINEER PRIOR TO CONCRETING

7. FORM WORK
7.1 FORM WORK SHALL BE ERECTED AND FIXED IN AN APPROVED MANNER AND SHALL BE INSPECTED BY THE ENGINEER PRIOR TO CONCRETING
7.2 STRIPPING TIMES OF THE FORM WORK SHALL BE AS SPECIFIED IN SABS 1200 G TABLE 2 OR AS PER THE ENGINEERS SITE INSTRUCTIONS.

8. GENERAL
8.1 WATERTIGHTNESS TEST IS TO BE CONDUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
8.2 NO STRUCTURAL ALTERATIONS MAY BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
8.3 THE POSITION OF THE CONSTRUCTION JOINTS IS TO BE DISCUSSED AND AGREED WITH THE ENGINEER PRIOR TO COMMENCEMENT OF ANY POUR.
8.4 PREPARATION OF CONSTRUCTION JOINTS: BEFORE COMMENCEMENT OF THE ADJACENT POUR, THE SURFACE OF THE PREVIOUS SECTION MUST BE CLEANED, AND SURFACE LAITANCE REMOVED, EITHER BY MEANS OF WIRE BRUSHING OR HACKING WITH A SCALING HAMMER. THE SURFACE MUST THEN BE THOROUGHLY WETTED AND SLUSHED WITH A 1:1.5 SAND OR CEMENT SLURRY, WITH PLACING OF NEW CONCRETE TO FOLLOW IMMEDIATELY.
8.5 ALL CONCRETE EDGES TO BE FINISHED WITH 20mm CHAMFERS.
8.6 NO CONCRETE IS TO BE CAST UNTIL STEEL FIXING HAS BEEN APPROVED BY THE ENGINEER.



SECTIONAL PLAN
SCALE 1:25



NON-RETURN VALVE CHAMBER PLAN
SCALE 1:25

REVISION SCHEDULE

DESIGNED BY	L. SIYOBA
DESIGN CHECKED	P. MANYOWA
DRAWN BY	L. SIYOBA
DRAWING CHECKED BY	P. MANYOWA
ENGINEER APPROVAL BY	TPV NDOU

T2-Tech ENGINEERS (PTY) LTD

PRELIMINARY DESIGNS

BULK WATER SUPPLY AND RETICULATION TO CHAVANI AND SURROUNDING VILLAGES

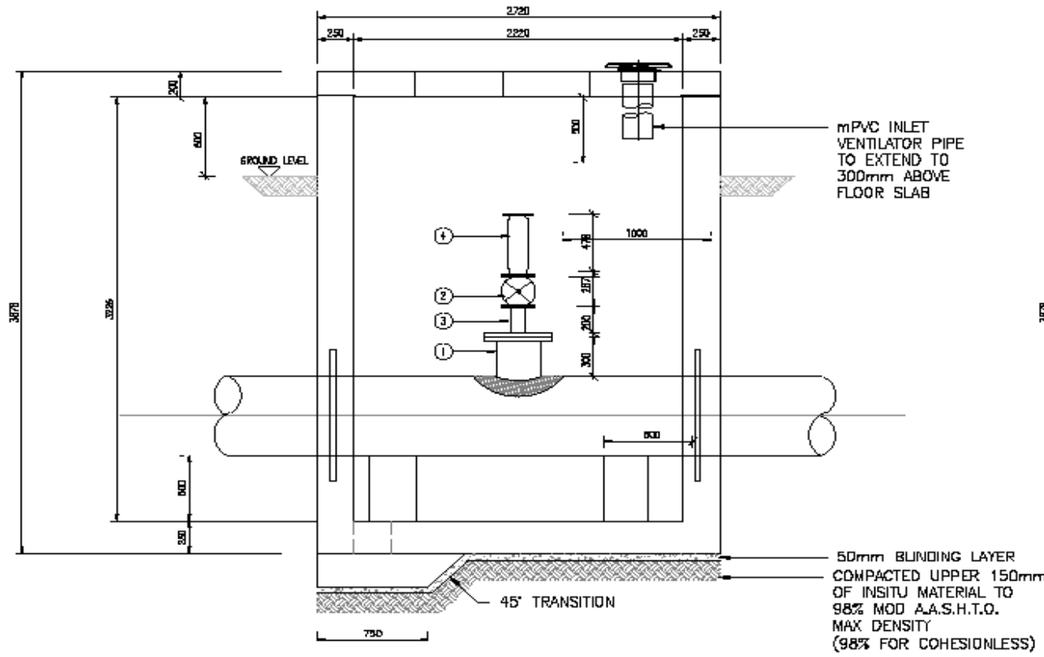
NON–RETURN VALVE CHAMBER DETAILS

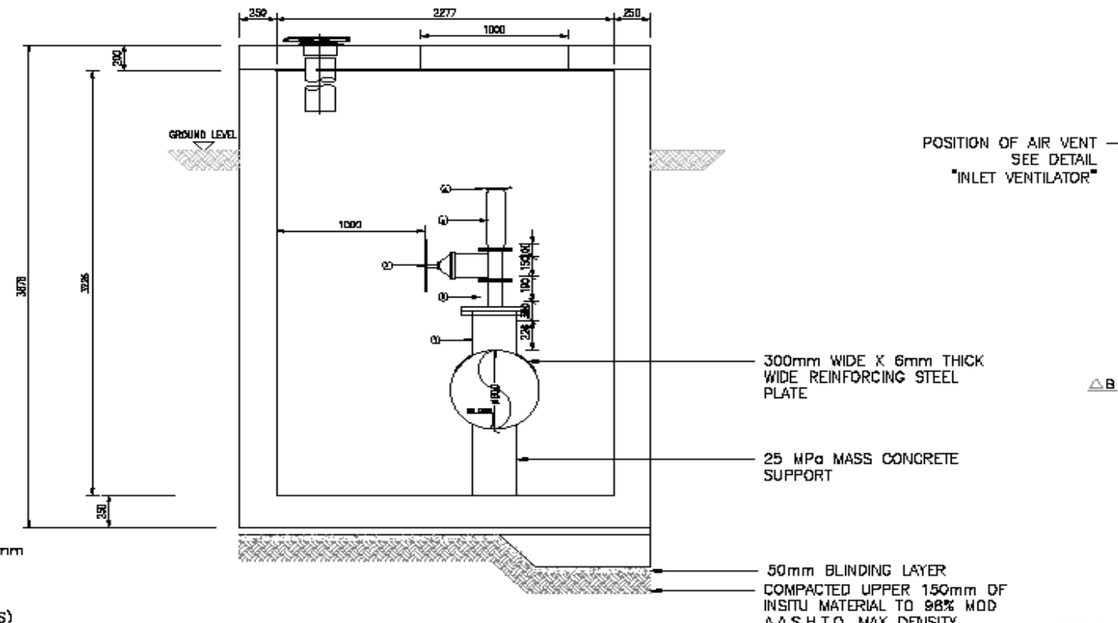
VHEMBE DISTRICT MUNICIPALITY

NAME: P. MANYOWA
NAME: TPV NDOU

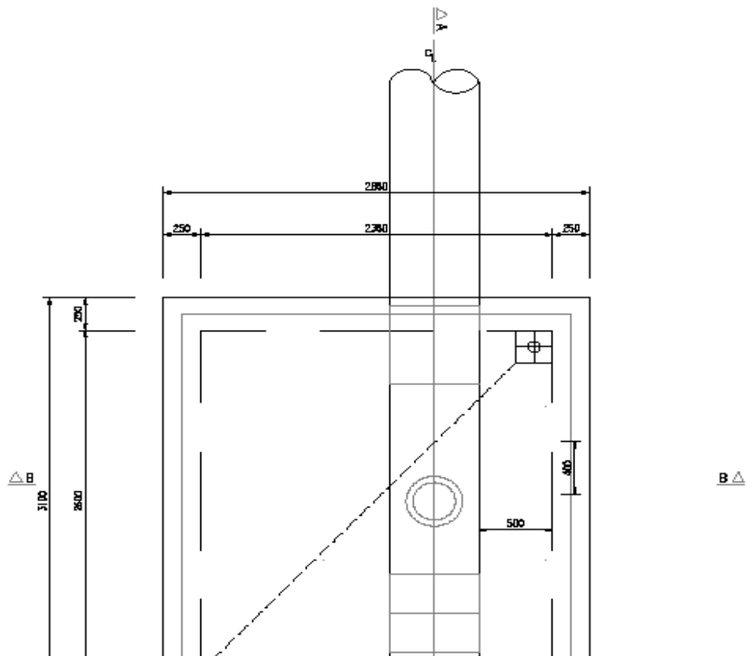
THE ABOVE SIGNATORY CERTIFY THAT THE DESIGNER AND CHECKER HAVE SEEN AND APPROVED THE DRAWING

T1403 | 00
A1 | AS SHOWN
T1403DD00SD01 | 1 of 1





SECTION A–A
SCALE 1:20



SECTION B–B
SCALE 1:20

SCHEDULE OF AIR VALVES					
CHAMBER No.	CHAINAGE	INVERT LEVEL	MAIN DIA.	AIR VALVE DIA.	PRESSURE RATING OF FITTINGS & FLANGES kPa
1.	38.878	88.138		2x100	16 BAR
2.	217.875	83.179		2x100	16 BAR
3.	498.446	54.904		1x100	16 BAR
4.	718.283	86.904		1x100	16 BAR
5.	1058.456	50.845		1x100	16 BAR
6.	1284.871	49.970		1x100	16 BAR
7.	1318.810	49.044		1x100	16 BAR
8.	1596.057	46.176		1x100	16 BAR
9.	1788.302	48.958		1x100	16 BAR
10.	1878.598	48.883		1x100	16 BAR
11.	2178.434	43.882		1x100	16 BAR
12.	2888.328	31.063		1x100	16 BAR
13.	3554.613	41.365		1x100	16 BAR
14.	4115.038	46.818		1x100	16 BAR
15.	4489.833	38.860		3x100	16 BAR
16.	4778.453	40.085		1x100	16 BAR
17.	4940.818	38.720		1x100	16 BAR